Modular Messaging for IBM Lotus Domino

Release 1.1

Installation

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Notice
Every effort was made to ensure that the information in this book was complete and accurate at the time of printing. However, information is subject to change.

Avaya Web Page
The world wide web home page for Avaya is:
http://www.avaya.com

Preventing Toll Fraud
Toll Fraud is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or working on your company's behalf). Be aware that there is a risk of toll fraud associated with your system and that, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

Avaya Fraud Intervention
If you s*uspect that you are being victimized* by toll fraud and you need technical assistance or support, call the Technical Service Center Toll Fraud Intervention Hotline at 1.800.643.2353.

Providing Telecommunications Security
Telecommunications security of voice, data, and/or video communications is the prevention of any type of intrusion to, that is, either unauthorized or malicious access to or use of, your company's telecommunications equipment by some party.

Your company's "telecommunications equipment" includes both this Avaya product and any other voice/data/video equipment that could be accessed via this Avaya product (that is, "networked equipment").

An "outside party" is anyone who is not a corporate employee, agent, subcontractor, or working on your company's behalf. Whereas, a "malicious party" is Anyone, including someone who may be otherwise authorized, who accesses your telecommunications equipment with either malicious or mischievous intent.

Such intrusions may be either to/through synchronous (time-multiplexed and/or circuit-based) or asynchronous (character-, message-, or packet-based) equipment or interfaces for reasons of:

- Utilization (of capabilities special to the accessed equipment)
- Theft (such as, of intellectual property, financial assets, or toll-facility access)
- Eavesdropping (privacy invasions to humans)
- Mischief (troubling, but apparently innocuous, tampering)
- Harm (such as harmful tampering, data loss or alteration, regardless of motive or intent)

Be aware that there may be a risk of unauthorized intrusions associated with your system and/or its networked equipment. Also realize that, if such an intrusion should occur, it could result in a variety of losses to your company, including but not limited to, human/data privacy, intellectual property, material assets, financial resources, labor costs, and/or legal costs).

Your Responsibility for Your Company's Telecommunications Security
The final responsibility for securing both this system and its networked equipment rests with you – an Avaya customer's system administrator, your telecommunications peers, and your managers. Base the fulfillment of your responsibility on acquired knowledge and resources from a variety of sources including but not limited to:

- Installation documents
- System administration documents
- Security documents and anti-virus patches
- Hardware-/software-based security tools
- Shared information between you and your peers
- Telecommunications security experts

To prevent intrusions to your telecommunications equipment, you and your peers should carefully program and configure your:

- Avaya provided telecommunications systems and their interfaces
- Avaya provided software applications, as well as their underlying hardware/software platforms and interfaces
- Any other equipment networked to your Avaya products

Avaya does not warrant that this product is immune from or will prevent unauthorized use of telecommunication services or facilities accessed through or connected to it. Avaya is not responsible for any damages or charges that result from either unauthorized uses or from incorrect installations of the security patches that are made available from time to time.
Suspected security vulnerabilities with Avaya products should be reported to Avaya by sending mail to securityalerts@avaya.com.

Federal Communications Commission Statement
Part 15: Class A Statement. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio-frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Industry Canada (IC) Interference Information
This digital apparatus does not exceed the Class A limits for radio noise emissions set out in the radio interference regulations of Industry Canada.

Le Présent Appareil Nomérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A préscrites dans le reglement sur le brouillage radioélectrique édicté par le Industrie Canada.

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The "CE" mark affixed to the equipment means that it conforms to the referenced European Union (EU) Directives listed below:
EMC Directive89/336/EEC
Low-Voltage Directive73/23/EEC
For more information on standards compliance, contact your local distributor.

Warranty
Avaya Inc. provides a limited warranty on this product. Refer to your sales agreement to establish the terms of the limited warranty. In addition, Avaya's standard warranty language as well as information regarding support for this product, while under warranty, is available through the following Web site: www.avaya.com/support.

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About this book

Purpose

This book, *Avaya Modular Messaging for IBM Lotus Domino Release 1.1 Installation*, Issue 1, contains instructions for installing or updating the Avaya Modular Messaging software in an IBM Lotus Domino environment. Information includes:

- Instructions for installing a new system, including equipment assembly, set up and configuration, initial administration, and acceptance testing
- Instructions for updating a system from Unified Messenger Release 5.0 software
- Disaster-recovery procedures for a hard disk failure, including reinstalling the software and restoring lost data

Note: This document is intended to get a Modular Messaging system up and running. After the installation, customers are encouraged to tailor the Modular Messaging parameters for their site using the *Avaya Modular Messaging Software Messaging Application Server Administration Guide* (PDF 3 MB). Copies of the administration guide are on the documentation CD and application software DVD.

Intended audiences

This book is intended for system administrators and on-site technical personnel who are responsible for installing, configuring, or updating the hardware and software for an Avaya Modular Messaging system.

Users of this book should be familiar with administering Microsoft Windows 2000 and IBM Lotus Domino systems. Avaya assumes that users have read the *Avaya Modular Messaging Concepts and Planning Guide*.

Technicians who install an Avaya-provided Messaging Application Server (called the “Avaya MAS” in this guide) should have completed a relevant hardware installation training course. See "Related resources" in this preface for information on training.

How to use this book

Review the appropriate section below, depending on whether you are installing a new Avaya Modular Messaging system, or updating or repairing a system that was already in operation.

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 (called the “Avaya MAS” in this guide). Although most steps are similar for both types of installation, this guide does contain sections that are only applicable to one or another of these specific hardware types, as noted in the text.

Note:	Print the relevant checklist from Appendix B, ‘‘Installation checklists,’’ depending on whether you are installing the Modular Messaging software on a customer-provided MAS or an Avaya MAS. The steps vary for the different setups. Keep the checklist handy and use it to track your progress during the installation.

To install a new system, follow these general steps:

1. Verify that the system meets the requirements specified in the *Avaya Modular Messaging Concepts and Planning Guide* (PDF 2 MB). The planning guide explains important concepts and provides information that is crucial for planning a Modular Messaging installation.

2. Complete *all* the worksheets in Appendix A, ‘‘System planning forms.’’ You *cannot* complete an installation or update successfully unless this material is complete and accurate. The customer *must* provide some of the information in advance. Check with your regional representative to see if the planning forms should be reviewed prior to an installation.

3. Read Chapter 1, ‘‘Preinstallation requirements.’’ This chapter lists installation prerequisites, including the required documentation, tools, and equipment that you will need to complete an installation.

4. Install the hardware required for this specific installation:

   - See Chapter 2, ‘‘Installing Avaya-provided hardware,’’ if you are installing an Avaya-provided Messaging Application Server (Avaya MAS) system and any optional peripheral devices provided by Avaya Inc. The port boards and much of the required software are already installed on an Avaya MAS.

- See Chapter 3, “Installing MAS port boards,” to install the required port boards and Dialogic software in a customer-provided MAS.

> **Note:** No hardware installation is required if you are using an IP H.323 integration on a customer-provided MAS.

5. Read Chapter 4, “Preparing to install Modular Messaging software,” which lists prerequisite steps that must be done on the Domino server by the system administrator or other authorized personnel. This work *must* be completed before any other Modular Messaging software is installed.

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

> **Note:** Completely install and test one MAS first, and let it run for 15 minutes before installing the software on any additional MASs.

Updating or repairing a system

For systems that are already installed, this guide describes update and disk repair activities. Follow the relevant procedure below:

- *For a software update:* Begin with Chapter 11, “Updating Unified Messenger R5.0 to Modular Messaging software.”
  - Print the update checklist from Appendix B, “Installation checklists.”
  - Complete the "Planning form for update to Modular Messaging R1.1" on page F-3 and the "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13.
  - Obtain the software and documentation listed in the "Overview" on page 11-2. Proceed as directed.
- *For an Avaya MAS hard disk repair:* Go directly to Appendix E, “Recovering from a catastrophic disk failure.” Proceed as directed.

Using links in this document

For your convenience, the installation guide provides direct linking to other files or pages when viewed in PDF form. Links appear in blue text and operate as follows:

- Internal links within this document (such as to tables, figures, or other sections) always work when you are using the PDF version of this guide.
- If you are using the PDF version of this guide on the documentation media or on a Web site that contains the complete document set, you can click any blue link to an external document (such as a PDF file or HTML file) to go directly to the linked page or document.

- If you are using the PDF version of this installation guide on a system that is connected to the Internet, you can click the blue link for any Web site address (such as www.avaya.com) to go directly to the linked page.

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Related resources

This section describes additional documentation and training available to you.

Documentation

See the inside front cover for information on how to order documentation for this product.

Note:	Always refer to the appropriate CD, DVD, or book for specific information on planning, installing, administering, or maintaining an Avaya system. See the Avaya Support Web site at www.avaya.com/support for information on other books and CD-ROMs in the documentation set for this product.

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 1-800-876-2835, choose prompt **2**, and then choose **2** again.
- Within any other country: call your local distributor.

Help on the system

Online help is available on the MAS. Use the Help menu or **Help** button (if available) for the application or wizard you are in.

Training

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

How to comment on this book

Avaya is interested in your suggestions for improving this information. Use one of the following methods to communicate with us:

Method	Contact
Email	infodev@avaya.com
Voice mail or fax	303-538-9625

Please be sure to include the name of this book:

Avaya Modular Messaging for IBM Lotus Domino Release 1.1 Installation, Issue 1.

1

Preinstallation requirements

This chapter describes requirements and prerequisites for installing Avaya Modular Messaging software on a new system in an IBM Lotus Domino environment.

Topics in this chapter include:

Required documentation

The following documentation is required to install a new Avaya Modular Messaging system. Some of this information can be obtained only from the Avaya Web site. Other information is available on the *Avaya Modular Messaging Documentation CD* or the DVD shipped with the system software. However, required documentation can also be accessed online and printed out prior to beginning the actual installation.

Information on the Web

Required documentation for a new installation is available as follows:

> **Note:** Always check the Avaya Support Web site at www.avaya.com/support for recent updates related to this product.

- The *Administrator's Guide for Lotus Domino Unified Communications for Avaya* contains information required to install and configure Domino Unified Communications (DUC) for Avaya messaging software. This guide is available on the IBM Lotus Documentation Web site:

  a. Go to http://www-10.lotus.com/ldd/doc and click the documentation link **by product**. Click **Domino Unified Communications**, and then click 1.2.2.

  > **Note:** If you are using the PDF version of this installation guide online, you can click any blue link (such as 1.2.2 above, or any Web site address) to go directly to the linked Web page.

  b. Download or view the Domino Unified Communications administrator guide, readme file, and client help for Avaya.

- Configuration notes for integrating the MAS (and any Dialogic port boards installed in it) with the PBX or switch at this site. To view these:

  a. Go to the www.avaya.com/support Web site. Under **Technical Database**, click **Messaging** > **Applications** > **Modular Messaging**.

  b. Under **General Info**, download or print the configuration notes for the switch integration you need.

  > **Note:** This information is available *only* on the Avaya Support Web site and *must* be obtained prior to installing the software.

- An editable Microsoft Word version of the planning forms from Appendix A, "System planning forms," and the installation and update checklists from Appendix B, "Installation checklists," are also accessible from the Avaya Support Web site. To download a Word or PDF version of these forms, follow the *Avaya Modular Messaging Release 1.1 Documentation CD* link, and look in the **Reference** section. See the item below for details on accessing documentation CD files online.

- Additional information needed for installing a new system is in the document set on the *Avaya Modular Messaging Application Software* disk and the documentation CD. To access this information online:

  a. Under **R 1.1**, click **CD Collections**.

  b. Click **Avaya Modular Messaging Release 1.1 Documentation CD**.

  c. Under Files, click **View HTM**.

  d. On the *Avaya Modular Messaging Documentation CD Release 1.1* page, click the link to see the document set for the required configuration (such as *Avaya Modular Messaging for IBM Lotus Domino*).

  e. On the Modular Messaging Help home page, expand **Reference**.

  f. Click to view or print, or right-click to download the files you need:

  - The appropriate Dialogic port board installation documents for this site (see Table 3-1 on page 3-2 for details)
  - *Avaya Modular Messaging Subscriber Options User Guide* (585-310-789, PDF 1 MB), used for acceptance testing
  - The installation planning forms in Microsoft Word or PDF format

Note: If you are using the PDF version of this installation guide on the documentation media or on a Web site that contains the complete document set, you can click any blue link (such as PDF above) to go directly to the linked page or document.

Documentation and software shipped with the system

The software and documentation listed in the following table is shipped with every Modular Messaging system.

Table 1-1. Required Modular Messaging software

Disk:	Purpose:
Avaya Modular Messaging Application Software DVD	• Installing the Modular Messaging software, Dialogic port board drivers, and Text-to-Speech (TTS) software • Updating a Unified Messenger Release 5.0 system to Modular Messaging Release 1.1 software • Accessing a copy of the documentation files (see the documentation CD item below for details)
Avaya Modular Messaging Documentation CD (2 copies are shipped, one for the customer and one for the technician)	Accessing required documentation, including: • The port board installation documents listed in Table 3-1 on page 3-2 • *Avaya Modular Messaging Subscriber Options User Guide* (585-310-789, PDF 1 MB), used for acceptance testing • Hardware replacement procedures

Table 1-1. Required Modular Messaging software

Disk:	Purpose:
Avaya Modular Messaging OS Boot Software DVD	• *For the Avaya MAS only:* Reinstalling the boot-image software on a new system if needed, or on an Avaya MAS hard disk after a catastrophic disk failure. See Appendix D, ‘‘Reloading software on an Avaya MAS.’’
CD-only set (special order only):	
Avaya Modular Messaging Application Software and Languages CD	Installing Modular Messaging Release 1.1 software on an MAS, or updating a Unified Messenger Release 5.0 system to Modular Messaging Release 1.1 software
Intel Dialogic Drivers CD	Installing or updating Dialogic port board drivers
Enhanced Email Reader Software (3 CDs in set)	Installing ScanSoft RealSpeak Text-to-Speech (TTS) software for multiple languages
Documentation CD	Identical to the CD shipped with the DVD set

Security considerations

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

Customer responsibility for the security of their system

No telecommunication system can be entirely free from the risk of unauthorized use. Customers have ultimate control over the configuration and use of the product and are solely responsible for ensuring the security of their systems. Customers who administer and use the system can tailor the system to meet their unique needs and are in the best position to ensure that the system is secure to the fullest extent possible. Customers are responsible for keeping themselves informed of the latest information (such as security patches, anti-virus updates, and other relevant information) for configuring their systems to prevent unauthorized use. System managers and administrators are also responsible for reading all recommendations, installation instructions, and system administration documents provided with the product so that they can understand the features that can introduce risk of toll fraud and the steps that must be taken to reduce that risk.

Avaya does not guarantee that this product is immune from or will prevent unauthorized use of telecommunication services or facilities accessed through or connected to this product. Avaya is not responsible for any damages or charges that result from either unauthorized uses or from incorrect installations of the security patches that are made available from time to time. To aid in combating these crimes, Avaya maintains strong relationships with its customers and supports law enforcement officials in apprehending and successfully prosecuting those responsible.

Suspected security vulnerabilities with Avaya products should be reported to Avaya by sending email to securityalerts@avaya.com. Reported vulnerabilities are prioritized and investigated. Any corrective actions resulting from the vulnerability investigation are posted at http://support.avaya.com/security. Whether or not immediate support is required, report all toll fraud incidents perpetrated on Avaya services to Avaya Corporate Security at securityalerts@avaya.com. In addition to recording the incident, Avaya Corporate Security is available for consultation on product issues, investigation support, law enforcement, and education programs.

See "Modular Messaging and Security" on the *Avaya Modular Messaging Documentation CD* for more information on system security.

On-site security

It is the responsibility of the on-site installer to take precautions to protect passwords and access to the physical location of the system, as described in this section.

Password security

To protect password security:

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

System security during the 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 lock the server if you leave it unattended, even for a short period of time.

System security

Customers are responsible for obtaining and installing anti-virus software on any Microsoft Windows machine that is used to run Avaya Modular Messaging software, in accordance with their local policy. In addition, Microsoft Windows security patches must be installed and routinely updated to protect the operating system from known security weaknesses.

Initial switch and LAN administration

This section describes the initial switch or Private Branch Exchange (PBX) and local area network (LAN) administration that must be completed by the customer before or during a new Modular Messaging installation.

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 should 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.

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 begins. 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.

Preinstallation planning forms

Complete the planning forms in Appendix A, “System planning forms,” prior to beginning an installation. By acquiring IP address, server, and domain name information in advance, you can save hours of installation time and debugging.

CAUTION: It is crucial to coordinate the IP addresses that will be used with a Messaging Application Server (MAS) with those on the corporate LAN. If you specify an IP address for an MAS that conflicts with another Ethernet endpoint, the resulting traffic problems on the LAN can be extremely difficult to diagnose and solve.

Test equipment and tools

The following test equipment and tools are recommended for all new Modular Messaging installations.

Test equipment

Recommended test equipment for a successful installation includes:

- At least one telephone that is connected through the switch or Private Branch Exchange (PBX). It must be of the same type as the majority of telephones the customer will be using on the system.
  - If the message waiting indicator (MWI) for the system is a lamp, the test telephone must be equipped with a lamp. If the MWI is a stutter tone, it must be able to give the stutter notification.
  - The test telephone must be placed so that you can easily see the monitor while using it.
- A volt/ohm meter.

Tools

You should have the following tools on site to successfully install a new system:

- A medium-width flatblade screwdriver
- A No. 2 Phillips screwdriver
- A small pair of needlenose pliers
- A small pair of wire cutters
- A sharp, pointed instrument, such as a ballpoint pen

CAUTION: Do *not* use the point of a lead pencil to operate the system reset switch. The graphite can damage a circuit card and cause problems, such as electrical shorts.

Hardware requirements

A Modular Messaging software installation requires the following hardware:

- One or more Messaging Application Server (MAS) machines that will run the Modular Messaging software. These MASs can be:

  — An Avaya-provided Messaging Application Server (called the “Avaya MAS” in this guide) on which the port boards and much of the required software are already installed. Some preinstallation requirements for this configuration are covered in Chapter 2, ‘‘Installing Avaya-provided hardware.’’

  — A customer-provided machine that meets the minimum requirements specified in the *Avaya Modular Messaging Concepts and Planning Guide* (PDF 2 MB). This machine requires the appropriate port boards and drivers to be installed prior to installing the Modular Messaging software as described in Chapter 3, ‘‘Installing MAS port boards.’’

  Note: No hardware installation is required if you are using an IIP H.323 integration on a customer-provided MAS.

- A server that is running a compatible release of IBM Lotus Domino software. This server is hereafter referred to as the *Domino server*. The Domino server must be in place and operational prior to installing the Modular Messaging software.

  Note: Chapter 4, ‘‘Preparing to install Modular Messaging software,’’ describes prerequisite steps that must be done on the Domino server by the system administrator or other authorized personnel. This work can be done before or during hardware installation, but *must* be completed before any Modular Messaging software is installed.

Because a Modular Messaging installation requires many steps, print a copy of the checklist relevant to this configuration (see Appendix B, "Installation checklists"). Check off items as you complete them to track your progress.

2

Installing Avaya-provided hardware

This chapter applies *only* to installing *Avaya-provided hardware,* such as one or more Avaya Messaging Application Servers (called the *Avaya MAS* in this guide) and any optional peripheral devices provided by Avaya Inc. The port boards and much of the required software are already installed for an Avaya MAS.

Note: Before you can successfully complete the tasks described in this section, you must have read Chapter 1, "Preinstallation requirements," and verified that all preinstallation requirements have been met.

To install port boards in a *customer-provided MAS*, continue with Chapter 3, "Installing MAS port boards."

Topics in this chapter include:

Overview

A new system installation follows these basic steps:

- "Site requirements for an Avaya MAS" on page 2-3
- "Unpacking the hardware" on page 2-7
- "Installing the Avaya MAS" on page 2-8

Because a Modular Messaging installation requires many steps, print a copy of the checklist relevant to this configuration (see Appendix B, "Installation checklists"). Check off items as you complete them to track your progress.

Site requirements for an Avaya MAS

This section describes the physical requirements for the installation site, including environmental, weight, space, and power considerations for an Avaya Messaging Application Server (Avaya MAS).

Environmental requirements

Table 2-1 lists the environmental conditions that must be maintained in the area where the Avaya MAS is installed and maintained.

Table 2-1. Environmental requirements

Operating state	Temperature	Maximum heat output	Humidity (noncondensing)
Operating	+10 to +35ºC (+50 to +95ºF)	730 BTU per hour	20% to 80% RH
Non-operating (in storage or being shipped)	-20 to +50ºC (-4 to+122ºF)	N/A	20% to 90% RH

Weight and space considerations

Table 2-2 lists the weight, height, width, and depth of an Avaya MAS.

Table 2-2. Avaya MAS weight and space considerations

Server	Weight (full)	Height	Width	Depth
Avaya Messaging Application Server (Avaya MAS)	40 lb (18.1 kg) (without port boards)	6.8 in. (17 cm)	16.9 in. (43 cm)	18.9 in. (48 cm)

For safety considerations, at least two technicians should be on site and available to mount the units.

Customer-provided cabinet requirements

If an Avaya MAS is to be installed in a rack-mount configuration, the customer-provided cabinet must meet the following requirements:

- The cabinet must contain a 4-post rack to support the weight of the servers.
- The cabinet must be secured to the floor before you attempt to mount any units.

- The sliding rails and extender brackets provided with each Avaya MAS are designed for mounting in cabinets 22.5 to 32 inches in depth.
- The cabinet height must accommodate the number of units to be mounted (see Table 2-2 on page 2-3 for server height). It might also need to hold the MAS modems and optional equipment, such as the KVM switch and UPS units (see Figure 2-1 on page 2-9 for an example).

Installation area requirements

Observe the following when determining where to place the system:

- Maintain an air-distribution system that provides adequately cooled, filtered, and humidity-controlled air.
- Do *not* install the Avaya MAS in such a way that the ventilation or fan openings are blocked.
- For T1/E1 connections, the circuits require isolation from exposed lines. For T1 lines, the customer must provide a CSU (T1) at the building point of entry. This CSU must be UL Listed, CSA Certified, or both. For E1 lines, either the network provider or the customer must provide a CSU (E1) or other equivalent protection that has the product safety approvals required by the local jurisdictions.

> **CAUTION:** To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord.

- Systems installed in Finland, Norway, Sweden, and Australia must be installed in a restricted-access location. A restricted-access location is defined as an installation location where access can be gained only by service personnel or customers who have been instructed on the reasons for the restricted access and safety precautions that must be taken. A restricted-access location also allows access through the use of a tool (such as a lock and key) or other means of security.

Power requirements

Table 2-3 lists the power requirements for the Avaya MAS. The AC power supply source must be a single phase 3-conductor (line, neutral, and ground), with a 15 A circuit breaker for 100-127 Vac installations or a 10 A circuit breaker for 200-240 Vac installations.

Table 2-3. Avaya MAS power requirements

Server	# of power supply units	Volts AC	Hertz	Amperes 120V/240V
Avaya MAS	1	100-240 +/– 10%	50/60 +/– 3 Hz	10/5

Consider the server connection to a branch circuit with regard to overload or overcurrent protection. Verify the system ratings to ensure that, together with other equipment connected to the same branch circuit, an overcurrent or overload condition does not exist.

Grounding requirements

An Avaya MAS relies on the ground connection through the mains socket-outlet for continued safe operation. Ensure that the AC main outlet to be used to power the system (via the power cord or UPS) is a grounded outlet. If you are unsure of the ground integrity of the outlet, have a trained and certified electrician check the outlet.

In addition, observe the following grounding requirements when determining where to place the server:

- Use only the power cord provided with each unit to connect it to the universal power supply (UPS) or to an AC mains outlet.
- Install the server within 6 feet (2 m) of a grounded AC mains socket-outlet.
- Do *not* use extension cords with the system.

WARNING: The Avaya MASs *must* be connected to an earthed mains socket-outlet. Failure to do so will result in allowing a hazard to be present that could cause severe personal injury or death.

CAUTION: System grounding must comply with the general rules for grounding provided in article 250 of the National Electrical Code (NEC), National Fire Protection Agency (NFPA), or the applicable electrical code in the country of installation.

Demarcation points

This section lists the demarcation points for switches (PBXs) and LAN connectivity.

Demarcation point for switches (PBXs)

The demarcation point for switch (PBX) connections to the Avaya MAS is the wall field for Avaya switches.

For non-Avaya switches, the demarcation point is the end of the connector of the Avaya-provided cables for the port boards. Avaya service technicians dispatched for the system installation are not responsible for making any connections directly to switches that are not maintained by Avaya.

Note: Avaya recommends joint acceptance testing for systems integrated with switches that are not maintained by Avaya.

Demarcation point for LAN connectivity

The demarcation point for the LAN connection to the Avaya MAS is the physical Ethernet interface on the server that connects to the corporate LAN. The customer is responsible for:

- Providing the LAN cables that connect the Avaya MAS to the corporate system (unless the customer uses Avaya-provided cables, in which case the demarcation point is the modular connector at the end of the LAN cables)
- Doing LAN administration that is not performed on the Avaya MAS
- Maintaining the TCP/IP addresses and administration on the server after cutover, unless otherwise specified by contract
- Providing the IP address, subnet mask, and gateway information for administration on the server, as well as any DNS server IP information and corporate domain names

Avaya service technicians dispatched for system installation are not responsible for troubleshooting the customer LAN.

Unpacking the hardware

This section lists required and optional hardware needed to successfully install and maintain an Avaya Modular Messaging system.

Required and optional hardware

An Avaya Messaging Application Server (Avaya MAS) requires the hardware components listed in Table 2-4. Verify that all components needed for this installation are on site.

Table 2-4. Required and optional Avaya MAS hardware

Item	Quantity	Required/optional
Required equipment:		
Avaya Messaging Application Server (Avaya MAS)	1 minimum 10 maximum	Required
Server AC power cables	1 per Avaya MAS server	Required
Front bezel	1 per server	Required
Rack-mount assembly (rails, handles, brackets, and connecting hardware), *or* Rubber spacers for stackable desktop configuration	1 set of each per server (use mount type required)	Required
Ethernet LAN cable	1 per server	Required
USB modem (includes USB cable)	1 per MAS server	Required
Port board cables (see Table 3-1 on page 3-2)	1 set per port board	Required for port boards
Optional or customer-provided equipment:		
Monitor (includes power cord and VGA cable)	1	Optional (can be customer-provided)
Keyboard and mouse (includes cords and Y cable)	1 set	Optional (can be customer-provided
KVM switch (includes power transformer) KVM switch cable to each server (includes 1 set of rack-mount brackets, *if needed for rack-mount setup*)	1 KVM switch 1 cable per server 1 set if needed	Optional (other models of switching devices can be used)

Table 2-4. Required and optional Avaya MAS hardware

Item	Quantity	Required/optional
Uninterruptible power supply (UPS) with required power cord (includes 1 set of rack-mount brackets *and* rubber spacers for a stackable setup)	1	Optional (type can vary)
Extended battery module (EBM) with required power cord (includes 1 set of rack-mount brackets *and* rubber spacers for a stackable setup)	1 to 4	Optional (can be ordered with the UPS)

Saving the packing materials

Save the shipping cartons and all packing materials in case any hardware must be returned to the manufacturer. If you ordered more than one Avaya MAS, saving one carton and one set of packing materials should be sufficient. Packing materials include:

- Antistatic bags
- Cardboard and foam inlays

> **Note:** The packing materials might include a plastic bag designed to protect the system from moisture during shipment. Discard this bag. It is not reusable.

Also save the shipping cartons for all peripheral devices (such as the monitor, keyboard and mouse, all required modems, and the UPS and any EBMs, if used).

Installing the Avaya MAS

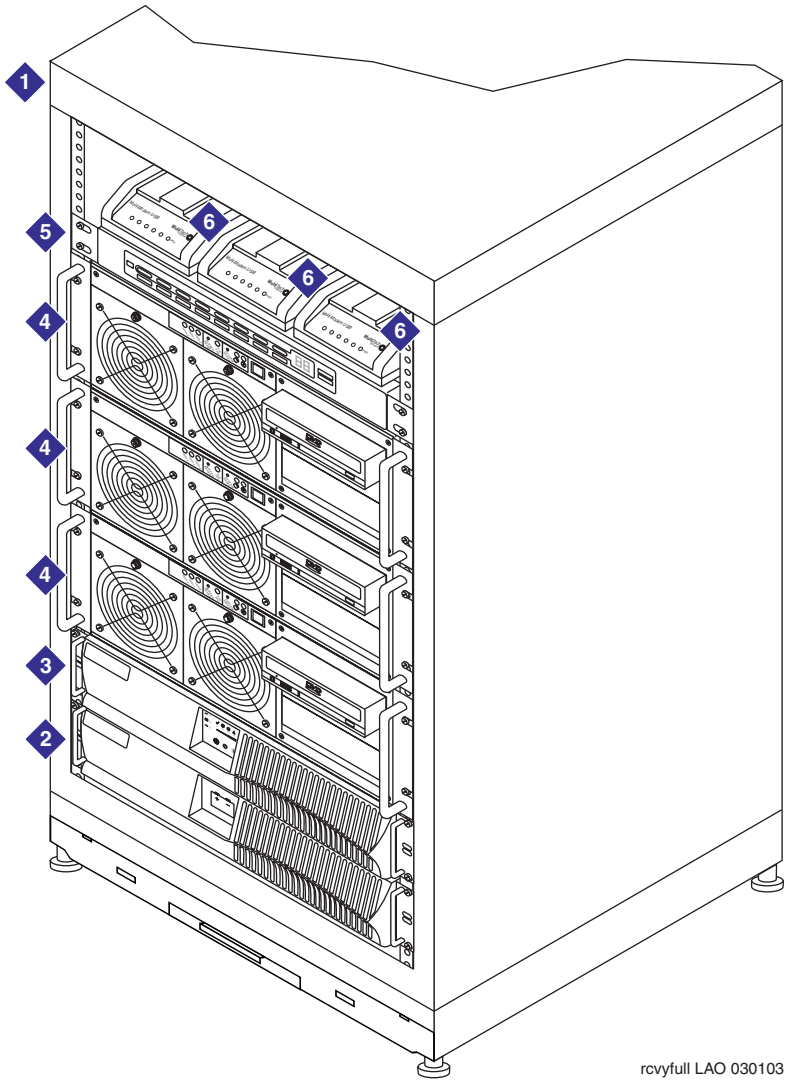
This section describes how to install one or more Avaya Messaging Application Server (Avaya MAS) units. Hardware components that are optional are noted in the text. For more information about required and optional hardware, see Table 2-4 on page 2-7.

The Avaya MAS units can be installed in one or more customer-provided commercial cabinets as a rack-mount system or without a commercial cabinet in a stackable desktop configuration. This section includes instructions on how to install both rack-mount and stackable desktop configurations.

Figure 2-1 on page 2-9 shows an example of an installed rack-mount system.

> **Note:** The sample figure shows the Avaya MAS servers with their front bezels removed.

Figure 2-1. Example of an installed rack-mount Avaya MAS system (front view)



1	Customer-provided cabinet (Type can vary. See physical requirements in "Installation area requirements" on page 2-4.)
2	EBM (Optional. 0 to 4 can be installed with a UPS.)
3	UPS (Optional. Model can vary.)
4	Avaya Messaging Application Server (Avaya MAS). Up to 10 units can be present.
5	KVM switch (Optional. Type can vary.)
6	External modem (One is required for every MAS.)

Installing the UPS and EBMs (optional)

This section describes how to install an optional uninterruptible power system (UPS) and one or more optional extended battery modules (EBMs).

- Customers might order a different model of UPS than the one described in this section, or they can supply their own. See the documentation that was provided with the UPS for instructions.
- If a UPS will not be installed, continue with the next section, "Installing the Avaya MAS" on page 2-14.

The UPS is an optional component for the Avaya MAS that can protect the system from most common power problems, including power failures, power sags, and power surges.

The EBM is an optional component that works in conjunction with the UPS to add additional run time for the system. The customer can add up to four EBMs per UPS. For more information, see the documentation that was shipped with the EBM and UPS.

To install the UPS and EBMs:

- For rack-mount installations, see "Installing the UPS and any EBMs into a rack" below.
- For a stackable desktop configuration, see "Installing the UPS and any EBMs as a stackable configuration" on page 2-12.

Installing the UPS and any EBMs into a rack

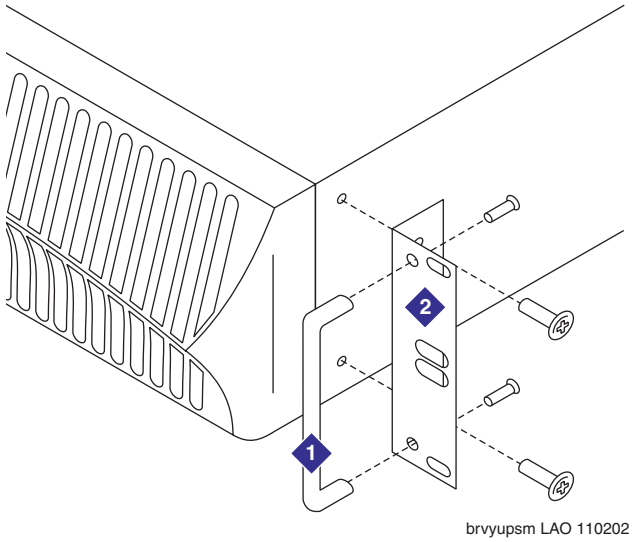
In a rack-mount configuration, the UPS and EBMs must be positioned in the rack below any Avaya MAS units, with the EBM units in the lowest-available position.

To install the UPS and EBMs into a rack:

1. Gather the necessary rack-mount hardware, including the mounting handles, brackets, and screws.
2. Place the UPS on a flat, stable surface with the front of the UPS facing toward you.

3. Attach the mounting handle to each bracket using the supplied screws. See Item 1 in Figure 2-2.

Figure 2-2. Attaching mounting handles and bracket for a rack-mount UPS



4. Align the mounting brackets with the screw holes on the side of the UPS and secure using the supplied screws. See Item 2 in Figure 2-2.

5. If you are installing one or more EBMs, repeat Steps 1 through 4 for each EBM.

> **Note:** The EBMs must be installed below the UPS.

6. Place the EBM into the rack in the lowest-available position and attach the EBM to the rack using customer-provided screws.

> **Note:** If additional EBMs are to be installed into the rack, install them above the first installed EBM.

7. Place the UPS into the rack in the lowest-available position above any EBMs, and attach the UPS to the rack using customer-provided screws.

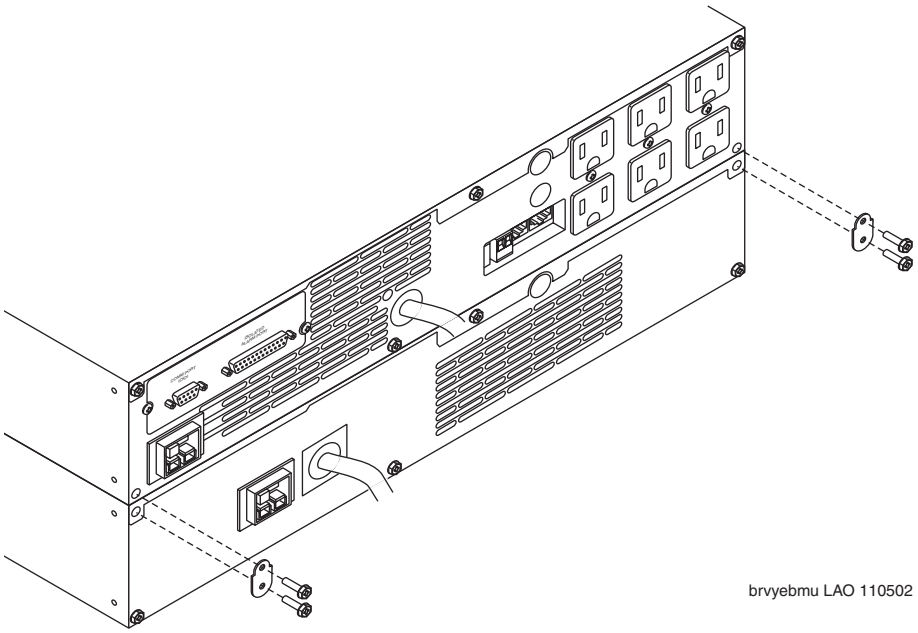
8. Continue with the "Cabling the UPS and any EBMs" on page 2-13.

Installing the UPS and any EBMs as a stackable configuration

To configure the UPS and any EBMs in a stackable configuration:

1. If you are installing one or more EBMs, remove the adjacent corner screws from the rear panels as shown in Figure 2-3. If you do *not* have any EBM units, continue with Step 4.

Figure 2-3. Attaching connecting brackets between a UPS and EBM (back view)



2. Install the EBM brackets by aligning each bracket with the screw holes. Secure the bracket using the supplied screws, as shown in Figure 2-3.

3. Repeat Steps 1 and 2 for each additional EBM.

4. On the bottom unit (either the UPS or an optional EBM), secure four rubber spacers to the bottom of the unit, one at each corner.

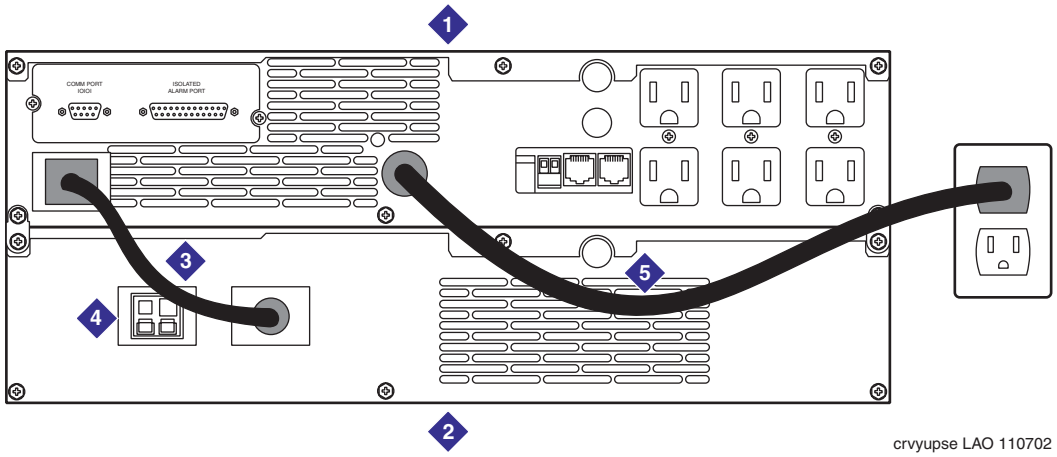
5. Set the unit on a stable platform. This unit will form the base of the stackable desktop configuration.

Cabling the UPS and any EBMs

To cable the UPS and any EBM units:

1. Connect the EBM cable to the battery connector on the UPS. See Item 1 in Figure 2-4.
2. If you must connect additional EBMs, plug the EBM cable of the second EBM into the battery connector on the first EBM.
3. Repeat Step 2 for each additional EBM. Up to four EBMs can be connected to the UPS.

