AVAYA

Modular Messaging

Release 1.1
Installation

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.

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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.

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

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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
  • 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

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.

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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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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.

Contents

Chapter 2   Installing the system hardware

Chapter 3   Powering up the system and performing initial MSS administration

Chapter 4   Administering the Avaya MAS

Chapter 5   Completing initial administration

About this book

Purpose

This book, *Avaya Modular Messaging Release 1.1 Installation*, Issue 3, contains instructions for installing the Avaya Modular Messaging software in an Avaya S3400-family message server setup. Information includes equipment set up, configuration, initial administration, and acceptance testing.

Instructions for updating the messaging software or reinstalling the operating system and application software on S3400-family message servers are also included.

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

Intended audience

This book is intended primarily for on-site technical personnel who are responsible for installing, configuring, or updating the hardware and software for S3400-family message servers. We assume that the users of this book have completed a relevant hardware installation training course. See *Related resources* in this preface for information on training.

Changes to this book

Changes from Issue 2 (June 2003) to Issue 3 include:

- New configuration wizards that streamline initial MAS administration have been added to Chapter 4, "Administering the Avaya MAS."

- Serviceability information for INADS and SNMP alarming has been added to Chapter 4, "Administering the Avaya MAS," and Chapter 5, "Completing initial administration."

- Chapter 6, "Updating Modular Messaging software," has been added to support Modular Messaging Release 1.0 to Release 1.1 updates.

- Appendix A, "System planning forms," and Appendix E, "Reloading the software on an MAS," have been updated for the latest software.

- Appendix G, "Removing Modular Messaging components from an MAS," has been added.

How to use this book

Before you begin a new installation:

1. Complete *all* the worksheets listed in Appendix A, "System planning forms." You *cannot* do a new installation without having this material complete and accurate. Some of the material *must* be provided in advance by the customer.

2. Read Chapter 1, "Preinstallation requirements." This chapter covers prerequisites and site preparation, including the documentation, tools, and equipment you will need to complete an installation.

3. From there, read and use each chapter in the order presented. Procedures are listed in the order in which you must perform them.

    Print Appendix B, "Installation checklist," and use it to track your progress during the installation.

Before you attempt to update or repair a system that is already installed:

- Obtain a copy of the completed worksheets listed in Appendix A, "System planning forms." Any information you enter *must* exactly match what was previously administered on the system.

- *For a software update:* Go directly to Chapter 6, "Updating Modular Messaging software." Obtain the software and documentation listed in the Overview section. Proceed with the update as directed.

- *For a hard disk repair:* Go directly to Appendix F, "Recovering from a catastrophic disk failure." Proceed as directed.

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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 online catalog for more information on other books and CD-ROMs in the documentation set.

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 your 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, prompt 2, then 2.

- Within any other country: call your local distributor.

Help on the system

Online help is available for both the system and administration command-line screens. On the web-interface screens, use the **Help** button. On the command-line interface, press **F6** (Choices) from the field for which you want the help.

Training

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

How to comment on this book

We are 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 number	303-538-9625

Please be sure to include the name of this book:

Avaya Modular Messaging Release 1.1 Installation, Issue 3.

1

Preinstallation requirements

This chapter describes requirements and prerequisites for installing the Avaya Modular Messaging software in a new Avaya S3400-family message server setup.

Section	Page
Required documentation	1-2
• Information on the web	1-2
• Documentation and software shipped with the system	1-3
Security considerations	1-4
• Customer's responsibility for their system's security	1-4
• On-site security	1-5
• System security	1-5
Test equipment and tools	1-6
Initial switch and LAN administration	1-7
Site requirements for Avaya message servers	1-8
• Environmental requirements	1-8
• Weight and space considerations	1-8
• Customer-provided cabinet requirements	1-9
• Installation area requirements	1-9
• Power requirements	1-10
• Grounding requirements	1-10
• Demarcation points	1-11

Required documentation

The following documentation is required to install an S3400-family message server system. Some of this information can only be obtained from the Avaya web site. Other information is available in the *Avaya Modular Messaging Documentation* files on CD and DVD shipped with the system software. However, the 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:

- The 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. Access the www.avaya.com/support web site.

    b. Under **Technical Database**, click **Messaging**.

    c. Click **Modular Messaging**.

    d. Under **General Info**, download or print the appropriate configuration notes for your switch integration.

    > **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 checklist from Appendix B, "Installation checklist," are also accessible from this web site. To download the Word or PDF version:

    a. Under **R 1.1**, click **General Reference**.

    b. Click the **System Planning Forms** link to download or print the files appropriate for your configuration.

- Additional information needed for installing a new system is 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 the *Avaya Modular Messaging Release 1.1 Documentation* link.

    c. Select the appropriate configuration (such as *Avaya Modular Messaging with the Avaya MAS and MSS*).

    d. On the main page, under **Reference**, download the files you need:

        - The appropriate Dialogic port board installation documents for this site (see Table 2-2 on page 2-4 for details)

■ The *Avaya Modular Messaging Subscriber Options User Guide* (585-310-789, PDF 1 MB), used for acceptance testing

e. In the **Message Storage Server (MSS) Administration** section, under **Backup and Restore**, print the MSS backup procedures: "Backing up system files (attended)" and "Backing up system files (unattended)".

Documentation and software shipped with the system

The following software and documentation 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 an MAS that is running Modular Messaging Release 1.0 software to the current release • Accessing a copy of the documentation files (see contents listed under the documentation CD)
Avaya Modular Messaging Documentation CD (2 copies are shipped, one for the customer and one for the technician)	Accessing required documentation, including: • The Dialogic port board installation documents listed in Table 2-2 on page 2-4 • *Avaya Modular Messaging Subscriber Options User Guide* (585-310-789, PDF 1 MB), used for acceptance testing • *Avaya Modular Messaging Client Add-in for Microsoft Outlook User Guide* (PDF 1 MB), if used at this site instead of Subscriber Options • Backup and restore procedures for the MSS
Avaya Modular Messaging Message Storage Server (MSS) Software CD	• Updating an MSS that is running Modular Messaging Release 1.0 software to the current release • Reinstalling the boot-image software if needed, such as after a catastrophic disk failure. See Appendix D, "Reloading the software on an MSS," for this procedure.
Avaya Modular Messaging OS Boot Software DVD	• Reinstalling the boot-image software if needed, such as after a catastrophic disk failure. See Appendix E, "Reloading the software on an MAS," for this procedure.
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 Modular Messaging Release 1.0 MAS
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
MSS software CD	Identical to the CD shipped with the DVD set

Security considerations

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

Customer's responsibility for their system's security

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 the recommendations, installation instructions, and system administration documents provided with the product in order to understand the features that can introduce risk of toll fraud and the steps that need to be taken to reduce that risk.

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 will not be 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 intends to strengthen relationships with its customers and its support of law enforcement officials in apprehending and successfully prosecuting those responsible.

Suspected security vulnerabilities with Avaya products should be reported to Avaya by sending mail 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, please report all toll fraud incidents perpetrated on Avaya services to Avaya Corporate Security. 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 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 the system's physical location as described in this section.

Password security

To protect password security:

- Do not leave written passwords laying out or allow anyone to see them.

- At the first opportunity, give the passwords directly to the customer's designated representative.

- If you suspect that the security of any password has been compromised, notify your 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.

- Do not configure any unassigned mailboxes.

Note:	Unassigned mailboxes are mailboxes that have an extension, but no subscriber assignment.

- Always log off or lock the server if you will be leaving 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.

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.

- If fax messaging is to be installed, you need access to a fax machine.

- 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.

Initial switch and LAN administration

This section describes the initial switch or Private Branch Exchange (PBX) and local area network (LAN) administration that must completed by the customer before or during a new S3400-family message server installation.

Initial switch or PBX administration

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

- For configurations that use analog and DSE port boards, testing each channel to be connected to the system before assigning the channels to the server or another application. During this testing, you must be able to call each channel individually.

- Testing the system with at least one test subscriber.

- Performing cut-to-service procedures that provide the subscribers with an active coverage path.

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 prior to your arrival on site. 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 addresses, 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 the Avaya S3400-family message server with those on the corporate LAN. If you specify an IP address for a message server that conflicts with another Ethernet endpoint, the resulting traffic problems on the local area network may be extremely difficult to diagnose and solve.

Site requirements for Avaya message servers

This section describes the physical requirements for the installation site, including environmental, weight, space, and power considerations for Avaya S3400-family message servers.

Environmental requirements

Table 1-1 lists the environmental conditions that must be maintained in the area where the S3400-family message server is installed and maintained.

Table 1-1. Environmental requirements

Operating state	Temperature	Maximum heat output	Humidity (noncondensing)
Operating	+10 to +35ºC (+50 to +95ºF)	*MAS:* 730 BTU/hr *MSS-S:* 352 BTU/hr *MSS-H:* 682 BTU/hr	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 1-2 lists the weight, height, width, and depth of each Messaging Application Server (MAS) and the Message Storage Server (MSS). At least one MAS and the MSS message store are required for every S3400-family message server installation.

Table 1-2. Server weight and space considerations

Server	Weight (full)	Height	Width	Depth
Avaya Messaging Application Server (MAS)	40 lb. (18.1 kg) (without port boards)	6.8 in. (17 cm)	16.9 in. (43 cm)	18.9 in. (48 cm)
Avaya Message Storage Server Standard Availability version (MSS-S)	41 lb. (18.6 kg)	6.8 in. (17 cm)	16.9 in. (43 cm)	18.9 in. (48 cm)
Avaya Message Storage Server High Availability version (MSS-H)	52 lb. (23.6 kg)	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 S3400-family message server 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 servers' weight.

- The sliding rails and extender brackets provided with each server are designed for mounting in cabinets 22.5 to 32 inches in depth.

- The customer-provided cabinet must be secured to the floor before attempting to mount any units.

- The cabinet height needs to accommodate the number of units to be mounted (see Table 1-2 for server height). It may also need to hold the MAS modems and optional equipment such as the KVM switch and UPS units (see Figure 2-1 on page 2-7 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 S3400-family message server such that the ventilation or fan openings will be 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 and/or CSA Certified. 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.

> ⚠ **ATTENTION:** Pour réduire les risques d'incendie, utiliser uniquement des conducteurs de télécommunications 26 AWG au de section supéleure.

- 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 1-3 lists the power requirements for the S3400-family servers. The AC power supply source needs to 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 1-3.   Server 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
MSS-S	1	100-240 +/– 10%	50/60 +/– 3 Hz	10/5
MSS-H	2	100-240 +/– 10%	50/60 +/– 3 Hz	6/3 for each supply

Consideration must be given to the server connection to a branch circuit with respect to overload or overcurrent protection. Check the system's 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 S3400-family message server 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 S3400-family message servers *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 S3400-family message server is the wall field for Avaya switches.

For non-Avaya switches, it 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 S3400-family message server is the physical Ethernet interface on the server that connects to the corporate LAN. The customer is responsible for:

- The LAN cables that connect the Avaya S3400-family message server to the corporate system (unless the customer uses the Avaya-provided cables, in which case the demarcation point is the modular connector at the end of the LAN cables).

- LAN administration not performed on the S3400-family message server.

- 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's LAN.

2

Installing the system hardware

This chapter describes how to install the S3400-family message server system hardware.

> **Note:** Before you can successfully complete the tasks in this section, you must have read Chapter 1, ''Preinstallation requirements,'' and verified that all preinstallation requirements have been met.
>
> If any of the preinstallation requirements have *not* been met, *do not* continue with the hardware installation tasks in this chapter.

Overview

An Avaya S3400-family message server system contains two servers: a Message Storage Server (MSS)—either the Avaya Message Storage Server Standard Availability version (MSS-S) or the Avaya Message Storage Server High Availability version (MSS-H)—and one or more Avaya Messaging Application Server (MAS) units. The servers are connected through a private Ethernet LAN to operate as a unified system.

This chapter is organized as follows:

- "Unpacking the system hardware" on page 2-3

- "Installing the system hardware" on page 2-6

Because an S3400-family system installation requires many steps, make a copy of the checklist in Appendix B, "Installation checklist." Check off items as you complete them to track your progress.

Unpacking the system hardware

This section lists the required and optional hardware that is needed to successfully install an S3400-family message server system.

Required and optional hardware

Table 2-1 lists the required and optional hardware needed to set up an S3400-family system. Verify that all the hardware components needed for this installation are on site.

Table 2-1.   Required and optional hardware

Item	Quantity	Required/optional
S3400-family system components:		
Message Storage Server (MSS)—either the Avaya Message Storage Server Standard Availability version (MSS-S) or the Avaya Message Storage Server High Availability version (MSS-H)	1	required
Avaya Messaging Application Server (MAS)	1 minimum, 4 maximum	required
Server AC power cables	1 per Avaya MAS server, 1 per MSS-S server, 2 per MSS-H server	required
Front bezel	1 per server	required
Rack-mount assembly (rails, handles, brackets, and connecting hardware) *and* rubber spacers for stackable desktop configuration	1 set of each per server; use mount type required	required
Ethernet switch (includes power transformer and rubber spacers)	1	required
Ethernet LAN cables	2 per server	required
MSS-specific components:		
COM2 port adapter to RMB cable	1	required
External modem adapter for RMB with long cable	1	required only for International customers
DVD backup media	1 box	required
MAS-specific components:		
USB modem (includes USB cable)	1 per MAS server	required
Port board cables (see Table 2-2)	1 set per port board	required for port boards

Table 2-1. Required and optional hardware

Item	Quantity	Required/optional
Other:		
Monitor (includes power cord and VGA cable)	1	optional; may be customer-provided
Keyboard and mouse (includes cords and Y cable)	1 set	optional; may be customer-provided
KVM switch (includes power transformer)	1 KVM switch	optional; other models of switching devices may be used
KVM switch cable to each server	1 cable per server	
includes 1 set of rack-mount brackets *if needed for rack-mount setup*	1 set if needed	
Uninterruptible power supply (UPS) with required power cord	1	• required for MSS-H; model may vary
includes 1 set of rack-mount brackets *and* rubber spacers for a stackable setup		• optional for MSS-S and Avaya MAS
Extended battery module (EBM) with required power cord	1 to 4	optional; may be ordered with the UPS
includes 1 set of rack-mount brackets *and* rubber spacers for a stackable setup		

Table 2-2 lists supported port boards. The appropriate cards are preinstalled in the Avaya MAS, but the external cabling must be connected, and the cards must be configured during initial administration. The cabling varies per type of card.

Table 2-2. Supported MAS port boards

Protocol	Ports	Port boards	Max #	Dialogic files on documentation CD
Analog	4 - 8	Dialogic 4-port T/R board	2	**D/41JCT-LS** (PDF 133K)
	12 - 48	Dialogic 12-port T/R board	4	**D/120JCT-LS** (PDF 131K)
Digital Set Emulation	8 - 40	Dialogic D/82JCT-U	5	**D/82JCT-U** (PDF 240K)
		Dialogic D/82JCT-U-PCI-UNIV		**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)

Additional required documentation, particularly the configuration notes for your PBX or switch, must be obtained from the Avaya support web site. See "Required documentation" on page 1-2 for this procedure.

Saving the packing materials

Save the shipping cartons and all packing materials in case any hardware needs to 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 may 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 Ethernet switch, monitor, keyboard/mouse, all required modems, and the UPS and any EBMs (if used).

Installing the system hardware

This section covers how to install the required and optional system hardware. Hardware components that are optional are noted in the text. For more information about required and optional hardware, see Table 2-1 on page 2-3.

The system 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 systems.

Only one Message Storage Server (MSS), either an MSS-S or an MSS-H, is installed per system. Up to four Avaya Messaging Application Server (MAS) units may be installed in a S3400-family system.

Figure 2-1 on page 2-7 shows an example of an installed rack-mount system.

Note:	The sample figure shows the MSS-H and Avaya MAS servers with their front bezels removed.

Figure 2-1. Example of an installed rack-mount system (front view)
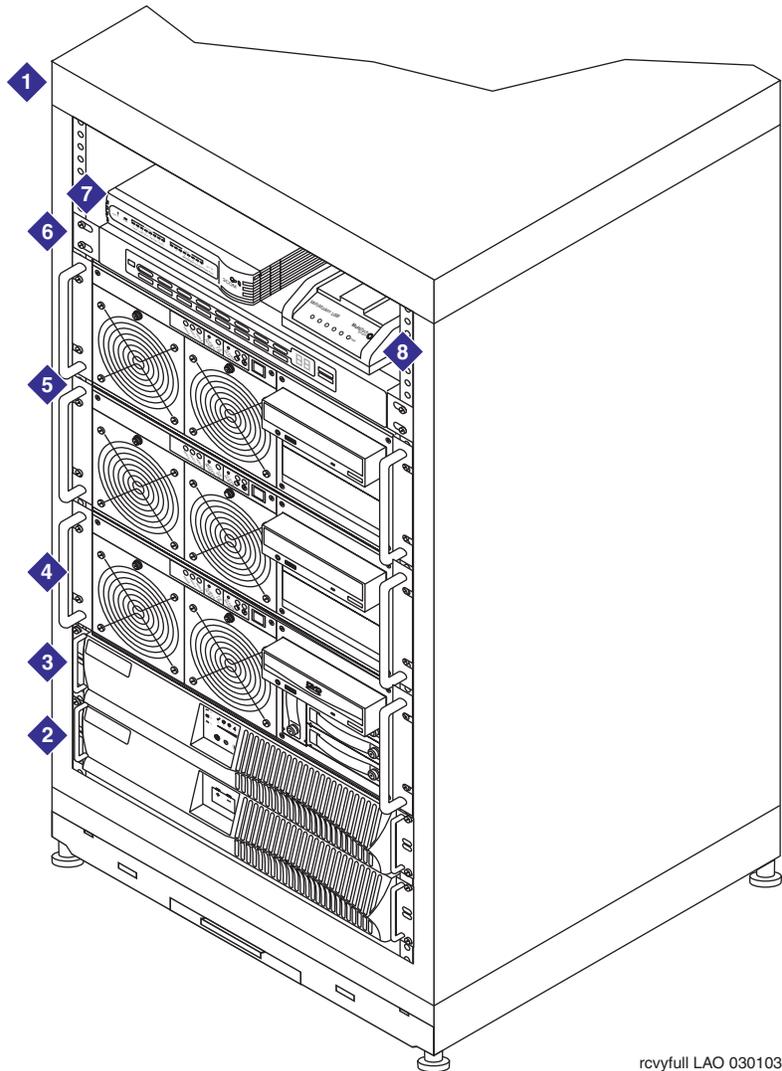
rcvyfull LAO 030103

1	Customer-provided cabinet (type may vary; see physical requirements in "Installation area requirements" on page 1-9)
2	EBM (optional; 0 to 4 may be installed with a UPS)
3	UPS (required for MSS-H, optional for MSS-S; model may vary)
4	Required Message Storage Server (MSS), may be the MSS-H or MSS-S
5	Avaya Messaging Application Server (MAS); 1 to 4 units may be present
6	KVM switch (type may vary)
7	Ethernet switch (one is always required)
8	External modem; one is required for every Avaya MAS

Installing the UPS and optional EBMs

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

- Customers may order a different model of UPS, or supply their own. See the documentation that came with the UPS for instructions if needed.

- If the customer did *not* purchase a UPS, continue with the next section, "Installing the S3400-family servers" on page 2-12.

The UPS is a required component for the MSS-H but is optional for the MSS-S. The UPS protects the system from most common power problems including power failures, power sags, power surges, and so on.

The EBM is an optional component that works in conjunction with the UPS to add additional run time for the system. The customer has the option of adding 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" on page 2-8.

- For a stackable desktop configuration, see "Installing the UPS and any EBMs as a stackable configuration" on page 2-10.

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 the S3400-family servers, 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

brvyupsm LAO 110202
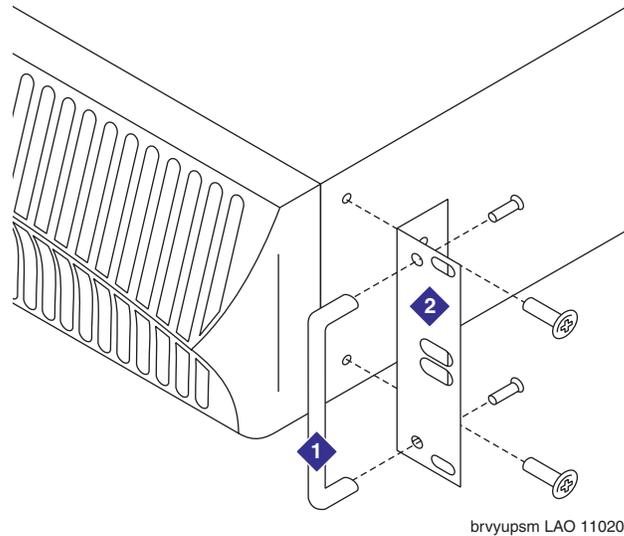
4. Align the mounting brackets with the screw holes on the side of the UPS and secure using the supplied screws. See item 2 in Figure 2-2.

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 need 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 2-11.

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. See Figure 2-3 for the location of these screws. If you do *not* have any EBM units, go to step 4.

Figure 2-3. Attaching connecting brackets between a UPS and EBM (back view)
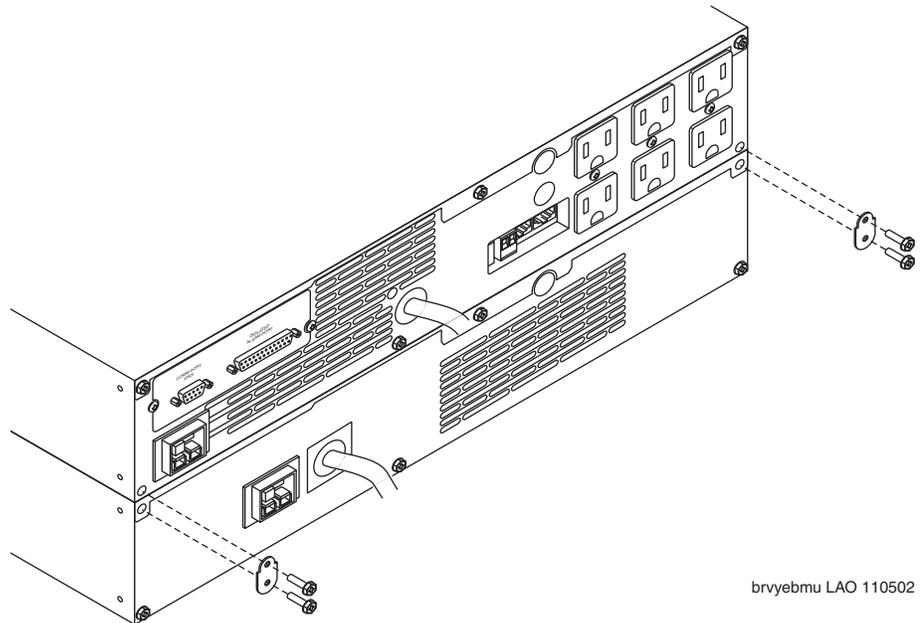
brvyebmu LAO 110502

2. Install the EBM brackets by aligning each bracket with the screw holes and secure the bracket 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 S3400-family system 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 need to 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 may be connected to the UPS.