Figure 2-4. Connecting a UPS and an EBM (back view)



1	UPS (Model can vary. See the provided documentation for details.)
2	EBM (Optional. 0 to 4 can be installed.)
3	EBM battery cable to UPS
4	Battery connectors for additional EBMs if needed (Optional.)
5	UPS power cable to a grounded AC power outlet

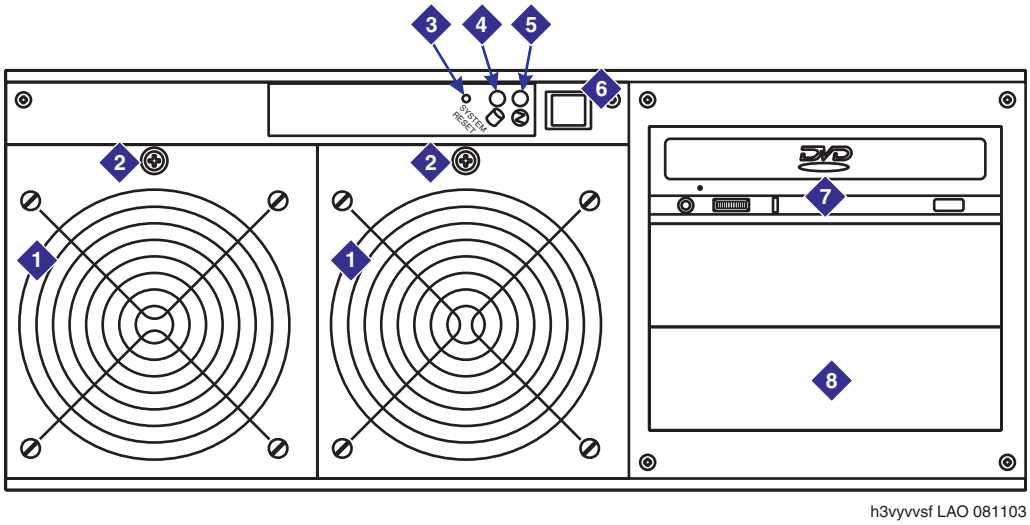
Installing the Avaya MAS

This section describes Avaya MAS components, and how to install the Avaya MAS in a customer-provided commercial cabinet or in a stackable desktop configuration.

Identifying key components of the Avaya MAS

Figure 2-5 shows the front view of an Avaya Messaging Application Server (Avaya MAS).

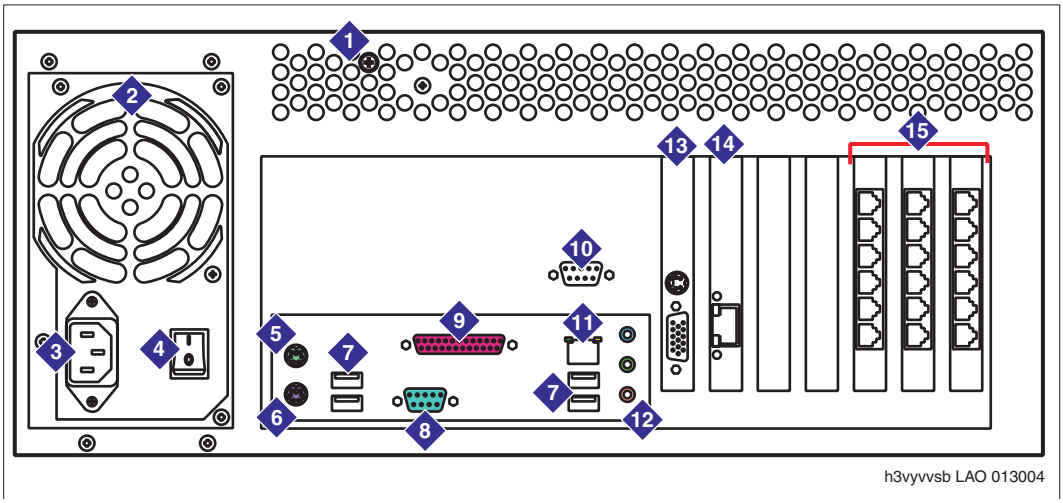
Figure 2-5. Avaya MAS (front view with bezel removed)



1	Redundant chassis fans
2	Chassis fan retaining screw
3	System reset button
4	Disk drive access indicator
5	System power indicator
6	System power on/off button
7	DVD player
8	IDE disk drive A (hda)

Figure 2-6 shows the back view of an Avaya Messaging Application Server (Avaya MAS).

Figure 2-6. Avaya MAS (back view)



1	Latch for top cover
2	Power supply
3	AC power receptacle
4	Power supply on/off switch
5	Mouse connector
6	Keyboard connector
7	USB ports (one of which is used for the required modem)
8	Serial port (COM1)
9	Parallel port (not used)
10	Serial port (COM2)
11	Corporate LAN interface
12	Audio connectors (not used)
13	Video card (contains monitor connector)
14	Network interface card (not used in this configuration)
15	Port boards (type varies from machine to machine). Up to six port boards can be installed in each MAS (depending on the type of board and traffic requirements), typically starting from the end of the cabinet. Port boards are not present for IIP H.323 integrations. See "Supported MAS port boards" on page 3-2 for details.

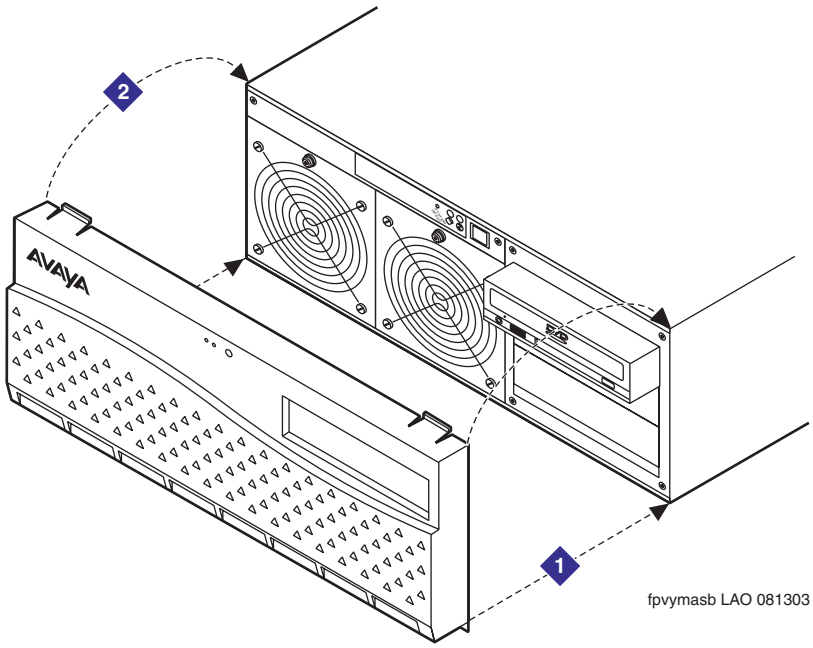
Attaching the front bezel

The front bezel must be attached to each Avaya MAS as follows:

1. Insert the bottom of the front bezel into the chassis. See Item 1 in Figure 2-7.

2. Push the bezel upright until the two upper tabs snap into place under the top cover. See Item 2 in Figure 2-7.

Figure 2-7. Attaching the front bezel



Installing the Avaya MAS in a rack-mount or stackable setup

The Avaya MAS can be installed either in a commercial cabinet in a rack-mount configuration, or stacked on top of one another in a desktop configuration. Continue with the appropriate section based on the installation method to be used at this site:

- "Installing an Avaya MAS in a rack-mount configuration" on page 2-17
- "Installing the Avaya MAS in a stackable desktop configuration" on page 2-19

CAUTION: The Avaya MAS is heavy. Get another person to assist you with lifting and placing the unit.

Installing an Avaya MAS in a rack-mount configuration

The task describes how to install one or more Avaya MASs in a commercial cabinet. This is also called a rack-mount configuration.

> **Note:** The first Avaya MAS is typically installed directly above the UPS. If a UPS is not present, install the Avaya MAS in any available position in the cabinet.
>
> If more than one Avaya MAS is present, you typically install each additional MAS above the first MAS. However, all the Avaya MASs do not have to be in the same cabinet.

Before you begin to install the servers into the rack, verify that the necessary rack-mount hardware is on site. Required equipment is summarized in Table 2-5.

Table 2-5. Required rack-mount hardware

Part	Quantity
Extension bracket (two different lengths might be shipped)	2 per server
Right-side rack-mount rails and slides	1 set per sever
Left-side rack-mount rails and slides	1 set per sever
Front panel handle set (handles and mounting brackets). These might already be assembled on some units.	1 set per server
Miscellaneous screws and mounting hardware	1 set per server
Customer provided: Mounting hardware to secure the extension bracket and rack-mount slide to the customer-provided rack.	1 set per rack-mount rail and extension bracket

To install an Avaya MAS into a rack:

1. Gather the necessary rack-mount hardware, as listed in Table 2-5.
2. Place the server on a flat, stable surface.
3. *If the mounting handles are not already attached,* attach them now:
   a. Connect the handles to the bracket using the supplied flat-head screws. See Item 1 in Figure 2-8 on page 2-18.
   b. Align the mounting bracket with the screw holes on the side of the server and secure it using the supplied flat-head screws. See Item 2 in Figure 2-8.
4. The mounting rails consist of a narrow, flat piece that connects to the server, and a slide. Identify the rails for the left and right side of the server as you face the unit from the front (the rack-mount rails are *not* interchangeable). Some rails are labeled **LH** for left and **RH** for right.

If the set of rails you have is *not* labeled:

a. Hold the rail-slide assembly so that the 2-hole bracket that connects to the front of the customer rack faces left. See Item 7 in Figure 2-8.

b. Fully extend the slide so that you can see the holes in the flat piece of the rail slide that mounts to the server. See Item 4 in Figure 2-8.

- If the holes appear on the *upper* side of the flat rail piece, this rail connects to the *right* side of the server chassis.
- If the holes appear on the *lower* side of the flat rail piece, this rail connects to the *left* side of the server chassis.

Note: The holes for mounting to the unit are offset to get the correct alignment in the rack. Verify by the position of the holes in the bracket that you are installing each rail on the correct side.

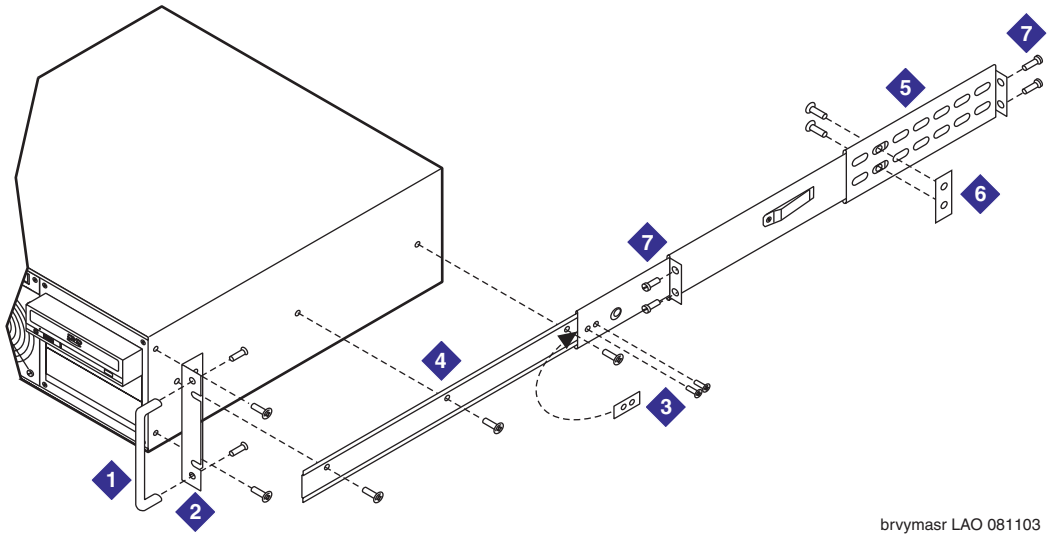
5. Attach the rack-mount rails to the server as follows:

a. Remove the two screws and retaining bar on the rail slide just in front of the server-retaining latch. Set them aside for later. See Item 3 in Figure 2-8.

b. Disassemble the slide (necessary to access all three screw holes).

c. Place the flat piece of the rail slide against the server and secure it with the three supplied flat-head screws. See Item 4 in Figure 2-8.

Figure 2-8. Attaching server mounting handles, bracket, and rack-mount rail assembly



6. Position the extension bracket on end of the rail slide to provide the depth needed for the server to fit in the rack. More than one extension bracket might be shipped. Choose the correct length for the cabinet. See Item 5 in Figure 2-8.

7. Attach the extension bracket to the rear of the rail slide using the supplied screws and retaining bar (2 pan-head screws per bracket). See Item 6 in Figure 2-8.

8. Connect the extension bracket and rail slide to the customer-provided four-post rack using the correct customer-provided hardware for that cabinet model. See Item 7 in Figure 2-8.

9. Fully extend the rail slides to the locked-out position.

10. With another technician supporting the unit, align the front of the rail slide with the rack-mount rail that is attached to the server.

11. Push the unit onto the rail slide far enough so that the safety catch engages.

12. Slide the server completely into the rack. Ensure that the server moves smoothly in and out of the rack.

13. Reattach the two screws and retaining bar on the rail slide just in front of the server-retaining latch (Item 3 in Figure 2-8, from Step 5-a).

14. Repeat Steps 2 through 13 for each server that must be installed.

15. When all servers are mounted, continue with "Connecting the Avaya MAS power cables" on page 2-20.

Installing the Avaya MAS in a stackable desktop configuration

If the system is to be installed in a stackable desktop configuration, you must install four rubber spacers on the bottom on each of the servers. This allows you to stack the servers on top of one another. See Figure 2-9 on page 2-20 for a sample configuration.

> **CAUTION:** For safety, do not stack more than two servers. Use multiple stacks if needed. If you have a UPS *and* an EBM, stack only one server on top of them.

To install Avaya MASs in a stackable desktop configuration:

1. Gather the rubber spacers shipped with each server.

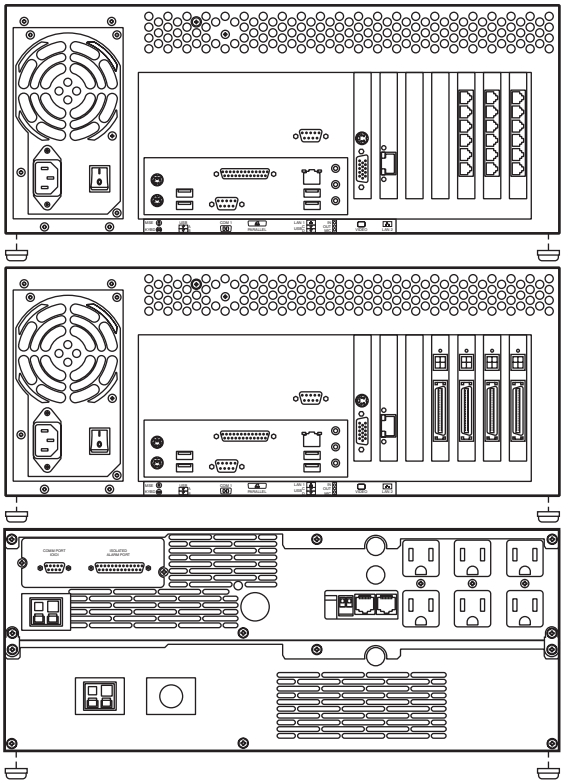
2. Attach the rubber spacers to the bottom of each of the servers, one at each corner. See Figure 2-9 on page 2-20 for an example.

3. Position the UPS (if present), or the first Avaya MAS (if no UPS is present) in an appropriate location. See "Site requirements for an Avaya MAS" on page 2-3 for details.

4. Place the second Avaya MAS (if present) on top of the first one.

5. If more Avaya MASs are present, create a second stack, placing each additional MAS on top of the last one.

Figure 2-9. Installing rubber spacers for a stackable desktop configuration



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Connecting the Avaya MAS power cables

To connect the MAS power cables:

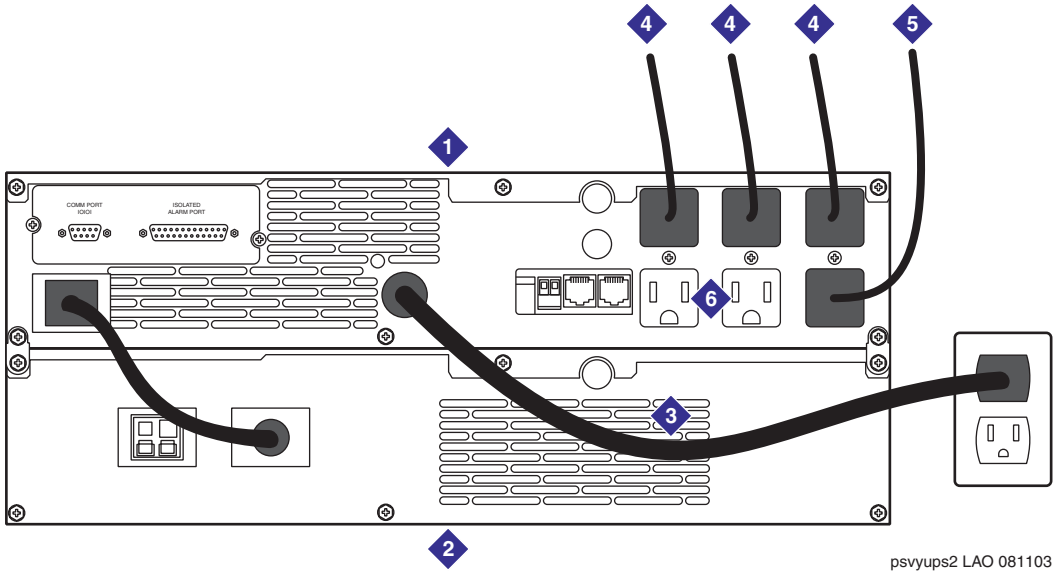
1. Connect the female end of the MAS power cable to the male power connector on the back of the Avaya MAS.

2. Connect the male end of the MAS power cable to AC receptacle on the back of the UPS (if present), or to an appropriate AC power outlet. See Figure 2-10 for an example.

3. *If you have more than one MAS,* repeat Steps 1 and 2 for each MAS.

4. If a UPS is present, plug the UPS power cable into an appropriate AC power outlet.

Figure 2-10. Attaching power cables to a UPS (sample configuration)



1	UPS (Model can vary. See the provided documentation for details.)
2	EBM (Optional. 0 to 4 can be installed.)
3	UPS power cable to a grounded AC power outlet
4	AC power cable to each Avaya MAS
5	AC power cable to other equipment, such as the required external modem or the optional KVM switch and monitor
6	Additional AC sockets (Use as needed for additional equipment or MASs.)

Connecting the Avaya MAS port boards

If port boards are present in the Avaya MAS, you are now ready to connect the cables supplied for the MAS port boards to the PBX (switch). To do this:

1. Assemble the required cables.

> **Note:** Check the numbering on the board faceplate to verify that you are connecting the correct cable to the correct port.

2. Connect each port on the port boards to the switch (PBX) as required, based on the type of board:

- **For analog boards:**

  a. Connect each port on the installed analog boards to one end of a standard RJ-11 tip/ring cord (individual tip/ring cables and a 12-port harmonica can also be used). 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 should 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 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 should make this connection (see the customer contract or the statement of work).

- **For T1- or E1-QSIG boards:**

  a. Connect each port on the Dialogic T1-QSIG or E1-QSIG board using an RJ-48C (Ethernet) cable.

  b. Attach a ferrite to this cable. See "Attaching ferrites" on page 2-27.

  c. The other end of the cable must be connected through a patch panel to a 4-wire punch-down block on the corporate switching system. The organization responsible for maintaining the corporate switch should make this connection (see the customer contract or the statement of work).

Connecting the Ethernet cable

A standard Ethernet cable is shipped with every Avaya MAS. You can use this cable or a customer-provided cable to connect the Avaya MAS to the corporate LAN.

To connect each Avaya MAS to the corporate LAN:

1. Connect one end of the standard Ethernet cable to the RJ45 connector on the back of the server. See Figure 2-11 on page 2-23.

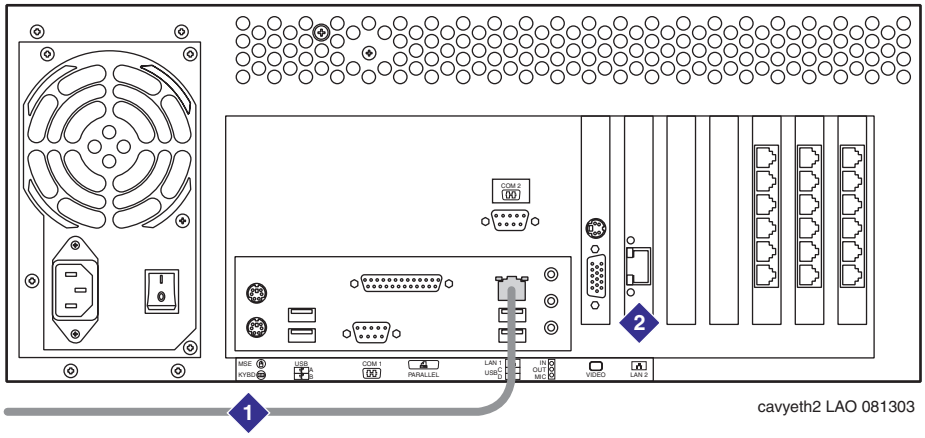
> **Note:** Make sure that you connect the Ethernet cable for the *corporate* LAN to the Ethernet interface on the back of the Avaya MAS housing. The Ethernet interface on the NIC in the PCI slot is *not used* in this configuration.

2. The other end of this cable must be connected to an Ethernet interface on the corporate LAN.

> **Note:** The organization that is responsible for maintaining the corporate LAN should make this connection (see the customer contract or the statement of work).

3. Repeat Steps 1 and 2 for each Avaya MAS in the configuration.

Figure 2-11. Connecting an MAS to the corporate LAN (rear view)



1	Ethernet interface to the corporate LAN
2	NIC connection *(Do not use in this configuration.)*

Installing the KVM switch (optional)

A keyboard, video, and mouse (KVM) switch can be used to facilitate switching between servers in a Modular Messaging installation. See Figure 2-1 on page 2-9 for a sample installation.

> **Note:** If you are *not* installing a KVM switch, continue with "Attaching ferrites" on page 2-27.

The model of KVM switch and the specific monitor, keyboard, and mouse used can vary from site to site (for example, a flat-panel monitor setup might be used instead). This section describes how to install one specific model

To install the Belkin OmniView Pro2 Series KVM switch:

- For rack-mount installations, see "Installing the KVM switch in a rack-mount configuration" on page 2-24.

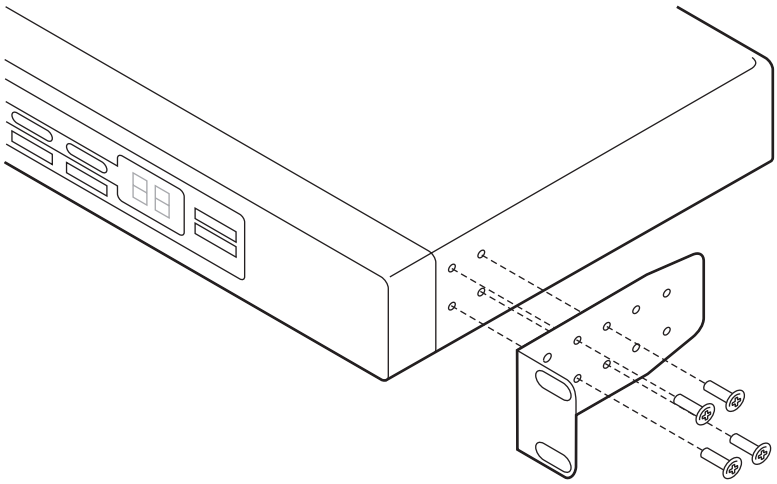
- For a stackable desktop configuration, see "Installing the KVM switch in a stackable configuration" on page 2-24.

Installing the KVM switch in a rack-mount configuration

To install the Belkin OmniView Pro2 Series KVM switch in a commercial cabinet:

1. Gather the necessary rack-mount hardware, including the adjustable mounting brackets and screws.
2. Select a bracket-hole scheme to determine how far the KVM switch should protrude from the rack.
3. Install the two rack-mount brackets on the KVM switch using the provided screws. See Figure 2-12 on page 2-24.
4. Install the KVM switch into the rack above the last installed MAS.
5. Continue with "Connecting the KVM cables" on page 2-25.

Figure 2-12. Attaching mounting brackets for a rack-mount KVM



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Installing the KVM switch in a stackable configuration

To install the Belkin OmniView Pro2 Series KVM switch in a stackable desktop configuration:

1. Place the KVM switch on top of the uppermost MAS. (Rubber spacers are already in place.)
2. Continue with "Connecting the KVM cables" on page 2-25.

Connecting the KVM cables

The Belkin OmniView Pro2 Series KVM switch must be connected to the keyboard, monitor, and mouse, and then to each MAS, as described in this section.

Connecting the KVM switch to the keyboard, monitor, and mouse

The KVM switch setup for the keyboard, monitor, and mouse can vary from site to site, depending on the equipment and cabling used. This section provides instructions for a Belkin OmniView Pro2 Series KVM switch setup.

To connect the KVM switch to the keyboard, monitor, and mouse:

1. If a new monitor or keyboard and mouse was ordered for this system, unpack them now. Otherwise, continue with Step 2.

   Note: If a new monitor was not purchased with the system, any 15" or larger monitor can be used.

   a. Set up the monitor in the desired location.

   b. Connect the keyboard and mouse to the monitor.

   c. Plug the female end of the monitor power cable into the monitor.

   d. Plug the male end of the monitor power cable into a free UPS receptacle (if available) or into a grounded AC outlet.

2. Connect the VGA cable from the monitor to the female port on the back of the KVM switch labeled **Console VGA**. See Item 1 in Figure 2-13 on page 2-26.

3. Tighten the thumbscrews on the video cable connector using either your fingers or a small flatblade screwdriver.

4. Connect the PS/2 cables for the mouse and keyboard to their corresponding connectors on the back of the KVM switch in the **Console** section using the Y cable. See Item 2 in Figure 2-13.

   The mouse connector is color-coded green, and the keyboard connector is color-coded purple.

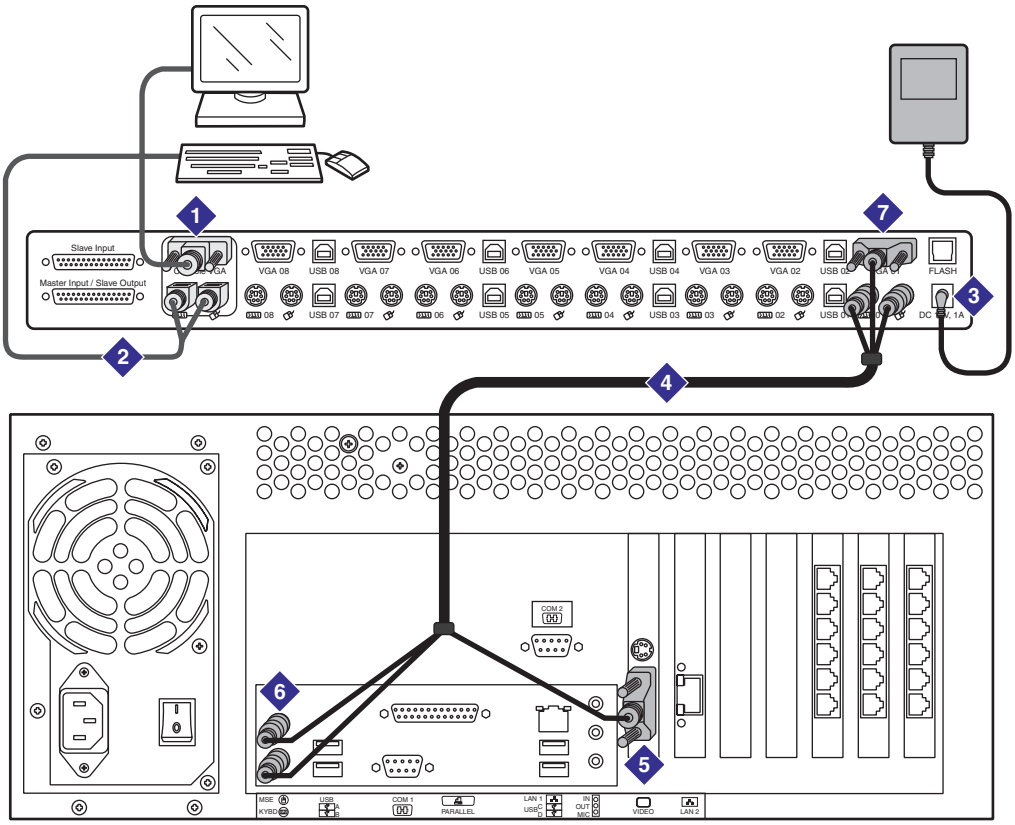
5. Attach the KVM power cable to the DC power jack labeled **DC 12V, 1A** on the rear of the KVM switch.

6. Connect the other end of the KVM power cable (the AC-to-DC transformer) to a receptacle on the back of the UPS (if present) or to an appropriate power outlet.

   When power is connected, the LED for port 01 begins flashing.

7. Push the direct-access port selectors for ports 01 through 08 in order. The corresponding LED should flash as each button is pressed, indicating that the port is ready for the server connection.

Figure 2-13. Connecting a Belkin OmniView Pro2 Series KVM switch (rear view)



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1	VGA cord from monitor to Console VGA port on KVM switch
2	Y cable to combination keyboard/mouse (setup can vary)
3	DC power jack for transformer cable
4	KVM switch video/keyboard/mouse cable to each server unit
5	VGA connector on the Avaya MAS (in the AGP slot)
6	Keyboard and mouse connectors on the Avaya MAS
7	Belkin OmniView Pro2 Series KVM switch (This example shows an Avaya MAS connected to the first computer port VGA 01. Additional Avaya MASs are connected in the subsequent port positions beginning with VGA 02.)

Connecting the KVM switch to the Avaya MAS

To connect the KVM switch to any installed Avaya MAS units:

1. Using the provided KVM cable, plug the male VGA connector into the VGA port on the first MAS. See Figure 2-13 on page 2-26.

2. Connect the PS/2 keyboard and mouse connectors of the KVM cable to the keyboard and mouse ports on the back of the Avaya MAS.

> **Note:** The mouse connector is color-coded green, and the keyboard connector is color-coded purple.

3. Connect the other end of the KVM cable to the port labeled **VGA 01**, located on the back of the KVM switch.

4. Connect the ends of the cables to the keyboard and mouse ports located directly underneath the VGA 01 port.

5. Repeat Steps 1 through 4 for each additional MAS, connecting to port **VGA 02**, **VGA 03** and so on, as needed.

Attaching ferrites

You must attach ferrites to the Avaya MAS video cable and to each T1- or E1-QSIG port board cable (if this type of board is present on the MAS) to meet electromagnetic conductance (EMC) regulations. You must also attach ferrites to the optional flat-panel monitor with an integrated KVM switch (if present).

> ⚠ **CAUTION:** Handle all ferrites with care. They are easily broken. Do not use any that are broken or fractured. Damaged ferrites are no longer effective for EMC control.

To install a ferrite on a cable:

1. *For each Avaya MAS:* Locate the video connector in the first slot on the back of the Avaya MAS.

2. Open the ferrite by gently pulling the fastener away from the body of the ferrite. See Figure 2-14 on page 2-28.

3. Place the cable cord in the groove inside the ferrite. Gently snap the ferrite shut.

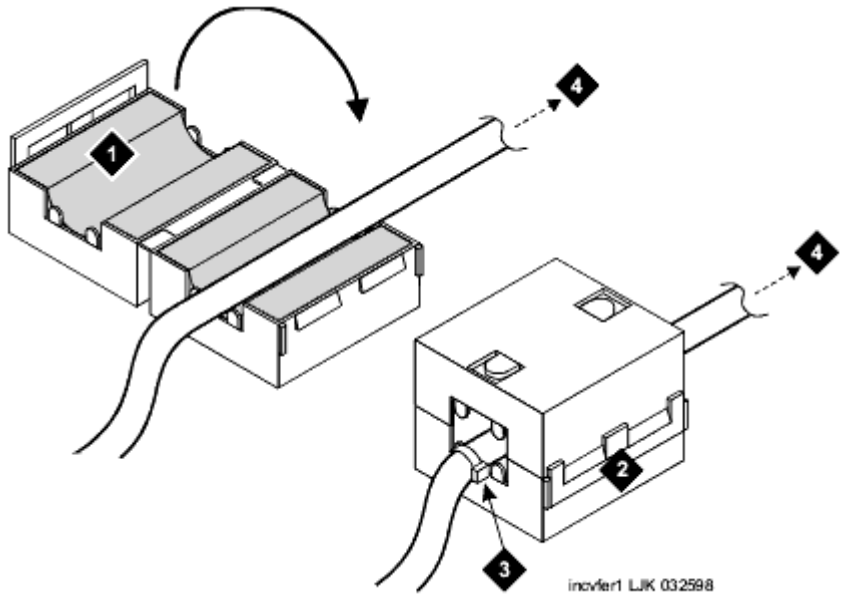
> **Note:** Place ferrites as close as possible to the chassis to minimize the amount of cable between the ferrites and the chassis.

4. Attach a large cable tie directly behind the ferrite to secure it. Trim the cable tie.

5. *For MASs that use T1- or E1-QSIG port boards:* Repeat Steps 2 through 4 to attach a ferrite to each QSIG port board cable.

6. *For systems that use a flat-panel monitor:* Repeat Steps 2 through 4 to attach a ferrite to the mouse and keyboard cables at each server. One ferrite can be used for both cables.

Figure 2-14. Attaching a ferrite to a cable



1	Ferrite in open position
2	Ferrite in closed position
3	Cable tie
4	Cable to the computer

Connecting the USB modem on the MAS

A USB modem is required for every Avaya MAS. The type of modem varies, depending on the location. See the documentation included with the modem if you have questions about modem installation, setup, or operation.

This section describes a MultiTech USB modem setup. See Figure 2-15 on page 2-29 for an example.

To connect a USB modem:

1. Attach the rubber spacers to the four marked areas in each corner on the bottom of the modem (if spacers are not already in place).

2. Place the USB modem on top of the KVM switch or in a secure location, as required.

3. Connect one end of the USB cable to the back of the USB modem.

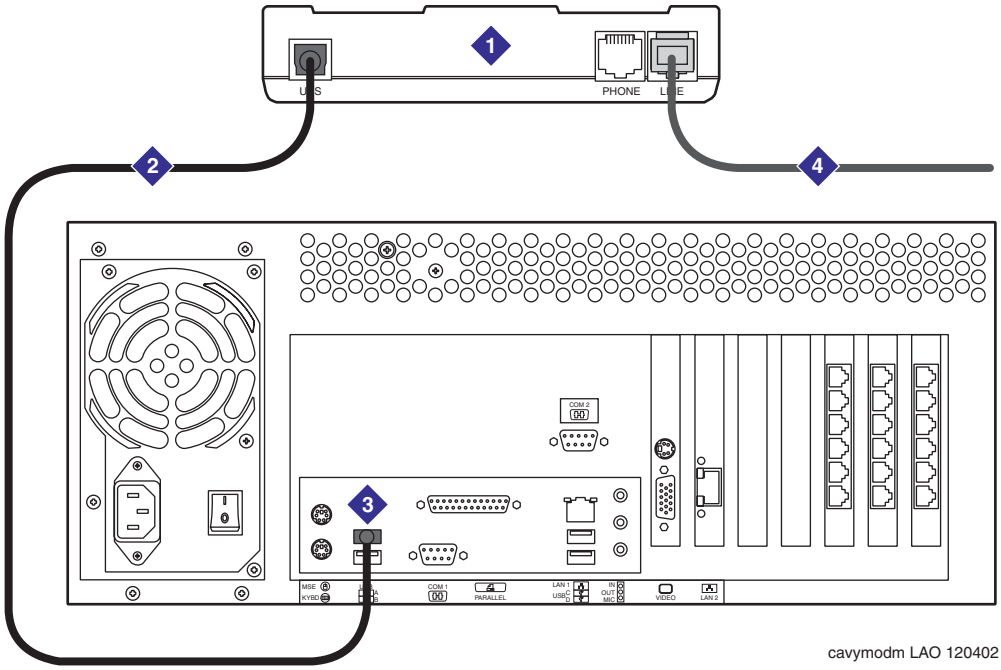
4. Connect the other end of the USB cable to the back of the Avaya MAS. USB port A is recommended, as shown in Figure 2-15.

5. Connect the RJ-11 cable to the LINE connector on the modem.

6. 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 should make this connection (see the customer contract or the statement of work).

7. Repeat Steps 1 through 6 for every Avaya MAS modem.

Figure 2-15. Connecting a USB modem to an Avaya MAS (rear view)



1	USB modem
2	USB cable to the MAS
3	USB connector on the server (Port A is recommended, as shown.)
4	RJ-11 cable to the corporate switch

Powering up an Avaya MAS system

When every Avaya MAS is installed, power up the system as follows:

1. Verify that the power cables for the MASs and all peripheral devices are connected to the UPS or to an appropriate AC power outlet. See Figure 2-10 on page 2-21 for an example. Connections include:
   - UPS (if present): connected to an appropriate AC power outlet.
   - All MAS units: each connected to the UPS (if present), or to an appropriate AC power outlet.
   - KVM switch and monitor (if present): optionally connected to the UPS (if present), or to an appropriate AC power outlet.
   - External modems: *if a power cord is required,* it can be connected to the UPS (if present), or to an appropriate AC power outlet.
2. *If a UPS is present:* Press the On button on the front of the UPS. The appropriate lamps should light (see the UPS documentation).

   Note: Always power up the UPS first, if a UPS is installed.

3. Press the power button on the monitor. The power lamp on the monitor should light.
4. *If an external modem is present,* press the On button (if present). The appropriate lamps should light (see the modem documentation).
5. *If a KVM switch is installed,* verify that the power lamp is lit.
6. Power up each Avaya MAS as follows:
   a. Toggle the power switch at the rear of the unit to on (**|** is on, **0** is off).

      Note: See "Identifying key components of the Avaya MAS" on page 2-14 to locate the two power switches if needed.

   b. Press the power button on the front of the unit. The power lamp on the front of each server should light.
   c. Wait up to 1 minute for the display to appear on the monitor.

Note: The Windows 2000 Server Setup Wizard automatically runs when the unit is powered up (see Chapter 5, “Configuring a new Avaya MAS”). However, the steps in Chapter 4, ‘‘Preparing to install Modular Messaging software,’’ must be completed before you install any Modular Messaging software on the Avaya MAS.

3

Installing MAS port boards

This chapter describes how to install Dialogic port boards and their drivers in a customer-provided MAS.

> **Note:** Before you can successfully complete the tasks described in this section, you must have read Chapter 1, ‘‘Preinstallation requirements,’’ and verified that all preinstallation requirements have been met.

Topics in this chapter include:

Supported MAS port boards

Table 3-1 lists the Dialogic port boards that are supported for all new installations. The Dialogic documents provide details about installing and connecting the boards and are available on the documentation media provided with the Modular Messaging system.

Table 3-1. Supported MAS port boards

Protocol	Ports	Port boards	Max #	Dialogic files on documentation CD
Analog	4 - 8 12 - 48	Dialogic 4-port T/R board Dialogic 12-port T/R board	2 4	**D/41JCT-LS** (PDF 133K) **D/120JCT-LS** (PDF 131K)
Digital Set Emulation	8 - 40 or 8 - 48	Dialogic D/82JCT-U-PCI-UNIV	5 - Avaya MAS 6 - other MAS	**D/82JCT-U PCI Univ** (PDF 234K)
T1-QSIG	23 - 69	Dialogic D/480JCT-2T1	3	**DualSpan JCT boards** (PDF 104K)
E1-QSIG	30 - 60	Dialogic D/600JCT-2E1	2	**DualSpan JCT boards** (PDF 104K)

Installing MAS port boards

Do this procedure on a customer-provided MAS only.

If you will be installing Modular Messaging software on a customer-provided Messaging Application Server (MAS), you must first install the required port boards and the appropriate Dialogic drivers and software as described in this section.

Note: The number of port boards you can install in a customer-provided MAS varies depending on the type of MAS used and the number of PCI slots available. These instructions assume that up to six PCI slots are available in the MAS, and that board installation will begin with the 6th PCI slot. Modify these instructions as appropriate for this model of MAS.

Port boards are not used in an IIP H.323 integration.

Preparing for the installation

To install Dialogic port boards in a customer-provided MAS:

1. Verify that this MAS meets the minimum requirements to support Modular Messaging software. See the *Avaya Modular Messaging Concepts and Planning Guide* (PDF 2 MB) for details.

2. Print out the appropriate Dialogic PDF file for complete information. See Table 3-1 on page 3-2 for a list of the Dialogic documents that cover the installation of each type of the board.

   Documents are available on the *Avaya Modular Messaging Documentation CD* or from the www.avaya.com/support Web site. See "Required documentation" on page 1-2 for details about accessing required information.

3. If the server is already in operation, schedule down time to install the new boards.

4. When ready to begin the installation, shut down the system software and power off the system. Unplug the AC power cord for safety.

> **CAUTION:** Observe proper electrostatic discharge (ESD) precautions when you handle computer components. Wear an antistatic wrist strap that touches your bare skin and connect the strap cable to an earth ground. For detailed ESD instructions, see "Protecting against ESD damage" on the documentation CD.

5. Open the chassis to access the card slots.

6. Remove the cover for the PCI slot in which you want to install the new board. Set the retaining screw aside.

> **Note:** Insert boards starting from the right-most slot if possible. For example, if six PCI slots are in the MAS, insert the port boards beginning with PCI slot 6.

   - 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, as shown in Table 3-1 on page 3-2.

Setting jumpers and switches

Set the jumpers and switches for board position, bus termination, and other features as described in this section. See the Dialogic documentation for details on jumper or switch location if needed.

To set the jumpers and switches on each board:

1. Remove the new port board from its packaging.
2. Set the jumpers and switches as required for this type of board:
   - D/120JCT-LS 12-port analog boards (see below)
   - D/41JCT-LS 4-port analog boards (see page 3-5)
   - D/82JCT-U set emulation boards (see page 3-6)
   - D/480JCT-2T1 or D/600JCT-2E1 QSIG boards (see page 3-7)

For D/120JCT-LS 12-port analog boards (4 maximum per MAS):

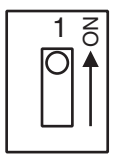
a. Set the unique board ID for the new card. Turn the **SW100** rotary switch, located on the top of the card, to set the board ID according to the slot in which you are installing it.

   Dialogic port boards typically are placed in the PCI slots starting from the right side of the cabinet (see Figure 2-6 on page 2-15 for an example). For a 6-PCI slot MAS, the board IDs would be:

   - The card in PCI slot 6 is assigned ID 0.
   - The card in PCI slot 5 is assigned ID 1.
   - The card in PCI slot 4 is assigned ID 2.
   - The card in PCI slot 3 is assigned ID 3.

b. Set the hook-switch state of the new card to **ON** so that callers hear a busy signal when the card is not initialized. Use the **SW1** switch, located at the top of the card, to set the hook-switch state. See Figure 3-1.

Figure 3-1. D/120JCT-LS analog board on-hook switch



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For D/41JCT-LS 4-port analog boards (2 maximum per MAS):

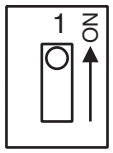
a. Set the unique board ID for the new card. Turn the **SW30** rotary switch, located on the top of the card, to set the board ID according to the slot in which you are installing it.

   Dialogic port boards typically are placed in the PCI slots starting from the right side of the cabinet (see Figure 2-6 on page 2-15 for an example). For a 6-PCI slot MAS, the board IDs would be:

   - The card in PCI slot 6 is assigned ID 0.
   - The card in PCI slot 5 is assigned ID 1.

b. Set the hook-switch state of the new card to **ON** so that callers hear a busy signal when the card is not initialized. Use the red **SW4** switch, located near the top of the card, to set the hook-switch state. See Figure 3-2.

Figure 3-2. D/41JCT-LS analog board on-hook switch



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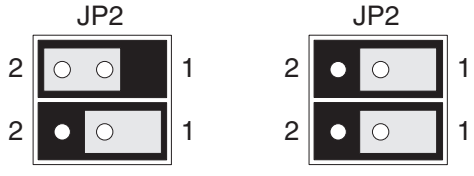
c. If more than one 4-port board is installed in the system, set up the boards for Computer Telephony (CT) bus termination. Use the **JP2** jumper to set CT bus termination as shown in Table 3-1.

Table 3-1. D/41JCT-LS analog board CT bus termination settings

Number of cards	JP2 jumper	CT bus termination
1	OFF	Bus is not terminated.
2	ON pins 1 and 2	Terminate bus on both boards.

Figure 3-3 shows the **JP2** jumper settings. The setting on the left is ON (CT bus is terminated). The setting on the right is OFF.

Figure 3-3. D/41JCT-LS analog board CT bus termination settings



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For D/82JCT-U set emulation boards (6 maximum per MAS):

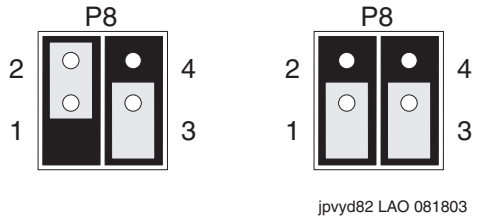
If more than one card is installed in the system, set up the boards on either end of the Computer Telephony (CT) bus for bus termination. Use the **P8** jumper to set CT bus termination as shown in Table 3-2.

Table 3-2. D/82JCT-U set emulation board CT bus termination settings

Number of cards	P8 jumper	CT bus termination
1	OFF	Bus is not terminated.
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 the end boards.
4	Card 1: ON pins 1 and 2 Card 2: OFF Card 3: OFF Card 4: ON pins 1 and 2	Terminate bus on the end boards.
5	Card 1: ON pins 1 and 2 Card 2: OFF Card 3: OFF Card 4: OFF Card 5: ON pins 1 and 2	Terminate bus on the end boards.
6	Card 1: ON pins 1 and 2 Card 2: OFF Card 3: OFF Card 4: OFF Card 5: OFF Card 6: ON pins 1 and 2	Terminate bus on the end boards. (A special 6-position CT cable is required for this configuration. The Avaya-provided H100 cable supports only up to 5 DSE boards.)

Figure 3-4 shows the **P8** jumper settings. The setting on the left is ON (CT bus is terminated). The setting on the right is OFF.

Figure 3-4. D/82JCT-U set emulation board CT bus termination settings



For D/480JCT-2T1 QSIG boards (3 maximum per MAS) and D/600JCT-2E1 QSIG boards (2 maximum per MAS):

a. Set the unique board ID for the new card. Turn the **SW100** rotary switch, located on the top of the card, to set the board ID according to the slot in which you are installing it.

   Dialogic port boards typically are placed in the PCI slots starting from the right side of the cabinet (see Figure 2-6 on page 2-15 for an example). For a 6-PCI slot MAS, the board IDs would be:

   - The card in PCI slot 6 is assigned ID 0.
   - The card in PCI slot 5 is assigned ID 1.
   - The card in PCI slot 4 is assigned ID 2 (this slot would be used only for a D/480JCT-2T1 QSIG board).

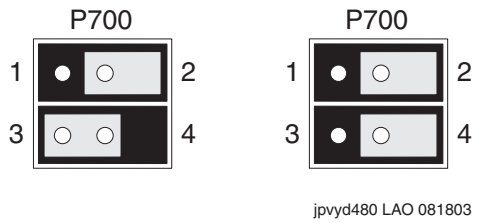
b. If more than one card is installed in the system, set up the boards on either end of the Computer Telephony (CT) bus for bus termination. Use the P700 jumper to set CT bus termination as shown in Table 3-3.

Table 3-3. D/480JCT-2T1 or D/600JCT-2E1 QSIG board CT bus termination settings

Number of cards	P700 jumper	CT bus termination
1	OFF	Bus is not terminated.
2	ON pins 3 and 4	Terminate bus on both boards.
3	Card 1: ON pins 3 and 4 Card 2: OFF Card 3: ON pins 3 and 4	Terminate bus on the end boards. (3 cards are present only if the MAS uses D/480JCT-2T1 boards.)

Figure 3-5 shows the **P700** jumper settings. The setting on the left is ON (CT bus is terminated). The setting on the right is OFF.

Figure 3-5. D/480JCT-2T1 or D/600JCT-2E1 QSIG board CT bus termination settings

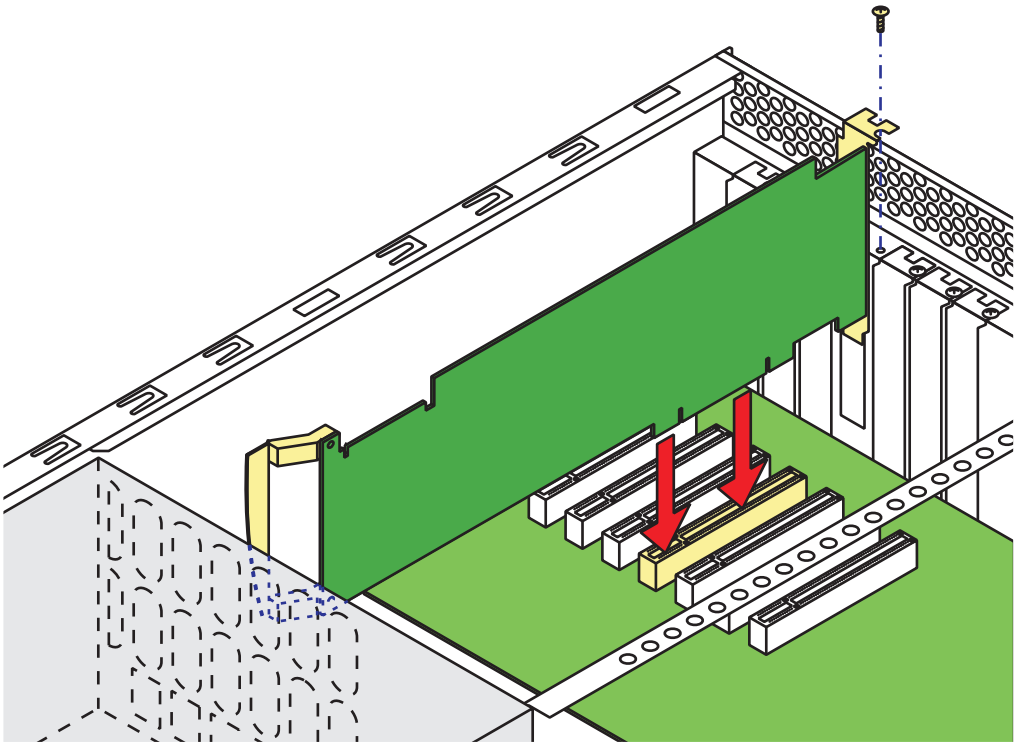


Installing the port boards

To install the new port board:

1. Slide the card edge connector into the slot connector and the card slot retainer bracket into the slot guide. Apply pressure to the top of the card only, until the edge connector is firmly seated. See Figure 3-6.

Figure 3-6. Installing a port board in an MAS



2. Replace and tighten the retaining screw to hold the circuit card in place.

3. Repeat these steps to install any additional port boards.

> **CAUTION:** Verify that all circuit cards in an MAS are of the same type. You cannot mix board types (such as analog tip/ring with DSE or T1/E1) within a single MAS.

4. When all boards are in place, attach the Computer Telephony (CT) bus cable to connect all the port boards. (This cable is required only if more than one board is installed.) To attach the bus cable:

   a. Position the CT bus cable so that the colored stripe on the ribbon cable faces toward the ports at the back of the chassis.

b. Attach the end connector on the bus cable to the CT bus edge connector at the top of the card in the highest numbered slot.

c. Connect the next bus connector to the next port board, and so on.

d. When finished, if the cable has extra connectors or loose ribbon cable, tuck the cable down so that it does not snag when you replace the cover.

5. Replace the chassis cover and AC power cord.

6. Restore power to the system.

Installing the Dialogic drivers and software

To install the drivers and software required for the new Dialogic port boards:

1. After the system boots, log in to the server using an account that has permission to install software (such as the local administrator).

   A Found New Hardware wizard runs for every new Dialogic port board installed in the system.

2. Follow the prompts in the wizard to temporarily disable the Dialogic hardware as follows:

   a. On the Welcome screen, click **Next**.

   b. On the Install Hardware Device Drivers screen, accept the default option (**Search for a suitable driver**) and click **Next**.

   c. On the Locate Driver Files screen, clear the checkbox for **Specify a location** (no boxes will be checked). Click **Next**.

   d. On the Driver Files Search Results screen, verify that **Disable the device** is selected.

Note:	The Dialogic hardware will be activated later when you configure the port boards.

   e. Click **Finish**.

   f. Repeat Steps a through e for each repetition of the wizard.

Installing the new Dialogic drivers

To install the new Dialogic 5.1.1 base release drivers:

1. Insert the *Avaya Modular Messaging Application Software* DVD in the DVD drive.

   For a system that uses CD-ROMs, insert the *Intel Dialogic Drivers* CD in the MAS drive.

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

3. In Windows Explorer, navigate to the MAS drive (such as D:).

4. Locate the Dialogic files. They are at the root directory of the CD, or under a **Dialogic Drivers** subdirectory of the DVD.

5. Double-click the file **Install_5_11.bat**.

   CAUTION: Several files have similar names. Verify that you are about to select the correct file *before* clicking it.

   The Intel Dialogic System Software and SDK for Windows System Release 5.1.1 for Windows wizard runs. When the installation is complete, the system automatically reboots.

Applying the Dialogic Feature Pack

Next, update the new Dialogic drivers with the 5.11 Feature Pack (FP1):

1. Log back in to the server when the reboot is complete.

2. A command (cmd) window opens, explaining which batch file to run next. Press any key to continue.

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

4. In Windows Explorer, navigate to the MAS removable-media drive (such as D:), and locate the Dialogic files.

5. Double-click the file **Install_5_11_FP1.bat**.

   The System Release 5.1.1 Feature Pack 1 wizard runs.

6. On the Welcome screen, click **Next**.

7. On the License Agreement screen, click **Yes**.

8. On the Customer Information screen:

   a. For **User Name**, type **Modular Messaging**.

   b. Type the appropriate company name.

   c. Click **Next**.

9. On the Select Components screen:

   a. Verify that the box to install the **Program Files** is checked.

   b. *Clear* the checkbox to *not* install the online documentation.

   c. Click **Next**.

10. The Start Copying Files screen is displayed. Click **Next**.

    This step might take several minutes to complete.

11. On the last screen, select **Yes, I want to restart my computer now**.

12. Click **Finish**.

    The system reboots.

13. Log back in to the server when the reboot is complete.

14. A command (cmd) window opens, explaining which batch file to run next. Press any key to continue.

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

16. In Windows Explorer, navigate to the MAS removable-media drive (such as D:), and locate the Dialogic files.

17. Double-click the file **Restore_Config.bat**.

    The program cleans up any temporary installation files and replaces certain files used by the Dialogic boards.

18. Remove the disk from the drive.

Connecting the MAS port boards

Connect the new MAS port boards to the switch as described in this section.

> **Note:** Check the numbering on the board faceplate to verify that you are connecting the correct cable to the correct port.

1. Assemble the required cables.

> **Note:** If the boards are ordered through Avaya, the correct cables are provided for each board.

2. Connect each port on the port boards to the switch (PBX) as required:

- **For analog boards:**

  a. Connect each port on the installed analog boards to one end of a standard RJ-11 tip/ring cord (individual tip/ring cables and a 12-port harmonica can also be used). 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 should 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 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 should make this connection (see the customer contract or the statement of work).

- **For T1- or E1-QSIG boards:**

  a. Connect each port on the Dialogic T1-QSIG or E1-QSIG board using an RJ-48C (Ethernet) cable.

  b. Attach a ferrite to this cable. See "Attaching ferrites" on page 2-27.

  c. The other end of the cable must be connected through a patch panel to a 4-wire punch-down block on the corporate switching system. The organization responsible for maintaining the corporate switch should 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 MAS:

- If you intend to access this MAS remotely using a modem (for example, through a remote support center), verify that the modem is correctly installed and configured. See the documentation included with the modem for information about modem installation, setup, and operation.
- If DSE or QSIG boards are installed on this customer-provided MAS, you can optionally configure and test the Dialogic port boards now, before installing any Modular Messaging software. See Chapter 8, ‘‘Configuring and testing the port boards,’’ for this procedure.

Note: Dialogic analog boards might require a tone file from a directory that will not be available until after the Modular Messaging software is installed. If this system uses an Avaya switch, you might configure the analog boards more easily by using the tone file that is provided with the Modular Messaging software.

4

Preparing to install Modular Messaging software

This chapter describes how to set up the IBM Lotus Domino and Microsoft Windows environment to support Avaya Modular Messaging software.

> **Note:** The steps in this chapter *must* be done before installing Modular Messaging software on any MAS in the system.
>
> *These steps are performed by the Domino system administrator, Windows domain administrator, or other authorized personnel.*

Topics in this chapter include:

Overview

This chapter describes how to set up the IBM Lotus Domino and Microsoft Windows environment to support Avaya Modular Messaging software. System preparation steps include:

1. Setting up the Domino Directory and domain for Modular Messaging.

2. Doing tasks in Microsoft Windows to support Modular Messaging including setting up Modular Messaging accounts on the Domino Directory Server with the correct permissions, adding the MAS accounts to the Windows domain, and setting up the system to support remote access.

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

- A completed copy of the relevant planning forms listed in Appendix A, ‘‘System planning forms,’’ including:

  — The "Modular Messaging MAS planning form" on page A-7 showing the NetBIOS name of each MAS, the default (or primary) peer Domino server, and the Windows domain.

  — The "Modular Messaging logon accounts form" on page A-10 showing the customer-specified Modular Messaging account names and passwords.

- Access to Domino Unified Communications (DUC) software and the latest installation and configuration documentation available from IBM Lotus.

CAUTION: All servers must meet the requirements listed in *Avaya Modular Messaging Concepts and Planning Guide* (PDF 2 MB), available on the documentation media shipped with the system. Review this document to verify that all the Domino servers, MASs, and client machines are ready to support Modular Messaging software.

Setting up Domino to support Modular Messaging

This section summarizes how to prepare the IBM Lotus Domino environment to support Avaya Modular Messaging software.

> **Note:** For complete steps on installing and configuring DUC to support Avaya Modular Messaging, see the *Administrator's Guide for Lotus Domino Unified Communications for Avaya,* available on the IBM Lotus Documentation Web site www-10.lotus.com/ldd/doc under the product **Domino Unified Communications 1.2.2**.
>
> You must install the Lotus Domino Administrator client before you can install DUC administration software.

To create IBM Lotus Domino environment and Modular Messaging interoperability, complete the following procedures in each Domino domain:

1. Install the DUC server component on each mail server that hosts voice mail subscribers, and on the Domino mail server that stores the mail files for the MAS voice servers.

   > **Note:** This procedure installs several new mail templates based upon the version of Domino that you are running. These templates are required to support Modular Messaging.
   >
   > You must stop the Domino server to install the components, and then start it up again to proceed.

2. Install the DUC administration component to update the Domino directory for Modular Messaging. This step has two parts:

   a. Run the administration component installation program once per Domino domain to "Update the design of the Domino Directory on the server." This program extends the Domino Directory design to support Avaya Modular Messaging, including adding fields for Modular Messaging to the Other tab in the Person document and adding an Avaya Voicemail Domains view.

   b. Only on machines that will be used to administer Modular Messaging subscribers, run the administration component installation program again to "Install administration component on this machine." This allows the user of this machine to enable subscribers for Modular Messaging.

   > **Note:** A machine with the administration component installed is required for acceptance testing. See "Testing the outcalling capability" on page 10-6.

> ⚠ **CAUTION:** Do *not* install the DUC Administration Component on a Messaging Application Server (MAS).

3. Register each MAS voice server as a Notes user so that it has a user name, ID file, and mail file. These files are used to route voice messages through the Domino domain. Considerations include:

   - Choose **no password expiration** if permitted at this site. Record the password for this account to facilitate Modular Messaging software installation. See Item **7** on the "Modular Messaging MAS planning form" on page A-7.

   Note: If password expiration is required, contact the Modular Messaging software provider to change the password on the MAS side after it has been changed on the Domino side.

   - Save a copy of the Notes user ID file so that it can be accessed during Modular Messaging software installation. Record the complete path and file name (such as *C:\temp\masacct1.id*). See Item **8** on the "Modular Messaging MAS planning form" on page A-7.

   - The registration process also creates a mailbox file in the default mail folder of the peer Domino server. Record the path and file name (such as *mail\zippy.nsf*). See Item **9** on the "Modular Messaging MAS planning form" on page A-7.

CAUTION: Do *not* voice-mail enable the Modular Messaging account. This *must* be an email-only account for call processing to work. It will fail to work correctly if voice mail is enabled.

4. Create an access control list (ACL) group for the MAS voice servers (such as *VMServer_ACL_Group*, where *VMServer* identifies the voice mail domain). See Item **10** on the "Modular Messaging MAS planning form" on page A-7. Add this group to the Domino Directory in each Domino domain that MAS voice servers must access.

5. Edit the ACL of the Domino Directory database to give MAS voice servers and administrators the correct level of access. To do this:

   a. Create two new roles that *must* be named **UMAdmin** and **UMServer**.

   b. Add the voice server ACL group to the ACL and give it the **UMAdmin** and **UMServer** roles, user type PersonGroup, the Create documents privilege, and Author or higher access.

   c. Assign the following access to all administrators who will enable DUC subscribers: **UMAdmin** and **UserModifier** roles, the Create documents privilege, and Author or higher access.

6. Edit the ACL of the Administration Requests database to give MAS voice servers and administrators the correct level of access. To do this, assign the Create documents privilege and Author or higher access.

The Domino Directory is now enhanced to store Modular Messaging subscriber information in the Person document. Continue with the procedures in this guide to complete the installation and administration of the Modular Messaging system.

Setting up Windows to support Modular Messaging

This section describes how to set up the Microsoft Windows environment to support the Avaya Modular Messaging software.

Setting up Modular Messaging accounts

Create a Modular Messaging service account and a remote access account to support Avaya Modular Messaging software as directed in this section.

> **Note:** You must set up the Modular Messaging service account on the Windows directory server in same Microsoft Windows domain as the Domino server and give it Administrator rights.

Create the Modular Messaging accounts as follows:

1. Log in to the Windows domain server using an account that has privileges to create new user accounts (such as *administrator*).

2. Create a new Modular Messaging service account that has domain user privileges (such as *mmacct*). See Item **A6** on the "Modular Messaging logon accounts form" on page A-10. This account is used for installing and administering the Modular Messaging software on each MAS.

   > **Note:** Passwords for Modular Messaging accounts should be at least 8 characters long. See the logon form for details.
   >
   > If you need to change the password for the Modular Messaging service account at some point, contact the software-provider for the password-changing procedure.

3. Create a new account to allow remote support personnel to access and administer the Modular Messaging system (such as *craft*). See Item **A7** on the "Modular Messaging logon accounts form" on page A-10.

   > **Note:** If you change the password for the remote access account, be sure to notify the appropriate remote support organization.

4. Add both Modular Messaging accounts to the **Administrators** group that will be used to administer the Messaging Application Server (MAS).

Adding an MAS account to the Windows domain

Before the Modular Messaging software is installed, the domain administrator should create computer accounts for each MAS and define the Modular Messaging service account as a user that has permission to join the Windows domain. This procedure facilitates remote access setup (see "Setting up the MAS for remote access" on page 4-6) and Modular Messaging software installation (see "Completing the initial setup" on page 5-9 and "Joining the Windows domain" on page 6-4).

To add a new computer account to the Active Directory:

1. Log in 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 (such as *zodiac.loc.avaya.com*).
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 (such as *zippy*). See Item **1** on the "Modular Messaging MAS planning form" on page A-7.
   b. Click **Change** to specify that a different user or group that can add this computer to the domain.
   c. In the Select User or Group window, double-click the Modular Messaging service account (such as *mmacct*).
   d. Click **OK** to close this window.
5. If more than one MAS is to be installed, repeat Step 4 until all MASs are added.

Setting up the MAS for remote access

Remote access allows technical support personnel to dial into a system to correct problems and perform routine maintenance. Unless other arrangements have been made, use the following procedure to allow the MAS 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 "Adding an MAS account to the Windows domain" above to log in to an account with the appropriate privileges and access the Active Directory.
2. In the left pane, under the directory for the domain that will be used for Modular Messaging (such as *zodiac.loc.avaya.com*), click **Users**.

3. In the right pane of the window, double-click **RAS and IAS Servers** to bring up the properties window.

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 first MAS (such as *ZIPPY*). It has a blue terminal icon beside it.

   d. Verify that the correct computer name is shown underlined in the list box.

   e. Repeat Steps c and d to add all MASs to this list. See the "Modular Messaging MAS planning form" on page A-7.

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

   g. Click **OK** again 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 *craft* or *Support Account*).

6. In the properties window for the technical support account:

   a. Click the **Dial-in** tab.

   b. Under Remote Access Permission (Dial-in or VPN), select **Allow access**.

   c. CallBack Options should remain at **No Callback**.

   d. Click **OK**.

7. Close the Active Directory Users and Computers window.

5

Configuring a new Avaya MAS

This chapter is relevant only to an Avaya-provided Messaging Application Server (Avaya MAS) installation. It describes how to complete the Windows 2000 Server Setup Wizard and initial configuration after a new Avaya MAS is powered up (see "Powering up an Avaya MAS system" on page 2-30).

Note:	Before you can do the tasks described in this section, a system administrator must have successfully completed the tasks in Chapter 4, ‘‘Preparing to install Modular Messaging software.’’ If you are using a *customer-provided* MAS, continue with Chapter 6, ‘‘Configuring a customer-provided MAS.’’

Topics in this chapter include:

Overview

You must configure every 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 Domino environment.

To successfully set up an Avaya MAS, you need:

- A completed copy of all the forms in Appendix A, ‘‘System planning forms,’’ including the "Modular Messaging MAS planning form" on page A-7 and the "Modular Messaging logon accounts form" on page A-10.

> **CAUTION:** Use the completed planning forms from Appendix A, ‘‘System planning forms,’’ to enter the correct values. Do *not* guess at the values or use the examples shown in this guide. If you do, the operation of the customer LAN might be damaged.

- All required hardware installed as described in Chapter 2, ‘‘Installing Avaya-provided hardware.’’
- A printout of the Avaya MAS installation checklist (see "New Modular Messaging installation on an Avaya MAS" on page B-5). Check off steps as you complete them to track your progress.

Switching the monitor to show the correct server

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

For a Belkin OmniView Pro2 KVM: the KVM switch is normally connected to the first Avaya MAS (MAS#1) 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. Slowly press **Scroll Lock**, then **Scroll Lock** again, and then the up (or down) arrow key to change to the server connected to a higher (or lower) port number.

   Alternatively you can type the port number instead of pressing the up or down arrow key (such as *01* for port 1). See the KVM switch documentation for complete user instructions.

2. If you cannot access the correct server, see "Connecting the KVM cables" on page 2-25 and verify that the cable connections are correct. To correct cabling problems, power down the system and correct the cabling. Then power up the system again.

Starting up the system

The Avaya MAS begins to boot after power up.

1. If the Avaya MAS is not already on, power up the unit now (push the power button on the front panel).

   See "Powering up an Avaya MAS system" on page 2-30 for details, if needed.

2. *Optional:* When the system begins to boot, you can:

   a. Press **Esc** when the splash screen is displayed.

   b. Press the space bar to skip the memory check.

Setting up the Windows system

After the Avaya MAS boots, a setup wizard guides you through the Windows system configuration process. Complete all steps as directed.

Running the setup wizard

To complete the setup wizard:

1. On the Welcome to the Windows 2000 Server Setup Wizard screen, click **Next**. (If you wait, the wizard automatically shows the next screen.)
2. On the License Agreement screen, review the text.
   a. If you agree to the terms, choose **I accept this agreement**.

Note:	If you decline the terms, you cannot proceed with the installation.

   b. Click **Next**.
3. On the Regional Settings screen:
   a. Verify that the settings are correct.
   b. To change system and user locales, click the first **Customize** button.
   c. In the Regional Options window, on the **General** tab:
      (1) Select the locale from the drop-down list.
      (2) Update the language settings if needed. Click **Apply**.
      (3) Click the other tabs in order, and verify that the **Numbers**, **Currency**, **Time**, and **Date** settings are correct for this system. The defaults should reflect the locale you selected.
      (4) Click the **Input Locales** tab. Verify the locale and keyboard settings.
      (5) When finished, click **OK** to close the Regional Options window.
   d. Click **Next**.
4. On the Personalize Your Software screen, enter the customer name and organization in the appropriate fields. See Item **22** on the "Modular Messaging MAS planning form" on page A-7. Click **Next**.

5. On the Your Product Key screen:

   a. Type the Windows product key for this MAS (each unit has a unique product key).

   > **Note:** This number must be entered exactly as shown. It is located on a sticker or tag on the side or rear of each MAS unit.

   b. Click **Next**.

6. On the Licensing Modes screen:

   a. Select **Per Server** (if not already selected).

   b. For **Number of concurrent connections**, type **50**.

   c. Click **Next**.

7. On the Computer Name and Administrator Password screen:

   a. Change **Computer name** to the required host name (NetBIOS name) for this MAS (such as *zippy*). See Item **1** on the "Modular Messaging MAS planning form" on page A-7. (The name is forced to upper case.)

   b. Enter and confirm the new password for the administrator account for this machine (case *is* important). See Items **A1** to **A5** on the "Modular Messaging logon accounts form" on page A-10.

   c. Click **Next**.

8. On the Modem Dialing Information screen:

   > **Note:** This screen is displayed only if a modem is connected. See "Connecting the USB modem on the MAS" on page 2-28.

   a. Select the country or region.

   b. Enter the area code or city code.

   c. If needed, enter the prefix required to access an outside line (such as *9*).

   d. Select the type of dialing used (typically **Tone dialing**).

   e. Click **Next**.

9. On the Date and Time Settings screen:

   a. Set the date and time settings.

   b. Set the time zone and daylight savings values, as needed.

   c. Verify the settings, and then click **Next**.

   The system pauses to update its settings.

10. On the Network Settings screen, when prompted:

    a. Select **Custom settings**.

    b. Click **Next**.

Assigning IP addresses to this MAS

Use the completed "Modular Messaging MAS planning form" on page A-7 to assign IP addresses and other TCP/IP properties for the corporate LAN interface that this MAS will use.

On the **Networking Components** screen for device **Intel(R) PRO/100 VE Network Connection**, specify the IP addresses for the corporate LAN for this MAS as follows:

1. In the components box, select **Internet Protocol (TCP/IP)**.

2. Click **Properties**.

   The Internet Protocol (TCP/IP) Properties window is displayed. See Figure 5-1 on page 5-7 for an example.

3. In the Internet Protocol (TCP/IP) Properties window:

   a. Select **Use the following IP address**.

   b. Change the IP address, subnet mask, and default gateway to the corporate LAN values for this MAS as listed on the "Modular Messaging MAS planning form" on page A-7 (see Items **14**, **15**, and **16**).

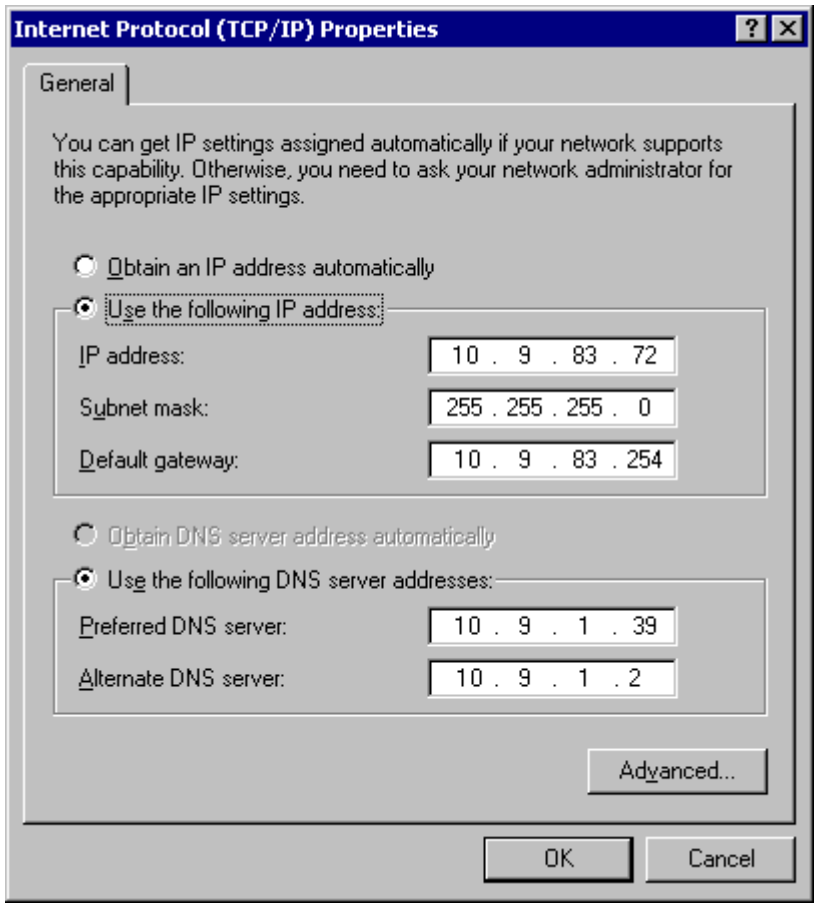
   c. Select **Use the following DNS server addresses**. Specify the corporate DNS IP addresses as follows:

      (1) For **Preferred DNS server**, enter the first Corporate DNS server IP address from the planning form, if any (see Item **17**).

      (2) For **Alternate DNS server**, enter the next Corporate DNS server IP address from the planning form, if any (see Item **17**).

      (3) Click the **Advanced** button.

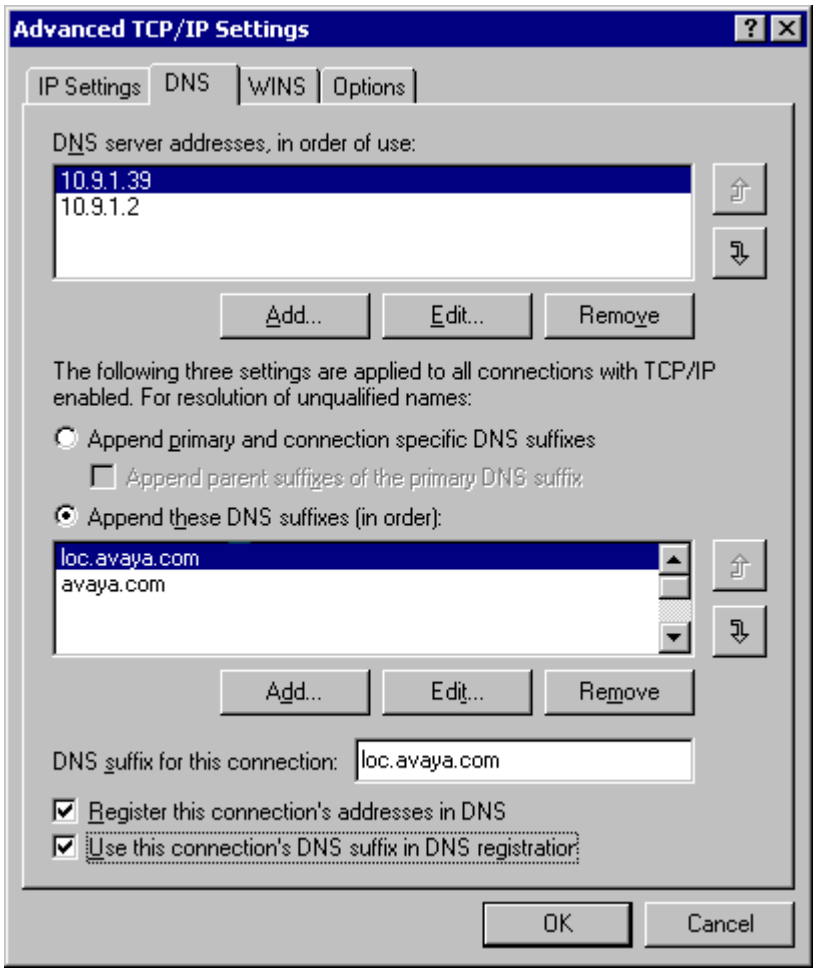
Figure 5-1. Sample corporate LAN TCP/IP properties



The Advanced TCP/IP Settings window is displayed.

(4) Click the **DNS** tab. See Figure 5-2 on page 5-8 for an example.

Figure 5-2. Sample advanced TCP/IP settings for the corporate LAN



(5) On the Advanced TCP/IP Settings **DNS** tab, enter the following:

- To add IP addresses for any additional corporate DNS servers, click **Add** (see Item **17** on the "Modular Messaging MAS planning form" on page A-7). Click **Add** or press **Enter** to approve each entry.
- Select **Append these DNS suffixes (in order)**. Click **Add**.
- In the TCP/IP Domain Suffix window, in the **Domain suffix** field, enter any corporate domain suffixes listed for Item **18** on the system planning form (for example, *loc.avaya.com* and *avaya.com*). After each entry, click **Add**. Repeat as needed to add all required suffixes.
- In the **DNS suffix for this connection** field, enter the suffix for the fully qualified corporate LAN domain name. Do *not* include the machine name (for example, *loc.avaya.com*). See Item **13** on the "Modular Messaging MAS planning form" on page A-7.
- If required for this location, select the options to **Register this connection's addresses in DNS** and **Use this connection's DNS**

suffix in DNS registration. See Item **19** on the "Modular Messaging MAS planning form" on page A-7.

(6) If WINS is used at this location, click the **WINS** tab. Enter the following:

- To enter WINS addresses, click **Add**. Enter the IP address for the WINS server needed for information resolution. Click **Add**. Repeat this step until all required WINS addresses are entered. See Item **20** on the "Modular Messaging MAS planning form" on page A-7.
- Adjust other settings on this page if required.

Note:	Avaya strongly recommends that you do *not* use DHCP settings for this installation. Use only static IP addresses.

(7) Click **OK** to close the Advanced TCP/IP Settings window.

4. Click **OK** to close the Internet Protocol (TCP/IP) Properties window.

5. On the Networking Components screen, click **Next**.

   A **Networking Components** screen for device **Intel(R) PRO/100+ PCI Adapter** screen is displayed. This LAN interface is *not* used in this configuration.

6. Click **Next**.

Completing the initial setup

Complete the initial administration for this MAS as follows:

1. On the Workgroup or Computer Domain screen:

   a. Select the second option, **Yes, make this computer a member of the following domain**.

   b. Enter the name of the corporate Windows domain that the MAS is to join (such as *zodiac*). See Item **2** on the "Modular Messaging MAS planning form" on page A-7. (The name is forced to upper case.)

   c. Click **Next**.

   d. You are prompted to enter the user name and password that will allow this machine to join the Windows domain. Proceed as follows:

   (1) Enter the name of an account that has permissions to join the Windows domain. This is typically the Modular Messaging service account, if the domain administrator has set it up as described in "Adding an MAS account to the Windows domain" on page 4-6. The account name *must* be in the format ***domain\account name*** (such as *zodiac\mmacct*).

   (2) Enter the correct account password.

(3) Click **OK**.

It might take several minutes to join the domain.

e. If a Network Identification message welcomes you to the domain, click **OK**.

f. Click **Next**.