Figure 2-4.   Connecting a UPS and an EBM (back view)
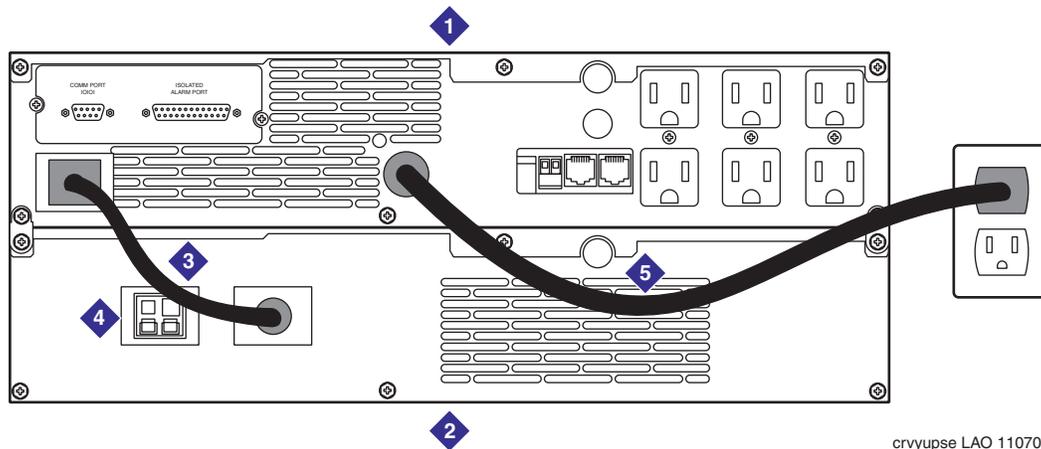
crvyupse LAO 110702

1	UPS (model may vary; see the provided documentation for details)
2	EBM (optional; 0 to 4 may 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 S3400-family servers

This section describes each of the S3400-family servers, and how to install them in a customer-provided commercial cabinet or in a stackable desktop configuration.

Identifying the server components

This section describes the key components of each of the S3400-family servers, including the MSS-S, MSS-H, and Avaya MAS.

Key components of the MSS-S

Figure 2-5 shows the Avaya Message Storage Server Standard Availability version (MSS-S) .

Figure 2-5. MSS-S standard configuration (front view with bezel removed)
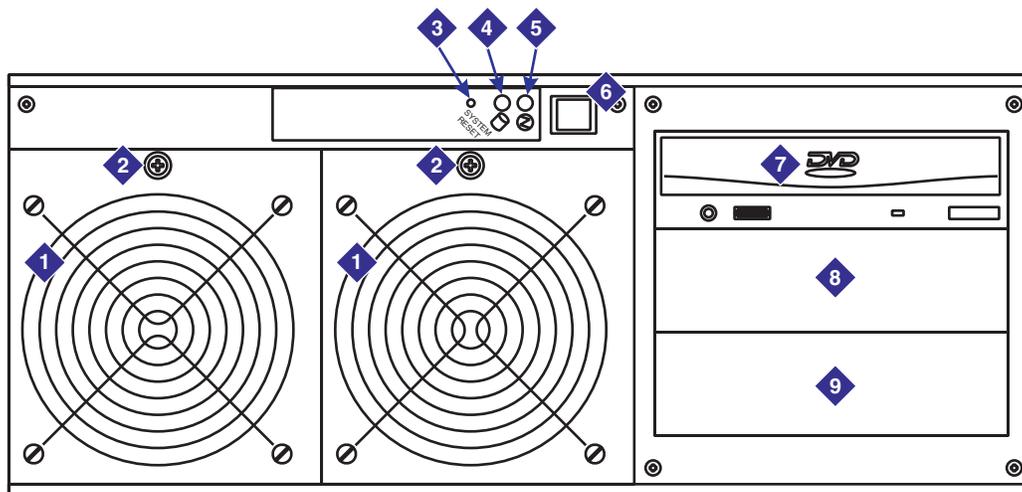
h3vyvmsf LJK 120602

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-RAM drive
8	IDE RAID disk drive C (hdc)
9	IDE RAID disk drive A (hda)

Figure 2-6 shows the back view of a Avaya Message Storage Server Standard Availability version (MSS-S) .

Figure 2-6.   MSS-S standard configuration (back view)
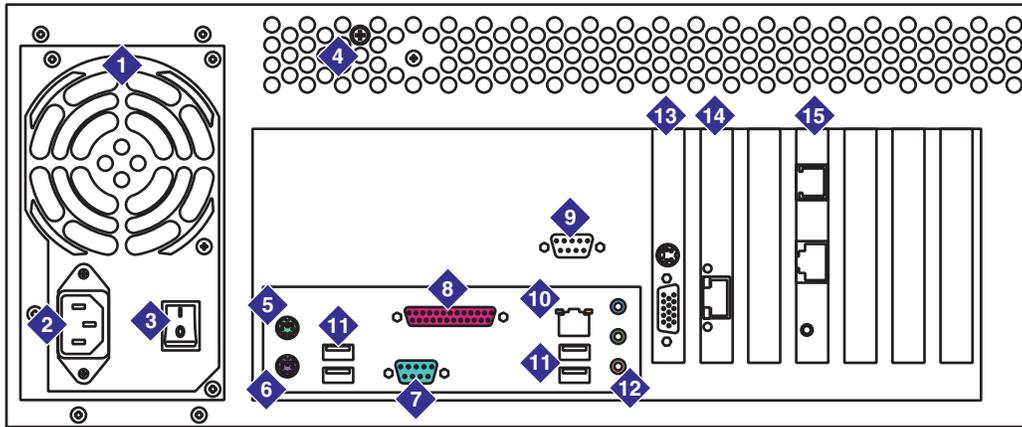
h3vyvmsb LJK 120202

1	Power supply
2	AC power receptacle
3	Power supply on/off switch
4	Latch for top cover
5	Mouse connector
6	Keyboard connector
7	Serial port (COM1)
8	Parallel port (not used)
9	Serial port (COM2), used for the Remote Maintenance Board (RMB)
10	Corporate LAN interface
11	USB ports
12	Audio connectors (not used)
13	Video card (contains monitor connector)
14	Network interface card (used for the private LAN to the Avaya MASs)
15	Remote Maintenance Board (connects to analog line for alarm reporting and servicing; international versions require an external modem)

Key components of the MSS-H

Figure 2-7 shows the Avaya Message Storage Server High Availability version (MSS-H).

Figure 2-7. MSS-H high-availability configuration (front view with bezel removed)
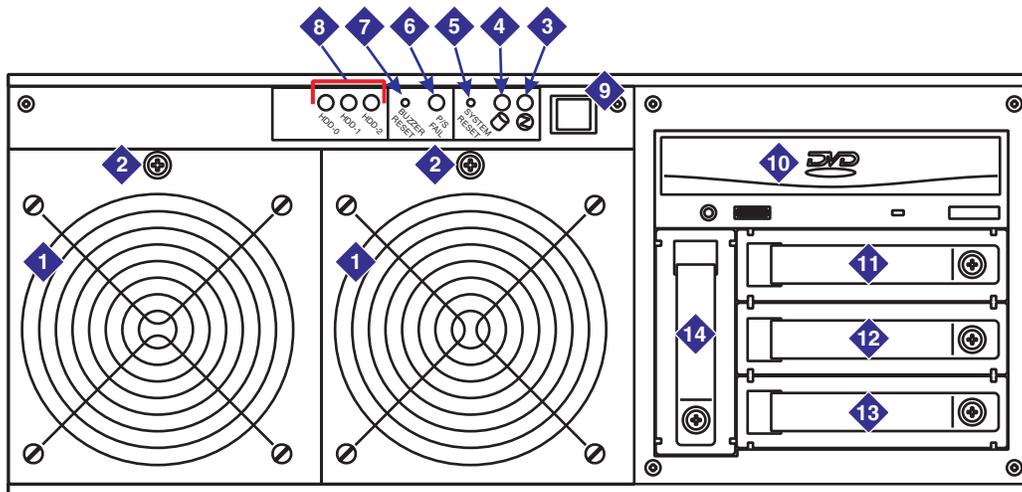
h3vyvmhf LJK 120602

1	Redundant chassis fans
2	Chassis fan retaining screw
3	System power indicator
4	Disk drive access indicator showing activity on any hard disk drive
5	System reset button
6	Power supply failure indicator
7	Power supply alarm buzzer reset switch
8	Disk drive access indicator for each hard disk drive (HDD 0, 1, and 2)
9	System power on/off button
10	DVD-RAM drive
11	SCSI RAID drive 0 (HDD 0)
12	SCSI RAID drive 1 (HDD 1)
13	SCSI RAID drive 2 (HDD 2)
14	SCSI fan tray

Figure 2-8 show the back view of a Avaya Message Storage Server High Availability version (MSS-H).

Figure 2-8. **MSS-H** high-availability configuration (back view)
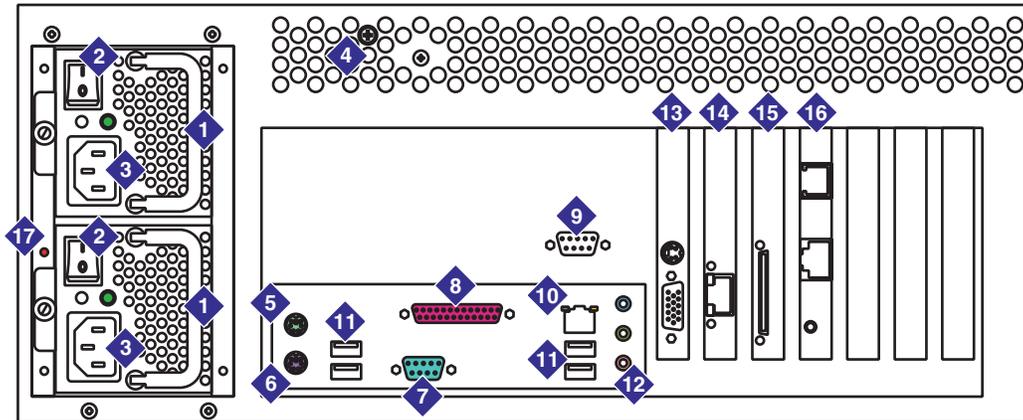
h3vyvmhb LJK 120202

1	Redundant power supply
2	Power supply on/off switch
3	AC power receptacle
4	Latch for top cover
5	Mouse connector
6	Keyboard connector
7	Serial port (COM1)
8	Parallel port (not used)
9	Serial port (COM2), used for the Remote Maintenance Board (RMB)
10	Corporate LAN interface
11	USB ports
12	Audio connectors (not used)
13	Video card (contains monitor connector)
14	Network interface card (used for the private LAN to the Avaya MASs)
15	SCSI RAID controller card
16	Remote Maintenance Board (connects to analog line for alarm reporting and servicing; international versions require an external modem)
17	Reset switch for faulty power supply alarm

Key components of the MAS

Figure 2-9 shows the Avaya Messaging Application Server (MAS). You may have up to four Avaya MASs per S3400-family system.