2. On the Completing the Windows 2000 Setup Wizard screen, click **Finish**.

   The machine reboots.

3. When the reboot is complete, press **Ctrl**+**Alt**+**Del** and log in as follows:

   a. In the Log On to Windows window, verify that the user name is **Administrator**.

   b. Enter the same password that you typed for the administrator account when you set up this machine. See Items **A1** to **A5** on the "Modular Messaging logon accounts form" on page A-10.

   c. Press **Enter** or click **OK**.

4. *If a Found New Hardware wizard runs,* follow the prompts to complete each wizard. The system runs the hardware wizard once for every Dialogic port board installed in the MAS.

> **Note:** If the Found New Hardware wizard comes up in a tiny window, press **Esc** to cancel the wizard. Subsequent wizards should then start in a normal-sized window. The skipped wizard runs the next time the system restarts. Complete it then.
>
> If you reinstalled the operating system (see Appendix D, “Reloading software on an Avaya MAS,”) and ran the Found New Hardware wizards then, the wizards do not run again.
>
> This wizard does not run for IIP H.323 configurations.

Temporarily disable the Dialogic hardware as follows:

a. On the Welcome screen, click **Next**.

b. On the Install Hardware Device Drivers screen, accept the default option (Search for a suitable driver) and click **Next**.

c. On the Locate Driver Files screen, clear the checkbox for **Specify a location** (no boxes will be checked). Click **Next**.

d. On the Driver Files Search Results screen, verify that **Disable the device** is selected. Click **Finish**.

e. Repeat Steps a through d for each repetition of the wizard.

Testing IP addresses using ping

Use this procedure to verify that the IP addresses for this MAS are correct and are working as expected with the corporate LAN.

To test the IP addresses for this MAS:

1. Open a Command prompt window:

   a. Click the **Start** button, and then select **Run**.

   > **Note:** Submenu choices are indicated with a right angle sign (>) in the rest of this document. For example, the procedure above would appear as **Start** > **Run**.

   b. In the Run window **Open** field, type **cmd** and press **Enter**.

2. At the command prompt, ping any IP addresses administered on the corporate network and verify success. See Items **16** and **17** on the "Modular Messaging MAS planning form" on page A-7 for examples.

3. *Optional:* If you are using a corporate DNS, you might also want to ping other machines by name. Any name tests should show the corporate IP address for the destination you ping.

   > **Note:** For a name test to succeed, the machine names must be administered on the corporate DNS. If a corporate DNS is not used, ping will not be able to resolve the corporate name.

4. If the ping test fails, verify that the network connections to the MAS are good. If the connections are good, check the administration.

5. When finished, type **exit** and press **Enter** to close this window.

Installing required software

You must install some required software on the Avaya MAS before proceeding. Check with the customer for the procedures and software required at this site.

Installing anti-virus software

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

Updating Microsoft Windows

A new Avaya MAS contains the most current Microsoft Windows software at the time it is shipped. However, if the system is not installed promptly, the latest Microsoft Windows system updates, security patches, and hot fixes should be installed 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.

Preparing the MAS to support Domino

If either the Messaging Application Server or the Mailbox Monitor Server software component is to be installed on this MAS, you *must* install the appropriate IBM Lotus Domino software on the MAS to allow the Modular Messaging and Domino systems to communicate. To support clustering, use at least the 6.0.1 version of the Notes client with the latest critical fixes.

CAUTION: The intended outcome of this procedure is to set up a Lotus Notes client for the Modular Messaging service account (such as *mmacct*) on the MAS. On an Avaya MAS, this service account is not created until "Configuring Modular Messaging components" on page 5-15. If you install the Notes client software now, it will set up the client under the administrator account. To work around this problem, either:

- Edit the Notes client for the Modular Messaging service account if you install the client software now (this might require reinstalling the client software), or
- Cancel out of the Installation wizard when it runs at the end of the configuration section, and install the Notes client software then. See the end of the procedure on page 5-16 for details.

Do the following on each MAS *before* you install the Modular Messaging software:

Note:	You must install the Lotus Notes client *only* on any MAS that will have either the Messaging Application Server or the Mailbox Monitor Server Modular Messaging software component installed. (For example, the Tracing Server does *not* require the Notes client to be installed if it is the only Modular Messaging service on that machine.) See "MAS features list" on page A-11 to confirm if the Lotus Notes client must be installed on this particular MAS.

1. Install the Notes client on the MAS as a single-user installation (if the system prompts you for that selection). Reboot the system if prompted.

2. Obtain a copy of the Lotus Notes ID file for this MAS account (such as *C:\temp\masacct1.id*) from the Domino administrator. See Item **8** on the "Modular Messaging MAS planning form" on page A-7.

3. Copy the Lotus Notes ID file (such as *masacct1.id*) to the Notes data directory on this MAS. The default local path varies per Domino release as shown, but use the required path for this Domino installation:

   - Release 5: **C:\Lotus\Notes\Data**
   - Release 6: **C:\Program Files\Lotus\Notes\Data**

4. Configure the Notes client to connect to the Domino server using this ID file as follows:

   a. Click **Start** > **Programs** > **Lotus Applications** > **Lotus Notes**. The first time you access this option, a wizard runs.

   b. On the Lotus Notes Client Configuration wizard, choose the following options (click **Next** to proceed after each screen):

      (1) Choose **Connect to Domino server**.

      (2) For **Connection type**, select **LAN**. (Set up options and proxies appropriate for your network topology.)

      (3) For **Domino Server Name**, use the Domino hierarchical server name (such as *domino1/zeppelin*, where *domino1* is the peer Domino server and *zeppelin* is the Domino domain). See Item **6** on the "Modular Messaging MAS planning form" on page A-7.

      (4) Browse to the Lotus Notes ID file for this MAS (such as *masacct1.id*) in the Notes data directory. Select the ID file.

      (5) Enter the password used when the user of this MAS voice server was registered. See Item **7** on the "Modular Messaging MAS planning form" on page A-7.

      (6) Do *not* create an Internet account or a new server.

(7) Specify replication settings and email sending options as follows:

- In the Lotus Notes Client Configuration wizard, on the Additional Services screen, select **Replication settings for sending and receiving mail**.
- On the Set Up Replication screen, *clear* the checkbox for **Do not automatically send outgoing messages to server**.

> **Note:** This is *not* the default setting. You *must* clear this setting for the client software to work correctly.

- Set **How many e-mail messages should collect in your outgoing mail box before Notes sends them?** to a low number, such as *1*.

(8) If prompted, select IBM Lotus Notes as the default messaging program. To specify the default messaging program manually:

- Access the Internet Properties or Options page for your browser.
- On the **Programs** tab, for **E-mail**, select **Lotus Notes**.

c. When done, click **Finish** and then **OK**.

5. Close the Notes client before proceeding.

> **CAUTION:** Do *not* set up Microsoft Outlook or Outlook Express on a Messaging Application Server (MAS).
>
> The Notes client installed on the MAS is for use by the MAS only. Using it for any other purpose could result in voice server exception errors.
>
> Do *not* install any DUC software on an MAS voice server.

Setting up remote access (optional)

As an option, you can activate remote access support now instead of waiting until after you install the Modular Messaging software. If you want to enable remote access support as soon as possible, do the steps appropriate for the Avaya MAS in "Setting up remote access" on page 7-11, and then return to this section.

Configuring Modular Messaging components

Complete the basic machine setup of this Avaya MAS by specifying the message store and setting up Modular Messaging accounts for this MAS.

To complete basic Avaya MAS configuration:

1. Double-click the **OSConfigWizard.exe** icon on the desktop.

   The Modular Messaging OS Component Configuration Wizard runs.

2. On the Welcome screen, click **Next**.

3. On the Modular Messaging setup information screen:

   a. Select the message store type **Lotus Domino**.

   b. For **Windows NetBIOS domain**, enter the NetBIOS name of the Windows domain (such as *zodiac*). See Item **2** on the "Modular Messaging MAS planning form" on page A-7.

   c. Click **Next**.

4. On the next Modular Messaging setup information screen, enter the Modular Messaging account information as follows:

   a. Under **Existing account information**:

      - For **Modular Messaging (MM) account**, enter the customer-defined Modular Messaging service account logon name (such as *mmacct*). Type the password in each password column to confirm it. See Item **A6** on the "Modular Messaging logon accounts form" on page A-10.

      - For **Services account**, enter the customer-defined technical support account logon name (such as *craft*). Type the password in each password column to confirm it. See Item **A7** on the "Modular Messaging logon accounts form" on page A-10.

   b. Under **New account information**, for **Administrator account for MAS**, enter the customer-defined local administrator account logon name for this MAS (such as *mas1-admin* or *mas2-admin*). Type the password in each password column to confirm it. See Items **A1** to **A5** on the "Modular Messaging logon accounts form" on page A-10.

   c. Click **Next**.

5. Wait while the system processes the information you have entered. The system automatically restarts.

   As the machine reboots, you might see a Hardware Profile/Configuration Recovery screen. Wait for the program to move on, or press **Enter**.

6. After the MAS reboots, you are prompted to log in.

   a. When prompted to log in, press **Ctrl**+**Alt**+**Del**.

   b. In the Log On to Windows window, check the user name. It should be the Modular Messaging service account (such as *mmacct*).

   c. Enter the correct password for this account. See Item **A6** on the "Modular Messaging logon accounts form" on page A-10.

7. When prompted to insert the Modular Messaging application software:

   a. Insert the *Avaya Modular Messaging Application Software* DVD in the DVD drive.

   Note: Do *not* insert the boot-image *Avaya Modular Messaging OS Boot Software* DVD!

   b. Close the drive door and wait for the green LED to go out.

   c. Click **OK**.

8. If a Completed Configuration process screen is displayed, click **Finish**.

9. The Modular Messaging Installation Wizard runs automatically.

CAUTION:

If you did not yet install the Notes client software on this MAS (see "Preparing the MAS to support Domino" on page 5-12 to verify if the client software is required on this MAS), you *must* install it before running the Modular Messaging Installation Wizard. To do this:

- **Cancel** out of the Modular Messaging Installation Wizard when it runs.
- Do the steps in "Preparing the MAS to support Domino" on page 5-12 to install the Notes client now under the Modular Messaging service account login (such as *mmacct*).
- Continue with "Running the installation wizard" on page 7-3 to install the Modular Messaging software.

If the Notes client is already installed on this MAS and you can see the client software when you are logged into the Modular Messaging service account, continue with "Installing the Modular Messaging software" on page 7-4.

6

Configuring a customer-provided MAS

This chapter is relevant only to a customer-provided Messaging Application Server (MAS) installation. It describes how to set up a customer-provided MAS to support Avaya Modular Messaging software.

Note:	Before you can do the tasks described in this section, a system administrator must have successfully completed the tasks in Chapter 4, ‘‘Preparing to install Modular Messaging software.’’

Topics in this chapter include:

Overview

If you are installing Modular Messaging software on a customer-provided MAS, you must first configure it to support the Modular Messaging software and to operate correctly in the Microsoft Windows and Domino environment.

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

- A completed copy of all the forms in Appendix A, ‘‘System planning forms,’’ including the "Modular Messaging MAS planning form" on page A-7 and the "Modular Messaging logon accounts form" on page A-10.
- All required hardware installed as described in Chapter 3, ‘‘Installing MAS port boards.’’
- A printout of the appropriate installation checklist (see "New Modular Messaging installation on a customer-provided MAS" on page B-2). Check off steps as you complete them to track your progress.

Preparing the MAS

Do the following steps as required for this MAS.

Configuring the network card

For each customer-provided MAS, the network card must be configured to support a corporate LAN connection. This procedure is similar to that used for the Avaya MAS in "Assigning IP addresses to this MAS" on page 5-6. Use the completed "Modular Messaging MAS planning form" on page A-7 to assign IP addresses and other TCP/IP properties for the corporate LAN interface that this MAS will use.

CAUTION: Use the completed planning forms from Appendix A, ‘‘System planning forms,’’ to enter the correct values. Do *not* guess at the values or use the examples shown in this guide. If you do, the operation of the customer LAN might be damaged.

Avaya *strongly recommends* that only static IP addresses be assigned to MAS interfaces and machines.

Installing anti-virus software

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

Updating Microsoft Windows

The latest Microsoft Windows system updates, security patches, and hot fixes must be installed to protect the operating system from known security weaknesses. Check with the Windows administrator for the software update procedures to use at this site.

Running recommended disk checks

Avaya recommends that the MAS drive be maintained to prevent possible problems. The system administrator should run the following on a regular basis:

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

If this MAS has been in service and has not been recently maintained, run the two procedures recommended above. You can do this now if convenient, or at the end of the installation (see "Backing up the system" on page 10-9).

Joining the Windows domain

You must manually join the appropriate Windows domain as follows:

1. Switch the monitor to show this MAS.
2. Log in to the local administrator account for this MAS:
   a. In the Log On to Windows window, change the user name to the local administrator account name (such as *mas1-admin*). See Items **A1** to **A5** on the "Modular Messaging logon accounts form" on page A-10.
   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 local machine (it should be the default).
   d. Press **Enter** or click **OK**.
3. Right-click **My Computer** and select **Properties**.
4. In the System Properties window, click the **Network Identification** tab.
5. Click **Properties**. In the Identification Changes window:
   a. Under **Member of**, select the **Domain** option.
   b. Type the corporate Windows domain NetBIOS name, such as *zodiac*. See Item **2** on the "Modular Messaging MAS planning form" on page A-7.

   Note: Depending on the local configuration, you might need to enter the fully qualified name here, such as *zodiac.loc.avaya.com*. This name is a combination of Items **2** and **13** on the "Modular Messaging MAS planning form" on page A-7.

   c. Click **OK**.
6. A Domain Username And Password window might appear. Enter the name and password of an account that has permissions to join the Windows domain. This is typically the Modular Messaging service account, if the domain administrator has set it up as described in "Adding an MAS account to the Windows domain" on page 4-6. The account name *must* be in the format ***domain\account name*** (such as *zodiac\mmacct*).
7. If a Welcome to the domain message is displayed, click **OK**.
8. When prompted to reboot, click **OK**.
9. Click **OK** to close the System Properties window.
10. When prompted to restart the machine, click **Yes**. You *must* reboot.

Adding Modular Messaging accounts to the local Administrators group

For the accounts to work correctly, the Modular Messaging service account (required for software installation and administration) and the technical support remote access account must be added to the local administrators group as follows:

1. Log in to the local administrator account for this MAS (see "Joining the Windows domain" on page 6-4 for details if needed).

2. Click **Start** > **Programs** > **Administrative Tools** > **Computer Management**.

3. In the Computer Management window, under **System Tools**, expand **Local Users and Groups**, and then click **Groups**.

4. Double-click the **Administrators** group in the right pane.

5. In the Administrators Properties window, click **Add**.

6. In the Select Users or Groups window:

   a. Under the **Look in** drop-down, select the Windows domain you just joined, such as *zodiac*. See Item **2** on the "Modular Messaging MAS planning form" on page A-7.

   b. On the Enter Network Password window, enter an account name and password that has permission to access the Windows domain controller. This is typically the Modular Messaging service account, if the domain administrator has set it up as described in "Adding an MAS account to the Windows domain" on page 4-6. The account name *must* be in the format ***domain\account name*** (such as *zodiac\mmacct*).

   c. Click **OK**.

7. Scroll down to the Modular Messaging service account, such as *mmacct*. See Item **A6** on the "Modular Messaging logon accounts form" on page A-10.

   a. Double-click it or click **Add** to add it to the Administrators group.

      The account name might appear in the format ***domain\account name*** (for example, *zodiac\mmacct*) or as an email account, such as *mmacct@zodiac.loc.avaya.com*.

   b. Click **OK**.

8. Repeat Steps 5 through 7 to add the technical support remote access account, such as *craft*. See Item **A7** on the "Modular Messaging logon accounts form" on page A-10.

9. Click **OK** to close the Administrators Properties window.

10. Close the Computer Management window.

Adjusting system values

Some default values on the system must be adjusted to support Modular Messaging as described in this section.

Adjust the values for the Event Viewer as follows:

1. Right-click **My Computer** and select **Manage**.
2. In the Computer Management window, in the left pane, expand **Event Viewer**.
3. Right-click **Application** and select **Properties**.
4. On the **General** tab of the Application Properties window, under **Log size**, adjust the following values:
   a. Avaya recommends that you set **Maximum log size** to at least 102400 KB.
   b. Select the option **Overwrite events as needed**.
5. Click **OK** to close the properties window.
6. Close the Computer Management window.

Adjust File and Printer Sharing properties as follows:

1. Right-click **My Network Places** and select **Properties**.
2. Double-click **Local Area Connection** to open the properties window.
3. Select **File and Printer Sharing for Microsoft Networks** and click **Properties**.
4. In the properties window, on the **Server Optimization** tab under **Optimization**, select **Maximize data throughput for network applications**.
5. Click **OK** to close the properties window.
6. Close all open windows.

Adjust the Windows 2000 Server operating system values as follows:

1. Right-click **My Computer** and select **Properties**.
2. In the System Properties window, click the **Advanced** tab, and then click **Performance Options**.
3. In the Performance Options window, adjust the following values:
   a. Select the option **Background services**.
   b. Click **Change** to change the virtual memory size.
      (1) Under **Paging file size for selected drive**, set both the **Initial size** and **Maximum size** to the recommended value **+11** MB.
      (2) Click **Set**, and then click **OK** to close the Virtual Memory window.
   c. Click **OK** to close the Performance Options window.
4. On the **Advanced** tab of the System Properties window, click **Startup and Recovery**.
5. In the Startup and Recovery window, under **System Failure**, verify that the checkbox to **Automatically reboot** is checked. Click **OK**.
6. Close the System Properties window.
7. Restart the system before proceeding:
   - If you are prompted to restart the system, click **Yes**.
   - If the system does not prompt you, manually restart the system now. For example, press **Ctrl**+**Alt**+**Del**, and then click **Shut Down**. Select **Restart** from the drop-down list and click **OK**.

   The system reboots.
8. When the reboot is complete, log in to the Modular Messaging service account:
   a. In the Log On to Windows window, change the user name to the Modular Messaging service account name (such as *mmacct*). See Item **A6** on the "Modular Messaging logon accounts form" on page A-10.
   b. Enter the password for this account.
   c. Using the drop-down box, change the **Log in to:** field to show the correct Windows domain, such as *zodiac*. See Item **2** on the "Modular Messaging MAS planning form" on page A-7.
   d. Press **Enter** or click **OK**.

Installing Windows prerequisite software

If this MAS will have the Messaging Application Server service installed on it, *and* if Simple Network Management Protocol (SNMP) will be used for alarming at this site (see "Required switch and messaging information" on page A-14), you *must* install and enable the appropriate Microsoft Windows services to support SNMP.

> **Note:** You must install the required SNMP software *before* installing the required IBM Lotus Domino software in the next section.

To install and enable Windows SNMP services:

1. Log in to an account that has permissions to install software on this machine (such as the local administrator account if needed, or the Modular Messaging service account, such as *mmacct*).
2. Insert the Microsoft Windows Operating System CD in the MAS drive.
3. Click **Start** > **Settings** > **Control Panel**.
4. In the Control Panel window, double-click **Add/Remove Programs**.
5. In the Add/Remove Programs window, in the left column, click **Add/Remove Windows Components**.
6. In the Windows Components Wizard window, click the checkbox to select **Management and Monitoring Tools** and click **Next**.
7. In the Management and Monitoring Tools window, click the checkbox to select **Simple Network Management Protocol**.
8. Complete the wizard to install the SNMP services.

   > **Note:** If this service is already installed (the box is checked), click **Cancel** to close the wizard.

9. After the software is installed, enable the required services as follows:

   a. Right-click **My Computer** and select **Manage**. In the Computer Management window, the left (Tree) pane, expand **Services and Applications**, and then click **Services**.

   b. In the right pane, scroll down to **Simple Mail Transport Protocol (SMTP)**. Double-click the service to open the properties window.

   c. In the properties window:

      (1) On the **General** tab, set the **Startup type** to **Automatic**.

      (2) Click **Apply**.

(3) Under **Service status**, click **Start**.

(4) Wait for service to start, and then click **OK** to close this window.

d. Repeat Steps b and c to enable **SNMP Trap Service** if required (this service must be enabled only if you intend to use the **Return trap** acknowledgement type).

10. When finished, close all open windows.

11. After the required Windows services are installed and enabled, apply any Windows system updates, security patches, and hot fixes to the update the new services. Check with the Windows administrator for the appropriate software update procedures to use at this site.

Preparing the MAS to support Domino

If either the Messaging Application Server or the Mailbox Monitor Server software component is to be installed on this MAS, you *must* install the appropriate IBM Lotus Domino software on the MAS to allow the Modular Messaging and Domino systems to communicate. To support clustering, use at least the 6.0.1 version of the Notes client with the latest critical fixes.

Note:	You must install the Lotus Notes client *only* on any MAS that will have either the Messaging Application Server or the Mailbox Monitor Server Modular Messaging software component installed. (For example, the Tracing Server does *not* require the Notes client to be installed if it is the only Modular Messaging service on that machine.) See "MAS features list" on page A-11 to confirm if the Lotus Notes client must be installed on this particular MAS.

Do the following on each MAS *before* you install the Modular Messaging software:

1. Install the Notes client on the MAS as a single-user installation (if the system prompts you for that selection). Reboot the system if prompted.

⚠	**CAUTION:**	You *must* log in to the Modular Messaging service account (such as *mmacct*) before installing the Notes client software, so that the client software is set up for the correct account on the MAS. See Step 8 on page 6-7 for details if needed.

2. Obtain a copy of the Lotus Notes ID file for this MAS account (such as *C:\temp\masacct1.id*) from the Domino administrator. See Item **8** on the "Modular Messaging MAS planning form" on page A-7.

3. Copy the Lotus Notes ID file (such as *masacct1.id*) to the Notes data directory on this MAS. The default local path varies per Domino release as shown, but use the required path for this Domino installation:

   - Release 5: **C:\Lotus\Notes\Data**
   - Release 6: **C:\Program Files\Lotus\Notes\Data**

4. Configure the Notes client to connect to the Domino server using this ID file as follows:

   a. Click **Start** > **Programs** > **Lotus Applications** > **Lotus Notes**. The first time you access this option, a wizard runs.

   b. On the Lotus Notes Client Configuration wizard, choose the following options (click **Next** to proceed after each screen):

      (1) Choose **Connect to Domino server**.

      (2) For **Connection type**, select **LAN**. (Set up options and proxies appropriate for your network topology.)

      (3) For **Domino Server Name**, use the Domino hierarchical server name (such as *domino1/zeppelin*, where *domino1* is the peer Domino server and *zeppelin* is the Domino domain). See Item **6** on the "Modular Messaging MAS planning form" on page A-7.

      (4) Browse to the Lotus Notes ID file for this MAS (such as *masacct1.id*) in the Notes data directory. Select the ID file.

      (5) Enter the password used when the user of this MAS voice server was registered. See Item **7** on the "Modular Messaging MAS planning form" on page A-7.

      (6) Do *not* create an Internet account or a new server.

      (7) Specify replication settings and email sending options as follows:

      - In the Lotus Notes Client Configuration wizard, on the Additional Services screen, select **Replication settings for sending and receiving mail**.
      - On the Set Up Replication screen, *clear* the checkbox for **Do not automatically send outgoing messages to server**.

> **Note:** This is *not* the default setting. You *must* clear this setting for the client software to work correctly.

      - Set **How many e-mail messages should collect in your outgoing mail box before Notes sends them?** to a low number, such as *1*.

(8) If prompted, select IBM Lotus Notes as the default messaging program. To specify the default messaging program manually:

- Access the Internet Properties or Options page for your browser.
- On the **Programs** tab, for **E-mail**, select **Lotus Notes**.

c. When done, click **Finish** and then **OK**.

5. Close the Notes client before proceeding.

CAUTION: Do *not* set up Microsoft Outlook or Outlook Express on a Messaging Application Server (MAS).

The Notes client installed on the MAS is for use by the MAS only. Using it for any other purpose could result in voice server exception errors.

Do *not* install any DUC software on an MAS voice server.

7

Installing and configuring the Modular Messaging software

This chapter describes how to install the Modular Messaging software on an Avaya Messaging Application Server (Avaya MAS) or a customer-provided MAS.

Note:	Before you can successfully complete the tasks described in this section, you must have completed the system preparation tasks in Chapter 4, ‘‘Preparing to install Modular Messaging software.’’ All hardware installation must be complete and the MAS configured as described in Chapter 5, ‘‘Configuring a new Avaya MAS,’’ and Chapter 6, ‘‘Configuring a customer-provided MAS.’’

Topics in this chapter include:

Overview

You must install and configure the Modular Messaging software as described in this chapter. The tasks described in this chapter apply to both an Avaya Messaging Application Server (Avaya MAS) and a customer-provided MAS.

> **Note:** Installing the Modular Messaging software from a Microsoft Windows 2000 Terminal Services Client session is not supported.

To successfully install and configure Modular Messaging software, the following must be complete:

- The forms in Appendix A, ‘‘System planning forms,’’ specifically:
  - "Modular Messaging MAS planning form" on page A-7
  - "Modular Messaging logon accounts form" on page A-10
  - "MAS features list" on page A-11
- The appropriate prerequisite tasks, including:
  - *For an Avaya MAS,* the tasks described in Chapter 5, ‘‘Configuring a new Avaya MAS.’’
  - *For a customer-provided MAS,* the tasks described in Chapter 6, ‘‘Configuring a customer-provided MAS.’’

Installing Modular Messaging software

You must install the required Modular Messaging software and configure each MAS as described in this section.

Note: Completely install and test one MAS first, and let it run for 15 minutes before installing any additional MASs.

CAUTION: If anti-virus software is installed, Avaya recommends that you disable it before you install the Modular Messaging software to prevent possible negative interactions. Enable the virus-checking software again after the software installation is complete. The installation and configuration procedure takes from 15 to 30 minutes.

Running the installation wizard

If you are continuing an installation from Chapter 5, ‘‘Configuring a new Avaya MAS,’’ the Modular Messaging Installation Wizard runs automatically. Continue with "Installing the Modular Messaging software" on page 7-4.

If you are configuring a customer-provided MAS, you must run the Modular Messaging Installation Wizard manually as follows:

1. Log in to the Modular Messaging service account, if you are not already logged in:
   a. Click **Start** > **Log off** *admin-account*.
   b. Click **Yes** when prompted to confirm the logoff.
   c. Press **Ctrl**+**Alt**+**Del** to log on.
   d. In the Log On to Windows window, change the user name to the Modular Messaging service account name (such as *mmacct*). See Item **A6** on the "Modular Messaging logon accounts form" on page A-10.
   e. Enter the password for this account.
   f. Using the drop-down box, change the **Log in to:** field to show the correct Windows domain, such as *zodiac*. See Item **2** on the "Modular Messaging MAS planning form" on page A-7.
   g. Press **Enter** or click **OK**.
2. Shut down system monitoring applications (such as Microsoft Windows 2000 Service Control) and temporarily disable anti-virus software.

3. Insert the *Avaya Modular Messaging Application Software* disk in the MAS drive.

> **Note:** *For Avaya MAS systems:* Do *not* insert the boot-image *Avaya Modular Messaging OS Boot Software* DVD!

4. Close the drive door and wait for the green LED to go out. Click **OK**.
5. Run the Modular Messaging Installation Wizard as follows:
   a. In Windows Explorer, navigate to the MAS drive (such as D:).
   b. Navigate to the **Install** directory.
   c. Double-click the file **setup.exe**.

   The Modular Messaging Installation Wizard runs and searches for packages relevant to this configuration.
6. Click the **Read Me** button to review the Readme file for recent notices.
7. *To change the default installation path (optional):*
   a. Click the **Change** button.
   b. Browse to an existing destination directory, or use the **New Folder** button to create a new directory for the installation.

> **Note:** You cannot define different installation paths for individual components.

Installing the Modular Messaging software

Use the Modular Messaging Installation Wizard to install the appropriate Modular Messaging software components.

To install the Modular Messaging software:

1. Use the "MAS features list" on page A-11 to identify the software packages that must be installed on this particular MAS.
2. On the main screen, verify that the Configuration drop-down box shows **Lotus Domino**.
3. In the components list, select the boxes for any messaging services you must install on this MAS.
   a. *Required on every MAS:*
      - Administration Tools
      - Diagnostic Tools

b. *Required on every MAS that will handle calls:*

- Messaging Application Server (includes the Alarming Server, which also installs the Event Monitor Server, Performance Monitor Server, and Process Monitor Server)
- Prompt Files (at least one set is required on every MAS*)*

> **Note:** These software components are not required on an MAS that does *not* handle calls, such as a machine that has only the Caller Applications Editor or Tracing Server installed on it.

c. *Required on this MAS as specified by the customer:* See "MAS features list" on page A-11 for the specific services you must put on this server. Click the appropriate checkboxes to select each service. Services include:

- Call Me Server (includes the Mailbox Monitor Server)
- Caller Applications Editor
- Language Packs
- Message Waiting Indicator (MWI) Server (also includes the Mailbox Monitor Server)
- Tracing Server

4. When all required services are selected, click **Install**.

5. Wizards run for all the Modular Messaging software packages you selected. Complete each wizard as directed.

   The following components install automatically (no response is needed):

   - Administration Tools (required)
   - Caller Applications Editor (optional on any machine)
   - Diagnostic Tools (required)
   - Language Packs (optional on any MAS)
   - Prompt Files (required). This step might take several minutes.

6. The following components must be installed on every MAS that will handle calls:

   - Alarming Server
   - Messaging Application Server

   The wizards for these components must be completed as follows:

   a. When one of the above server installation wizards runs, click **Next**.

b. When prompted, enter the following account information:

- For **Domain**, enter the NetBIOS name of the Windows domain (such as *zodiac*). See Item **2** on the "Modular Messaging MAS planning form" on page A-7.
- For **User Name** and **Password**, enter the Modular Messaging service account name (such as *mmacct*) and its password. See Item **A6** on the "Modular Messaging logon accounts form" on page A-10.
- Click **Next**.

c. Click **Install**.

d. To complete the wizard, click **Finish**.

7. The following software components can be installed on any MAS, but only once per voice mail domain (VMD):

- Mailbox Monitor Server (by default, this is installed first if the Call Me or MWI Server is selected)
- Call Me Server
- Message Waiting Indicator (MWI) Server
- Tracing Server

The wizards for these components must be completed as follows:

a. When one of the above server installation wizards runs, click **Next**.

b. When prompted, enter the name of this MAS machine (such as *zippy*). See Item **1** on the "Modular Messaging MAS planning form" on page A-7. Click **Next**.

c. When prompted, enter the password for the Modular Messaging service account (such as *mmacct*). See Item **A6** on the "Modular Messaging logon accounts form" on page A-10. Click **Next**.

d. *For the Mailbox Monitor Server:* You must provide Notes security information as follows:

(1) For **Mailbox Monitor Lotus Notes ID**, verify the path of the ID file on this MAS (such as *C:\Lotus\Notes\Data\masacct1.id*). See "Preparing the MAS to support Domino" on page 6-9 for details.

(2) Enter the password for the Lotus Notes MAS account. See Item **7** on the "Modular Messaging MAS planning form" on page A-7.

(3) Click **Next**.

e. Click **Install**.

f. To complete the wizard, click **Finish**.

8. *For a system that uses CD-ROMs,* you are prompted to insert additional disks to install the RealSpeak Text-to-Speech software in multiple languages. When prompted to insert installation disk 2:

   a. Remove the *Avaya Modular Messaging Application Software and Languages* CD from the drive.

   b. Insert the first *Enhanced Email Reader (Text-to-Speech)* RealSpeak software CD in the drive and close the door.

   c. Wait for the green LED on the drive to go out. Click **OK**.

   d. After the disk is copied, you are prompted to insert the next disk:

      - Insert the next RealSpeak TTS software CD in the drive.
      - Repeat Steps b and d for each RealSpeak TTS software CD.

   Allow several minutes for the RealSpeak software to install. When the installation is complete, the wizard returns to the main screen.

9. To complete the installation, click **Close**.

10. When prompted, click **Restart** to restart the system now.

11. Remove the media from the MAS drive.

Configuring the MAS

To configure Modular Messaging software on this MAS:

1. When the reboot is complete, press **Ctrl**+**Alt**+**Del** to log back in. Use the Modular Messaging service account (such as *mmacct*) and its password. See Item **A6** on the "Modular Messaging logon accounts form" on page A-10.

   The Messaging Application Server Configuration Wizard runs.

2. For the Lotus Notes Security screen:

   a. Verify that the **Lotus Notes ID** file shows the correct path that the MAS needs to access the Domino server. If the path is missing or incorrect, click **Browse** to select the correct path. See "Preparing the MAS to support Domino" on page 6-9 for details.

   > **Note:** You must specify the complete path to the Notes ID file for this MAS. For example, *C:\Lotus\Notes\Data\masacct1.id*

   b. Enter the password for the Lotus Notes MAS account. See Item **7** on the "Modular Messaging MAS planning form" on page A-7.

   c. Click **Next**.

3. For the Peer Lotus Domino Server Selection screen:

   a. Verify that the **Lotus Domino Server** field shows the correct Domino hierarchical server name in coded form (where CN= the Windows NetBIOS name of the Domino server and O= its Domino domain name, such as CN=*domino1/O=zeppelin*). Depending on the system setup, a country code might also be present (such as C=US).

   If the Domino hierarchical server name is missing or incorrect, type the name or click **Browse** to select the correct Domino server (the name is forced to upper case). See Item **6** on the "Modular Messaging MAS planning form" on page A-7.

   b. Verify that the **External Caller Mailbox** field shows the correct path and file name the Domino mailbox file for this MAS (such as *mail\zippy.nsf*). If the name is missing or incorrect, type the correct name. See Item **9** on the "Modular Messaging MAS planning form" on page A-7.

   c. Click **Next**.

   The Service configuration might take several minutes.

4. For the Peer Directory Servers Selection screen:

   a. Verify the **Primary Directory Server** information (this is typically the peer Domino server). See Item **3** on the "Modular Messaging MAS planning form" on page A-7.

(1) To change the **Server Name**, type the new name or click **Browse** to select the correct Domino server. The name must be entered in coded form and is forced to upper case.

(2) To change the **Database Name**, type the path and name of the Domino directory database (for example, *names.nsf*). See Item **5** on the "Modular Messaging MAS planning form" on page A-7.

b. *If secondary Domino directory servers are required to support multiple domains,* click **New Server**. Enter the name of the Domino server in the other domain. See Item **4** on the "Modular Messaging MAS planning form" on page A-7.

c. Click **Next**.

The Service configuration might take several minutes.

5. For the Voice Mail Domain Selection screen:

a. Select a new or existing voice mail domain as follows:

- ***For MAS#1:*** Select the option **First server in a new voice mail domain**.
- ***For a subsequent MAS:*** Select the option **Subsequent server in an existing voice mail domain**.

b. Click **Next**.

CAUTION: Do *not* select **First server in a new voice mail domain** unless this is the first MAS to be installed at this site. If you are doing an update or are restoring an MAS after a disk failure, you *must* join the existing VMD to avoid problems. See "Recovering from a catastrophic disk failure" on page E-1 for details.

6. On the Voice Mail Domain Selection screen:

a. Specify the voice main domain as follows:

- ***For MAS#1:*** Enter the unique voice mail domain name for this set of MAS machines (such as *zebra*). See Item **11** on the "Modular Messaging MAS planning form" on page A-7.

Note: The voice mail domain name is case sensitive.

- ***For a subsequent MAS:*** Verify that the existing voice mail domain name is displayed in the drop-down box (such as *zebra*).

b. Click **Next**.

The VMD configuration might take several minutes.

7. *For a subsequent MAS:* An Offline Storage Location screen is displayed only if offline access is enabled in the voice mail domain and if an offline message store has not been selected. Browse to an existing, shared directory in the domain to set up the remote offline message store, used to synchronize messages in a multiple-MAS configuration. See Item **12** on the "Modular Messaging MAS planning form" on page A-7.

   a. For Store Location, click **Browse**.

   b. In the Browse for Folder window, navigate to the specified directory.

   c. Select the folder and click **OK**.

      The name *must* appear in the format ***\\locationname\sharename*** (such as *\\zorro\OfflineStore*).

   d. Click **Next**.

8. *For a subsequent MAS:* The Caller Application screen is displayed if Caller Applications are deployed in the domain.

   a. Use the default setting for this step.

   b. Click **Next**.

CAUTION: If you are restoring an MAS following a disk failure, see "Restoring Caller Applications after a catastrophic disk failure" on page E-3 for instructions about this feature.

9. On the User Information screen, click **Next**.

   This step might take several minutes.

10. On the Setup Complete screen, click **Finish**.

11. If you disabled the anti-virus software on this MAS, enable it again now.

Setting up remote access

Remote access allows technical support personnel to dial into a system to correct problems and perform routine maintenance. Unless other arrangements have been made, use the following procedure to set up the MAS to take incoming service calls.

> **Note:** The modem for this MAS must already be installed and correctly configured. See the documentation included with the modem for details on modem setup and operation.

To set up this MAS for remote access:

1. Activate remote access service as follows:

   a. 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 (Local)** if it is not already selected.

      > **Note:** This icon has a .msc extension and is labeled **Monitor.msc**.

      - Right-click **My Computer** and select **Manage**. In the Computer Management window, the left (Tree) pane, expand **Services and Applications**, and then click **Services**.

   b. In the right pane, scroll down to **Routing and Remote Access**. Double-click it to open the properties window.

   c. In the Routing and Remote Access Properties window:

      (1) On the General tab, set the **Startup type** to **Automatic**.

      (2) Click **Apply**.

      (3) Under **Service status**, click **Start**.

      (4) Wait for service to start, and then click **OK** to close this window.

   d. Close the Monitor window.

2. Access Routing and Remote Access using one of these methods:

   - Double-click the **Configure** icon on the desktop (if present).

   > **Note:** This icon has a .msc extension and is labeled **Configure.msc**.

   - Click **Start > Programs** > **Administrative Tools** > **Routing and Remote Access**.

3. Continue as follows:

   - *If you are setting up a customer-provided MAS,* continue with Step 4.
   - *If you are setting up an Avaya MAS,* continue with "Preparing an Avaya MAS for remote access" on page 7-13.

4. *If you are setting up a customer-provided MAS,* preconfigure routing and remote access properties as follows:

   a. In the left pane of the window, right-click **Routing and Remote Access** and select **Add Server**.

   b. In the Add Server window, select **This computer**. Click **OK**.

   c. In the left pane, expand Routing and Remote Access to see the new server name (such as *ZIPPY*).

   d. Right-click the server name and select **Configure and Enable Routing and Remote Access**.

      (1) A wizard runs. On the Welcome screen, click **Next**.

      (2) Select **Remote Access Server** and click **Next**.

      (3) Select **TCP/IP yes** and click **Next**.

      (4) Network selection is **select the appropriate adaptor**. Click **Next**.

      (5) Select **from a specified range of addresses**. Click **Next**.

      (6) On the Address Range Assignment screen, enter the range of 2 static IP addresses provided by the customer. See Item **21** on the "Modular Messaging MAS planning form" on page A-7.

      (7) Click **Next** again.

      (8) On the screen for managing multiple remote access servers, choose **No** to RADIUS.

      (9) Click **Finish**.

   The Routing and Remote Access service starts.

5. Continue with "Completing remote access setup" on page 7-14.

Preparing an Avaya MAS for remote access

Do the following steps only on an Avaya MAS:

1. To set up remote access properties for this Avaya MAS:
   a. Expand **Routing and Remote Access**.
   b. Expand the server name (such as *ZIPPY*).
2. Verify that remote access service (RAS) is running as follows:
   a. If the server icon shows a green upward-pointing arrow, RAS is running. Continue with Step 3.
   b. If the server icon shows a red symbol, activate RAS as follows:
      (1) Right-click the server name, and select **All Tasks** > **Start**.
      (2) If prompted to re-enable Routing and Remote Access, click **Yes**.
3. Set up a static IP address pool as follows:
   a. In the left pane, right-click the server name (such as *ZIPPY*) and select **Properties**.
   b. In the local Properties window for the server, click the **IP** tab.
      (1) Select **Enable IP routing**.
      (2) Select **Allow IP-based remote access and demand-dial connections**.
      (3) Under **IP address assignment**, select **Static address pool**.
      (4) If the window shows an IP address range of 0000 to 0000, select the displayed range and click **Edit**. (If no address range is already entered, click **Add**.)
      (5) In the New Address Range properties window, enter the range of two static IP addresses for this MAS. See Item **21** on the "Modular Messaging MAS planning form" on page A-7.

> **Note:** If Avaya is supporting this MAS, use the IP addresses that were generated by the Automatic Registration Tool (ART). Otherwise, use the IP addresses provided by the customer.

      (6) Verify that the number of addresses is **2**.
      (7) Click **OK**.
      (8) For the **Adapter** field, select **Local Area Connection 2** for the corporate LAN.

c. Click **OK** to close the properties window.

Completing remote access setup

Do the following steps on all MASs to set up the modem:

1. Set up inbound remote access to the modem as follows:

   a. In the left pane, expand the server name (such as *ZIPPY*).

   b. Right-click **Ports** and select **Properties**.

   c. In the Ports Properties window, verify that the modem is highlighted, and then click **Configure**.

   d. In the Configure Device - <*model*> window, verify that the checkbox is selected to activate **Remote access connections (inbound only)**.

   e. Click **OK**.

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

2. Verify the modem setup:

   a. Click **Ports** in the left pane.

   b. In the right pane, verify that there is an entry for the modem attached to this MAS, such as MultiTech ZBA-USB-V92.

      - If the modem entry is present, go to Step 3.
      - If the modem entry is missing, continue as follows:

      (1) Verify that the modem is correctly installed.

      For an Avaya MAS, verify that the external modem is plugged into the recommended USB port (see "Connecting the USB modem on the MAS" on page 2-28).

      (2) Click **Start** > **Settings** > **Control Panel**.

      (3) Double-click **Phone And Modem Options**.

      (4) The first time you select **Phone and Modem Options**, a wizard runs.

      - Complete the wizard by following the steps on each screen to configure the locale settings.
      - When finished, a new entry is displayed in the **Locations** box on the **Dialing Rules** tab.

      (5) In the Phone And Modem Options window, click the **Modems** tab.

(6) Verify that the modem is present and attached to a port (typically COM3 if you used the recommended USB port).

(7) *If the modem is not present or attached to a port,* you might need to remove the modem entry, and then reinstall the modem.

(8) When finished, click **OK** to close the Phone And Modem Options window.

(9) Close the Control Panel.

(10) Return to Step 2-a and verify that the modem is now present.

3. Close the Configure or the Routing and Remote Access window.

8

Configuring and testing the port boards

This chapter describes how to configure and test the Dialogic port boards on an MAS.

Note:	Before you can successfully complete the tasks described in this section, you must have successfully completed the tasks in Chapter 7, “Installing and configuring the Modular Messaging software.” If you are using an IIP H.323 integration, continue with Chapter 9, “Configuring the voice mail system.”

Topics in this chapter include:

Configuring the port boards

If Dialogic port boards are installed in this MAS, they must be configured and tested as described in this section. Port board administration involves three phases:

1. The appropriate party must administer the switch for the port boards using the configuration notes for this particular PBX or switch integration. See "Information on the Web" on page 1-2 for instructions on obtaining the configuration notes.

> **CAUTION:** You can only install this system 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 chapter. Some steps require you to use the configuration notes.

3. You will complete the port board administration for this MAS as directed in "Configuring the voice mail system" on page 9-2.

Table 8-1 lists supported Dialogic port boards and their associated documents (copies of the PDF files are on the *Avaya Modular Messaging Documentation CD* and the application software disk). The type of port boards can vary on different MASs in the system, although each MAS can have only one type of board installed in it.

Table 8-1. Supported MAS port boards

Protocol	Ports	Port boards	Max #	Dialogic files on documentation CD
Analog	4 - 8 12 - 48	Dialogic 4-port T/R board Dialogic 12-port T/R board	2 4	**D/41JCT-LS** (PDF 133K) **D/120JCT-LS** (PDF 131K)
Digital Set Emulation	8 - 40 or 8 - 48	Dialogic D/82JCT-U-PCI-UNIV Dialogic D/82JCT-U	5 - Avaya MAS or 6 - other MAS	**D/82JCT-U PCI Univ** (PDF 234K) **D/82JCT-U (PDF 240K)** *supported for updates only*
T1-QSIG	23 - 69	Dialogic D/480JCT-2T1 Dialogic D/240JCT-T1	3	**DualSpan JCT boards** (PDF 104K) **Span JCT boards** (PDF 99K) *supported for updates only*
E1-QSIG	30 - 60	Dialogic D/600JCT-2E1 Dialogic D/300JCT-E1-120	2	**DualSpan JCT boards** (PDF 104K) **Span JCT boards** (PDF 99K) *supported for updates only*

Continue based on the type of port boards installed in this MAS:

- "Configuring analog port boards" on page 8-3
- "Configuring set emulation boards" on page 8-5
- "Configuring T1- or E1-QSIG boards" on page 8-7

Configuring analog port boards

The following analog port boards can be installed in an MAS:

- Dialogic 4-port Tip/Ring board (up to 2 per MAS). See the **D/41JCT-LS** PDF file on the documentation media for details.
- Dialogic 12-port Tip/Ring board (up to 4 per MAS). See the **D/120JCT-LS** PDF file on the documentation media for details.

To configure either of these analog boards:

1. Click **Start > Programs** > **Intel Dialogic System Software** > **Configuration Manager - DCM**.

   The Intel Dialogic Configuration Manager window is displayed.

2. In the Computer Name pop-up window, verify that **Local** is selected and that the correct server name is shown, such as *ZIPPY*.

3. Click **Connect**.

   The Dialogic software locates any installed port boards.

4. Under Configured Devices, double-click the name of the first Dialogic board shown (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 then see Appendix C, "Creating a new tone file."

5. In the Dialogic Configuration Manager Properties window:

   a. Click the **Files** tab.

   b. Select the **TSFFileName** parameter (if it is not already selected).

> **Note:** If you are using a D/41JCT-LS card, you must highlight the "Configured Devices" parameter on the DCM display when selecting Configure Device. This is necessary to be able to view the TSFFilename parameter.

c. Locate the prerecorded TSF file for this PBX or switch:

(1) Click the **...** button to browse, and then 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 (for example, *Avaya-G3-US.tsf*). Double-click the file name.

The appropriate TSF file is inserted in the **Value** field.

(3) After an appropriate TSF file is selected, click the **Misc** tab.

a. Click the **TSFFileSupport** parameter.

b. From the **Value** drop-down list, select **Yes**.

> **Note:** You must have selected an appropriate TSF file for this PBX or switch *before* you set the TSFFileSupport parameter to **Yes**, or errors might occur.

c. Click the **DisconnectTone** parameter.

d. From the **Value** drop-down list, select **Yes**.

e. Click **OK** to close the properties window.

6. Repeat Steps 4 and 5 for any other installed Dialogic boards (such as #1).

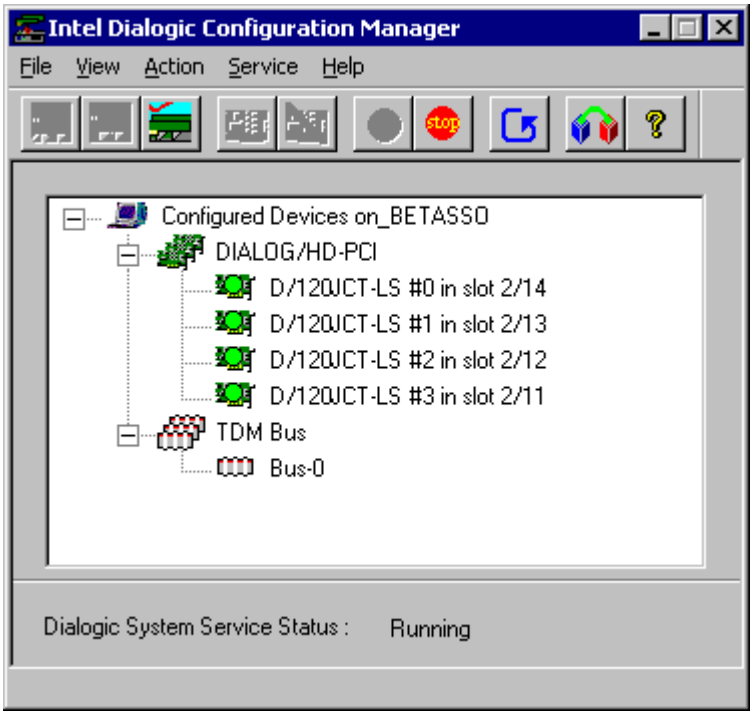
7. When all boards are configured, click the green **Start Service** button on the button bar.

   Wait for service to start. When service is started, the **Stop Service** button becomes active and the installed boards show a green light. See Figure 8-1 on page 8-5 for an example.

8. Close the Intel Dialogic Configuration Manager window.

9. Continue with "Testing the port boards" on page 8-10.

Figure 8-1. Sample Dialogic Configuration Manager analog window - service started



Configuring set emulation boards

Up to five 8-port Dialogic Digital Set Emulation (DSE) boards can be installed in an Avaya MAS, or up to six DSE boards can be installed in a customer-provided MAS. See the **D/82JCT-U** or **D/82JCT-U PCI Univ** PDF file on the documentation media for more information.

Note:	The **D/82JCT-U** board is supported for updates only.

To configure digital set emulation boards:

1. Click **Start > Programs** > **Intel Dialogic System Software** > **Configuration Manager - DCM**.

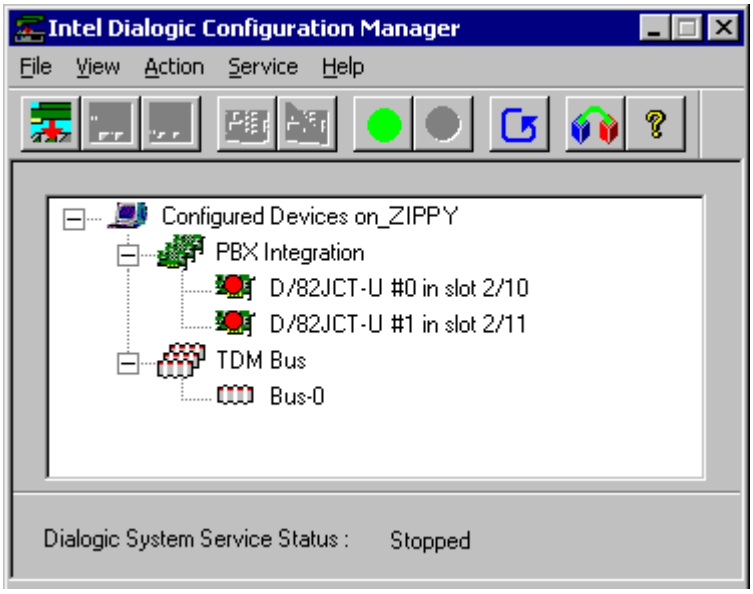
   The Intel Dialogic Configuration Manager window is displayed.

2. In the Computer Name pop-up window, verify that **Local** is selected and that the correct server name is shown, such as *ZIPPY*.

3. Click **Connect**.

   The Dialogic software locates any installed port boards. See Figure 8-2 on page 8-6 for an example.

Figure 8-2. Sample Dialogic Configuration Manager DSE window - service not started



4. Under Configured Devices, double-click the name of the first Dialogic board shown (such as #0).

5. In the Dialogic 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. Typically, **A-Law** is Europe and μ**-Law** is United States.

   c. Click the **Misc** tab and select the **PBXSwitch** parameter.

   d. On the pull-down list of values, select the name of the PBX (for example, use Lucent 2-wire for an Avaya G3 switch).

   e. Click the **Country** tab and select the **Country** parameter.

   f. On the pull-down list of values, select the country.

   g. Click **OK** to close the Dialogic Configuration Manager 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* starting the Dialogic drivers. Close the DCM and reboot the system now. When the reboot is complete, log back in and reopen the DCM (see Step 1), and then continue with Step 7.

7. When all boards are configured, click the green **Start Service** button on the button bar.

   Wait for service to start. When service is started, the **Stop Service** button becomes active and the installed boards show a green light.

8. Verify that the boards are operating correctly.

   a. Check the LED display on the Dialogic board faceplate. It flashes a code for each port consecutively as follows:

      - Ports that are connected to a phone line and functioning correctly show 0 and the port number (such as 00 or 01).
      - Ports that are not connected to a phone line or not functioning correctly show E**n**, where **n** is the port number. For example, the display reads *E3* if there is an error on port 3.

   b. If any errors (E**n** codes) are present, check the board configuration, the physical connections between the board and the PBX, or the PBX configuration itself. (For example, verify that you have configured the correct PBX). Repeat Steps 4 through 8 as needed.

9. Close the Intel Dialogic Configuration Manager window.

10. Continue with "Testing the port boards" on page 8-10.

Configuring T1- or E1-QSIG boards

Either of the following QSIG port boards can be installed in the MAS. See the **DualSpan JCT boards** PDF file on the documentation media for more information.

- Dialogic D/480JCT-2T1 board (up to 3 boards per MAS)
- Dialogic D/600JCT-2E1 board (up to 2 boards per MAS)

> **Note:** The **single-span version** of these boards (D/240JCT-T1 and D/300JCT-E1-120) is supported for updates only.

To configure either T1-QSIG or E1-QISG boards:

1. Click **Start > Programs** > **Intel Dialogic System Software** > **Configuration Manager - DCM**.

   The Intel Dialogic Configuration Manager window is displayed.

2. In the Computer Name pop-up window, verify that **Local** is selected and that the correct server name is shown, such as *ZIPPY*.

3. Click **Connect**.

   The Dialogic software locates any installed port boards.

4. Under Configured Devices, double-click the name of the first Dialogic board shown (such as #0).

5. In the Dialogic 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 T1-QSIG: select **μ-Law**

   e. Click the **Misc** tab. For the **FirmwareFile** parameter, verify that **default** is displayed.

   f. Click the **Country** tab and select the **Country** parameter.

   g. On the pull-down list of values, *always* use United States for either type of board.

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

6. Repeat Steps 4 and 5 for any other installed Dialogic boards (such as #1).

7. When all boards are configured, click the green **Start Service** button on the button bar.

   Wait for service to start. When service is started, the **Stop Service** button becomes active and the installed boards show a green light. See Figure 8-3 on page 8-9 for an example.

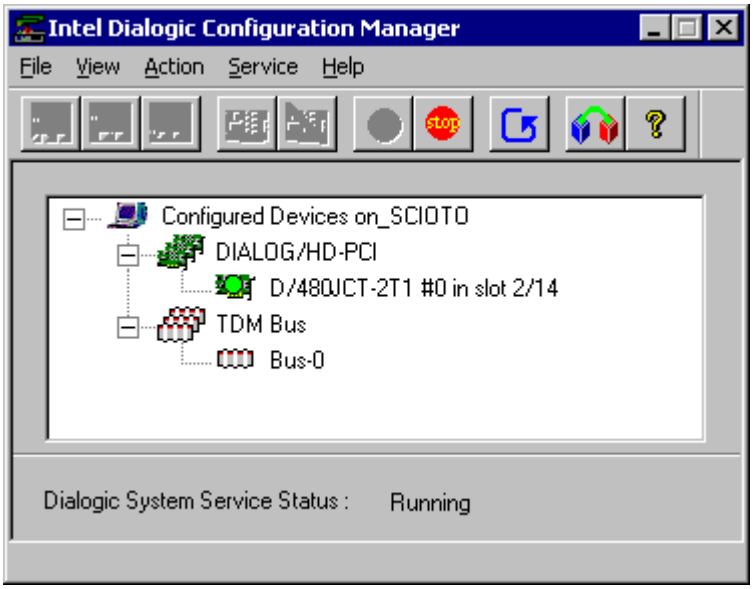
8. Verify that the boards are operating correctly.

   a. Check the LED display on the Dialogic board faceplate.

      - A red status LED lights on the back of the voice card during driver start-up.
      - If the drivers start successfully, the LED of the board whose port is connected to the PBX is replaced by 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 itself. Repeat Steps 4 through 8 as needed.

Figure 8-3. Sample Dialogic Configuration Manager QSIG window - service started



9. Close the Intel Dialogic Configuration Manager window.
10. Continue with "Testing the port boards" on page 8-10.

Testing the port boards

Test all port boards and channels to verify that they can send and receive calls.

Preparing for the test

Prepare for port board testing as follows:

1. Stop Modular Messaging service as follows:

   a. 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**.

   b. In the right pane, scroll down to **MM Messaging Application Server**.

   c. Right-click **MM Messaging Application Server** and select **Stop**.

2. ***For Unified Messenger updates,*** the Dialogic Line Tester program is not yet installed. Access the test program on disk as follows:

   a. Insert the *Avaya Modular Messaging Application Software* disk into the MAS drive.

   b. Close the drive door and wait for the green LED to go out. Click **OK**.

   c. In Windows Explorer, navigate to the MAS drive (such as D:).

   d. Navigate to the **Install** directory, and then to the **DLTest** subdirectory.

   e. Double-click the file **DLTest.exe**.

   The Dialogic Line Test Application runs.

3. *For T1-QSIG or E1-QISG boards,* set up the test options as follows:

   a. Click **Start > Programs** > **Avaya Modular Messaging** > **Dialogic Line Tester** (or access the program from the applications disk as described in Step 2).

   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:

   Note: The values you select here must be the same as those entered on the PBX or switch. Check the configuration notes.

      - 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.

Testing the ports

To test Dialogic port board functionality:

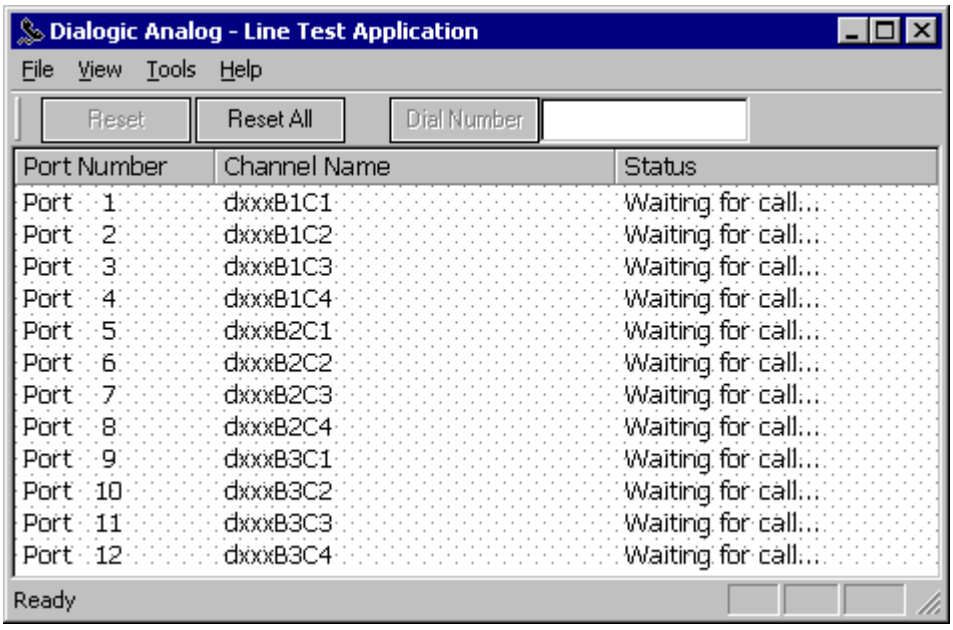
1. Access the Dialogic Line Test application using one of the following methods:

   - Click **Start > Programs > Avaya Modular Messaging > Dialogic Line Tester**.
   - ***For Unified Messenger updates,*** access the DLTest program from the applications software disk described in Step 2 on page 8-10.

   The Dialogic Analog - Line Test Application (or DLTest) window is displayed. 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. See Figure 8-4 for an example.

Figure 8-4. Sample Dialogic Analog - Line Test Application window



3. Test the incoming call connectivity of all ports as follows:

   a. From a handset on the same PBX, dial each port individually.

      - For analog and set emulation boards, use the individual port extensions from "Required switch and messaging information" on page A-14.

- For QSIG cards, repeatedly dial the number for that group of ports. The switch connects to the next port in the list each time you dial.

b. Check the **Status** column. Verify that each port shows “Received call” followed by “Connected.” See Table 8-2 for different status conditions.

The system should answer each connected call with a standard welcome message.

Table 8-2. DL Test status messages

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 as follows:

   a. Select a **Port** in the Dialogic Line Test Application window.

   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 have been tested.

5. When finished, close the test application window.

6. If a problem occurs, check the board configuration, the physical connections between the board and the PBX, or the PBX configuration itself. For example, verify that you have configured the correct PBX and administered it according to the appropriate configuration notes.

9

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 successfully completed the tasks in Chapter 7, "Installing and configuring the Modular Messaging software," and (if port boards are installed) the tasks in Chapter 8, "Configuring and testing the port boards."

Topics in this chapter include:

Overview

You are now ready to configure the basic Voice Mail System Configuration (VMSC) parameters and complete initial Modular Messaging software administration.

To successfully complete this task, you need:

- A completed copy of the forms in Appendix A, ‘‘System planning forms,’’ specifically:
  - "Modular Messaging MAS planning form" on page A-7
  - "Modular Messaging logon accounts form" on page A-10
  - "MAS features list" on page A-11
  - "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13
  - "Required switch and messaging information" on page A-14
  - "Support information" on page A-15
- The configuration notes for this PBX or switch. See "Required documentation" on page 1-2 for instructions on how to obtain these.

Configuring the voice mail system

Voice mail system configuration falls into three areas:

1. Domain-wide administration, some of which *must* be done on MAS#1 only (such as initial PBX setup)
2. Administration of domain-wide features that can be installed on any MAS, such as Call Me or Message Waiting Indicator
3. Port board and feature configuration specific to each MAS

This section guides you through the administration of key parameters that are required to get a new system operational.

Note: This section is intended to get a Modular Messaging system up and running with the basic required features. Customers are encouraged to tailor the Voice Mail System Configuration (VMSC) parameters for their site after a successful installation using the *Avaya Modular Messaging Software Messaging Application Server Administration Guide* (PDF 3 MB), located on the documentation media shipped with the system.

CAUTION: The procedures in this section can only be completed by using the required configuration notes for this PBX or switch. See "Required documentation" on page 1-2 for instructions on obtaining the configuration notes.

Configuring domain-wide features

This section describes the administration of domain-wide features as follows:

- Required features that must be administered for every Modular Messaging system are marked ***On MAS#1*** in this guide. This is to ensure the configuration of all required system elements. (Note that, except for initial PBX administration, most domain-wide features can be administered on any MAS.)
- Some domain-wide features are optional and can be installed on any MAS, including the first one (such as the Call Me and Message Waiting Indicator Servers). Use the "MAS features list" on page A-11 to determine what features should be configured on a given MAS.

To configure the voice mail system:

1. *If you installed multiple languages,* specify the preferred language for this MAS:
   a. Click **Start > Programs** > **Avaya Modular Messaging** > **Languages**.
   b. In the Modular Messaging User Properties window, select the **Preferred language** from the drop-down list.
   c. Click **OK**.

2. Verify that Modular Messaging service is started as follows:

   a. 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 (Local)** if it is not already selected.

      Note: This icon has a .msc extension and is labeled **Monitor.msc**.

      - Right-click **My Computer** and select **Manage**. In the Computer Management window, the left (Tree) pane, expand **Services and Applications**, and then click **Services**.

   b. In the right pane, scroll down to **MM Messaging Application Server**.

   c. Check the Status column.

      (1) If the status is **Started**, continue with Step 3.

      (2) If service is *not* started, right-click **MM Messaging Application Server** and select **Start**.

      The system begins a messaging service startup.

      Note: When you restart messaging service, the 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.

   d. 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.

   e. Minimize this window. You will use it later.

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

   The Voice Mail System Configuration window is displayed. All MASs present in the messaging system are listed.

> **Note:** Do the steps in this section under the voice mail domain, *not* for a specific MAS (under **Message Application Servers**). If this site has multiple voice mail domains, verify that you are accessing and administering the correct one.
>
> Although the system prompts you to restart service several times during this procedure, you actually must restart service only before entering the port board extension numbers in "Configuring MAS-specific parameters" on page 9-12, and at the end, when configuration is complete.

4. ***On MAS#1:*** 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. See "Required switch and messaging information" on page A-14.

> **Note:** After you click the next tab, the system notifies you that the extension number changes will invalidate all previous mailboxes. Click **Yes** to continue.

   b. Click the **Subscriber** tab. Verify that **Login Failures before Mailbox Lockout** is **18**.

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

5. *To set up Call Me service:* Do this step if the optional Call Me Server is installed on any MAS. See "MAS features list" on page A-11.

   a. Double-click **Call Me**.

   b. In the Call Me - Voice Mail Domain window, on the **General** tab, click the checkbox to **Enable Call Me**.

   c. For **Call Me server**, specify the MAS on which the Call Me software is installed (such as *ZIPPY*). If this field is blank:

      (1) Click the **...** button next to the field.

      (2) In the Select Computer window, double-click the name of the MAS that has Call Me installed (such as *ZIPPY*).

      (3) Click **OK** to close this window.

6. *To set up MWI service:* Do this step if the optional Message Waiting Indicator Server is installed on any MAS. See "MAS features list" on page A-11.

   a. Double-click **Message Waiting Indicator**.

b. In the Message Waiting Indicator - Voice Mail Domain window, on the **General** tab, click the checkbox to **Enable Message Waiting Indicator (MWI)**.

c. For **MAS MWI server**, specify the MAS on which the MWI software is installed (such as *ZIPPY*). If this field is blank:

(1) Click the **...** button next to the field.

(2) In the Select Computer window, double-click the name of the MAS that has MWI installed (such as *ZIPPY*).

d. In the **Messaging Application Servers that support MWI** list box, list all MAS servers that support MWI. To add a server:

(1) Double-click inside the top of the big list box, or click the **Add** (dashed-box) button just above the list box.

(2) A data entry field and **...** button appear in the list box. Click the **...** button.

(3) In the Select Computer window, double-click the name of each MAS that supports MWI (such as *ZIPPY* and *ZORRO*).

(4) Click **OK**.

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

7. ***On MAS#1:*** Set up access permissions to allow authorized users to administer the Modular Messaging system or subscribers on the directory server.

Note:	The customer might have predefined groups that include users who are authorized to perform system or subscriber administration. Check with the appropriate system administrator for the correct entries to make here.

a. In the Voice Mail System Configuration window, expand **Security**.

b. Double-click **System Administration**.

(1) In the Permissions for System Administration window, verify that the Modular Messaging service account (such as *mmacct*) is listed. If this entry is missing, or to include additional required users, click **Add**.

(2) In the Select Users, Computers, or Groups window, add the appropriate users or groups who require system administration permissions (for example, the technical support remote access account such as *craft*). See Item **23** on the "Modular Messaging MAS planning form" on page A-7. Double-click the required entry, and then click **OK**.

(3) Click **OK** to close this window.

c. Double-click **Subscriber Administration**.

(1) In the Permissions for Subscriber Administration window, click **Add** to add the Windows accounts for users who will administer subscribers. These user accounts must also be a member of a Domino access control list (ACL) and assigned administration rights as described in "Setting up Domino to support Modular Messaging" on page 4-3.

Note: The default Subscriber Administration access control list is empty. To allow administration of subscribers, at least one account or group must be added to the list.

(2) In the Select Users, Computers, or Groups window:

- Add the Modular Messaging service account (such as *mmacct*). Double-click it (or click **Add**), and then click **OK**.
- Add any additional customer-specified users or groups required to administer Domino users and extensions. See Item **23** on the "Modular Messaging MAS planning form" on page A-7. Double-click the required entry, and then click **OK**.

(3) Click **OK** to close this window.

8. ***On MAS#1:*** *If multiple languages or the optional Text-to-Speech feature are used at this site,* double-click **Languages**. Do the following in the Languages - Voice Mail Domain window:

a. For **Primary Language**, select the primary prompt set that is to be used at this site. See "MAS features list" on page A-11.

b. *If the optional Text-to-Speech (TTS) feature is used at this site:*

(1) Click the checkbox to **Enable Multilingual Text to Speech**.

(2) In the list box, select all the languages to use for TTS at this site. See "MAS features list" on page A-11.

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

9. *To set up the optional offline access feature:* Do this step on any MAS.

a. Double-click **Messaging**.

b. In the Messaging - Voice Mail Domain window, click the **Offline Access** tab.

c. Click the checkbox to **Enable offline access to messages**.

d. *If multiple MASs are installed,* click the checkbox to **Synchronize offline messages with remote store**. Click **Browse** to select an existing, shared directory in the domain for the remote offline message store. See Item **12** on the "Modular Messaging MAS planning form" on page A-7.

e. Alter any other parameters in this window as needed. See the *Avaya Modular Messaging Software Messaging Application Server Administration Guide* (PDF 3 MB) on the documentation media for details.

f. When finished, click **OK** to close this window.

10. ***On MAS#1:*** Double-click **Serviceability**. Enter the following in the Serviceability - Voice Mail Domain window:

a. On the **General** tab, select the type of alarming to be used on this voice mail domain for the Modular Messaging system: INADS, SNMP, or none.

> **Note:** A modem must be present to select INADS alarming.

b. If alarming is activated, enter the unique product ID for this system. See "Support information" on page A-15 for this number.

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 will be sent (minor or major)
- The system behavior for stopping Modular Messaging service

d. *If you selected SNMP alarming,* click the **SNMP** tab. See "SNMP alarming information" on page A-15 to enter the required values.

- For **Network Management Station**, specify the corporate network management system (NMS) that will monitor the Modular Messaging system for alarm notifications (traps). Either type the IP address or fully qualified domain name for the NMS in the field, or click **Browse** to navigate to and select the appropriate NMS.
- For **Context (community)**, enter the name of the context or community to which the NMS belongs (such as *public*).
- For **Acknowledgement type**, select either **Return trap** (to have traps actively acknowledged) or **Ping surround** (to send a ping to the NMS before and after sending a trap to assume trap receipt).

If you select **Return trap** acknowledgement:

(1) Return to the Monitor or the Computer Management window to see the list of Windows services (the window might already be open or minimized). See Step 2-a for instructions, if needed.

(2) In the right pane, scroll down to **SNMP Trap Service**. Double-click it to open the properties window.

> **Note:** If SNMP Trap Service is not present, it must be installed. See "Installing Windows prerequisite software" on page 6-8 for procedures for installing Windows service components.

(3) On the **General** tab, set the **Startup type** to **Automatic**.

(4) Click **Apply**.

(5) Under **Service status**, click **Start**.

(6) Wait for service to start, and then click **OK** to close this window.

(7) Minimize the Monitor or the Computer Management window for later use.

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

11. ***On MAS#1:*** Obtain and install a license for this system.

> **Note:** The procedure for obtaining a license file varies. See the www.avaya.com/support Web site for the latest information. For licensing questions, contact your remote support center (see "Sending the license request" on page F-9).

Obtain a license using one of these methods:

- *If remote technical support will be used for this system:*

a. Place a licensing support call to the appropriate remote support center. Provide the required information for "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13. Be sure to include the complete dial-in information needed for the MAS.

- For new systems, the remote support center will provide some of the information needed to generate a license, including the information in Items **L1** through **L3** for "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13.
- If an *update* is specified for Item **L4**, the on-site installer must provide the required information. See Appendix F, ‘‘Obtaining a license for an update,’’ for this procedure.

b. Continue the installation while the remote support center generates a valid license for this system. When ready, the remote support center will install the license file using remote access.

c. After you are notified that the license file is installed, do the steps in "Verifying license installation and specifying TTS sessions" on page 9-11.

- *If remote technical support will **not** be used for this system*:

  a. Provide all the required information for "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13. To obtain the VMD ID:

  (1) In the Voice Mail System Configuration window, right-click **Licensing** and select **Copy Host ID to clipboard**.

  This is the unique ID for this voice mail domain (VMD ID) that identifies this particular system.

  (2) Open the document where you want to record this information (for example, the editable Word version of the "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13). Alternatively, you can open a text-editor application (such as Notepad) to capture this data.

> **CAUTION:** Use the copy-and-paste method of recording the VMD ID if possible. If you try to manually enter the VMD ID, it is easy to make mistakes. The VMD ID in the generated license *must* exactly match that of the target system or it will fail to install.

  (3) Right-click and select **Paste** to copy the VMD ID from the clipboard to the appropriate place in the document. See Item **L1** on "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13.

  (4) Include in the file the information for Items **L2** through **L4** on "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13.

  For updates, see "Obtaining license data for an update" on page F-4 for this procedure.

  (5) Complete the rest of the form as required. When finished, **Save** the file.

  b. If needed, transmit the file to an email-accessible location. Send the license request by email to the appropriate license generation address, such as osg@avaya.com. See "Sending the license request" on page F-9 for requirements for sending license requests in various regions.

  c. Continue the installation while the remote support center generates a valid license and returns a license file for this system through email.

  d. ***After the license file is obtained,*** install the license as follows:

  (1) Transmit the license file (such as *wlmNNNNNlicense.xml*) to the MAS using the customer method of choice (FTP, memory stick, and so on). The recommended location for the license file is 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**.

> **Note:** If this site has multiple voice mail domains, verify that you are accessing the correct one, or the license file will not work.

(3) On the License Import Wizard welcome screen, click **Next**.

(4) On the Importing the License screen, click **Browse**.

(5) Navigate to the location 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**.

e. Continue with "Verifying license installation and specifying TTS sessions" below.

Verifying license installation and specifying TTS sessions

After the license file is installed, verify the license installation, and then set up the TTS sessions per MAS as follows:

a. In the Voice Mail System Configuration window, double-click **Licensing**.

b. In the Licensing - Voice Mail Domain properties window, on the **General** tab, verify that the correct values for this customer are displayed.

c. Click the **Text-to-Speech** tab. Every MAS in the voice mail domain is listed.

(1) For each MAS, double-click the TTS link, such as **Text to speech, ScanSoft RealSpeak, Any Language**.

(2) In the Edit Sessions window, enter the number of TTS sessions required for this MAS (for example, 2 sessions per MAS). See "MAS features list" on page A-11.

(3) When finished, click **OK**.

d. Click **OK** again to close the Licensing properties window.

12. ***On MAS#1:*** Set up PBX service for the system.

a. In the Voice Mail System Configuration window, right-click **PBXs** and select **Add New PBX Type**.

b. For **Telephony Type**, select the type of port board that is installed in this MAS (such as *Dialogic Analog*).

c. In the PBXs scroll box, select the type of switch integration that you have (such as *Dialogic Avaya G3 CLAN*).

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

e. In the Voice Mail System Configuration window, expand **PBXs**.

f. Double-click the PBX entry you just added.

g. Using the configuration notes for this PBX or switch, set up the specific PBX parameters required for this integration of the system.

Configuring MAS-specific parameters

After the domain-wide parameters have been configured, set up the port boards and features specific to this MAS.

> **Note:** Although the configuration notes for this PBX or switch might include some of these steps, read through this section first to get an overview of the whole configuration procedure.

To specify MAS-specific parameters:

1. In the Voice Mail System Configuration window, expand **Message Application Servers**. See Item **1** on the "Modular Messaging MAS planning form" on page A-7 for MAS names.

   a. ***For MAS#1:*** The first time you access this item, a Telephony Configuration Wizard helps you set up the basic PBX integration details for all MASs in this domain. Complete the wizard as prompted.

   > **Note:** If the wizard does not start automatically, right-click the server name (such as *ZIPPY*), and then select **Telephony Configuration Wizard**.

   b. ***For a subsequent MAS:*** Right-click the server name (such as *ZORRO*), and then select **Telephony Configuration Wizard** to run the wizard. Complete all steps in the wizard, as prompted.

2. After you complete the wizard, you must restart service so that you can configure the voice ports:

   a. 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**.

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

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

The system begins a messaging service startup.

> **Note:** When you restart messaging service, the 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 type.

d. 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.

e. When service is restarted, minimize this window.

3. 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 server name (such as *ZIPPY*).

b. Double-click **Telephony Interface**. Configure the port boards in this MAS. Use the configuration notes. See "Required switch and messaging information" on page A-14 for port board extensions.

c. Double-click **PBX Type**. Select the same type of PBX service as you did in Step 12 for "Configuring domain-wide features" on page 9-3. Verify that the entry in the **PBXs** box is highlighted, and click **OK**.

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

> **Note:** To set the maximum number of MWI sessions allowed at one time, see "MAS features list" on page A-11.

e. *If multiple port groups are used* (for example, to support MWI), double-click **Port Groups**. See "Required switch and messaging information" on page A-14 for details.

f. *If INADS alarming is used,* double-click **Serviceability** to set up dial-out information for this MAS. See "INADS alarming information" on page A-15.

(1) For **COM port**, select the communications port that the modem should use to initiate calls for alarm notification. This is typically COM3 if you used recommended USB port A on an Avaya MAS.

(2) For **Phone number**, enter the complete telephone number that the modem must dial to place an alarm notification with the remote support center. Include any special characters needed (for example, to access an outside line, insert pauses, and so on).

(3) For **Modem setup**, enter the modem initialization (setup) string if one is required for the modem to make alarm notification calls.

(4) Click **OK** to close this window.

4. When configuration is complete, restart service again (see Step 2).

5. When finished, close all open windows.

Completing initial MAS administration

This section describes the final steps for completing initial administration of this MAS.

Setting up and starting messaging services

To allow the Modular Messaging (MM) services to restart automatically during normal operation, and to start the messaging services:

1. Click **Start** > **Run**.

2. In the Run window **Open** field, type the following and press **Enter**:

   C:\Avaya_Support\Scripts\serverrecovery.vbs

   The script takes a few seconds to run. Afterwards, all installed **MM** services will be started.

3. *Optional.* To verify that all services are started:

   a. 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**.

b. In the right pane, scroll down to the list of Modular Messaging (MM) services. Verify that the Status column shows that service is **Started** for each installed messaging service.

c. If service is stopped or the Status column is blank, right-click the appropriate MM service and select **Start**.

4. When finished, close all open windows.

Verifying alarming setup

Do this task only on an MAS that has the Messaging Application Server service installed on it. (On other MASs, alarming is not available.)

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

4. Verify that the last line of the test reads:

   Alarm origination test successful

Note: For instructions on accessing the MAS alarm or error logs, see the *Avaya Modular Messaging Software Messaging Application Server Administration Guide* (PDF 3 MB) on the documentation media.

Completing the Domino setup

This section describes the final steps for completing the Domino system setup.

Editing the voice mail summary document

This procedure must be performed by the Domino system administrator or other authorized personnel.

You must edit the Voice Mail Summary Document on the primary Domino directory server (and the secondary directory server if used) to configure the system to support the various Modular Messaging features such as message waiting indication (MWI). This document is also used to specify the default settings that appear for Modular Messaging subscribers in the Person document.

> **CAUTION:** You *must* do the following procedure before you do any subscriber administration, or the user permissions will fail.