Figure 2-9. Avaya MAS (front view with bezel removed)
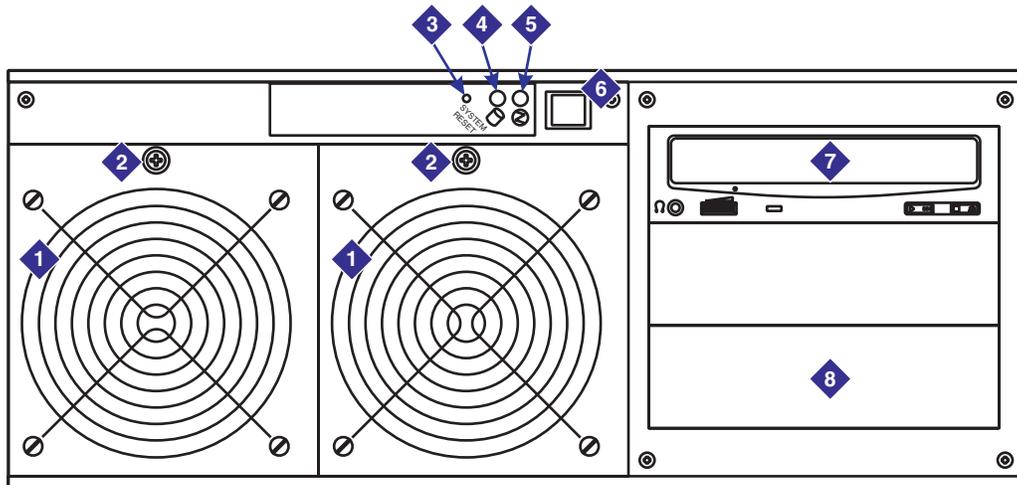
h3vyvvsf LJK 120602

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 2-10 shows the back view of an Avaya Messaging Application Server (MAS).

Figure 2-10.   Avaya MAS (back view)
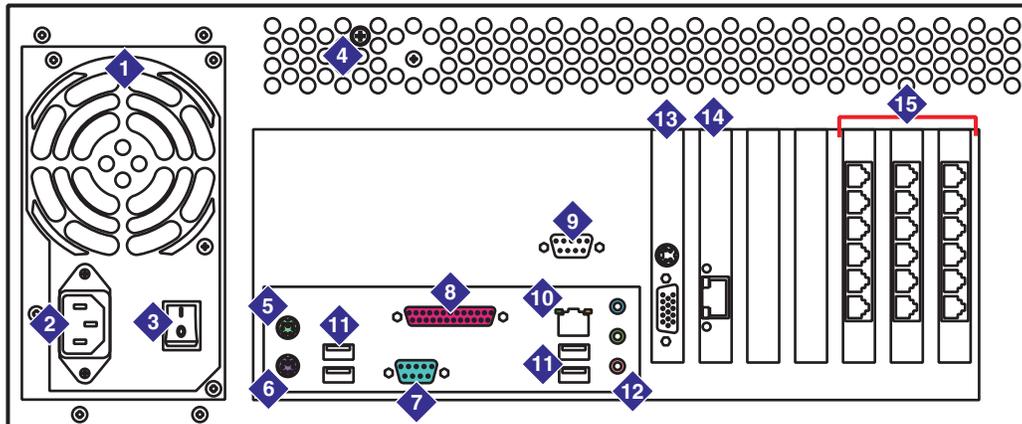
h3vyvvsb LJK 120202

1	Power supply
2	AC power receptacle
3	Power supply on/off switch
4	Latch for top cover
5	Mouse connector
6	Keyboard connector
7	Serial port (COM1)
8	Parallel port (not used)
9	Serial port (COM2)
10	Corporate LAN interface
11	USB ports, one of which is used for the required modem
12	Audio connectors (not used)
13	Video card (contains monitor connector)
14	Network interface card (used for the private LAN to the MSS)
15	Port boards (type varies from machine to machine). Up to five 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 IP H.323 integrations. See Table 2-2 on page 2-4 for details.

Attaching the front bezel

The front bezel must be attached to each S3400-family server as described.

1. Insert the bottom of the front bezel into the chassis. See item 1 in Figure 2-11.

2. Push the bezel upright until the two upper tabs snap into place under the top cover.

Figure 2-11. Attaching the front bezel

fpvymssb LAO 022803
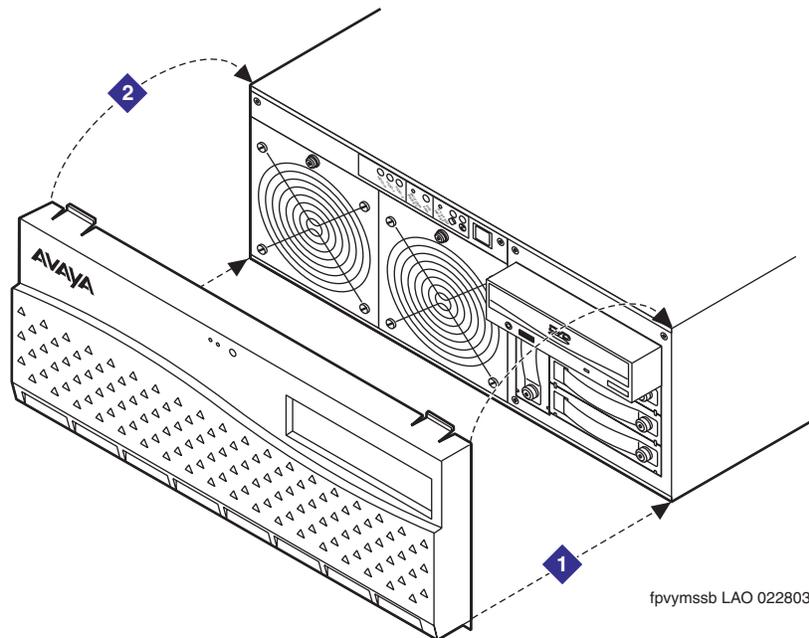
Installing the S3400-family servers in a rack-mount or stackable setup

The S3400-family servers 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 your site:

- "Installing the servers in a rack-mount configuration" on page 2-19

- "Installing the servers in a stackable desktop configuration" on page 2-21

> ⚠ **CAUTION:** The S3400-family servers are heavy. Get another person to assist you with lifting and placing the server units.

Installing the servers in a rack-mount configuration

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

Note:	The MSS-S or MSS-H is typically installed directly above the UPS. If the customer did not purchase a UPS, install the MSS-S or MSS-H in the lowest available position in the cabinet. The first Avaya MAS is typically installed directly above the MSS.
	If the customer purchased more than one MAS, you typically install each additional MAS above the first MAS. However, all the servers in an S3400-family system 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 2-3.

Table 2-3. Required rack-mount hardware

Part	Quantity
Extension bracket (two different lengths may 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 may 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 a server into a rack:

1. Gather the necessary rack-mount hardware as listed in Table 2-3.

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 2-12 on page 2-20.

   b. Align the mounting bracket with the screw holes on the side of the server and secure using the supplied flat-head screws. See item 2 in Figure 2-12.

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

   a. Remove the two screws and retaining bar on the rail slide just before the server-retaining latch. Set them aside for later. See item 3 in Figure 2-12.

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 2-12.

> **Note:** The rack-mount rails are labeled **L** for left and **R** for right. Verify that you are installing each rail on the correct side.

Figure 2-12. Attaching server mounting handles, bracket, and rack-mount rail assembly
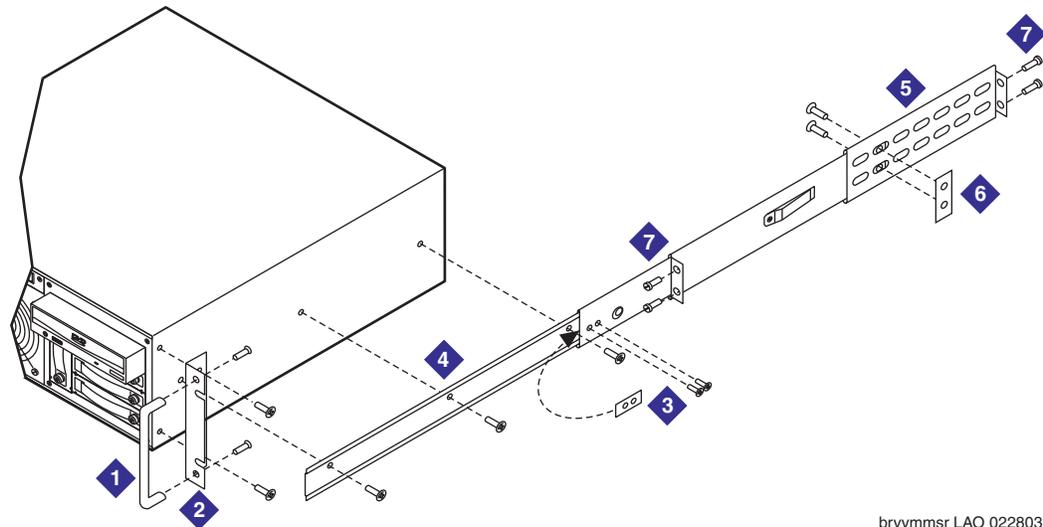
brvymmsr LAO 022803

5. Position the extension bracket on end of the rail slide to provide the depth needed for the server to fit in the rack. A couple of extension brackets may be shipped; choose the correct length for your cabinet. See item 5 in Figure 2-12.

6. 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 2-12.

7. Connect the extension bracket and rail slide to the customer-provided four-post rack using the correct customer-provided hardware for that model of cabinet. See item 7 in Figure 2-12.

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

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

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

11. Slide the server completely into the rack. Ensure that the server moves smoothly in an out of the rack.

12. Reattach the two screws and retaining bar on the rail slide just before the server-retaining latch (item 3 in Figure 2-12, from step 4a).

13. Repeat steps 2 through 10 for each server that needs to be installed.

14. When all servers are mounted, continue with "Connecting the S3400-family power cables" on page 2-22.

Installing the servers 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.

⚠ **CAUTION:** For safety, do not stack more than two servers atop one another; use multiple stacks if needed. If you have a UPS *and* an EBM, stack only one server on top of them.
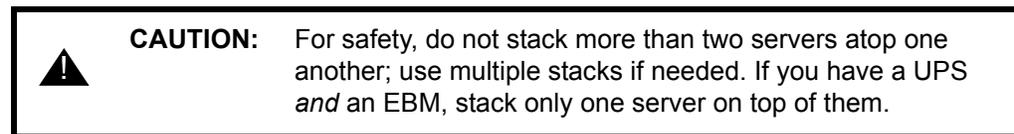
See Figure 2-13 for a sample configuration.

Figure 2-13. Installing rubber spacers for a stackable desktop configuration

prvyfeet LAO 120402
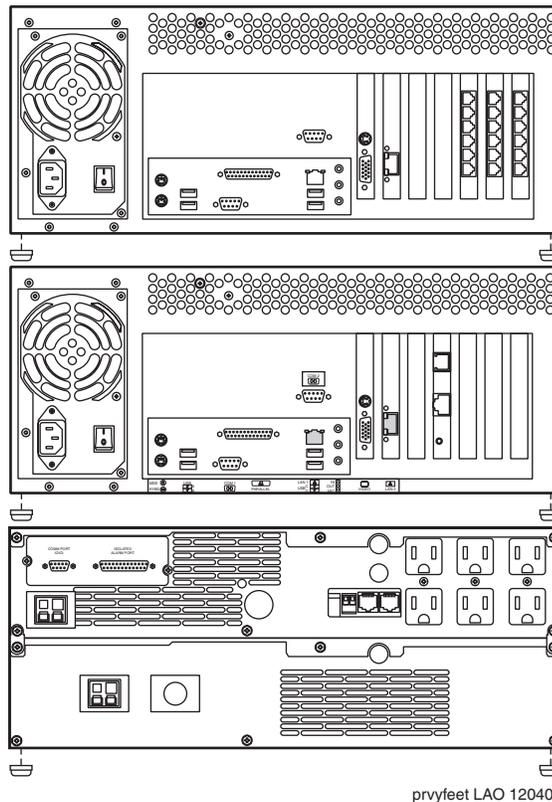
To install the servers in a stackable desktop configuration:

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 2-13 on page 2-21 for an example.