To edit the voice mail summary document:

1. Log in to the Domino server using an account that has privileges to assign permissions (such as *administrator*).
2. Open the Domino directory database file (such as *names.nsf*). See Item **5** on the "Modular Messaging MAS planning form" on page A-7.
3. Edit the Voice Mail Summary Document. For complete steps, see the *Administrator's Guide for Lotus Domino Unified Communications for Avaya,* available on the IBM Lotus Documentation Web site www-10.lotus.com/ldd/doc under the product **Domino Unified Communications 1.2.2**.

> **Note:** You must enter the name of the MAS ACL group you created when you configured the Domino server. See Item **10** on the "Modular Messaging MAS planning form" on page A-7.

Installing the DUC client component

This procedure must be performed by the Domino system administrator or other authorized personnel.

You must install the DUC client component on the Notes client machine of every user whom you will enable for DUC, so that they can use the Modular Messaging features. This procedure can be done manually or by using a script ("silent install"). See the *Administrator's Guide for Lotus Domino Unified Communications for Avaya*, available from IBM Lotus, for this procedure.

To install the DUC client component on a Notes client machine manually:

1. Log in to the client machine using an account that has local administration privileges (such as *administrator*).
2. Insert the DUC CD or access an image of the CD on the corporate LAN.
3. Review the Readme file **avucreadme.1st** in the Doc directory for detailed instructions and updates (open this file with any text editor, such as Notepad).
4. Verify that the installation prerequisites are met. These include:
   a. Verify that the Notes client is *not* running.
   b. Verify that the Domino server *is* running.
   c. Verify that the user has at least Designer access to the mail file's ACL if you want to update the mail file design.
5. Close all open applications.
6. Run the **Setup** program from the avClient directory.
7. On the Software License Agreement screen, click **Accept**.
8. Complete the Domino Unified Communications Client for 1.2.2 for Avaya installation wizard:
   a. On the Welcome screen, click **Next**.
   b. On the Choose Destination screen, accept the default or click **Browse** to select the location where the Notes client is installed and where the DUC client software will be added. Click **Next**.
   c. On the Update Mail File Design screen, you can optionally select the option to “Update mail file” (this requires Designer access). Click **Next**.
   d. If prompted, enter the password for this Notes client ID. Click **OK**.
   e. On the Start Copying Files screen, click **Next**.

      The system installs the Avaya Modular Messaging Options package.
   f. On the Setup Complete screen, select **Yes, I want to restart my computer now**.
   g. Click **Finish**.

   The system reboots.

To verify that the Avaya Modular Messaging Options package was installed successfully:

1. Select and run the file **<drive>:\Program Files\Avaya Modular Messaging\Common\UMOptions.exe**

> **Note:** This file might be named **MMOptions.exe**.
>
> For an update, this file is located under the existing directory: **<drive>:\Program Files\Unified Messenger**

2. If this does not run the Avaya Modular Messaging Options package, reinstall the DUC client.

> **Note:** Uninstalling the DUC client for Modular Messaging or local DUC administration components does *not* remove the Avaya Modular Messaging Options package. You must uninstall the Avaya Modular Messaging Options package separately.

Synchronizing the clocks

As a precaution, synchronize the clocks on all client PCs, MASs, and the Domino server. Otherwise, users might receive “access denied” errors when attempting to start the Avaya Modular Messaging Options package. The procedure for doing this varies. Contact the network systems administrator for assistance if needed.

10

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 9, "Configuring the voice mail system."

Topics in this chapter include:

Adding a test subscriber

You must create and enable at least one test subscriber to verify Modular Messaging system functionality. See "Switch and messaging information" on page A-14 for test subscriber data.

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

Use the Domino Administrator client to create or edit a Person document for a test subscriber in the appropriate Domino Directory to enable the subscriber for DUC. For complete steps, see the *Administrator's Guide for Lotus Domino Unified Communications for Avaya,* available on the IBM Lotus Documentation Web site www-10.lotus.com/ldd/doc under the product **Domino Unified Communications 1.2.2**.

Considerations include:

- The mailbox for the test subscriber *must* be voice-enabled to use any Avaya Modular Messaging features. Also activate any specific features that you want to test.
- The extension for the test subscriber must be administered on the PBX by the appropriate party.
- Only members of the Subscriber Administration access control list (ACL) can run and use Avaya Modular Messaging Options in the Domino Administrator. If you want to use this package in an Administrative role, the account must be included in the Subscriber Administration ACL. See Step 7 on page 9-6.

Additional considerations for setting up subscribers include:

- If you configure the preference for incoming e-mail as MIME (in the Person document), text-to-speech conversions might not work correctly. Avaya recommends that you configure this setting to the default setting (**Keep in Sender's Format** or **No Preference**).
- In the Person document, if "user name" is the first entry in the "FullName" property, the user name must be in hierarchical format (such as common name/organizational unit/organization/country code). If the user name is *not* in hierarchical format, you might receive an error event ID 140 and MWI will not work as expected.

Performing acceptance tests

Do this task on every MAS that is set up to take calls.

Verify correct system operation by performing the tests described in this section.

> **CAUTION:** Wait 5 minutes after completing the tasks in Chapter 9, ‘‘Configuring the voice mail system,’’ to give the system time to update all servers in the voice mail and Windows domains with the correct Modular Messaging information.

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 MAS*s* 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 *zorro*). 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 every 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.

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 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.

Retrieving test messages in integrated mode

Test the fully integrated operation of the system as directed below. 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 can 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, 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.

   The system voices the name of the test subscriber.

3. Enter the password for this mailbox and press #.

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, press 1 to review the new messages.

6. Press 1 to retrieve a voice message.

7. Listen to the message. If the message does not play properly, contact the remote support center.

8. Press 7 to erase this message.

9. Follow the voice prompts to retrieve the next message (if any), or press * to return to the main menu.

10. Hang up the telephone to disconnect when finished.

11. *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.

Creating and sending a test message in nonintegrated mode

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 and press #.

4. Enter the password for this mailbox and press #.

5. Press 2 to create a new message.

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. Enter the mailbox number for the test subscriber when prompted for the extension. Then press #.
9. Press # twice (as prompted) to approve the message.
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 10-4.

Testing the outcalling capability

Test the outcalling capability of the system using the Avaya Modular Messaging Options package, available through the Notes client or the Domino Administrator program. See the *Modular Messaging Subscriber Options User Guide* (585-310-789, PDF 1 MB) on the documentation media for details on using this package if needed.

To test system outcalling from the Domino Administrator:

1. Run this test from the machine where you installed the DUC administration component to enable subscribers for Modular Messaging. See "Setting up Domino to support Modular Messaging" on page 4-3.
2. Log in to Lotus Domino Administrator.
3. Browse to a Person document where Modular Messaging is enabled.
4. On the Other tab, click **Avaya Modular Messaging Options**.
5. The first time that you access this package, you must enter (or browse to) the NetBIOS name of the MAS to connect to. See Item **1** on the "Modular Messaging MAS planning form" on page A-7. Click **OK**.
6. If a message indicates that multimedia is not available, click **OK**.
7. Set up the recording and playback options to use a telephone near you:
   a. In the Modular Messaging User Properties window, click the **Media Setup** tab.
   b. For **When composing voice messages**, select **Telephone**.
   c. Click **Configure**.
   d. In the Telephone Properties window, enter the extension number of a telephone near you.

e. Select or enter the name of this MAS if needed. Click **OK**.

f. For **When reviewing voice messages**, select **Telephone**.

g. Repeat Steps c through e to set up telephone playback.

8. Verify that a name is recorded, and record one if needed:

   a. 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**.

      - If a green indicator is displayed next to this option, a name is already recorded. Go to Step 9.

      - If a name is *not* recorded:

      (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**.

9. 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 should change 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 should change back to being on-hook (this might take a couple of seconds).

10. When finished, click **OK** to close the Modular Messaging User Properties window.

11. Close the Lotus Domino Administrator window.

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 Software Messaging Application Server Administration Guide* (PDF 3 MB) on the documentation media for feature setup and operation instructions.

Administering subsequent MASs

Once you have tested and verified the installation of the first MAS, continue the installation procedure based on the number of MASs in the system:

- If you have another new MAS to configure, return to the appropriate chapter:
  - To install another new Avaya MAS, return to Chapter 5, ‘‘Configuring a new Avaya MAS.’’
  - To configure another customer-provided MAS, return to Chapter 6, ‘‘Configuring a customer-provided MAS.’’
- If all of the new MASs are configured, continue with "Removing the test subscriber" below.

Removing the test subscriber

When acceptance testing is complete, remove the test subscriber using the normal procedures for your version of IBM Lotus Domino.

Backing up the 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 every MAS to preserve the configuration information and to verify the backup function.

Customers should consider the following when designing their backup program:

- *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 or *.ton for Brooktrout 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.

- *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). See "Restoring Caller Applications after a catastrophic disk failure" on page E-3 for details on restoring Caller Applications if needed.

- *Licensing Files:* Keep a backup of the licensing files (*.xml) safe on another device or in another location.

- *System State:* Avaya suggests that you back up the system state of each MAS on a regular basis. The registry contains settings particular to the MAS.

- *Spool:* The directory \Program Files\Avaya Modular Messaging\Vserver\Spool stores messages that are sent while the MAS is offline from the message store. You should back up the Spool directory on each MAS.

Note:	Perform scheduled maintenance on the MAS routinely to keep the hard disk in good condition. See "Running recommended disk checks" on page 6-3.

11

Updating Unified Messenger R5.0 to Modular Messaging software

This chapter describes how to update a system that is running Unified Messenger Release 5.0 software to Modular Messaging Release 1.1 software.

Note: Do the tasks described in this section only if you are updating a system that is running Unified Messenger Release 5.0 software to Release 1.1 of the Modular Messaging software.

Any systems that are running an earlier release of Unified Messenger must upgrade to Unified Messenger Release 5.0 software before updating to Modular Messaging software.

Topics in this chapter include:

Overview

A system that is already running Unified Messenger Release 5.0 software can be updated to Modular Messaging Release 1.1 software, as described in this chapter.

Note:	Updating Modular Messaging software requires several server restarts. Plan to do the software update during low-usage hours.

Update requirements

To successfully update a system to Modular Messaging Release 1.1, you need:

- A completed copy of the relevant planning forms, including:
  - — "Planning form for update to Modular Messaging R1.1" on page F-3
  - — "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13

Note:	Unified Messenger software will become “Modular Messaging” software following the update. Services that were labeled “Unified Messenger“ automatically change to Modular Messaging (MM) services after the update, and the Unified Messenger service account will become the Modular Messaging service account. However, the path names in place for the Unified Messenger software will *not* change.

⚠ **CAUTION:**	Do *not* manually create a new Modular Messaging service account for the new software. Use the existing Unified Messenger account to do the update, or problems will occur.

- Release 1.1 of the *Avaya Modular Messaging Application Software* on DVD or CD

  If the Modular Messaging application software is provided on a CD, you also need the following CDs:

  - — *Intel Dialogic Drivers* CD
  - — *Enhanced Email Reader Software* containing ScanSoft Text-to-Speech (TTS) software in multiple languages (3 CDs)
  - — *Avaya Modular Messaging Documentation CD*

  If the Modular Messaging software is provided on a DVD, the DVD contains all of the information listed on the separate CDs above.

- The most current configuration notes for integrating the MAS (and any Dialogic port boards in it) with the PBX or switch at this site. Get these from the www.avaya.com/support Web site, under **Technical Database** > **Messaging** > **Applications** > **Modular Messaging** > **General Info**. Download or print the configuration notes for this PBX integration.

- If Brooktrout port boards are installed, a copy of the *RealCT Direct Software Installation and Configuration Guide* (available on the Avaya Unified Messenger CD)

- Release 1.2.2 of Domino Unified Communications (DUC) for Avaya messaging software, available from IBM Lotus

- *Administrator's Guide for Lotus Domino Unified Communications for Avaya*, which contains instructions for updating the DUC software. It is available on the IBM Lotus Documentation Web site:

  a. Go to http://www-10.lotus.com/ldd/doc and click the documentation link **by product**. Click **Domino Unified Communications**, and then click 1.2.2.

  b. Download or view the Domino Unified Communications administrator guide, readme file, and client help for Avaya.

Update procedure

To update the system to Modular Messaging Release 1.1:

1. Obtain a license file for this system. See Appendix F, ‘‘Obtaining a license for an update.’’

Note:	The licensing process might take several hours or longer, depending on local procedures.

2. Review the configuration notes for any changes that might be needed in the areas of board configuration, switch programming, and application configuration. Make any necessary changes as you do the update.

3. Upgrade the DUC server component to DUC Release 1.2.2 on all Domino servers that contain DUC-enabled user mail files.

4. Upgrade the DUC administration component to DUC Release 1.2.2 on all servers that are used for Domino administration.

Note:	This step consists of two parts: updating the Domino directory design (the schema) once per Domino domain, and updating the administration component on every machine that will be used for administration (see Step 2 on page 4-3 for details). Do *not* skip the schema update step, or existing users might be locked out of their mailboxes.

CAUTION:	After the DUC administration component is upgraded to DUC Release 1.2.2, the Avaya Modular Messaging Options package will not work when it is run from the upgraded DUC Domino Administrator until all MASs have been updated to Modular Messaging Release 1.1.

5. Upgrade the Lotus Notes client on all MASs to Lotus Notes 6.0.1 CF3.
6. Update all MASs to Release 1.1 using the procedures in this chapter. To begin, see "Preparing the MAS for the update" on page 11-5.

Note:	Completely update and test one MAS first, and let it run for 15 minutes before updating any additional MASs.

7. When finished, upgrade all DUC-enabled Lotus Notes client machines to DUC Release 1.2.2 Client.
8. Perform acceptance tests on the entire system.
9. Back up the new data.

Because an update includes many steps, print the update checklist from Appendix B, ‘‘Installation checklists,’’ and use it to track your progress.

CAUTION:	All servers must meet the requirements listed in the *Avaya Modular Messaging Concepts and Planning Guide* (PDF 2 MB), available on the documentation media shipped with the system. Review this document to verify that all the Domino servers, MASs, and client machines are ready to support Modular Messaging software.

Considerations for multiple-MAS updates

In a multiple-MAS configuration, Avaya strongly recommends that all MASs that are running Unified Messenger be updated to Modular Messaging software as soon as possible. All MASs in the voice mail domain must be updated to Modular Messaging software before you can enable the new Modular Messaging features.

If you are adding a new Modular Messaging machine to a multiple-MAS configuration, it *cannot* join an existing voice mail domain that only has Avaya Unified Messenger voice servers in it. You must first update one or more of the existing Avaya Unified Messenger Voice Servers, leave the system running for at least 15 minutes, and then add the new Avaya Modular Messaging server.

Preparing the MAS for the update

Do this task on every MAS.

This section describes how to prepare each Messaging Application Server (MAS) in the system for the Release 1.1 Modular Messaging software update.

To prepare each MAS for the update:

1. Make a current backup of the important system files, including any Brooktrout or customized tone files, *before* updating any software. See "Backing up the system" on page 10-9 for details.

2. Verify that the anti-virus software is current. The virus-checking software used and the update method required vary per local implementation.

3. Adjust required system values to support Modular Messaging. See "Adjusting system values" on page 6-6.

4. Install required prerequisite software on this MAS, such as Microsoft Windows Simple Network Management Protocol (SNMP) services (required if this MAS will have the Messaging Application Server service installed on it, *and* if SNMP will be used for alarming at this site). See "Installing Windows prerequisite software" on page 6-8.

5. Verify that Microsoft Windows system updates, security patches, and hot fixes are current. Check with the Windows administrator for the software update procedures to use at this site.

6. *For a multiple-MAS system:* The PBX administrator must use the procedures appropriate for this PBX to busy out the ports for the MAS being updated and reroute calls to other MASs. Otherwise callers into the system might hear ring-no answer or a busy signal.

7. Log in to the MAS using the customer-specified Unified Messaging service account name (such as *mmacct*) and its password. See Item **I3** on "Planning form for update to Modular Messaging R1.1" on page F-3.

8. Close any open windows on this MAS (including the Lotus Notes client, if open).

9. Stop and reset all Unified Messenger services as follows:

> ⚠ **CAUTION:** All Unified Messenger services *must* be stopped before you attempt to install the Modular Messaging Release 1.1 software, or some software components (such as Mailbox Monitor) will not be installed.

   a. Click **Start > Programs** > **Administrative Tools** > **Computer Management**.

b. In the Computer Management window, in the left pane, expand **Services and Applications**.

c. Click **Services**.

d. In the right pane, scroll down to the set of installed Unified Messenger services.

e. Double-click the first Unified Messenger service to open the properties window.

f. Set the **Startup type** to **Manual**, if it is not already set to **Manual**.

g. Under **Service status**, click **Stop**.

Note:	Stop the Unified Messenger Voice Server service last.

h. Wait for service to stop, and then click **OK** to close this window.

i. Repeat Steps e through h for each Unified Messenger service.

j. Close the Computer Management window.

Updating the Dialogic port board drivers

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

This section describes how to replace the drivers for the Dialogic port boards.

Note:	If this MAS uses Brooktrout port boards, the drivers do not need to be updated. Continue with "Updating messaging software on the MAS" on page 11-10.

Preparing for driver installation

To prepare the MAS for the Dialogic driver update:

1. Stop the Dialogic drivers as follows:

   a. From the task bar, click **Start > Programs** > **Dialogic System Software** > **Dialogic Configuration Manager - DCM**.

   b. At the “Dialogic System Service (DSS) is running” message, click **OK**.

   The Dialogic Configuration Manager window is displayed.

   c. To stop the Dialogic drivers, click the red **Stop Service** button and wait.

d. When drivers are stopped, close the Dialogic Configuration Manager window.

2. *For analog boards:* If a custom tone file was created, it *must* be backed up on another drive or copied to a new directory now, or it will be destroyed during the update. You can use the following procedure:

   a. On the C: drive of the MAS, create a new directory named **Avaya_Support** with a subdirectory named **Tone_Files**.

   b. In the Windows Explorer window, navigate to the directory where the custom tone file is stored (for example, C:\Program Files\Dialogic\DATA).

   c. If any tone files are present (files with a .tsf extension), select them. Use **Ctrl**+click to select multiple TSF files, if needed.

   d. Right-click one of the selected files and select **Copy**.

   e. Navigate to the C:\Avaya_Support\Tone_Files directory.

   f. In the right pane, right-click and select **Paste** to copy the .tsf files.

Uninstalling the existing Dialogic drivers

To remove the existing Dialogic 5.0.1 drivers:

1. Insert the applications software media in the MAS drive. This is either:

   - *Avaya Modular Messaging Application Software* DVD, or
   - *For a system that uses CD-ROMs,* the *Intel Dialogic Drivers* CD.

2. In Windows Explorer, navigate to the MAS removable-media drive (such as D:).

3. Locate the Dialogic files. They are at the root directory on the CD or under a **Dialogic Drivers** subdirectory on the DVD.

4. Double-click the file **Uninstall_5_01.bat**.

   A command (cmd) window opens. Press any key to continue.

5. *If the Dialogic point release Ptr26599 for SR 5.01 for Windows is installed,* this will be removed before any other components.

   a. In the dialog box, select **Remove** and click **Next**.

   b. At the confirmation message to remove the point release, click **OK**.

   c. If the system reports any files as read only, click **Yes** to continue with the removal.

   d. When prompted, select **No, I will restart my computer later**.

   e. Click **Finish**.

f. Control returns to the batch file. Press any key to continue.

6. At the “uninstall the Dialogic System Software and SDK” message, click **Yes**.

7. When Uninstall pauses, close any open windows. Click **OK**.

   The system stops services.

8. When prompted to Remove Shared File, select **No to All**.

9. When the Uninstall procedure is complete, the Remove Programs From Your Computer window might show that some elements were not removed. Click **OK**.

10. When prompted to reboot, click **Yes**.

Installing the new Dialogic drivers

To install the new Dialogic 5.1.1 base release drivers:

1. Log back in to the server using the Unified Messenger service account name (such as *mmacct*) and its password.

2. A command (cmd) window opens, explaining which batch file to run next. Press any key to continue.

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

4. In Windows Explorer, navigate to the MAS removable-media drive (such as D:), and locate the Dialogic files.

5. Double-click the file **Install_5_11.bat**.

   CAUTION: Several files have similar names. Verify that you are about to select the correct file *before* clicking it.

   The Intel Dialogic System Software and SDK for Windows System Release 5.1.1 for Windows wizard runs. When the installation is complete, the system automatically reboots.

Applying the Dialogic Feature Pack

Update the new Dialogic drivers with the 5.11 Feature Pack (FP1):

1. Log back in to the server using the Unified Messenger service account name (such as *mmacct*) and its password.

2. A command (cmd) window opens, explaining which batch file to run next. Press any key to continue.

3. Right-click **My Computer** and select **Explore**.
4. In Windows Explorer, navigate to the MAS removable-media drive (such as D:), and locate the Dialogic files.
5. Double-click the file **Install_5_11_FP1.bat**.

   The System Release 5.1.1 Feature Pack 1 wizard runs.
6. On the Welcome screen, click **Next**.
7. On the License Agreement screen, click **Yes**.
8. On the Customer Information screen:
   a. For **User Name**, type **Modular Messaging**.
   b. Type the appropriate company name, and then click **Next**.
9. On the Select Components screen:
   a. Verify that the box to install the **Program Files** is checked.
   b. *Clear* the checkbox to *not* install the online documentation.
   c. Click **Next**.
10. The Start Copying Files screen is displayed. Click **Next**.

    This step might take several minutes to complete.
11. On the last screen, select **Yes, I want to restart my computer now**.
12. Click **Finish**.

    The system reboots.

Reconfiguring the Dialogic port boards

When the reboot is complete, restore the configuration for the Dialogic boards:

1. Log back in to the server using the Unified Messenger service account name (such as *mmacct*) and its password.
2. A command (cmd) window opens, explaining which batch file to run next. Press any key to continue.
3. Right-click **My Computer** and select **Explore**.
4. In Windows Explorer, navigate to the MAS removable-media drive (such as D:), and locate the Dialogic files.
5. Double-click the file **Restore_Config.bat**.

6. A command (cmd) window opens. Press any key to continue.

   The program cleans up any temporary installation files and replaces certain files used by the Dialogic boards.

7. *For a system that uses CD-ROMs,* remove the Dialogic drivers CD from the MAS drive.

8. Reconfigure and test the Dialogic port boards for this MAS. See "Configuring the port boards" on page 8-2.

> **Note:** Because the Dialogic Line Test application is not yet installed, you must insert the application software disk in the MAS drive. See Step 2 in "Testing the port boards" on page 8-10. When testing is complete, continue with the next section.

Updating messaging software on the MAS

Do this task on every MAS.

This section describes how to update the Unified Messenger Release 5.0 software to Modular Messaging Release 1.1 software on the Messaging Application Server (MAS).

> **Note:** If anti-virus software is installed, Avaya recommends that you disable it while you update the Modular Messaging software to prevent possible negative interactions. Enable the virus-checking software again after the update is complete.

Updating to Modular Messaging software

To update the Unified Messenger Release 5.0 software to Modular Messaging software:

1. Verify that you are logged in as the Unified Messenger service account (such as *mmacct*).

2. Insert the application software disk in the MAS removable-media drive. This is either:

   - The *Avaya Modular Messaging Application Software* DVD, or
   - *For a system that uses CD-ROMs,* the *Avaya Modular Messaging Application Software and Languages* CD.

3. Close the drive door and wait for the green LED to go out. Click **OK**.

> **CAUTION:** All Unified Messenger services must be *stopped* before you install the Modular Messaging Release 1.1 software, or some software components (such as Mailbox Monitor) will not be installed. See Step 9 on page 11-5 for details.

4. Run the Modular Messaging Installation Wizard as follows:

   a. In Windows Explorer, navigate to the MAS drive (such as D:).

   b. Navigate to the **Install** directory.

   c. Double-click the file **Setup.exe**.

   The Modular Messaging Installation Wizard runs.

> **Note:** If a System Upgrade window is displayed, see "Running a system upgrade" on page 11-13.

5. On the main screen, verify that the Configuration drop-down box shows **Lotus Domino**.

6. All components that were previously installed on this machine, and the Diagnostic tools, are automatically selected. Verify that all necessary components for this MAS are selected.

7. Click **Install**.

   Most previously installed software components are updated automatically (no response is needed). New software components that are required for Release 1.1 are also installed.

8. You might be prompted to enter information for the following components on any MAS that is used to handle calls:

   - Alarming Server
   - Messaging Application Server

   The wizards for these components must be completed as follows:

   a. When the appropriate server installation wizard runs, click **Next**.

   b. When prompted, enter the following account information:

      - For **Domain**, enter the NetBIOS name of the Windows domain (such as *zodiac*). See Item **I2** on "Planning form for update to Modular Messaging R1.1" on page F-3.
      - For **User Name** and **Password**, enter the Unified Messenger (now Modular Messaging) service account name (such as

mmacct) and its password. See Item **I3** on "Planning form for update to Modular Messaging R1.1" on page F-3.

- Click **Next**.

c. Click **Install**.

d. To complete the wizard, click **Finish**.

> **Note:** The system might take several minutes to process updates to the Messaging Application Server.

9. You might be prompted to enter information for the following software components on any MAS that has these services installed:

   - Mailbox Monitor Server
   - Call Me Server
   - Message Waiting Indicator (MWI) Server
   - Tracing Server

   If wizards for these components run, complete them as follows:

   a. When one of the above server installation wizards runs, click **Next**.

   b. When prompted, enter name of this MAS machine (such as *zippy*). See Item **I1** on "Planning form for update to Modular Messaging R1.1" on page F-3. Click **Next**.

   c. When prompted, enter the password for the Unified Messenger (now Modular Messaging) service account (such as *mmacct*). See Item **I3** on "Planning form for update to Modular Messaging R1.1" on page F-3. Click **Next**.

   d. Click **Install**.

   e. To complete the wizard, click **Finish**.

10. *For a system that uses CD-ROMs,* you are prompted to insert additional disks to install the RealSpeak Text-to-Speech software in multiple languages. When prompted to insert installation disk 2:

    a. Remove the *Avaya Modular Messaging Application Software and Languages* CD from the drive.

    b. Insert the first *Enhanced Email Reader (Text-to-Speech)* RealSpeak software CD in the drive and close the door.

    c. Wait for the green LED on the drive to go out. Click **OK**.

    d. After the disk is copied, you are prompted to insert the next disk:

       - Insert the next RealSpeak TTS software CD in the drive.
       - Repeat Steps b through d for each RealSpeak TTS software CD.

Allow several minutes for the RealSpeak software to install. When finished, the wizard returns to the main screen.

11. To complete the update, click **Close**.

12. When prompted, click **Restart** to restart the system now.

13. Remove the media from the MAS drive.

Running a system upgrade

Do this task only if a System Upgrade window is displayed when you run the Modular Messaging Installation Wizard.

If the required operating system components are not present on the target machine when the Modular Messaging installation wizard starts, the System Upgrade Screen is displayed automatically.

- If Windows Installer is *not* loaded on the system, the Ignore button is disabled and you *must* click **Run System Upgrade** to install at least the Windows Installer component. This procedure requires a reboot.

- If Windows Installer is already loaded on the system, you can click **Ignore** to continue the installation without upgrading any other operating system components. This is recommended only when installing the Modular Messaging Domino Administration extensions.

Note:	If you choose to ignore a system upgrade, some Modular Messaging components will fail to function correctly.

To run a system upgrade:

1. In the System Upgrade window, click **Run System Upgrade**.

   The Operating System Upgrade screen is displayed. This screen lists the system components that will be installed on the system.

2. Select the option for either:

   - **Upgrade Windows Installer only** (if you are installing only Domino extensions components)

   - **Upgrade all required system components** (used for most MAS machines that will run Modular Messaging software).

3. Click **Install**.

   When the required components have been upgraded, the System Upgrade Complete window is displayed.

4. Click **Restart** to reboot this machine.

> **Note:** If you are running Microsoft Windows NT4, you must reapply the latest service pack after a System Upgrade.

5. Continue with your previous update activity.

Configuring the MAS for the new software

To configure this MAS for the new Modular Messaging software:

1. When the reboot is complete, log back in to the server using the Modular Messaging (MM) service account name (such as *mmacct*) and its password. (This was formerly the Unified Messenger service account.)

   The Messaging Application Server Configuration Wizard runs.

   It might take a few minutes to connect to the MAS.

2. On the Front End Database Update screen, click **Next**.

> **Note:** This step might take several minutes for a large database or global address list (GAL).

   The service starts up.

3. The update procedure compares the prompts installed on the MAS with the existing voice mail domain prompts. If any prompts are absent, the Missing Prompts screen is displayed showing a list of the prompts that must be installed before the installation can continue. To do this:

   a. On the Missing Prompts screen, note the missing prompt sets. The configuration wizard automatically attempts to locate the installation packages for these prompts.

   b. If any installation packages cannot be found, a **Locate Installation Package** message is displayed. Click the text, and then click **Browse**.

   c. In the Browse for Folder window, navigate to the **Prompts** directory.

   d. Select the folder containing the missing prompts, and click **OK**.

   e. Repeat Steps b through d for all prompts that cannot be found.

   f. When finished, click **Next**. (This button is not enabled until all the prompt installations are found.)

4. On the User Information screen, click **Next** to set up user messaging information on the MAS.

5. On the Setup Complete screen, click **Finish**.

6. If you disabled the anti-virus software on this MAS, enable it again now.

Installing the license file and configuring new features

After the Modular Messaging Release 1.1 software is installed, you must use the Voice Mail System Configuration (VMSC) program to do the following required steps:

- Install the required license file (or notify remote technical support that the system is ready for the file installation, if remote support is used).
- Set up Text-to-Speech (TTS) sessions on each MAS as needed.
- Update the text message that explains what non-Avaya Modular Messaging recipients must do to play a Modular Messaging message.

You can also set up optional features such as Multilingual Text-to-Speech, offline access for subscriber messages, and alarming service for the Modular Messaging voice mail domain using either the Avaya Initialization and Administration System (INADS) or a corporate Simple Network Management Protocol (SNMP) system. The need to implement these optional new features varies from site to site.

To install the license file and configure new features:

1. See "Configuring domain-wide features" on page 9-3 and complete Steps 1 through 3.
2. Set up the following new Modular Messaging features as required:
   a. **Licensing:** See Step 11 on page 9-9 for the procedure to install the required license file after it is obtained (procedures vary depending on whether or not remote technical support is used). For all systems, set up TTS sessions on each MAS as needed, after the license is installed.
   b. *Optional:* If the Text-to-Speech (TTS) feature is used at this site, see **Languages** (Step 8) on page 9-7 to activate this feature.
   c. *Optional:* If Offline Access is used at this site, see **Messaging** (Step 9) on page 9-7 to activate this feature.
   d. *Optional:* To activate either INADS or SNMP alarming for the voice mail domain, see **Serviceability** (Step 10) on page 9-8.
   e. *To set up INADS alarming on a specific MAS* (requires a modem and the Messaging Application Server service to be installed on this MAS):
      (1) In the Voice Mail System Configuration window, expand **Message Application Servers**, and then expand the entry for the MAS (such as *ZIPPY*).
      (2) Click **Serviceability** to set up INADS service. See Step 3-f on page 9-14 under "Configuring MAS-specific parameters" for details.

3. After an update, the text that explains what non-Avaya Modular Messaging recipients must do to listen to a Modular Messaging message will be out of date. To fix this problem:

   a. In the Voice Mail System Configuration window, double-click **Audio Encoding**. The Audio Encoding window is displayed.

   b. Insert the following text (or you can enter your own customized text):

      "The attached voice message was created by Avaya Modular Messaging. It can be played on a multimedia-enabled PC running Windows. To listen, please open the attachment."

      Desktop clients will not send the new text until that subscriber runs Avaya Modular Messaging Options once and clicks **OK**.

   c. Click **OK** to close the Audio Encoding - Voice Mail Domain window.

4. When configuration is complete, restart service if prompted.

Setting up and starting messaging services

To allow the Modular Messaging (MM) services to restart automatically during normal operation, and to start messaging services:

1. Click **Start** > **Run**.

2. In the Run window **Open** field, type the following and press **Enter**:

   C:\Avaya_Support\Scripts\serverrecovery.vbs

   The script takes a few seconds to run. Afterwards, all installed **MM** services will be started.

3. *Optional.* To verify that all services are started:

   a. 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**.

   b. In the right pane, scroll down to the list of Modular Messaging (MM) services. Verify that the Status column shows that service is **Started** for each installed messaging service.

   c. If service is stopped or if the Status column is blank, right-click the appropriate MM service and select **Start**.

4. When finished, close all open windows.

Completing the update

Continue the Modular Messaging software update as appropriate:

1. If you have more than one MAS:

   a. ***For MAS#1 only,*** let the Modular Messaging software run for 15 minutes so that it can update shared data across the voice mail domain.

   b. Return to "Preparing the MAS for the update" on page 11-5 to begin updating the next MAS.

   c. Repeat the Modular Messaging software update procedure until all MASs are updated.

   Note: *If Brooktrout boards are installed,* test each board using Multi-Channel Demo. See the Brooktrout *RealCT Direct Software Installation and Configuration Guide*, available on the Avaya Unified Messenger CD, for configuration and test information for Brooktrout port boards.

2. Upgrade all DUC-enabled Lotus Notes client machines to DUC Release 1.2.2 Client. See "Installing the DUC client component" on page 9-16 for complete steps.

3. Verify that the system is working correctly. See "Performing acceptance tests" on page 10-3 and perform all the tests relevant to this system.

4. When acceptance tests are complete, back up each MAS using the regular backup procedures for this site. See "Backing up the system" on page 10-9 for guidelines.

5. When finished with each MAS, verify that the MAS disk is in good condition by running the following:

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

6. If you are adding a new MAS to this system, begin the installation now.

   - To install a new Avaya Messaging Application Server (Avaya MAS), begin with Chapter 2, ‘‘Installing Avaya-provided hardware.’’
   - To install a new customer-provided MAS, begin with Chapter 3, ‘‘Installing MAS port boards.’’

   Print the appropriate checklist from Appendix B, ‘‘Installation checklists,’’ and use it as a guide.

7. When finished, save all planning forms in a safe place.

A

System planning forms

Overview

Implementing Modular Messaging software, and especially installing any new Avaya Messaging Application Server (Avaya MAS), requires careful network planning. Server names, IP addresses, domain names, accounts, extensions, and passwords *must* be administered correctly on each of the servers in the system. Some information *must* be provided by the customer in advance, or the installation cannot proceed.

> **Note:** *For systems that will be maintained by Avaya,* check with your regional representative for procedures for submitting and reviewing the planning forms. In North America, the Solution Support Organization (SSO) Tier III group should review the planning forms for thoroughness. Send the completed set of forms by email to mmtac@avaya.com and the email should be titled *MM Planning Forms for Tier III Review*. An SSO Tier III engineer will review the form, note any changes, and return it to the field contact.

This appendix provides an overview of system planning and a set of forms for you to fill out prior to installation with the help of the local LAN, switch, and messaging administrators. Information includes:

Terminology

The following terminology applies to the LAN administration process.

Avaya MAS – A Messaging Application Server (MAS) where the hardware is provided by Avaya Inc., often with other optional peripheral devices. The port boards and much of the required software are pre-installed on an Avaya MAS.

Cluster – A group of two to six Domino servers that are set up to provide users with constant access to data, balance the workload among servers, improve server performance, and maintain performance when the size of the enterprise increases.

Corporate IP LAN and interface – Each MAS is connected to the LAN infrastructure constructed and maintained by the enterprise that purchased the system. The LAN is the corporate IP LAN, and might be identified as Local Area Connection 2 or Corporate LAC on an Avaya MAS. This LAN gives the MAS access to other machines and users.

Default IP gateway – The IP gateway to use if no other specified gateway is available. Each MAS has at most one default gateway connected to the corporate IP LAN.

Domain name – A unique designator used to identify a group of related computers on the internet (for example, *avaya.com*). Domain names are hierarchical, and the labels go from more specific on the left to more general on the right. There can be any number of levels in the hierarchy.

Domain Name Service (DNS) – An Internet protocol service most often used to resolve symbolic names to IP addresses. The DNS service is constructed on hierarchical domains with different sets of servers serving each hierarchical layer.

Domino domain – A collection of Domino servers and users that share a common Domino Directory. Users' domains are determined by the location of their server-based mail files. For a Domino server to communicate with a server in a different domain, you create a Domain document in the Domino Directory to define the name, location, and access to the other domain. A Domino domain can contain more than one voice mail domain.

Domino server – A server that is running a compatible release of IBM Lotus Domino software. The Domino server provides a single message store that holds all messages (such as voice, email, and fax) that a subscriber receives. The peer Domino server handles message storage and processing for subscribers. The Domino Directory manages addressing and attributes for Avaya Modular Messaging subscribers and MAS units. Whenever one replica of the directory is updated, the change is automatically replicated to all other replicas of the directory in the organization.

DNS server – A machine that has the DNS service active. Such a machine can resolve symbolic names for the DNS domain it serves to an IP address.

Host name – The unique name of the machine. In Microsoft Windows terminology, this is often called the NetBIOS machine name.

Initialization and Administration System (INADS) – The Avaya remote service support program for monitoring alarms and maintaining installed systems.

IP address – A value used to identify a computer connected to a network. If a machine has multiple network interfaces, it will have multiple IP addresses, one for each connection to a different network. IP addresses are usually specified as four numbers separated by a period (for example, *10.9.55.183*).

IP gateway – An IP address where IP packets are routed if the specified IP address is not on the network directly connected to an interface on the machine. An IP gateway is usually an interface on a router.

Messaging Application Server (MAS) – Any Microsoft Windows-based machine that is running Avaya Modular Messaging software. A customer-provided MAS has some different prerequisite hardware and software requirements than an Avaya MAS (for example, the port boards and additional Windows software must be installed), but the software installation and administration is nearly identical for both platforms.

NetBIOS domain – A Microsoft Windows domain that is not fully qualified (has no periods). For example, *zodiac*.

NetBIOS name – The Microsoft Windows term for a host name, also called a NetBIOS machine name.

Point-to-Point Protocol (PPP) – An Internet standard protocol used for serial line connections, such as dial-up modems.

Subnet mask – A value used to tell which bits of an associated IP address are the network portion and which bits identify the specific host on the network. Each network interface has an IP address and an associated subnet mask.

Voice Mail Domain (VMD) – A group of one or more messaging application servers. Messaging (or voice) servers in a VMD share configuration properties of the VMD and subscribers to the VMD. A voice mail domain can contain subscribers in more than one Domino domain.

Windows domain – A grouping of network objects, such as users, groups, and computers. All objects in a domain are stored on the directory server, such as Active Directory. A directory can reside on one or more domain controllers within a domain.

Guidelines for completing the forms

Use the following guidelines to complete the planning forms for each Avaya Messaging Application Server (Avaya MAS) or customer-provided MAS that you must install.

> **CAUTION:** Keep a copy of the completed planning forms handy during initial administration and system configuration. Save the planning forms in a safe place when installation is complete in case changes or updates are made to the system. Be sure to file records of passwords and account names securely.

Completing the MAS planning form

Complete the "Modular Messaging MAS planning form" on page A-7 for every MAS that you install. See the "Modular Messaging MAS planning form (completed example)" on page A-9 for a sample completed form.

> **CAUTION:** It is crucial to coordinate the IP addresses that will be used for any MASs with those on the corporate LAN. If you specify an Ethernet address for an Avaya server that conflicts with another Ethernet endpoint, the resulting traffic problems on the local area network can be extremely difficult to diagnose and solve.

To complete "Modular Messaging MAS planning form" on page A-7:

1. Item **1**: For a customer-provided MAS, the machine (host) name is already assigned. Enter it for reference.

   For any Avaya MASs that will be installed, choose a unique NetBIOS machine name for each MAS (for example, *zippy* and *zorro*). You *must* keep track of what machine you are administering. In this guide, zippy is MAS#1, and zorro is a subsequent MAS.