3. Position the UPS (if present), or the MSS (if no UPS is present) in an appropriate location. See "Site requirements for Avaya message servers" on page 1-8 for details.

4. Place the MSS-S or MSS-H on top of the UPS (if present).

5. Place the first (required) Avaya MAS on top of the MSS.

6. If the customer purchased additional Avaya MASs, create a second stack, placing each additional MAS on top of the last one.

Connecting the S3400-family power cables

See the figures in "Installing the S3400-family servers" on page 2-12 if you need help locating the power connections on the back of the servers.

To connect the power cables:

1. Connect the female end of the power cable for the MSS to the male power connector located on the back of the MSS-S or MSS-H.

2. Connect the male end of the MSS power cable to an AC receptacle located on the back of the UPS (if present), or to an appropriate AC power outlet. See Figure 2-14 for an example.

3. *For an MSS-H:* repeat steps 1 and 2 for the second MSS-H power supply.

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

5. 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.

6. *If you have more than one MAS:* repeat steps 4 and 5 for each MAS.

7. If the customer is using a UPS, connect the UPS power cable into an appropriate AC power outlet.

Figure 2-14. Attaching power cables to a UPS (sample configuration)
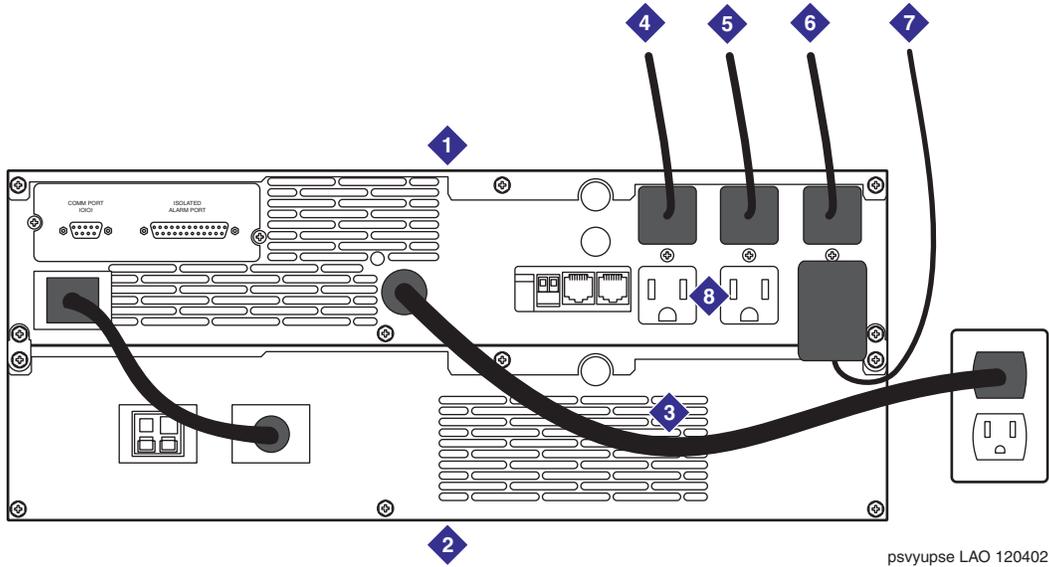
psvyupse LAO 120402

1	UPS (model may vary; see the provided documentation for details)
2	EBM (optional; 0 to 4 may be installed)
3	UPS power cable to a grounded AC power outlet
4	AC power cable to required MSS
5	AC power cable to required MAS
6	AC power cable for redundant power supply on MSS-H (if an MSS-H is installed) or for an additional Avaya MAS (up to 4 may be installed)
7	AC-to-DC transformer for Ethernet switch
8	Additional AC sockets; use as needed for external modems, the KVM switch and monitor (if desired), or any additional MASs

Connecting the MAS port boards

An Avaya MAS may have up to five port boards installed. See Table 2-2 on page 2-4 for a list of supported Dialogic port boards and their associated documentation. PDF files of the Dialogic installation guides are on the documentation media shipped with the system.

> **Note:** If this MAS uses an IP H.323 integration, no port boards are present. Continue with "Installing the KVM switch" on page 2-25.

Connect the cables supplied with your voice port board to the switch as follows:

1. Identify the type of port boards installed in your MAS.

> **Note:** Check the numbering on the board's faceplate to make sure that you are connecting the correct cord to the correct port.

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 may also be used). Note which cables connect to which ports.

    b. The other end of the cable should be connected to an analog line on the corporate switching system. The entity 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 should be connected to a 4-wire punch-down block on the corporate switching system.The entity 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 the provided RJ-48C (Ethernet) cable.

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

Installing the KVM switch

A keyboard, video, and mouse (KVM) switch is currently required for all S3400-family systems. However, the model of KVM switch and the specific monitor, keyboard, and mouse used may vary from site to site (for example, a flat-panel monitor setup may be used instead). See Figure 2-1 on page 2-7 for a sample installation.

To install the Belkin OmniView Pro2 Series KVM switch:

- For rack-mount installations, see Installing the KVM switch in a rack-mount configuration.

- For a stackable desktop configuration, see "Installing the KVM switch in a stackable configuration" on page 2-26.

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 2-15.

   Figure 2-15. Attaching mounting brackets for a rack-mount KVM
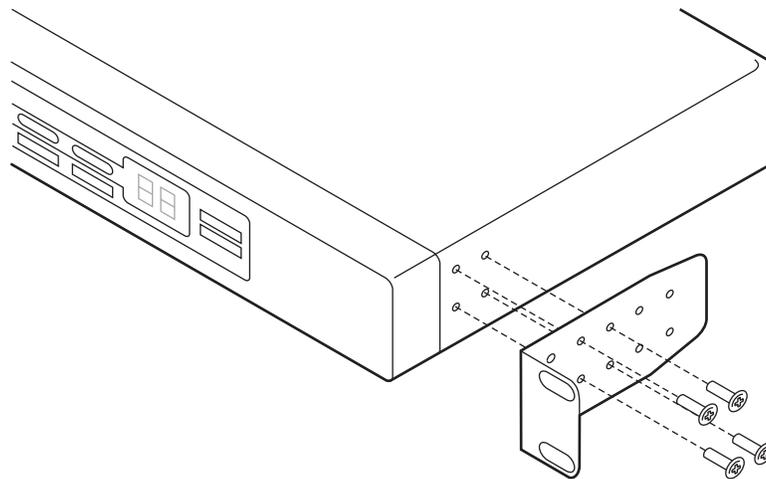
   brvykvmm LAO 120502

4. Install the KVM switch into the rack above the last installed MAS.

5. Continue with "Connecting the KVM cables" on page 2-26.

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.

Connecting the KVM cables

The Belkin OmniView Pro2 Series KVM switch must be connected to the keyboard, monitor, and mouse, and then to the MSS and MAS units, 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 may 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/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 greater monitor can be used.

   a. Set up the monitor in the desired location.

   b. Connect the keyboard/mouse to the monitor.

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

   d. Plug the male end of the monitor's 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 2-16 on page 2-27.

3. Tighten the thumbscrews on the video cable connector with your fingers or with 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 2-16.

   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.

Figure 2-16. Connecting a Belkin OmniView Pro2 Series KVM switch (rear view)
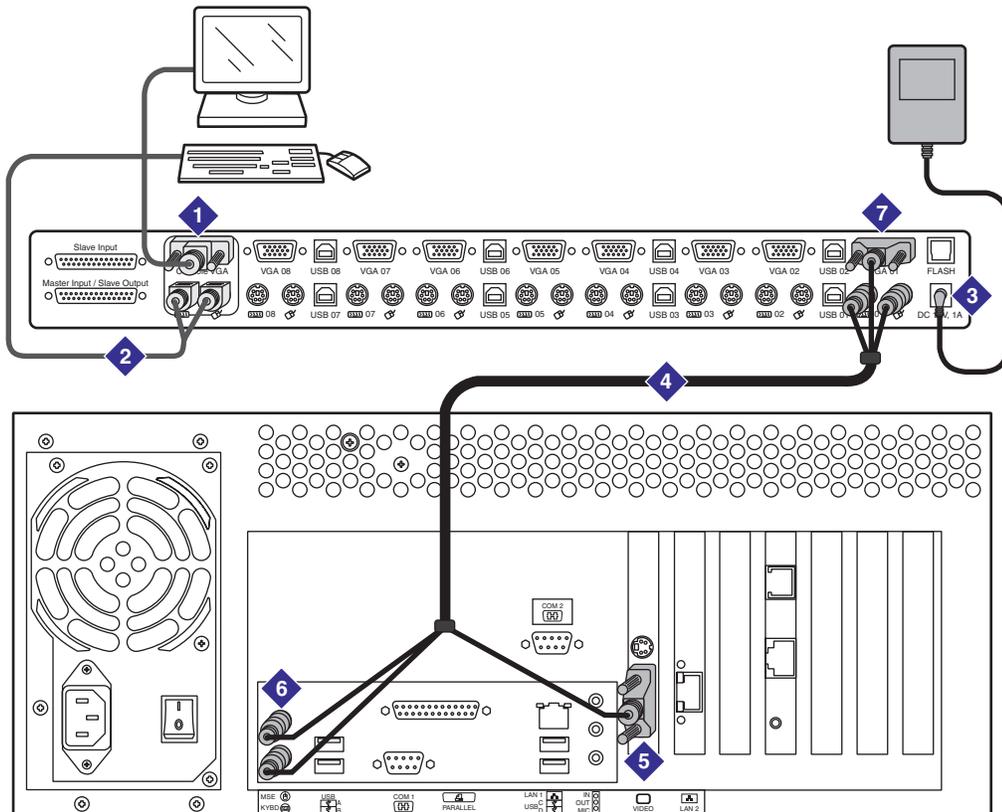
cavykvmb LAO 120402

1	VGA cord from monitor to Console VGA port on KVM switch
2	Y cable to combination keyboard/mouse (setup may vary)
3	DC power jack for transformer cable
4	KVM switch video/keyboard/mouse cable to each server unit
5	VGA connector on the MSS or MAS (in the AGP slot)
6	Keyboard and mouse connectors on the MSS or MAS
7	Belkin OmniView Pro2 Series KVM switch; typically the MSS-H or MSS-S is connected to the first computer port VGA 01 as shown; Avaya MASs are connected in the subsequent port positions beginning with VGA 02

6. Connect the other end of the KVM power cable (the AC-to-DC transformer) to a receptacle located 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.

Connecting the KVM switch to the S3400-family servers

To connect the KVM switch to the installed MSS and MAS units:

1. Using the provided KVM cable, plug the male VGA connector into the VGA port on the MSS. See Figure 2-16 on page 2-27.

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

> **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 on the back of the KVM switch labeled VGA 01.