   > **Note:** MAS machine names must be 14 or fewer characters long. Names shorter than 10 characters are recommended for ease in completing the online screens. The host and domain names can be any unique term that complies with local conventions.

2. Item **2**: For the Windows domain NetBIOS name, enter the name that the LAN administrator has already assigned to the Windows domain that this Modular Messaging system will join (for example, *zodiac*).

3. Item **3**: For the Peer Domino server, enter the NetBIOS machine or host name already assigned to the server that is to act as the primary Domino server for this MAS machine. Each MAS must have one directory server or cluster per Domino domain on which voice mail-enabled users exist.

4. Item **4**: For the Secondary Peer Directory server, enter the NetBIOS machine or host name already assigned to a Domino server in another domain. Use this field if more directory servers are required to support multiple Domino domains.

5. Items **5** through **10**: The Domino system administrator provides the information needed to create and register the Modular Messaging service account.

> **Note:** The Domino Directory database might or might not be on the mail server. The Domino hierarchical server name consists of the Domino server name and the Domino domain name (for example, *domino1\zeppelin*). Use complete path names where required for clarity.

6. Item **11**: *For MAS#1, c*hoose a simple term for the voice mail domain (VMD) that the Modular Messaging software will create. This name can be similar to the Windows domain name, but it should be unique (for example, *zebra*). The peer directory server for the first MAS in the voice mail domain becomes the primary server in the voice mail domain.

7. Item **12**: *If the Offline Access feature will be used in a multiple-MAS system,* specify a shared location to be used for the offline message store (for example, *\\zorro\OfflineStore*). The remote store is used to synchronize messages in a multiple-MAS configuration.

8. Items **13** through **21**: *For any new MASs that will be installed,* enter the corporate LAN addresses, domain names, default gateway (if any), and WINS information (if needed). These values must be supplied by the corporate IP or LAN administrator.

   - The IP address for any required DNS or WINS servers must be supplied by the corporate IP administrator.
   - The domain search order and any domain names must be supplied by the corporate LAN administrator in the order required.

> **Note:** Avaya *strongly recommends* that only static IP addresses be assigned to MAS interfaces and machines.
>
> IP addresses should be configured on the corporate DNS servers (if used) by LAN personnel in keeping with local policy and practices. Customers also must register the corporate domain names for each MAS on any relevant corporate DNS servers.

9. Items **22** and **23**: Contact the appropriate administrator for site-specific information required for a Modular Messaging installation.

Completing the remaining planning forms

Complete the remaining planning forms as follows:

1. Complete the "Modular Messaging logon accounts form" on page A-10 using the customer-provided account names and passwords for this site.

2. On the "MAS features list" on page A-11, have the customer specify the messaging services that they want to install on each MAS.

3. Complete the "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13, and specify the information that is required for new systems.

   Note: This same form can be used to request a license for a Unified Messenger Release 5.0 update. In this case, follow the instructions in Appendix F, ‘‘Obtaining a license for an update,’’ to complete and submit the license request form.

4. Complete the "Required switch and messaging information" on page A-14 with help from the relevant messaging or switch administrator.

5. Complete the required "Support information" on page A-15 with help from the customer and the organization responsible for providing ongoing maintenance of the system. This information varies, depending on whether INADS or SNMP alarming is to be used at this site.

Modular Messaging MAS planning form

#	Item	MAS #1	MAS #2
1	Host name for this MAS (NetBIOS name)		
2	Windows domain NetBIOS name		—Use MAS#1 value—
3	Peer Domino server (host/NetBIOS name)		
4	Secondary Directory server if needed		
5	Domino directory database name		
6	Domino hierarchical server name		
7	Lotus Notes MAS account password		
8	Lotus Notes ID file name and complete path		
9	External caller mailbox file path and name		
10	MAS ACL group name		
11	Voice mail domain name		—Use MAS#1 value—
12	Offline message store		
13	Corporate domain name		
14	Corporate IP address for this MAS		
15	Corporate subnet mask for this MAS		
16	Corporate default gateway IP address		
17	Corporate DNS servers IP addresses		
18	Search order of DNS domains		
19	Register the IP address for this connection in the DNS? Register the DNS suffix in the DNS?		
20	WINS servers IP addresses (if WINS is required)		
21	Static IP addresses for remote access (2 required per MAS)		
22	Customer name: Organization: Windows domain administrator contact information: IBM Lotus Domino administrator contact information:		
23	Users who require system administration access: Users who require subscriber administration access:		

Modular Messaging MAS planning form (continued)

#	Item	MAS #3	MAS #4
1	Host name for this MAS (NetBIOS name)		
2	Windows domain NetBIOS name	—Use MAS#1 value—	—Use MAS#1 value—
3	Peer Domino server (host/NetBIOS name)		
4	Secondary Directory server if needed		
5	Domino directory database name		
6	Domino hierarchical server name		
7	Lotus Notes MAS account password		
8	Lotus Notes ID file name and complete path		
9	External caller mailbox file path and name		
10	MAS ACL group name		
11	Voice mail domain name	—Use MAS#1 value—	—Use MAS#1 value—
12	Offline message store		
13	Corporate domain name		
14	Corporate IP address for this MAS		
15	Corporate subnet mask for this MAS		
16	Corporate default gateway IP address		
17	Corporate DNS servers IP addresses		
18	Search order of DNS domains		
19	Register the IP address for this connection in the DNS? Register the DNS suffix in the DNS?		
20	WINS servers IP addresses (if WINS is required)		
21	Static IP addresses for remote access (2 required per MAS)		
22	Customer name: Organization: Windows domain administrator contact information: IBM Lotus Domino administrator contact information:		
23	Users who require system administration access: Users who require subscriber administration access:		

Copy this form as many times as needed to set up all MASs.

The following planning form shows a completed example for a two-MAS system. These sample values are used in this guide for illustration purposes only.

Modular Messaging MAS planning form (completed example)

#	Item	MAS #1	MAS #2
1	Host name for this MAS (NetBIOS name)	zippy	zorro
2	Windows domain NetBIOS name	zodiac	—Use MAS#1 value—
3	Peer Domino server (host/NetBIOS name)	domino1	domino1
4	Secondary Directory server if needed	domino2	domino2
5	Domino directory database name	names.nsf	names.nsf
6	Domino hierarchical server name	domino1/zeppelin	domino1/zeppelin
7	Lotus Notes MAS account password	MMA$acct1	MMA$acct2
8	Lotus Notes ID file name and complete path	C:\temp\masacct1.id	C:\temp\masacct2.id
9	External caller mailbox file path and name	mail\zippy.nsf	mail\zorro.nsf
10	MAS ACL group name	Zebra_ACL_Group	Zebra_ACL_Group
11	Voice mail domain name	zebra	—Use MAS#1 value—
12	Offline message store	\\zorro\OfflineStore	\\zorro\OfflineStore
13	Corporate domain name	loc.avaya.com	loc.avaya.com
14	Corporate IP address for this MAS	10.9.83.72	10.9.83.39
15	Corporate subnet mask for this MAS	255.255.255.0	255.255.255.0
16	Corporate default gateway IP address	10.9.83.254	10.9.83.254
17	Corporate DNS servers IP addresses	10.9.1.39 10.9.1.2	10.9.1.39 10.9.1.2
18	Search order of DNS domains	loc.avaya.com avaya.com	loc.avaya.com avaya.com
19	Register the IP address for this connection in the DNS? *yes* Register the DNS suffix in the DNS? *yes*		
20	WINS servers IP addresses (if WINS is required)	10.152.6.24 10.9.6.8	10.152.6.24 10.9.6.8
21	Static IP addresses for remote access (2 required per MAS)	10.168.2.200 10.168.2.201	10.168.2.202 10.168.2.203
22	Customer name: Messaging Administrator Organization: Avaya Inc. Windows domain administrator contact information: *name, email, telephone number* IBM Lotus Domino administrator contact information: *name, email, telephone number*		
23	Users who require system administration access: *craft* Users who require subscriber administration access: *Subscriber Administrators*		

Account logon names and passwords should be site-specific for security reasons.

Modular Messaging logon accounts form

#	Account	Logon name (customer specified)	Password	Used for
A1	Local administrator account for MAS#1 (required)	*customer specified* (for example, **mas1-admin**)		Local administration for this MAS
A2	Local administrator account for MAS #2 (if present)	*customer specified* (for example, **mas2-admin**)		Local administration for this MAS
A3	Local administrator account for MAS #3 (if present)	*customer specified* (for example, **mas3-admin**)		Local administration for this MAS
A4	Local administrator account for MAS #4 (if present)	*customer specified* (for example, **mas4-admin**)		Local administration for this MAS
A5	Local administrator account for MAS #5 (if present)	*customer specified* (for example, **mas5-admin**)		Local administration for this MAS
	Add as many local accounts as needed to support all MASs.			
A6	Modular Messaging (MM) service account	*customer specified* (for example, **mmacct**)		MAS messaging services (MM) administration
A7	Technical support remote access account	*customer specified* (for example, **craft**)		Remote access maintenance account for MM

CAUTION:

Avaya strongly recommends that passwords and account names on the MAS be at least 8 characters long and not composed of easily guessed words or numeric combinations, including sequential or repeated numbers. For best security, use a combination of upper case, lower case, and alphanumeric characters.

Account names: You can use special characters including underscore (_), period (.), and dash (-), but *not* the symbols " / \ [ ] : ; | = , + * ? < > (a space is also strongly discouraged).

Passwords: At least one of the first 7 characters should be a symbol, such as a pound sign (#) or a punctuation mark, but *not* a percent symbol (**%**).

Do *not* use the examples shown above as the actual MAS account names. They are provided for example purposes only. Make sure that you are satisfied with the Modular Messaging account names and passwords that you choose. They are *not* easy to change later.

MAS services and features

Working with the customer, fill out the following table to specify the Modular Messaging services and optional features to install on each MAS. Guidelines include:

- If only one MAS is installed, all required services are installed on that machine. Check off the features to install in the MAS#1 column.
- If more than one MAS is installed:
  - — Install the Call Me Server and MWI Server software on the same MAS. These services must be co-resident with the Mailbox Monitor Server. They should be installed on the MAS with the fewest ports if possible, or on the MAS with the second fewest ports if the Tracing Server is installed (the Tracing Server places the greatest demand on an MAS).
  - — Install the Tracing Server on an MAS that is *not* hosting the Call Me or MWI software. Always put the Tracing Server service on the MAS with the fewest ports, or on its own machine.

MAS features list

Messaging service to install	Max. # of sessions:*	on MAS#1	on MAS#2	on MAS#3	on MAS#4	on MAS#5
Call Me Server Message Waiting Indicator (MWI) Server *Both use Mailbox Monitor Server and should be on the same MAS. Install these services only once per voice mail domain (VMD).*						
Caller Applications Editor	N/A					
Tracing Server *(Install only once per VMD.)*	N/A					
Text-to-Speech *(If required, note languages to use. Specify the number of sessions for each MAS.)*						
Messaging Application Server Prompt Files *(One set is required for each MAS that will run the Messaging Application Server software. List the default file set first and any additional prompt file sets if needed.)*	N/A					
Language Packs *(Specify additional languages to install if needed. List the desired default language first. Install the same set of languages on each MAS.)*	N/A					

* Specify the maximum number of concurrent sessions for a feature based on expected usage.

Copy this form as many times as needed to assign features to all MASs at this site.

Required licensing information

Provide information to complete a licensing request, as shown in "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13. Your choices for providing this information might vary per region. See "Sending the license request" on page F-9 for contact information for various regions. Note that license request submission procedures for new system installations and updates can vary.

> **Note:** Use this same form if you are updating a Unified Messenger R5.0 system to Modular Messaging Release 1.1 software. However, you must provide information for Items **L1** through **L3** as specified in Appendix F, ‘‘Obtaining a license for an update.’’

Required licensing information includes:

- *Required only for updates, or if remote access will **not** be used during the installation,* Items **L1** through **L4** as follows:
  - *VMD ID:* Paste the information obtained from the system into the document where you want to record this information (for example, the editable Word version of "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13). Alternatively, you can open a text-editor application (such as Notepad) to capture this data.
    - *For new systems,* see “*If remote technical support will **not** be used for this system”* on page 9-10 for this procedure.
    - *For updates,* see "Obtaining license data for an update" on page F-4 for this procedure, and for the process to determine the correct number of TTS sessions to use in the next item.
  - *TTS sessions and engine:* Specify the number of TTS sessions required for each TTS engine type.

    For new systems, the TTS engine is always ScanSoft RealSpeak, Any Language. Use the **Max. # of sessions** for **Text-to-Speech** on "MAS features list" on page A-11 to specify the total number of TTS sessions to license for this system.
  - *Number of seats:* Specify the actual number of purchased seats.
  - *Type of license:* Specify if this is a **new system installation**, or an **update from Unified Messenger Release 5.0**.
- *Required if remote access will be used,* Items **L5** through **L8**.

  > **Note:** Remote access might be needed only during the licensing process, and can be removed upon completion. If remote access will be used during the installation, verify that it is set up and working on the designated MAS.
- *Required customer and contact information:* Specific items vary per region. The license request form lists all commonly requested items.

Modular Messaging R1.1 license request - IBM Lotus Domino system

#	Required licensing information	Value
Platform: IBM Lotus Domino		
For updates, or if remote access will *not* be used during the installation, specify the following:		
L1	VMD ID	
L2	Text-to-Speech (TTS) sessions required (specify number of TTS sessions to license per engine): • ScanSoft RealSpeak, Any Language *(all new systems)*: • Fonix DECtalk, US English *(updates only)*: • ScanSoft TTS-3000, International *(updates only)*:	
L3	Number of purchased seats	
L4	Type of license (specify *new system* or *Unified Messenger R5.0 update*):	
If remote access will be used during the installation, specify access information for the MAS:		
L5	Complete dial-in access number for MAS	
L6	Windows domain to log into	
L7	Modular Messaging service account user name and password (for updates, use UM account)	
L8	Technical support account user name and password	
Customer and contact information (some items vary per region):		
Direct Operations or Business Partner name		
SAP order number (for new systems) or Maestro Case ID (for updates)		
FL number		
Requested completion date		
Planned installation date and completion time		
Customer name		
Requester name		
Requester contact information (include all that apply): Complete telephone number: Mobile or cell phone number: Fax number: Email address:		
Site location (country, town):		
Alternate contact name and information, if applicable:		
Comments:		

Switch and messaging information

Collect the required information from the relevant administrator prior to installation. Always obtain the latest configuration notes for this particular switch or PBX (see "Information on the Web" on page 1-2 for this procedure).

Required switch and messaging information

Item	Value	Notes
Extension numbers for the port boards on the MAS, and the switch ports to which they connect. **Note:** Distribute the port board extensions over a number of switch boards if possible for greater reliability.	*Use format:* *cabinet carrier slot port*	*Connects to extension number:*
Number of digits in voice mailbox extension:		—
Are port groups required? If yes, supply name, use, and number of ports. (For example, *MWI outgoing only, 2 ports*.)	*Port group 1*:	*Port group 2*:
DID numbers used for: • MM hunt group for messaging services: • MAS dial-in number (one per modem):		*Complete dial-in number*
Test subscriber information: • Name • Password • Extension number to test telephone		

Support information

Fill out the appropriate section below, depending on how alarming will be implemented at this site: either through the Avaya Initialization and Administration System (INADS) or through a corporate Simple Network Management Protocol (SNMP) system.

> **Note:** If SNMP alarming is used, it is the responsibility of the customer to provide and provision the SNMP network management system, and to configure it to receive (and optionally acknowledge) the traps generated by the Modular Messaging system.

Technical support information required for every installation includes:

- Alarming notification used at this site (INADS, SNMP, or none): _____
- Product ID number for MAS: _____

INADS alarming information

Supply the following information to allow the MAS modem to initiate outgoing calls:

- Communications (COM) port that each modem should use to initiate alarm notification calls. This is COM3 for the recommended USB port A on the MAS: _____
- Complete alarm destination telephone number: _____
- Modem setup (initialization) string required for the modem to make the alarm notification calls. See the documentation included with the modem for details: _____

SNMP alarming information

Supply the following information if SNMP alarming is to be used at this site:

- Network Management Station IP address or fully qualified domain name for the corporate network management system (NMS) that will monitor the Modular Messaging system for alarm notifications (traps): _____
- Context (community) to which the NMS belongs (see the SNMP NMS documentation for details): _____
- Acknowledgement type: choose either Return Trap (to have traps actively acknowledged by the NMS) or Ping Surround (to have the MAS send a ping to the NMS before and after sending a trap. If the pings succeed, the NMS is assumed to have received the trap): _____

B

Installation checklists

Overview

This appendix contains checklists to help guide you through the various installation and update tasks. Before beginning a new Modular Messaging installation or update, print the checklist relevant to the procedure that you will be performing. Check off the steps as you complete them to ensure that you do not overlook any important tasks.

Checklists include:

- "New Modular Messaging installation on a customer-provided MAS" on page B-2
- "New Modular Messaging installation on an Avaya MAS" on page B-5
- "Unified Messenger R5.0 to Modular Messaging software update" on page B-9

Note:	If you are adding a new MAS to an existing Unified Messenger or Modular Messaging system, do the software update *first* if an update is required. After the update is complete, install the new MAS using the appropriate new installation checklist.

New Modular Messaging installation on a customer-provided MAS

This checklist applies to a new Modular Messaging installation on a customer-provided MAS. As you complete a procedure, make a check mark in the " ✔ " column.

Modular Messaging on a customer-provided MAS installation checklist

Task	Description	Page	Comments	✔
Complete preinstallation planning:				
1.	Complete the planning forms in Appendix A. Requires input from LAN, messaging, switch, and system administrators.	A-1	See the appropriate customer administrators.	
2.	Assemble and review the required documentation.	1-2	Web access required.	
3.	Review security issues.	1-4		
4.	Obtain anti-virus software for the MAS if required.	1-4	Customer obtains.	
5.	Arrange for LAN administration of the MAS system. Register MAS corporate FQDNs on the DNS if required. **Note:** Avaya is not responsible for installation, administration, or test of communications between customer PCs and LAN.	1-6	See LAN administrator. Time of administration and site requirements vary.	
6.	Verify that the PBX or switch is administered.	1-6	See switch administrator.	
7.	Gather the necessary tools and test equipment.	1-7		
8.	Collect any software CDs that will be needed during the installation (such as for Microsoft Windows OS, IBM Lotus Domino software, SP updates, or anti-virus software).	N/A	Leave customer CDs and DVDs on-site.	
Install any required hardware:				
9.	Install the Dialogic port boards, including: • Prepare for the installation. • Set jumpers and switches. • Install the Dialogic software and drivers.	3-2	See the Dialogic documentation for details. IP H.323 integrations skip this step.	
10.	Connect the MAS port boards to the switch or PBX.	3-12	Do as required.	
11.	Install and configure the modem for each MAS.	3-13	Do as required.	
Prepare to install the Modular Messaging software:				
12.	Set up Domino to support Modular Messaging, including: • Install DUC server component on each Domino mail server. • Install DUC administration components for Domino directory design and for subscriber administration. • Register each MAS as a Notes user and record file data. • Create an ACL group for the MAS voice servers and add it to the Domino Directory in each domain as needed. • Create the required Domino ACL roles and assign them to the ACL group and administrators as needed. • Edit the ACL of the Domino Directory and Administration Requests database for the correct level of access.	4-3	Requires Domino administrator access.	

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Modular Messaging on a customer-provided MAS installation checklist

Task	Description	Page	Comments	✔
13.	Set up the Windows system to support Modular Messaging: • Set up a Modular Messaging service account and a remote access account for ongoing maintenance. • Add a computer account for each MAS to the domain. • Set up each MAS to support remote access.	4-5	Requires Windows domain administrator access.	
Set up the MAS for Modular Messaging:				
14.	Configure the network card on the MAS if needed.	6-3	Use static IP addresses.	
15.	Install and update anti-virus software on the MAS.	6-3	Do if required. Installation procedures vary.	
16.	Install the latest Microsoft Windows system updates, security patches, and hot fixes.	6-3	Do if required. Procedures vary.	
17.	Run MAS disk checks (chkdsk and defragmenter tool).	6-3	Do as required.	
18.	Join the Microsoft Windows domain.	6-4		
19.	Add the Modular Messaging accounts to the local administrators group for this MAS.	6-5	Required to install the software.	
20.	Adjust system values on the MAS for Modular Messaging: • Event Viewer • File and Printer Sharing properties • Windows 2000 Server operating system properties	6-6		
21.	Log in as the Modular Messaging service account.	6-7		
22.	Install Microsoft Windows prerequisite software if needed on this MAS (such as SNMP).	6-8	Requires Microsoft Windows OS CD.	
23.	Prepare the MAS to support Domino software, including: • Install the Notes client as a single user on the MAS. • Copy the Modular Messaging account ID file to the MAS. • Configure the Notes client to connect to the Domino server. • Close the Notes client when finished.	6-9	Requires IBM Lotus Domino software. Set up the Notes client for the Modular Messaging service account.	
Install and configure the Modular Messaging software:				
24.	Disable anti-virus software on the MAS for Modular Messaging software installation.	7-3	Optional but recommended.	
25.	Install Modular Messaging software components using the Installation wizard.	7-3	Install on each MAS based on the planning forms.	
26.	Use Messaging Application Server Configuration Wizard to: • Identify the Domino servers. • Set up (on MAS#1) or join the voice mail domain.	7-8	Steps vary for MAS#1 and a subsequent MAS.	
27.	Enable the anti-virus software on the MAS.	7-10	Do as required.	

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Modular Messaging on a customer-provided MAS installation checklist

Task	Description	Page	Comments	✔
28.	Set up remote access on each MAS.	7-11		
29.	Configure and test the port boards, including: • *For analog cards*, create or use an appropriate tone file. • Configure each port board. • Test incoming and outgoing calls on each board.	8-2	Configuration notes required. IP H.323 integrations skip this step.	
30.	*If multiple languages are installed,* specify preferred language.	9-3	Do if required.	
31.	Verify that Modular Messaging service is started.	9-4		
32.	Use the Voice Mail System Configuration program to: • Enable the Modular Messaging services you installed. • Configure the MAS for this PBX. • Set up specific features for each MAS. • Install the license file when received, and then set up TTS sessions on each MAS as needed.	9-4	Configuration notes required.	
33.	Arrange to obtain a license for this system.	9-9	Local procedures vary.	
34.	Set up and start MAS messaging services.	9-14		
35.	Verify the alarming setup on the MAS.	9-15	Do as required.	
36.	Complete the Domino setup, including: • Edit the voice mail summary document. • Install the DUC client component on subscriber machines. • Synchronize the server clocks with all client machines.	9-16	Requires Domino administrator access.	
Test and back up the system:				
37.	Create and enable a voice-enabled test subscriber for Modular Messaging.	10-2	Requires Domino administrator access.	
38.	Perform acceptance tests, including: • Create and receive test messages in both integrated and nonintegrated mode. • Test system outcalling using Modular Messaging Options. • Test additional features if required for this site.	10-3	For multiple MASs, use the Port Monitor to track calls.	
39.	Install and configure each subsequent MAS.	10-8	Repeat these procedures as needed.	
40.	Remove the test subscriber.	10-8	Requires Domino administrator access.	
41.	Back up the data on every MAS.	10-9		
42.	Schedule routine disk maintenance for the MAS.	10-9	Use local procedures.	
43.	Save the planning forms in a safe place.	A-4		

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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

Task	Description	Page	Comments	✔
Complete preinstallation planning:				
1.	Complete the planning forms in Appendix A. Requires input from LAN, messaging, switch, and system administrators.	A-1	See the appropriate customer administrators.	
2.	Assemble and review the required documentation.	1-2	Web access required.	
3.	Review security issues.	1-4		
4.	Obtain anti-virus software for the MAS if required.	1-4	Customer obtains.	
5.	Arrange for LAN administration of the Avaya MAS system. Register MAS corporate FQDNs on the DNS if required. **Note:** Avaya Inc. is not responsible for the installation, administration, or test of communications between customer PCs and the LAN.	1-6	See LAN administrator. Time of administration and site requirements vary.	
6.	Verify that the PBX or switch is administered.	1-6	See switch administrator.	
7.	Gather the necessary tools and test equipment.	1-7		
8.	Collect any software CDs that will be needed during the installation (such as for Microsoft Windows OS, IBM Lotus Domino software, SP updates, or anti-virus software).	N/A	Leave customer CDs and DVDs on-site.	
Install the hardware:				
9.	Review preinstallation site requirements, including: • Environmental requirements • Weight and space requirements • Customer-provided cabinet requirements • Installation area requirements • Power and grounding requirements • Demarcation points	2-3		
10.	Unpack the Modular Messaging system hardware and peripheral components.	2-7	Open boxes as instructed to reuse packing materials.	
11.	Assemble and identify the system components.	2-7		
12.	Attach mounting brackets and handles to UPS and any EBM units as needed, and then cable the units together.	2-10	Optional. Do if UPS and any EBMs are present.	
13.	Attach the front bezel to each MAS.	2-16		

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Modular Messaging on an Avaya MAS installation checklist

Task	Description	Page	Comments	✔
14.	Attach rails for rack-mount or rubber spacers for stackable configuration to each MAS.	2-16	Use appropriate method for this site.	
15.	Connect the Avaya MAS system power cables.	2-20		
16.	If present, connect the MAS port boards to the switch or PBX.	2-21	See the Dialogic documentation for details.	
17.	Connect each MAS to the corporate LAN.	2-22		
18.	Assemble the KVM switch. Steps include: • Attach mounting brackets to KVM switch (if needed). • Connect KVM switch to monitor, keyboard, and mouse. • Connect the KVM switch to each MAS.	2-23	Optional. Procedure varies, depending on type of KVM switch purchased.	
19.	Attach the required ferrites to the video cables and QSIG port board cables (if present).	2-27		
20.	Set up the external modem for each MAS.	2-28		
21.	Power up the Avaya MAS system.	2-30		
Prepare to install the Modular Messaging software:				
22.	Set up Domino to support Modular Messaging, including: • Install DUC server component on each Domino mail server. • Install DUC administration components for Domino directory design and for subscriber administration. • Register each MAS as a Notes user and record file data. • Create an ACL group for the MAS voice servers and add it to the Domino Directory in each domain as needed. • Create the required Domino ACL roles and assign them to the ACL group and administrators as needed. • Edit the ACL of the Domino Directory and Administration Requests database for the correct level of access.	4-3	Requires Domino administrator access.	
23.	Set up the Windows system to support Modular Messaging: • Set up a Modular Messaging service account and a remote access account for ongoing maintenance. • Add a computer account for each MAS to the domain. • Set up each MAS to support remote access.	4-5	Requires Windows domain administrator access.	
Set up the Avaya MAS:				
24.	Switch the monitor to show the correct MAS.	5-2		
25.	Complete the Windows 2000 Server Setup Wizard to: • Localize system information. • Assign IP addresses and DNS information. • Specify WINS information if needed. • Join the Microsoft Windows domain.	5-4	Use the planning forms.	
26.	Test IP addresses on the corporate network using ping.	5-11		

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Modular Messaging on an Avaya MAS installation checklist

Task	Description	Page	Comments	✔
27.	Install and update anti-virus software on the MAS.	5-12	Do if required. Installation procedures vary.	
28.	Install the latest Microsoft Windows system updates, security patches, and hot fixes.	5-12	Do if required. Procedures vary.	
29.	Prepare the MAS to support Domino software, including: • Install the Notes client as a single user on the MAS. • Copy the Modular Messaging account ID file to the MAS. • Configure the Notes client to connect to the Domino server. • Close the Notes client when finished.	5-12	Requires IBM Lotus Domino software. Set up the Notes client for the Modular Messaging service account.	
30.	Complete the Modular Messaging OS Component Configuration Wizard to: • Identify the message store. • Set up Modular Messaging account information.	5-15	Use the logon accounts form.	
31.	Log in as the Modular Messaging service account.	5-16		
Install and configure the Modular Messaging software:				
32.	Disable anti-virus software on the MAS for Modular Messaging software installation.	7-3	Optional but recommended.	
33.	Install Modular Messaging software components using the Installation wizard.	7-4	Install on each MAS based on the planning forms.	
34.	Use Messaging Application Server Configuration Wizard to: • Identify the Domino servers. • Set up (on MAS#1) or join the voice mail domain.	7-8	Steps vary for MAS#1 and a subsequent MAS.	
35.	Enable the anti-virus software on the MAS.	7-10	Do as required.	
36.	Set up remote access on each MAS.	7-11		
37.	Configure and test the port boards, including: • *For analog cards*, create or use an appropriate tone file. • Configure each port board. • Test incoming and outgoing calls on each board.	8-2	Configuration notes required. IP H.323 integrations skip this step.	
38.	*If multiple languages are installed,* specify preferred language.	9-3	Do if required.	
39.	Verify that Modular Messaging service is started.	9-4		
40.	Use the Voice Mail System Configuration program to: • Enable the Modular Messaging services you installed. • Configure the MAS for this PBX. • Set up specific features for each MAS. • Install the license file when received, and then set up TTS sessions on each MAS as needed.	9-4	Configuration notes required.	
41.	Arrange to obtain a license for this system.	9-9	Local procedures vary.	

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Modular Messaging on an Avaya MAS installation checklist

Task	Description	Page	Comments	✔
42.	Set up and start MAS messaging services.	9-14		
43.	Verify the alarming setup on the MAS.	9-15	Do as required.	
44.	Complete the Domino setup, including: • Edit the voice mail summary document. • Install the DUC client component on subscriber machines. • Synchronize the server clocks with all client machines.	9-16	Requires Domino administrator access.	
Test and back up the system:				
45.	Create and enable a voice-enabled test subscriber for Modular Messaging.	10-2	Requires Domino administrator access.	
46.	Perform acceptance tests, including: • Create and receive test messages in both integrated and nonintegrated mode. • Test system outcalling using Modular Messaging Options. • Test additional features if required for this site.	10-3	For multiple MASs, use the Port Monitor to track calls.	
47.	Install and configure each subsequent MAS.	10-8	Repeat these procedures as needed.	
48.	Remove the test subscriber.	10-8	Requires Domino administrator access.	
49.	Back up the data on every MAS.	10-9		
50.	Schedule routine disk maintenance for the MAS.	10-9	Use local procedures.	
51.	Save the planning forms in a safe place.	A-4		

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Unified Messenger R5.0 to Modular Messaging software update

Use this checklist when you update an existing Unified Messenger Release 5.0 system to run Modular Messaging Release 1.1 software. As you complete a procedure, make a check mark in the " ✔ " column.

Note:	If you are adding a new MAS to an existing Unified Messenger or Modular Messaging system, do the software update *first* if an update is required. After the update is complete, install the new MAS using the appropriate new installation checklist.

Modular Messaging Release 1.1 update checklist

Task	Description	Page	Comments	✔
Prepare for the update:				
1.	Complete the update planning forms. Requires customer input from the appropriate system administrators.	A-13, F-3	Do in advance of update if possible.	
2.	Arrange to obtain a license for this system. If possible, get the license file in advance of the update.	F-1	Local procedures vary.	
3.	Assemble and review the required documentation.	11-2	Web access required.	
4.	Collect any software CDs that will be needed during the update (such as for Microsoft Windows OS, IBM Lotus Domino software, SP updates, or anti-virus software).	11-2	Leave customer CDs and DVDs on-site.	
5.	Upgrade the DUC server component on all Domino servers that contain DUC-enabled user mail files.	11-3	Do as required. Use IBM documentation.	
6.	Upgrade the DUC administration component for the Domino directory design (the schema) once per Domino domain.	11-3	Do as required. Use IBM documentation.	
7.	Upgrade the DUC administration component on every machine that is used for Domino administration.	11-3	Do as required. Use IBM documentation.	
8.	Upgrade the Lotus Notes client on all MASs to 6.0.1 CF3.	11-4	Do as required. Use IBM documentation.	
Prepare to update each MAS:				
9.	Back up important system files, including any tone files.	10-9		
10.	Verify that the anti-virus software is current.	11-5	Do if anti-virus software is installed.	
11.	Adjust system values on the MAS for Modular Messaging: • Event Viewer • File and Printer Sharing properties • Windows 2000 Server operating system properties	6-6		
12.	Install Microsoft Windows prerequisite software for Release 1.1, such as SNMP service if required at this site.	6-8	Requires Microsoft Windows OS CD. Install on MAS if required.	

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Modular Messaging Release 1.1 update checklist

Task	Description	Page	Comments	✔
13.	Verify that the latest Microsoft Windows system updates, security patches, and hot fixes are installed.	11-5	Local procedures vary.	
14.	Busy-out and reroute the ports for this MAS if possible.	11-5	Use PBX procedures.	
15.	Log in to the MAS to be updated using the Unified Messenger service account.	11-5	This will become the Modular Messaging service account.	
16.	Close any open windows (including the Lotus Notes client).	11-5		
17.	Stop and reset all Unified Messenger services.	11-5		
18.	Update the Dialogic port board drivers, including: • *For analog cards*, copy custom tone files to a safe place. • Stop and uninstall the existing drivers. • Install and update the new drivers. • Reconfigure and test the Dialogic port boards.	11-6	Configuration notes required. Installations that use Brooktrout port boards skip this step.	
Install and configure the Modular Messaging software:				
19.	Disable anti-virus software on the MAS for Modular Messaging software installation.	11-10	Optional but recommended.	
20.	Update the Modular Messaging software using the Installation wizard.	11-10		
21.	Complete a system upgrade if prompted.	11-13	Do if required.	
22.	Complete the Messaging Application Server Configuration Wizard to update the MAS configuration.	11-14		
23.	Enable the anti-virus software on the MAS.	11-15	Do as required.	
24.	Use the Voice Mail System Configuration program to: • Install the license file when received, if needed. • Set up TTS sessions on each MAS. • Update the text message for non-Avaya subscribers. • Set up optional Release 1.1 features if required such as alarming, TTS, and offline access of subscriber messages.	11-15	Do this for MAS#1.	
25.	Set up and start MAS messaging services.	11-16		
26.	Allow 15 minutes for the update information to be shared.	11-17	Do this for MAS#1.	
27.	Update each additional MAS.	11-17	Repeat these procedures as needed.	
Complete the update:				
28.	Upgrade all DUC-enabled Lotus Notes client machines.	9-16		

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Modular Messaging Release 1.1 update checklist

Task	Description	Page	Comments	✔
29.	Perform acceptance tests, including: • Create and receive test messages in both integrated and nonintegrated mode. • Test system outcalling using Modular Messaging Options. • Test additional features if required for this site.	10-3	For multiple MASs, use the Port Monitor to track calls.	
30.	Back up the data on every MAS.	10-9		
31.	Run MAS disk checks (chkdsk and defragmenter tool).	11-17	Do as required.	
32.	Add any new MASs to this system if required.	11-17	Use the new system installation checklist.	
33.	Save the planning forms in a safe place.	A-4		

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C

Creating a new tone file

Overview

This appendix describes how to build a tone file for Dialogic analog port boards by using the PBXpert utility to learn PBX tones.

> **Note:** If Brooktrout port boards are installed, use the *RealCT Direct Software Installation and Configuration Guide*, available on the Avaya Unified Messenger CD, to create a tone file if needed.

This procedure must be done after the port boards are administered on the switch, but before you configure them using the Intel Dialogic Configuration Manager. See "Configuring analog port boards" on page 8-3.

> ⚠ **CAUTION:** Use the configuration notes for this particular PBX or switch integration to administer the port boards. See "Required documentation" on page 1-2 for instructions on obtaining the configuration notes. The port boards *must* be administered on the switch before you can proceed.

You can use PBXpert either automatically or manually to learn the call progress tones for this PBX and store them in a Tone Set File (TSF). Many tone sets can be stored in a single TSF file.

- *Automatic Learning:* PBXpert uses two different channels on the Dialogic voice board to set up tones and learn the resulting call progress tones automatically. See "Learning tones automatically" on page C-2.

- *Manual Learning:* PBXpert uses one channel on the Dialogic voice 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. See "Learning tones manually" on page C-7.

> **Note:** If only one line is connected to the Dialogic voice board, you must use Manual Learning.

Learning tones automatically

This section describes the following procedures:

Running the PBXpert wizard

The PBXpert wizard guides you through learning the tones used by this 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 voice cards.

   a. You should have already started the Intel Dialogic Configuration Manager. See Steps 1 through 3 in "Configuring analog port boards" on page 8-3.

   b. Click the green **Start Service** button on the button bar.

   When service is started, the **Stop Service** button becomes active and the installed boards show a green light.

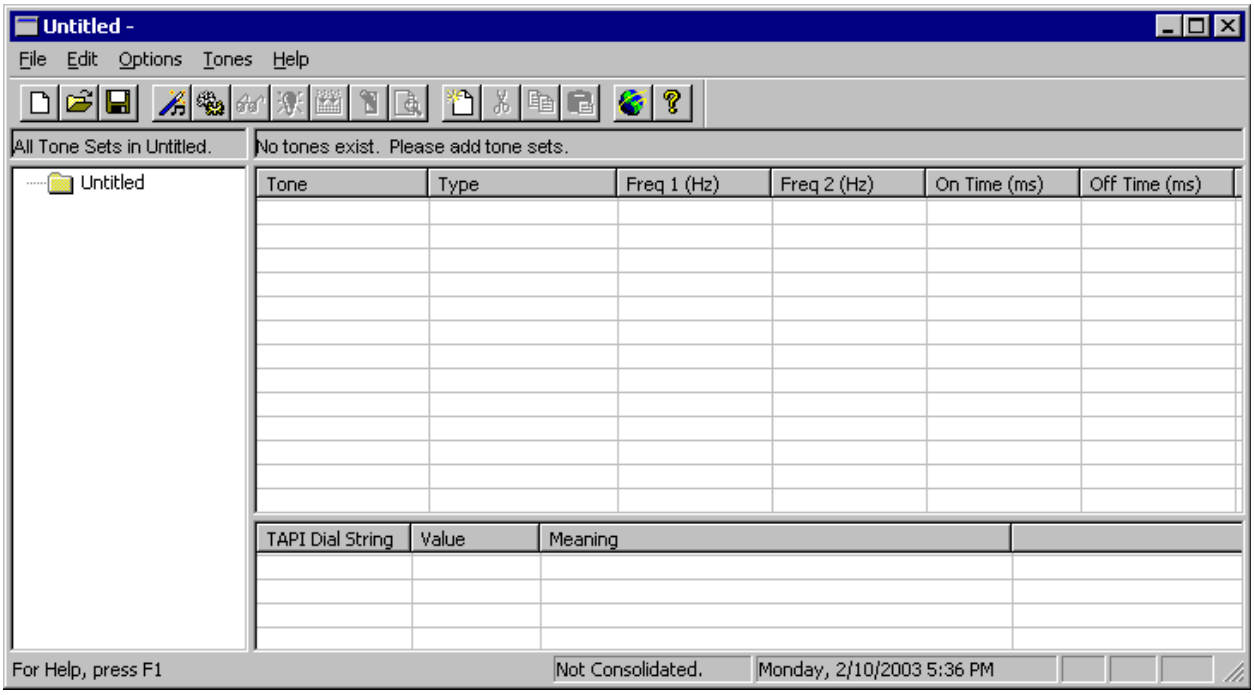
2. Click **Start > Programs** > **Intel Dialogic System Software** > **PBXpert**.

   The PBXpert main window is displayed (see Figure C-1 on page C-3). 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. Any settings that you change are saved when you exit PBXpert. For help on a particular screen, click the **Help** button in the wizard.

Figure C-1. PBXpert main window



Complete the PBXpert wizard screens as follows:

1. When the PBXpert Wizard Welcome screen is displayed, click **Next**.
2. On the PBX Information screen:
   - Under PBX, enter the name of the manufacturer (such as *Mitel*) and the model of the PBX (such as *SX-2000*).