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

5. Using the second provided KVM switch cable, plug the male VGA connector into the VGA port on the first MAS.

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

7. Connect the other end of the KVM cable to the port on the back of the KVM switch labeled VGA 02.

8. Connect the ends of the cables to the keyboard and mouse ports located directly underneath the VGA 02 port.

9. Repeat steps 5 through 8 for each additional MAS, connecting to port VGA 03, VGA 04 and so on, as needed.

Connecting the Ethernet cables

A pair of standard Ethernet cables is shipped with every S3400-family server. Use these cables to make the two required LAN connections: one to a private LAN through an Ethernet switch, and one to the corporate LAN. Both of these connections are covered in this section.

Connecting the S3400-family servers to the private LAN

The private LAN allows the MSS and the Avaya MASs to communicate.

To connect the S3400-family servers to the private LAN:

1. Unpack the Ethernet switch. This section assumes you are using a 3COM Office Connect Dual Speed Switch 8 Plus model.

2. Attach the rubber spacers to the four marked areas in each corner on the bottom of the Ethernet switch. See Figure 2-17 on page 2-30.

3. Place the Ethernet switch on top of the KVM switch.

4. A suitable power cord and transformer for your region should have been shipped with your Ethernet switch.

   a. Peel back the label, then insert the end of the Ethernet switch power cable into the DC power connector on the back of the switch.

   b. Connect the other end of the AC-to-DC transformer to the back of the UPS (if present) or to an appropriate AC power outlet.

5. Connect the private LAN cables for each of the S3400-family servers. See Figure 2-17 for an example.

   - MSS-S or MSS-H: Connect the provided Ethernet cable between the RJ45 jack on the NIC and the first Ethernet interface on the back of the switch, labeled 1.

   - Avaya MAS: Connect the provided Ethernet cable between the RJ45 jack on the NIC and the second Ethernet interface on the back of the switch, labeled 2.

   - Additional MASs (if present): Connect the provided Ethernet cable between the RJ45 jack on the NIC in each unit with the next Ethernet available interface on the back of the switch, labeled 3, 4, and so on.

> ⚠ **CAUTION:** Do *not* connect the private LAN switch to the corporate LAN.

Figure 2-17.   Connecting the MSS and MAS servers to an Ethernet switch (rear view)
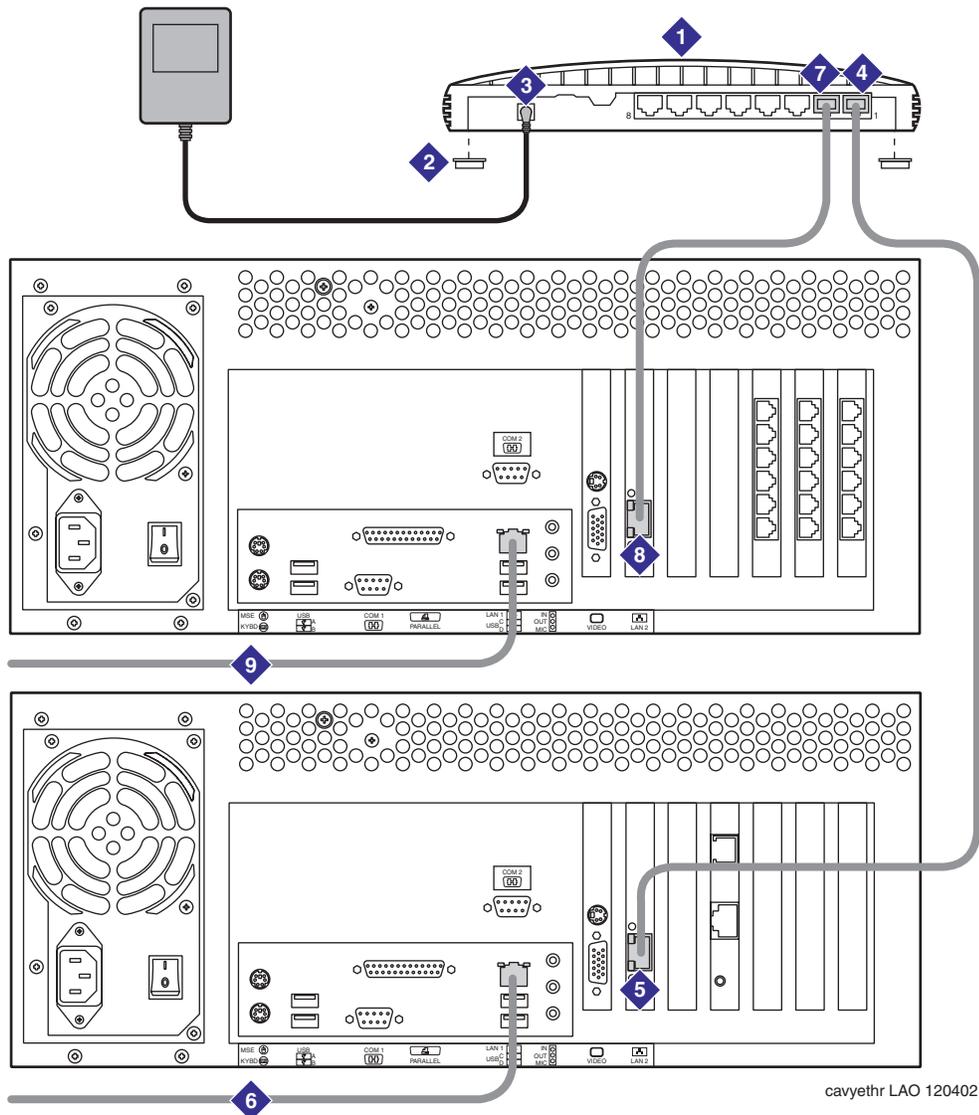
cavyethr LAO 120402

1	Ethernet switch
2	Rubber spacers
3	DC power jack
4	Ethernet interface to private LAN on MSS (typically Ethernet switch port 1)
5	Private LAN interface on MSS (NIC card in the first PCI slot)
6	Ethernet interface to corporate LAN on MSS
7	Ethernet interface to private LAN on first Avaya MAS (typically Ethernet switch port 2); subsequent MASs would use ports 3, 4, and so on

| 8 | Private LAN interface on Avaya MAS (NIC card in second PCI slot) |
| 9 | Ethernet interface to corporate LAN on MAS |

Connecting the S3400-family servers to the corporate LAN

To connect each MSS and MAS to the corporate LAN:

1. Connect one end of the standard Ethernet cable (provided with the server) to the RJ45 connector on the back of the server. See Figure 2-17 on page 2-30.

> **Note:** Make sure that you connect the Ethernet cable for the *corporate* LAN to the Ethernet interface on the back of the server. The Ethernet interface on the NIC in the PCI slot is used for the *private* LAN.

2. The other end of this cable should be connected to an Ethernet interface on the corporate LAN. The entity 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 S3400-family server in your configuration.

Attaching ferrites

Ferrites must be attached to the S3400-family system 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. The optional flat-panel monitor with an integrated KVM switch also requires ferrites.

> ⚠ **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 all systems:* Locate the video connector in the first slot on the back of the S3400-family system unit.

2. Open the ferrite by gently pulling the fastener away from the body of the ferrite. See Figure 2-18 on page 2-32.

3. Place the cable cord in the groove inside the ferrite, then 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.

Figure 2-18.   Attaching a ferrite to a cable


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

incvfer1 LJK 032598
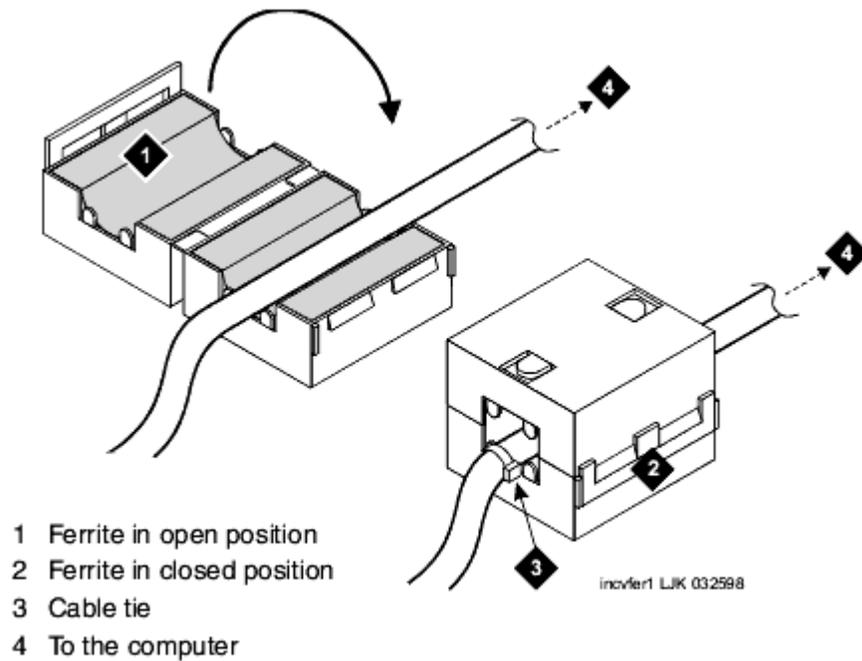
5. *For systems that use a T1- or E1-QSIG port board:* Repeat steps 2 through 4 to attach a ferrite to each QSIG port board cable.

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.

Connecting the USB modem on the MAS

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

This section describes a MultiTech USB modem setup. See Figure 2-19 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.

Figure 2-19. Connecting a USB modem to an Avaya MAS server (rear view)

cavymodm LAO 120402
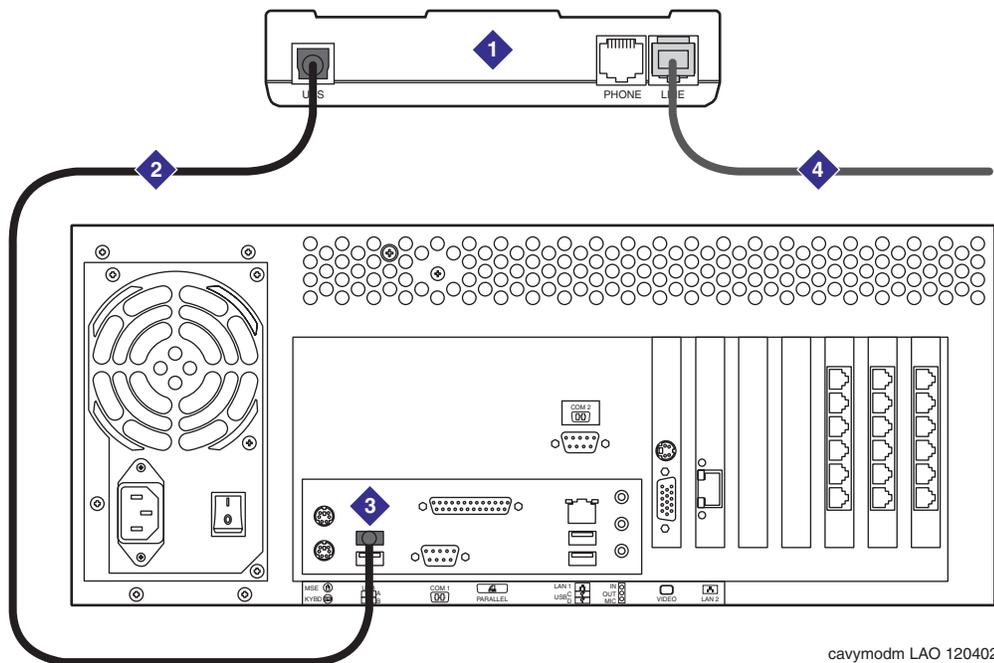
1	USB modem
2	USB cable to the Avaya MAS server
3	USB connector on the server (port A is recommended as shown)
4	RJ-11 cable to the corporate switch

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 2-19 on page 2-33.

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

6. The other end of the cable should be connected to an analog line on the corporate switching system. The entity 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.

Connecting the MSS RMB

A Remote Maintenance Board (RMB) is installed in every MSS-S or MSS-H. This board sends system alarms to a remote maintenance center, and allows Services personnel to dial in to repair or update the S3400-family system.

The RMB setup varies depending on your location:

■ A domestic (United States) setup uses an on-board modem. See Figure 2-20 on page 2-35.

■ An international setup uses an external modem that meets the operating requirements for that region. See Figure 2-21 on page 2-36 for a sample setup.

> **Note:** The type of external modem used with the RMB varies depending on geographical location. See the documentation included with your modem if you have questions about modem installation, setup, or operation.

To install the RMB:

1. Connect the adapter end of the RMB-to-COM2 cable to the COM2 serial port on the back of the MSS. Tighten the thumbscrews on the adapter.

2. Attach the other end of the cable to the lower RJ45 jack on the RMB faceplate. Make sure the jack snaps securely in place.

3. Make the appropriate connections based on the type of RMB installed: either an on-board model or an external modem.

■ *On-board modem (United States):* Connect a standard modular telephone cord to the RJ11 jack near the top of the RMB faceplate. See Figure 2-20.

Figure 2-20. Connecting an RMB with an on-board modem (rear view)
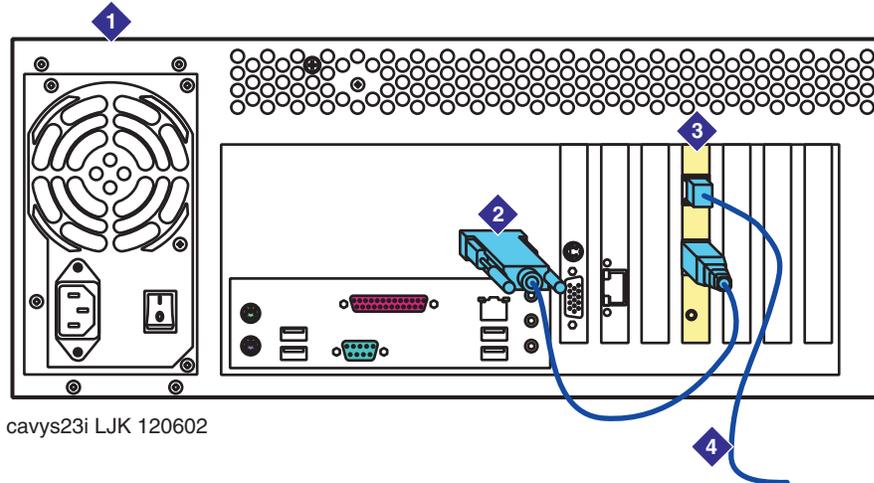
cavys23i LJK 120602

1	MSS-S (for example purposes only; this could also be an MSS-H)
2	RMB-to-COM2 serial port adapter cable
3	RMB faceplate
4	Telephone cord to tip/ring connection on the corporate switch

■ *External modem (international):* Connect the RMB as described. See your modem documentation for details if needed:

(1) Connect the modular end of the RMB-to-modem adapter cable to the upper modular jack on the RMB. See Figure 2-21 on page 2-36.

(2) Plug the adapter end of the cable into the external modem's RS-232 connector. Tighten the thumbscrews on the adapter.

(3) Connect the required telephone cord to the external modem.

Figure 2-21. Connecting an RMB with an external modem (rear view)
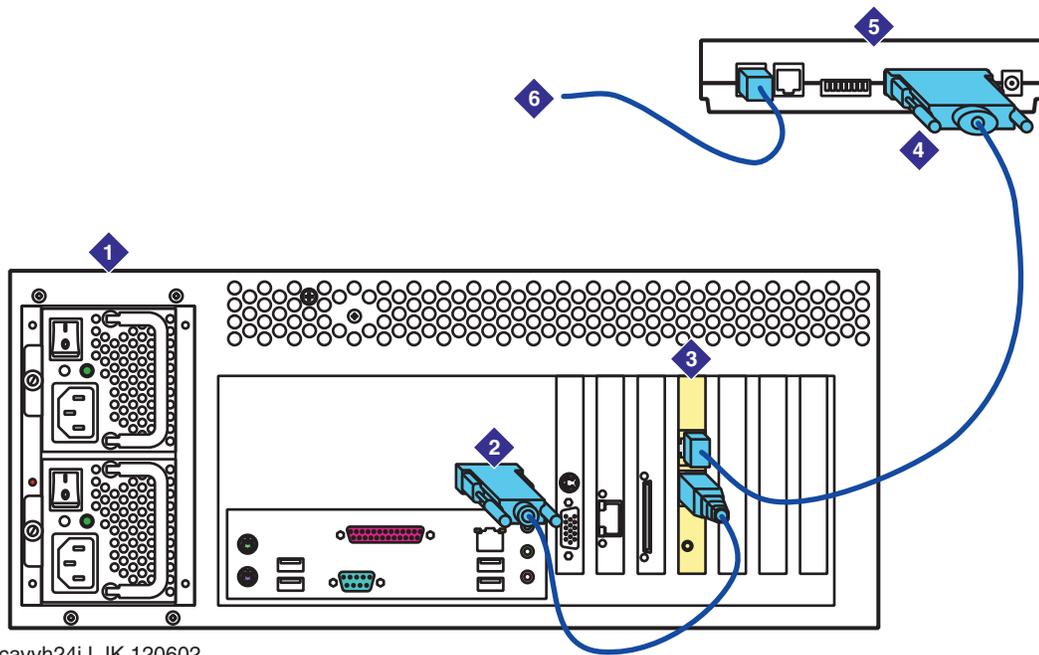
cavyh24i LJK 120602

1	MSS-H (for example purposes only; this could also be an MSS-S)
2	RMB-to-COM2 serial port adapter cable
3	RMB faceplate
4	RMB-to-modem's RS-232 port adapter cable
5	External modem (model varies per region)
6	Telephone cord to tip/ring connection on the corporate switch

4. The other end of the telephone cord should be connected to an analog line on the corporate switching system. The entity responsible for maintaining the corporate switch should make this connection (see the customer contract or the statement of work).

3

Powering up the system and performing initial MSS administration

This chapter describes how to power up the S3400-family message server system and perform initial administration on the Message Storage Server (MSS).

> **Note:** Before you can successfully complete the tasks in this section, you must have successfully completed the tasks in Chapter 2, "Installing the system hardware."

Powering up the S3400-family system

This task assumes that you have already assembled and correctly connected all required hardware components.

To power up the S3400-family message server system:

1. Verify that the power cables for the S3400-family servers and all peripheral devices are connected to the UPS or an appropriate AC power outlet. See Figure 2-14 on page 2-23 for an example. Connections include:

   ■ UPS (if present): connected to an appropriate AC power outlet.

   ■ MSS and any MAS units: each connected to the UPS (if present), or to an appropriate AC power outlet.

   ■ KVM switch and monitor: optionally connected to the UPS (if present), or to an appropriate AC power outlet.

   ■ Ethernet switch: connected to the UPS (if present), or to an appropriate AC power outlet.

   ■ External modems: *if a power cord is required,* it may 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 your UPS documentation).

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

3. Press the monitor's power button.

   The power lamp on the monitor should light.

4. *If an external modem is present,* press the On button if needed. The appropriate lamps should light (see your modem documentation for details).

5. Verify that the power lamps for the Ethernet switch and KVM switch are lit (these units do not have on/off buttons).

6. Power up the Message Storage Server (MSS) first.

   a. Toggle the power switch at the rear of the unit to on (**|** is on, **0** is off).

   b. Press the power button on the front of the unit.

      The LEDs on the front of the unit will flash once, then the LEDs will light to indicate system power and drive activity.

    c. Wait up to 1 minute for the display to appear on the monitor.

7. Power up the MAS units next, using the same procedures as in step 6.

- See the figures in "Installing the S3400-family servers" on page 2-12 to locate the power switch or power button on each server.

- The power lamp on the front of each server should light when the unit is powered on.

Do nothing further with the MAS at this time.

Logging in to the MSS server

When the S3400-family system is powered up, you must first log in to the Message Storage Server (MSS). Because the system is not yet administered, you can only access the MSS from the console (monitor) directly connected to the KVM switch.

To log in to the MSS from the console:

1. The KVM switch should be connected to the MSS through the first computer port (VGA 01). Verify that the monitor is showing the MSS.

- *For a Belkin OmniView Pro2 KVM:* To have the monitor show a different server, press slowly in sequence Scroll Lock, then Scroll Lock, then the up (or down) arrow key to change to the server connected to a higher or lower port number.

  You can alternatively type the port number instead of pressing the up or down arrow key (such as *02* for port 2). See your KVM switch documentation for complete user instructions.

- If the monitor is *not* showing the correct server boot procedure, see "Connecting the KVM cables" on page 2-26 and verify the cable connections. To correct cabling problems, power down the system, correct the cabling, then power up the system again.

> **Note:** You may need to reload the operating system software if new software was shipped with the system. In this case, continue with Appendix D, "Reloading the software on an MSS."

2. As the MSS boots up, a splash screen appears.

   Optional: To bypass this screen and speed up the initial boot procedure:

   a. Press **Esc** to clear the splash screen.

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

3. When the boot completes and you see the message
"**Press Enter to return to prompt...**", press **Enter**.

4. At the **localhost login** prompt, log in to the MSS server as **craft** using
the default password.

5. The Netscape license agreement screen appears the first time you log
in. Click **Accept** to continue.

The server displays the Messaging Administration main menu.

Setting up the monitor

Check the display quality of the screen.

- If the display quality is poor enough that it is difficult to do initial
administration, try to correct it using the steps in this section.

- If the monitor displays system information well enough to do initial
administration, continue with

To adjust the monitor display:

1. Click **Log Off**.

If the display is so poor that you cannot see the mouse pointer well
enough to exit or log off, you can exit by simultaneously pressing
CTRL+**ALT**+**BACKSPACE**.

2. Log in at the console as **monitor** with the password of **monitor**.

The server displays the Monitor setup screen.

3. Attempt to find the brand name of the monitor to be used. Use the down
arrow or PageDown keys to scroll through the list of many available
monitors, or try typing the first letter of the brand name.

4. Highlight the name of the monitor that most closely matches the model
you are using.

5. Tab to **Set** and press **Enter**.

The monitor screen flashes during testing and adjusting, then the cursor
returns to the localhost login prompt.

6. Log in to the system as **craft** and see if the display has improved.

7. If the display is still poor, relogin as **monitor** and select one of the
Generic monitor settings.

8. If there is still no improvement, the customer must supply a different monitor.

Setting the time and date

The first time you log in to a new MSS, you need to set the time and date.

- If you reinstalled the operating system from a CD, you already set the time and date. Continue with "Setting up network addressing" on page 3-6.

- If you have not yet set the time and date, do the following procedure.

Set the time of day, date, and time zone as follows:

1. Starting from the Messaging Administration main menu, select:

    ```
    Basic System Administration
      Date and Time Administration
    ```

    The server displays the Linux Date and Time screen.

2. For **Date**, select the month and day. Type the current year (such as *2003*).

3. For **AM/PM**, select the type of time you are using (AM, PM, or 24-hour clock).

4. For **Time**, select the hours and minutes.

5. For **Time Zone**, select your current time zone.

6. When finished, click **Save**.

    The new settings are saved, and you are prompted to log off.