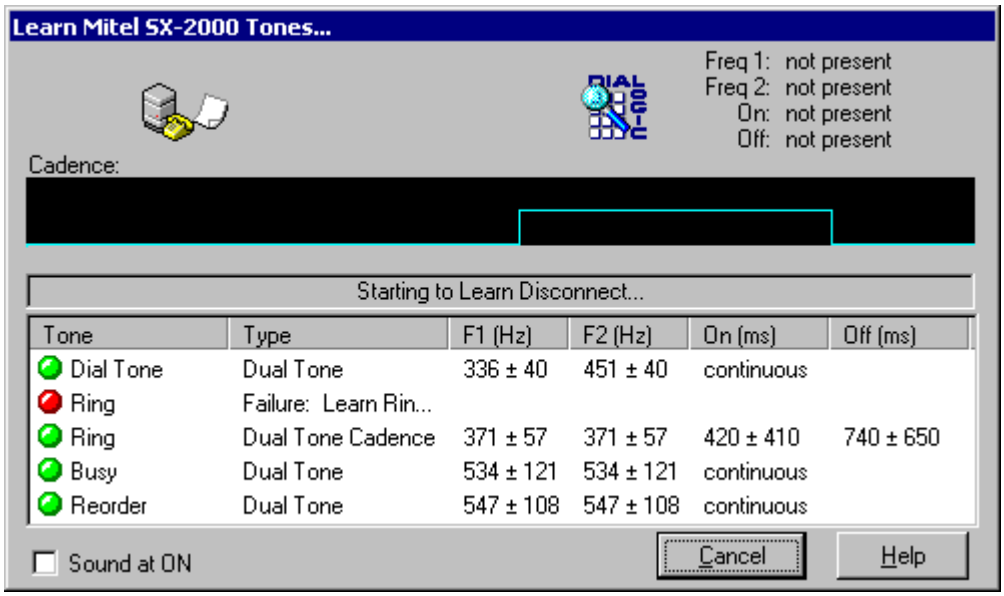
- You can use the automatically created Tone Set File name as it is shown on the screen, or alter it as desired.
- Click **Next**.

3. On the TAPI Information screen, use the default values. Click **Next**.
4. On the Select a Board screen:
   - Select the Dialogic board to use.
   - Click **Next**.
5. On the Select the Calling Resource screen, for the Line A Calling Channel:
   - For **Select the Channel**, enter the port number or channel to use.
   - For **Phone Number**, enter the extension number of this port. See "Required switch and messaging information" on page A-14 for port board extensions.
   - Click **Next**.
6. On the Select the Calling Resource screen, for the Line B Called Channel:
   - For **Select the Channel**, enter a port number or channel that is different from Line A.
   - For **Phone Number**, enter the extension number of this port.
   - Click **Next**.
7. On the Settings Confirmation screen:
   - Verify the settings. Click **Back** if you need to change anything.
   - Verify that the **Run Wizard Auto-Test** box is checked.
   - Click **Next**.
8. The Auto Line Test window is displayed while PBXpert verifies the connection between the two specified channels.
   - If you see a “Test finished successfully!” message, click **OK** to close this window and proceed.
   - If the line test fails, click **OK** to close this window. Click **Back** on the wizard, adjust the settings, and try the test again.
9. On the Learn Tones screen, click **Next** to begin learning tones automatically.

The Learn Tones window is displayed. See Figure C-2 on page C-5.

> **Note:** You can click **Cancel** at any time during the test to stop automated learning.

Figure C-2. Learn Tones window (learning in progress)



10. When PBXpert completes learning, the system displays buttons that allow you 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.

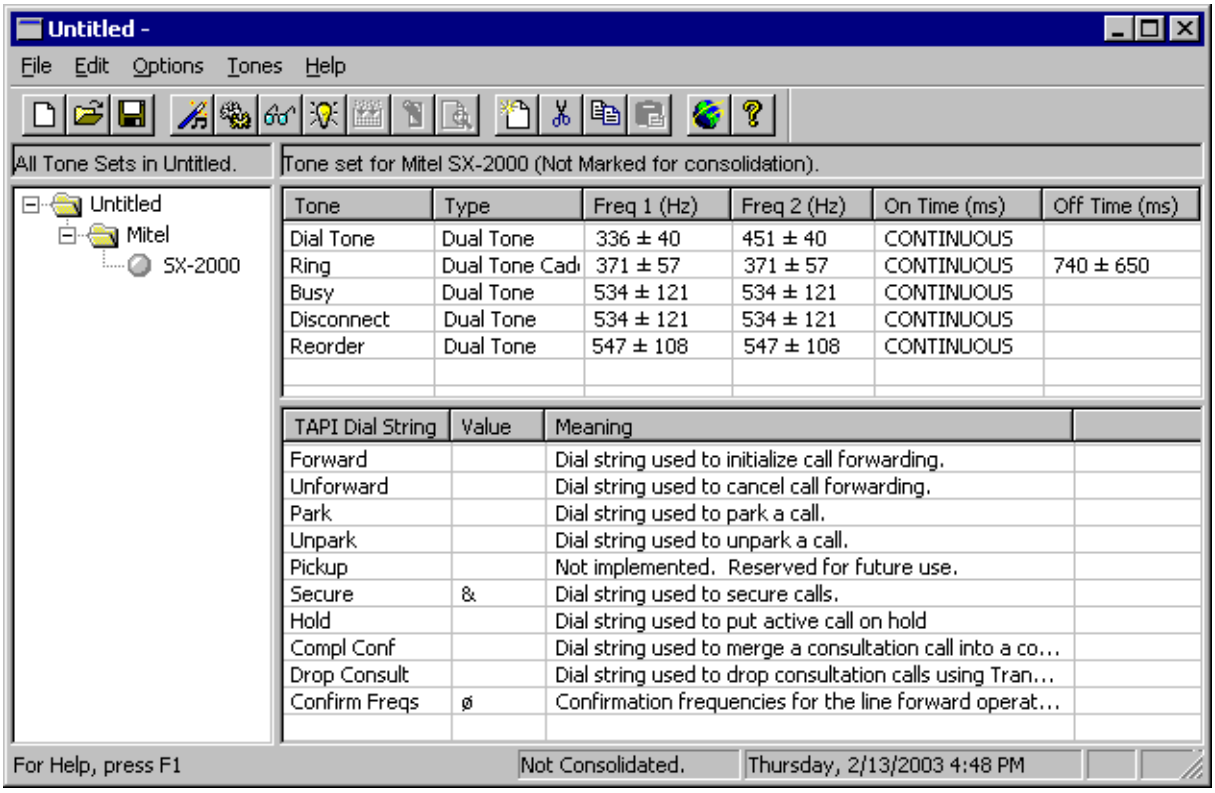
11. On the Verifying the Learn screen, click **Next** to test the learned tones.

    - 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.

12. The Summary of Results screen shows the final wizard status and tone definitions. Click **Finish**.

    Tone definitions are displayed in the main window (see Figure C-3 on page C-6).

Figure C-3. Sample tone definitions in main window



Consolidating and saving the TSF file

You must consolidate and save the new TSF file so that you can use it with the Dialogic voice driver. To do this:

1. Click **Tones** > **Consolidate**.
2. When finished, 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 will be backed up: **C:\Avaya_Support\Tone_Files**

      (If you use the default DATA directory, this file will *not* be backed up.)

   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 Configuration Manager window.

2. Click the red **Stop Service** button on the button bar.

3. Return to Step 4 in "Configuring analog port boards" on page 8-3 and complete board configuration and testing.

Learning tones manually

This section describes the following procedures:

Running PBXpert

To run PBXpert manually:

1. Start the Dialogic voice cards.

   a. You should have already started the Intel Dialogic Configuration Manager. See Steps 1 through 3 in "Configuring analog port boards" on page 8-3.

   b. Click the green **Start Service** button on the button bar.

   When service is started, the **Stop Service** button becomes active and the installed boards show a green light.

2. Click **Start > Programs** > **Intel Dialogic System Software** > **PBXpert**.

   The PBXpert main window is displayed (see Figure C-1 on page C-3). Most fields are blank until tones are learned.

3. If you are using PBXpert for the first time after installation, the PBXpert wizard starts automatically. If the PBXpert32 Wizard starts, click the **Don't run wizard at startup** checkbox and click the **Cancel** button.

   A new, empty TSF is now active.

4. In the PBXpert main window, click **Settings** on the button bar.

5. In the Settings window:

   a. For Line A, enter the **Board Number** (such as *1*) and the **Channel Number** or port number.

   b. The **Manual mode** checkbox should be checked.

   c. For Line B, for **Phone Number**, enter extension for this port or channel. See "Required switch and messaging information" on page A-14 for port board extensions

      You can use the default values for all the other fields in this window. Click **Help** for more information if needed.

> **Note:** If you are familiar with this PBX environment and the Dialogic API, you can change these default settings. Any settings that you change are saved when you exit PBXpert.

   d. 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 Tone Set window:

   a. Enter the PBX **Manufacturer** (such as *Mitel*) and **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:

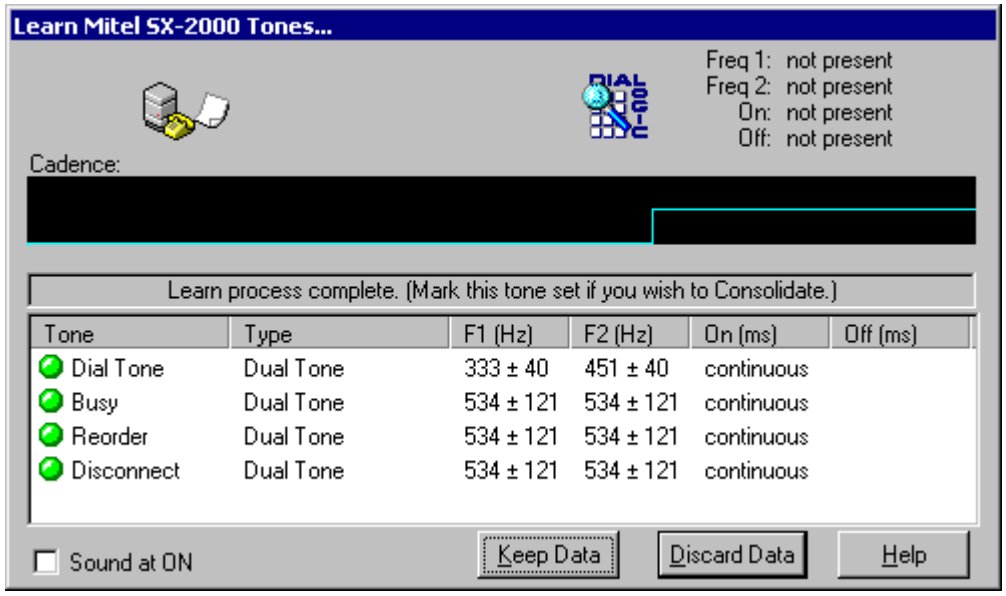
   a. Select the tones for the Dialogic cards to learn (the default is all tones).

   b. Click **Start Learn** to have PBXpert start learning tones.

The Learn Tones window is displayed (see Figure C-4 on page C-9).

Note:	Click **Cancel** at any time to stop learning.

Figure C-4. Learn Tones window (learning complete)



3. You are prompted to listen for ringing, and to pick up or replace the telephone handset during the test. When the message box pops up, do the requested action, and then click **OK**.

4. When the learning process has finished, tone definitions appear in the Learn window. Keep or discard the data as follows:

   - 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 window closes. The new tone definitions appear in the PBXpert main window. See Figure C-3 on page C-6 for an example.

Testing the tone set

The Test function verifies that the consolidated tone set in the active TSF works correctly with the Perfect Call call-progress analysis utility.

To test the newly learned tones:

1. In the main PBXpert window, click **Tones** > **Test**.
2. A Test window is displayed.

   When testing is complete, test results are displayed in the Test window.
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 that you can use it with the Dialogic voice driver. To do this:

1. Click **Tones** > **Consolidate**.
2. When finished, click **File** > **Save** to save the new TSF file.

   a. In the Save As window, use the default DATA directory.

   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 Configuration Manager window.
2. Click the red **Stop Service** button on the button bar.
3. Return to Step 4 in "Configuring analog port boards" on page 8-3 and complete board configuration and testing.

D

Reloading software on an Avaya MAS

Overview

This appendix describes how to reload the operating system and application software on an Avaya Messaging Application Server (Avaya MAS). This procedure can be used to install new software on a new system, or to put the required software on the hard disk if the MAS suffered a catastrophic disk failure and a hard disk had to be replaced.

Loading new MAS software

To copy new software to the Avaya Messaging Application Server (Avaya MAS):

1. The KVM switch is connected to the MAS through one of the VGA computer ports. Verify that the monitor is showing the correct MAS:

   - *For a Belkin OmniView Pro2 KVM:* To have the monitor show a different server, slowly press **Scroll Lock**, then **Scroll Lock** again, and then the up (or down) arrow key to change to the server connected to a higher (or lower) port number.

     Alternatively, you can type the port number instead of pressing the up or down arrow key (such as *02* for port 2). See the KVM switch documentation for complete user instructions.

   - If the monitor does *not* show the correct server, see "Connecting the KVM cables" on page 2-25 and verify that the cable connections are correct. To correct cabling problems, power down the system and correct the cabling. Then power up the system again.

2. Insert the *Avaya Modular Messaging OS Boot Software* DVD into the DVD drive.

   Wait for green LED on the drive to go out.

3. 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** and click **OK**.

4. When the machine begins to boot, it displays 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 begins to copy the disk image to the hard disk. The entire copy procedure might take 15 to 20 minutes.

> **CAUTION:** *Do not* touch the keyboard once the software starts loading, or the software will not install properly.

5. When finished, the program prompts you to remove the media before the system reboots.

   a. Remove the DVD from the drive and close the drive door.

   b. **Press any key to continue.**

6. When the reboot is complete, the Windows 2000 Server Setup Wizard runs. Complete the wizard as follows:

   a. On the Your Product Key screen, type the Windows product key for this MAS (each unit has a unique product key).

> **Note:** This number must be entered exactly as shown. It is located on a sticker or tag on the side or rear of each MAS unit.

   b. Click **Next**.

   c. On the Licensing Modes screen, do nothing. The wizard continues the setup process on its own.

   The machine automatically reboots.

7. When the reboot is complete, proceed as follows:

   - If a Found New Hardware wizard does *not* run, continue with Step 8.

- If a Found New Hardware wizard runs, *you must complete it first, or the software will not install correctly.* The system runs the hardware wizard once for every Dialogic port board installed in the MAS.

Temporarily disable the Dialogic hardware as follows:

a. On the Welcome screen, click **Next**.

b. On the Install Hardware Device Drivers screen, accept the default option (**Search for a suitable driver**) and click **Next**.

c. On the Locate Driver Files screen, clear the checkbox for **Specify a location** (no boxes will be checked). Click **Next**.

d. On the Driver Files Search Results screen, verify that **Disable the device** is selected.

e. Click **Finish**.

f. Repeat Steps a through e for each repetition of the wizard.

8. Double-click the **MM_Setup.bat** icon on the desktop.

   A C:\WINNT\system32\cmd.exe window is displayed.

9. The program prompts you to load the required application software:

   a. When prompted, insert the *Avaya Modular Messaging Application Software* DVD or CD into the DVD drive.

   b. Wait for green LED on the drive to go out.

   c. **Press any key to continue.**

      The system reports that it copied the D:\MM_Load\MM_Load.bat file.

   d. **Press any key to continue.**

      The machine displays the list of files that were copied.

   e. **Press any key to continue.**

10. When prompted to remove the media:

    a. Remove the DVD or CD from the drive and close the drive tray door.

    b. **Press any key to continue.**

       The system reports that the Mini-Setup program will run after the system reboots.

    c. **Press any key to continue.**

    The machine stores the information and shuts down.

11. To bring the MAS into service, continue with Chapter 5, ‘‘Configuring a new Avaya MAS.’’

E

Recovering from a catastrophic disk failure

Overview

This appendix summarizes the procedure for restoring a Messaging Application Server (MAS) if the hard disk drive failed and had to be replaced.

To recover from a catastrophic disk failure, you will need:

- This guide and other required documentation for system installation. See "Required documentation" on page 1-2 for a complete list.
- *For an Avaya-provided MAS only,* the *Avaya Modular Messaging OS Boot Software* DVD.
- A copy of the completed planning forms, which should be on file. See Appendix A, ‘‘System planning forms.’’

Note:	Verify that the planning forms are accurate and up-to-date. When you restore the MAS machine, you must duplicate *exactly* the information from the original setup (machine names, domain names, passwords, and so on) to avoid problems.

Recovery procedure

Follow the steps in this section for:

- "Restoring an MAS after a catastrophic disk failure" on page E-2
- "Restoring Caller Applications after a catastrophic disk failure" on page E-3

Restoring an MAS after a catastrophic disk failure

To restore any MAS following a catastrophic disk failure:

1. The faulty drive must be replaced and the operating system reloaded and brought up to date.

   - *For an Avaya MAS:* Follow these steps:

     (1) See “IDE drive replacement” on the documentation media for hardware replacement steps.

     (2) Install the operating system on the new disk drive. Follow the steps in Appendix D, ‘‘Reloading software on an Avaya MAS.’’

     (3) When the disk is restored, return the Avaya MAS to service as described in Chapter 5, ‘‘Configuring a new Avaya MAS.’’

   - *For a customer-provided MAS:* Follow these steps:

     (1) Use the hard disk restoration procedures appropriate for this site to replace the hardware and reload the operating system.

     (2) When the disk is restored, return the MAS to service as described in Chapter 6, ‘‘Configuring a customer-provided MAS.’’

2. For every MAS, complete the installation procedures in Chapter 7, ‘‘Installing and configuring the Modular Messaging software,’’ up to the section "Configuring the MAS" on page 7-8.

3. When you reach "Configuring the MAS" on page 7-8, do these steps:

   a. The Messaging Application Server Configuration Wizard automatically runs. Complete Steps 1 through 4 as directed.

   b. For Step 5, on the Voice Mail Domain Selection screen, you *must* join the voice mail domain as a **Subsequent server in an existing voice mail domain** (even if this is MAS#1).

   c. Continue with the wizard as directed until Step 8. If the Caller Applications Editor was installed, proceed as directed in "Restoring Caller Applications after a catastrophic disk failure" on page E-3.

   d. Complete the wizard as directed in "Configuring the MAS" on page 7-8.

4. Complete the rest the MAS installation through Chapter 9, ‘‘Configuring the voice mail system.’’

5. Reinstall any previously installed patches on this MAS.

6. Restore data files from backup including spooled messages, customized caller applications, and prompts. See "Restoring Caller Applications after a catastrophic disk failure" on page E-3 if relevant for this MAS.

> **CAUTION:** Do *not* restore the System State following a catastrophic disk failure.

7. Reinstall any other software that was previously installed on this MAS.

8. Complete the steps in "Performing acceptance tests" on page 10-3 and perform all the tests relevant to this system.

9. When you are satisfied that the system is running correctly, back up the restored MAS using the regular backup procedures at this location. See "Backing up the system" on page 10-9 for details.

Restoring Caller Applications after a catastrophic disk failure

The procedure for restoring the Caller Applications Editor software varies depending on how it is installed at this site.

If MAS#1 is the only MAS in the voice mail domain, or if Caller Applications have been deployed on only the MAS that has had the hard disk replaced:

1. Stop the Modular Messaging (MM) Messaging Application Server service as follows:

   a. Double-click the **Monitor** icon on the desktop.

   b. Select the **Services (Local)** item in the left pane if it is not already selected.

   c. In the right pane of the Monitor window, scroll down to the **MM Messaging Application Server** service.

   d. RIght-click the service and select **Stop**.

   e. Wait for service to stop, and then click **OK** to close this window.

2. From the MAS backup files, restore the CallerApps directory to the correct location:
   C:\Program Files\Avaya Modular Messaging\VServer\CallerApps

3. Restart the Messaging Application Server service. Follow the procedure in Step 1, but select **Start** when you right-click the service.

If you are restoring any MAS to service in a multiple-MAS system and if Caller Applications has been deployed on one or more of the other MASs that are still operational and their services are running:

1. In the Messaging Application Server Configuration Wizard, on the Caller Application screen, accept the default setting to get the Caller Application information from the voice mail domain.

2. If you skip this screen or have problems with Caller Applications after installation, restore the **CallerApps** directory as described for a single MAS deployment above.

3. If you still encounter problems after following these procedures, restore the CallerApps ***.uma** files to a convenient location and redeploy Caller Applications.

F

Obtaining a license for an update

Overview

This appendix describes how to gather information required for a license, and how to request a license file for a Unified Messenger Release 5.0 system that is to be updated to Modular Messaging software.

Modular Messaging Release 1.1 requires a license file to be installed to enable full functionality of the system. Without the license file, a maximum of 10 subscribers can be administered. For a system that is already in service with more than 10 subscribers administered, no new subscribers can be added to the system until the license file is received and installed.

Topics in this appendix include:

Planning to submit a license request

The license file is installed near the end of the software update process. However, because a license file typically takes a minimum of 3 hours to obtain, it should be applied for as early in the update process as possible. Depending on the region, you might be required to submit a license activation request several days in advance of when the license file will be needed.

> **Note:** If you plan to update the system over a weekend, you might want to apply for the license file a couple of days earlier than it will be required, so that you are certain that you receive the file before the business week ends. See "Sending the license request" on page F-9 for the procedure for submitting a license request and for the regional business hours of operation.

If you do *not* submit the license file request before you begin the update, the system can still be updated, but no new subscribers can be added until the license file is installed. After the software is updated, you can obtain the voice mail domain identifier (VMD ID) from the Voice Mail System Configuration (VMSC) program just as you would for a new system installation (see Step 11 on page 9-9).

This procedure is *not* recommended for updates because of the time delay between submitting a license activation request and receiving the license file (at least 3 hours during the business week). The recommended procedure is to obtain the required licensing information and submit the license request well in advance of the update, using the tools and procedures described in this appendix.

> **Note:** If appropriate, you can begin system and software update activities immediately after you submit a license request. You do not need to wait for the license file to be returned before you begin the update procedure.

Obtaining the MmVMDAudit tool

For a Unified Messenger Release 5.0 system, you cannot obtain the crucial voice mail domain identifier (VMD ID) from the existing user interface. The only way to get this critical piece of information prior to running the Modular Messaging Release 1.1 software update is to use the MmVMDAudit tool.

The MmVMDAudit tool is available from the Avaya Support Web site. Go to www.avaya.com/support and look under **Technical Database** > **Messaging** > **Applications** > **Modular Messaging** > **R 1.1** > **PCN**. The tool is provided in downloadable form from the Product Correction Notice (PCN) page.

Completing the update planning form

In addition to the documentation and software required for an update (see "Update requirements" on page 11-2), you must collect the following information from the system itself. This information will be used during the update process.

To complete the "Planning form for update to Modular Messaging R1.1" on page F-3:

1. Item **I1**: List every MAS in the system.

Note:	Different MASs can run different Unified Messenger software components. For each MAS that has the Messaging Application Server service installed on it, specify the number of Text-to-Speech (TTS) sessions and the TTS engine required.

2. Item **I2**: For the Windows domain name, enter the NetBIOS name that is already assigned to the Windows domain that this Unified Messenger system is part of (for example, *zodiac*).

3. Item **I3**: Enter the name and password for the customer-specified Unified Messenger Release 5.0 service account (for example, *mmacct*).

Note:	Unified Messenger software will become “Modular Messaging” software after the update, and the Unified Messenger service account will become the Modular Messaging service account.

Planning form for update to Modular Messaging R1.1

#	Required update information	Value
I1	Name of each MAS present in the system: MAS#1 (required): MAS#2: MAS#3: MAS#4: MAS#5: MAS#6: MAS#7: MAS#8: MAS#9: MAS#10: **Note:** For each MAS that has the Messaging Application Server service installed on it, specify the number of Text-to-Speech (TTS) sessions per MAS and the TTS engine required. See "Obtaining license data for an update" on page F-4 to determine the number and type of TTS engines to use: • Fonix DECtalk, US English • ScanSoft TTS-3000, International	
I2	Windows domain name	
I3	Unified Messenger (or Modular Messaging) service account user name and password	
Comments:		

Obtaining license data for an update

For a Unified Messenger Release 5.0 system update, obtain the required data for the license request using these steps:

- "Using the MmVMDAudit tool" below
- "Calculating the number of TTS sessions" on page F-6
- "Recording the required licensing information" on page F-7

Using the MmVMDAudit tool

The MmVMDAudit tool gathers important system information that is required to generate the license file. To obtain the MmVMDAudit tool, see "Obtaining the MmVMDAudit tool" on page F-2.

The MmVMDAudit tool is supplied as a single executable file, which must be copied to a suitable location from which it can be run. Because the MmVMDAudit.exe file depends on other Modular Messaging or Unified Messenger software components for its operation, it can be run only on a machine on which Unified Messenger client or administration software has been installed (such as the Subscriber Options package, Voice Mail System Configuration program, or the Caller Applications Editor). It can also be copied to any MAS in the voice mail domain.

To install and run the MmVMDAudit tool:

1. Log in to the appropriate machine (such as an MAS or a client machine that is used for subscriber administration).
2. Copy the MmVMDAudit.exe file to a suitable location. Avaya recommends that you use the directory **Program Files\Unified Messenger**.
3. To run the tool, double-click **MmVMDAudit.exe**.

   The Modular Messaging VMD Audit window is displayed.
4. To establish communication with the Unified Messenger software, click **Connect**.

   The MmVMDAudit tool attempts to establish communication with a Messaging Application Server (MAS) in the voice mail domain (VMD) that has been accessed most recently by the Voice Mail System Configuration (VMSC) program on this machine. This should take just a few seconds.
5. After communication is established, the Modular Messaging VMD Audit window displays the information needed to create a license. Note or capture this information as follows:

a. **VMD name**: Note the description for the voice mail domain. This name is not required for license generation. However, if multiple voice mail domains exist at a site, verify that the information that is being displayed is from the VMD for which you need to obtain a license.

   If the wrong VMD is displayed:

   (1) Close the Modular Messaging VMD Audit window.

   (2) Click **Start > Programs** > **Unified Messenger** > **Voice Mail System Configuration**.

   (3) In the Voice Mail System Configuration window, select the correct voice mail domain.

   (4) Close the Voice Mail System Configuration window.

   (5) Return to Step 3 to run the tool again.

b. **VMD ID**: This field shows the unique voice mail domain identifier. This information is crucial for obtaining the license file. If the identifier is copied incorrectly, the new license file *cannot* be installed.

   To capture the **VMD ID** information:

   (1) Click **Copy** to the right of the **VMD ID** field.

   (2) Open the document where you want to record this information (for example, the editable Word version of "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13). Alternatively, you can open any text-editor application (such as Notepad) to capture this data for later use.

   (3) Right-click and select **Paste** to copy the VMD ID from the clipboard to the appropriate place in the editable document. See Item **L1** on "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13.

CAUTION: Use the copy-and-paste method of recording the VMD ID if possible. If you try to manually enter the VMD ID, it is easy to make mistakes. The VMD ID in the generated license *must* exactly match that of the target system or it will fail to install.

c. **MASs in VMD**: This field shows the number of MASs that are currently administered in this voice mail domain. Make a note.

d. **Administered seats**: This value shows the number of seats that are actually administered on the Unified Messenger system at this time. This number might *not* be the actual number of seats that the customer purchased. If possible, use the original purchase records to verify the actual number of purchased seats.

> **CAUTION:** If you cannot verify the actual number of purchased seats, you can use the **Administered seats** number to generate the license. The number of seats will be locked at that value when the license is installed and cannot be increased except through an after-market purchase. Be aware that using the administered (vs. actual) number of seats might be a customer dissatisfier, particularly if the customer has purchased more seats than are currently administered.

6. **Save** the information you recorded in your license data document.
7. When finished, close the Modular Messaging VMD Audit window.

Calculating the number of TTS sessions

Because Unified Messenger Release 5.0 systems support up to 12 Text-to-Speech (TTS) sessions per TTS engine for each MAS, you must verify the type and number of TTS sessions that are presently in use as follows:

1. Log in to an MAS in the VMD for which you need to obtain a license.
2. Click **Start > Programs** > **Unified Messenger** > **Voice Mail System Configuration**.
3. In the Voice Mail System Configuration window, expand the correct voice mail domain.
4. To determine if this system is set up for multiple TTS engines:
   a. Double-click **Languages**.
   b. In the Languages - Voice Mail Domain window, note if the checkbox to **Enable Multilingual Text to Speech** is checked.
      - If the checkbox is *checked*, this system is currently using two types of TTS engine: **Fonix DECtalk, US English** *and* **ScanSoft TTS-3000, International**. Multiple TTS engines are permitted.
      - If the checkbox is *clear*, this system is using only one type of TTS engine: **Fonix DECtalk, US English**.
   c. Click **OK** to close this window.
5. To determine the actual number of TTS sessions currently in use:
   a. In the Voice Mail System Configuration window, expand **Message Application Servers**.
   b. Expand the entry for the first MAS.
   c. Double-click **Text-to-Speech**.

d. In the Text-to-Speech window, on the **General** tab, record the number of TTS sessions that are currently in use on this MAS.

> **Note:** This field assigns the same number of TTS sessions to both the **Fonix DECtalk, US English** and the **ScanSoft TTS-3000, International** engines, although the latter engine is used *only* if **Enable Multilingual Text to Speech** is enabled (see Step 4).

e. Expand the entry for the next MAS.

f. Repeat Steps c through e until you have recorded the actual number of TTS sessions in use on every MAS in the system.

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

6. Add the total number of TTS sessions from all MASs in the system (see Step 5). You will license this number of sessions.

7. Determine the quantity of TTS sessions to license for each *type* of TTS engine as follows:

   - If the customer wants to keep DECtalk only, assign the total number of TTS sessions to the TTS engine type **Fonix DECtalk, US English**.
   - If the customer wants to keep TTS-3000 only, assign the total number of TTS sessions to the TTS engine type **ScanSoft TTS-3000, International**.
   - If the customer wants to keep *both* the DECtalk and TTS-3000 engines, specify the number of TTS sessions to use for each TTS engine type. For example, if the total number of TTS sessions is 10, you might assign 6 sessions to **Fonix DECtalk, US English** and 4 sessions to **ScanSoft TTS-3000, International**.

> **Note:** The option to keep both TTS engines is permitted *only* if **Enable Multilingual Text to Speech** is enabled (see Step 4).

8. Record and **Save** this information in your license data document. See Item **L2** on "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13.

9. When finished, close the Voice Mail System Configuration window.

Recording the required licensing information

After you have gathered the required information from the system using the previous procedures, provide all additional required information to complete the licensing request. Your choices for recording this information might vary per region. See "Sending the license request" on page F-9 for details on local procedures.

License request documents include:

- "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13 editable Word document, available from the Avaya support Web site. Go to www.avaya.com/support and look under **Technical Database** > **Messaging** > **Applications** > **Modular Messaging** > **R 1.1**. For instructions on locating the forms, see "Information on the Web" on page 1-2.

- "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13. This form is identical to the Word version listed above. You can print this page, fill in all required fields, and fax it to the appropriate regional support site (if your region supports faxed license activation requests). Most regions prefer an electronic file to reduce errors (typically the license request form above sent by email).

If you create your own document, it *must* contain all of the required information listed in "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13, as noted below:

- *Always required:* Type of license (PCN update), plus Items **L1** through **L4** on "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13 as described below:

  — *VMD ID:* Paste the information obtained on page F-5.

  — *TTS sessions and engine:* Specify the number of sessions and the engine type. See "Calculating the number of TTS sessions" on page F-6 for details.

  > **Note:** For most systems, specify only one TTS engine type for all sessions currently in use. Only systems that have **Multilingual Text to Speech** enabled can license both TTS engines.

  — *Number of seats:* Use the original purchase records to verify the actual number of purchased seats if possible. See **Administered seats** on page F-5 for details.

  — *Platform:* Specify **IBM Lotus Domino**.

- *Required if remote access will be used:* Items **L5** through **L8**.

  > **Note:** Remote access might be needed only during the licensing process, and can be removed upon completion. If remote access will be used during the update procedure, verify that it is set up and working (for example, place a test call to the support organization). If needed, see your original installation documentation for details about remote access setup. By convention, the remote support organization dials in to MAS#1.

- *Required customer and contact information:* Specific items vary per region. The license request form lists all commonly requested items.

Sending the license request

The procedure for sending the licensing information varies per region. Continue with the appropriate section based on your location:

- "Submitting requests in APAC" below
- "Submitting requests in Australia" on page F-10
- "Submitting requests in CALA" on page F-11
- "Submitting requests in Canada" on page F-11
- "Submitting requests in EMEA" on page F-12
- "Submitting requests in North America (excluding Canada)" on page F-13

Note:	Always check with your regional representative for recent changes to the licensing process and for regional variations. Procedures and hours of operation are subject to change.

Submitting requests in APAC

The recommended procedure for Business Partners and Direct Customers in the Asia Pacific (APAC) region is:

1. Obtain the current instructions for completing a license activation request and check for new procedures. Follow the instructions, but be sure to include all required information as described in this appendix.

Note:	If you use the process described in this guide, you do not have to wait for the day of the update to obtain the VMD ID. Business Partners *must* provide the VMD ID on the license request form, because remote technical support is available only for Direct Customers in this region.

2. Complete the license request form, providing the information required for an update. See "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13.
3. Submit the license request form to the Regional Technical Assistance Center (RTAC) at least 2 (two) working days *prior* to the **Requested Completion Date**.
4. When completed, send the license request form to:
   - Email: sgcoe@avaya.com
   - Fax: +65 6872-8688

> **Note:** The RTAC will return a Maestro case ID. Include this case ID in any future correspondence and emails.

License file generation and license activations are completed Monday through Friday between the hours of 9 AM and 6 PM Singapore time *only*. There are no after hours activations. Plan accordingly to obtain the license file in time for the scheduled update.

Submitting requests in Australia

The recommended procedure for Business Partners and Direct Customers is:

1. Obtain the current instructions for completing a license activation request in this region. Follow the instructions, but be sure to include all required information as described in this appendix.

   > **Note:** If you use the process described in this guide, you do not have to wait for the day of the update to obtain the VMD ID. Business Partners *must* provide the VMD ID on the license request form, because remote technical support is available only for Direct Customers in this region.

2. Complete the license request form, providing the information required for an update. See "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13.

3. Submit the license request form to the Regional Center of Excellence (RCOE) at least 2 (two) working days *prior* to the **Requested Completion Date**.

4. When completed, send the license request form by email to aubcshelp@avaya.com.

   > **Note:** The RCOE will return a Maestro case ID. Include this case ID in any future correspondence and emails.

License file generation and license activations are completed Monday through Friday between the hours of 8:30 AM and 5 PM Sydney, Australia time *only*. There are no after hours activations. Plan accordingly to obtain the license file in time for the scheduled update.

Submitting requests in CALA

The recommended procedure for Business Partners and Direct Customers in the Central America and Latin America (CALA) region is:

1. Obtain the current instructions for completing a license activation request in this region. Follow the instructions, but be sure to include all required information as described in this appendix.

   Note: If you use the process described in this guide, you do not have to wait for the day of the update to obtain the VMD ID.

2. Complete the license request form, providing the information required for an update. See "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13.

3. You *must* open a Maestro case by calling GRC at 781-331-0860 and submit the license request form at least 72 business hours (nine working days) *prior* to the **Requested Completion Date**.

4. When completed, send the license request form and the Maestro case ID by fax to +011 5255 78787825 to the Global Response Center (GRC).

   Note: Include the Maestro case ID in any future correspondence and emails.

License file generation and license activations are completed during local business hours *only*. There are no after hours activations. Plan accordingly to obtain the license file in time for the scheduled update.

Submitting requests in Canada

The recommended procedure for Business Partners and Direct Customers is:

1. Obtain the current instructions for completing a license activation request in this region. Follow the instructions, but be sure to include all required information as described in this appendix.

   Note: If you use the process described in this guide, you do not have to wait for the day of the update to obtain the VMD ID.

2. Complete the license request form, providing the information required for an update. See "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13.

3. You *must* open a Maestro case at least 5 (five) working days *prior* to the **Requested Completion Date**. To open a Maestro case:

   - Call Avaya at 1-800-387-4268

- Go to http://webticketing.avaya.com and open a case. Use description **License activation for MM 1.1** and priority **Severity 2**.

4. Submit the license request form at least 5 (five) working days *prior* to the **Requested Completion Date**.

5. When completed, send the license request form and the Maestro case ID by fax to (905) 752-8609.

> **Note:** Include the Maestro case ID in any future correspondence and emails.

License file generation and license activations are completed Monday through Friday between the hours of 8 AM and 5 PM EST *only*. There are no after hours activations. Plan accordingly to obtain the license file in time for the scheduled update.

Submitting requests in EMEA

The recommended procedure for Business Partners and Direct Customers in the Europe, Middle East, and Africa (EMEA) region is:

1. Obtain the current instructions for completing a license activation request in this region. Follow the instructions, but be sure to include all required information as described in this appendix.

> **Note:** If you use the process described in this guide, you do not have to wait for the day of the update to obtain the VMD ID.

2. Complete the license request form, providing the information required for an update. See "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13.

3. You *must* submit the form at least 2 (two) working days *prior* to the **Requested Completion Date**.

4. When completed, submit the license request form to the Regional Technical Support Center (RTSC) based in Budapest, Hungary:

   - Email: cscservices@avaya.com
   - Fax: +31-70-414- 8799

> **Note:** The RTSC will return a Maestro case ID. Include this case ID in any future correspondence and emails.

License file generation and license activations are completed Monday through Friday between the hours of 9 AM and 6 PM CET *only*. There are no after hours activations. Plan accordingly to obtain the license file in time for the scheduled update.

Submitting requests in North America (excluding Canada)

For Business Partners and Direct Operations in North America (including the United States but not Canada), the recommended procedure is:

1. Obtain the current instructions for completing a license activation request in this region. Follow the instructions, but be sure to include all required information as described in this appendix.

   Note: If you use the process described in this guide, you do not have to wait for the day of the update to obtain the VMD ID.

2. Complete the license request form, providing the information required for an update. See "Modular Messaging R1.1 license request - IBM Lotus Domino system" on page A-13.

3. When finished, send the completed file by email to osg@.avaya.com. The file *must* be transmitted in electronic form to minimize errors in transcribing values (such as the VMD ID).

License file generation and license activations are completed Monday through Friday between the hours of 6 AM and 5 PM Pacific Time *only*. There are no after hours activations. Plan accordingly to obtain the license in time for the scheduled update.

For licensing questions, contact:

- Email: osg@avaya.com
- Avaya Direct: 408-922-1822
- Business Partners: 877-295-0099

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Removing Modular Messaging components

Overview

This appendix describes how to remove Modular Messaging software components from a machine where they are currently installed. You might use this procedure if you want to change the Messaging Application Server (MAS) on which a particular feature is installed, or to remove Modular Messaging software packages or tools from a Microsoft Windows machine that is used for administration.

Removing software components

To remove Modular Messaging software components:

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 locate the Modular Messaging software components installed on this machine.

   All Modular Messaging components begin with **MM**.
4. Click the Modular Messaging software component you want to remove (for example, click **MM Caller Applications Editor**).
5. Click **Remove**.
6. If prompted to confirm the deletion:

   - Click **Yes** to remove the selected component.

- Click **No** to leave this component installed on this machine.

When the component removal is complete, the next item in the Add/Remove Programs window is selected.

7. Repeat Steps 3 through 6 to remove additional software components, if needed.

8. When finished, close this window.

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