Note:	If you did not make any changes to this screen (the time and date were already correct), you are not prompted to log off. Continue with "Setting up network addressing" on page 3-6.

7. Click **Log Off**.

8. Log in as **craft** using the default password.

Setting up network addressing

You need to set up the MSS to work correctly on the corporate local area network (LAN) and the private LAN to any Avaya MAS units.

> ⚠ **CAUTION:** Use the S3400-family system planning form in Appendix A, "System planning forms," to enter the correct values.

To set up the MSS to work correctly on the private and corporate LANs:

1. Starting from the Messaging Administration main menu, select:

```
Basic System Administration
  TCP/IP Administration
    Network Addressing
```

The server displays the Network Addressing screen. See Figure 3-1 for an example of a completed Network Addressing screen.

Figure 3-1. Network Addressing screen, sample Ethernet 0 interface

Network Addressing

Status

Host Name: zigzag   Default Gateway Address: 10.9.83.254

TCP/IP Interface: eth0   Enable DNS ? ⦿ Yes ○ No

Primary Name + Domain: zigzag.loc.avaya.com   Domain Name: loc.avaya.com

IP Address: 10.9.83.214   Name Server: 10.9.1.39 / 10.9.1.2

Subnet Mask: 255.255.255.0

Network Media Type: Auto_Detect   Search Order: loc.avaya.com / avaya.com

- TCP/IP Diagnostics

[Return to Main] [Save] [Cancel] [Help]

Complete the Networking Addressing screen using the information from the S3400-family system planning form on page A-6. Click the **Help** button or field name for additional information about each field.

Note:	The format of the Network Addressing screen varies depending on how it is accessed. For example, at the console interface, the Enable DNS field shows a diamond instead of a radio button. To enable DNS, verify that the Yes diamond is pushed in (looks gray or shaded).

2. For **Host Name**, enter the MSS NetBIOS machine name (such as *zigzag*). See item **1** on the S3400-family system planning form on page A-6.

Note:	The first letter may not appear when you type the new name. Complete this procedure, then verify the name in step 8.

3. For **Default Gateway Address**, enter the corporate default gateway IP address for the MSS. This is item **10** on your planning form.

⚠	**CAUTION:**	Use the information from the S3400-family system planning form on page A-6 for these fields. *Do not* use the examples shown.

4. To administer the corporate LAN settings, verify that the TCP/IP Interface is set to **eth0**.

   - For **Primary Name + Domain**, enter the MSS corporate FQDN for Eth0 (such as *zigzag.loc.avaya.com*). See item **7** on your planning form.

   - For **IP Address**, enter the MSS corporate IP address for Eth0 (see item **8** on your planning form).

   - For **Subnet Mask**, enter the MSS corporate subnet mask for Eth0 (such as 255.255.255.0). See item **9** on your planning form.

   - For **Network Media Type**, select the correct type (usually Auto_ Detect).

   The following fields must be filled in if a corporate DNS is used:

   - Set **Enable DNS** to **Yes** if a corporate DNS is used (if this screen has a pushbutton, click the button so that it is dark).

   - For **Domain Name**, enter the corporate domain name (see item **6** on your planning form).

■ For **Name Server**, add any IP addresses listed for MSS corporate DNS servers IP addresses (see item **11** on your planning form). Press Enter after each IP address.

■ For **Search Order**, always enter the domain shown in the Domain Name field *first*. Press **Enter**.

Add any other domain names listed for the MSS Search order of DNS domains, pressing Enter after each domain name (see item **12** on your planning form).

5. Click **Save**.

6. You always see a message to logoff and restart the browser when you change the host name. Click **OK**.

7. If you see a confirmation message, click **Continue Submission** to proceed.

> **Note:** You can deselect the "Show this alert next time" option in the message box (click the button so it is light in color) to prevent the confirmation message from appearing again. This message will not be noted again in these instructions.

8. After the request processes, follow the instructions on the screen. For example, you may be advised to wait 1 minute before logging back in.

■ Click **Logoff** to log off now.

■ If you wait, the server logs you off automatically.

The system then displays the following prompt:

> *hostname* login:

9. Verify that *hostname* in the login prompt is the same name you entered in step 2. If not, you have to re-enter it in step 12, and log in again.

10. Log back in to the MSS server as **craft** using the appropriate password.

The system displays the Messaging Administration main menu.

11. Access the Network Addressing screen again. Click the links for:

```
Basic System Administration
  TCP/IP Administration
    Network Addressing
```

12. Verify the private LAN settings as follows. See Figure 3-2 on page 3-9 for an example.

■ Select TCP/IP Interface **eth1**.

- For **Primary Name + Domain**, use the predefined MSS default private system name: **mss1** (see item **13** on the S3400-family system planning form on page A-6).

- For **IP Address**, use the MSS private IP address for Eth1 (should be 192.168.1.1, as shown in item **14** on your planning form).

- For **Subnet Mask**, use the MSS private subnet mask for Eth1 (should be 255.255.255.0, as shown in item **15** on the planning form).

- For **Network Media Type**, verify that the correct type is selected (usually Auto_Detect).

13. *If you made any adjustments,* click **Save**.

14. Click **Return to Main**.

Figure 3-2.   Network Addressing screen, sample Ethernet 1 interface

Administering the message core

Use the tasks in this section to set up basic messaging functions on the MSS. Message core administration is done through a command prompt screen. The tasks in this section must be completed in the order presented.

Accessing the messaging administration screens

To access the screens used to administer the message core:

1. Starting from the Messaging Administration main menu, select:

    ```
    Global Administration
      Messaging Administration
    ```

    The system displays the administration command prompt screen and and the SSH dialog box, which provides protection for this screen. You must re-enter your password for security reasons.

2. Verify your login and type the password. Press Enter or click **Login**.

3. *If you are prompted for a terminal type,* use **vt100**.

> **Note:** The administration command prompt screen function keys do not always work from all terminal emulators. If the function keys are not working in your terminal emulator, try using the key sequences associated with each of the function keys as shown in Table 3-1.

Table 3-1.   Function key sequences

Function	Key sequence	Function key
Cancel	Ctrl+X	F1
Refresh	Ctrl+L	F2
Enter	Ctrl+E	F3
Clear Field (ClrFld)	Ctrl+K	F4
Help	Ctrl+W	F5
Choices	Ctrl+C	F6
Next Page (NextPg)	Ctrl+N	F7
Previous Page (PrevPg)	Ctrl+P	F8
Back space	Ctrl+H	—

Table 3-1. Function key sequences

Function	Key sequence	Function key
Next Field	Ctrl+M	—
Break out of the webadmin interface and return to the Linux prompt	Ctrl+Alt+ Backspace	—

Setting up the MSS host machine profile

Set up a machine profile for the MSS. Use your planning forms to complete these fields as directed.

To set up a machine profile for this MSS:

1. At the administration command prompt, type **change machine** (or its abbreviation **ch m**) and press Enter.

   The system displays the Machine Profile screen. See for a completed example.

Figure 3-3. Machine Profile screen example

```
Messaging          Active          Alarms:    A                    Logins: 1
change machine                                                    Page 1 of 2
                              MACHINE PROFILE

Machine Name: zigzag          Machine Type: tcpip          Location: local

     Mailbox # Length: 5
     Voice ID: 0      Default Community: 1

ADDRESS RANGES
     Prefix                   Start Num.    End Num.        Warnings
 1: _____      00000         99999____
 2: _____      _____       _____
 3: _____      _____       _____
 4: _____      _____       _____
 5: _____      _____       _____
 6: _____      _____       _____
 7: _____      _____       _____
 8: _____      _____       _____
 9: _____      _____       _____
10: _____      _____       _____

_____

enter command: change machine
Cancel   Refresh  Enter    ClearFld         Help     Choices  NextPage PrevPage
```
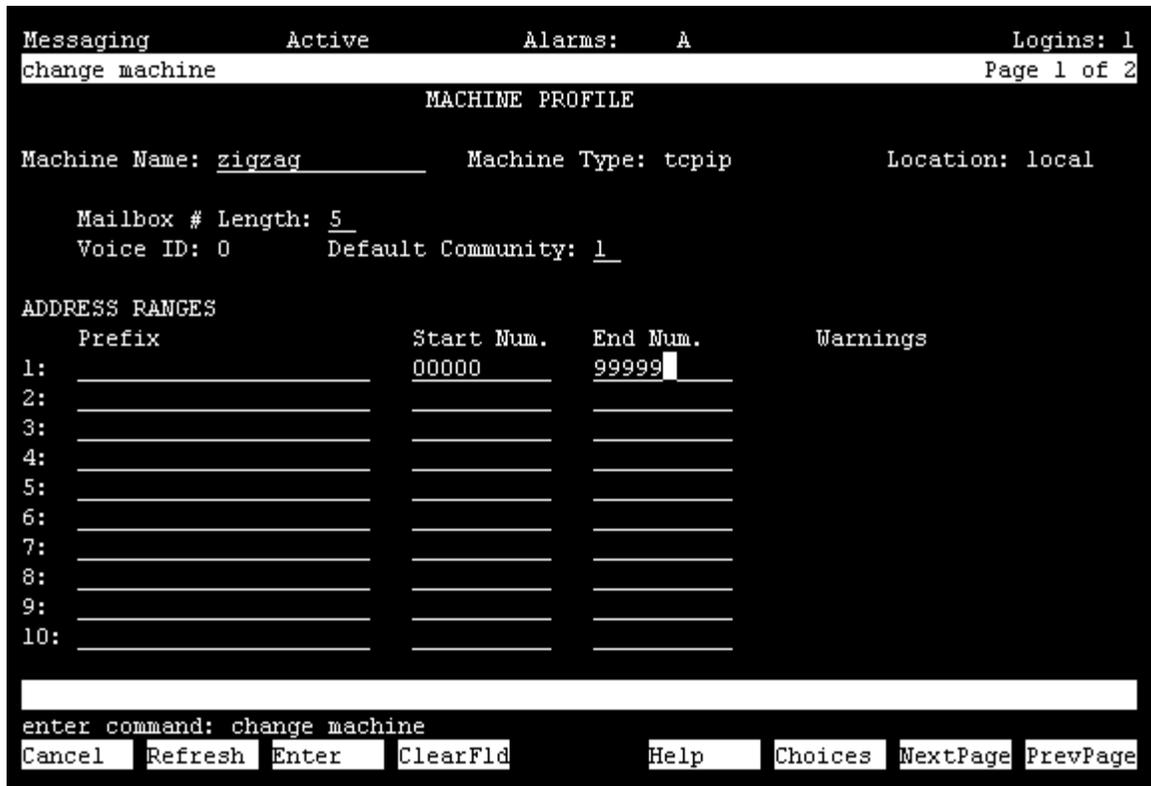
2. Tab through the form to update the fields in the Machine Profile screen using the planning forms as shown in Table 3-2.

Table 3-2. Machine Profile screen settings

Field	Setting
Machine Name	Change from "local" to the MSS host name (see item **1** on the S3400-family system planning form on page A-6).
Machine Type	tcpip *[display-only field]*
Location	local *[display-only field]*
Mailbox # Length	**3** through **10** (see Required switch and messaging information on page A-12 for mailbox extension length)
Default Community	1
Start Num.	Enter the appropriate starting mailbox extension number for this dial plan's address range. For example, for a five-digit dial plan, you might enter **00000** (see Required switch and messaging information on page A-12 for extension ranges).
End Num.	Enter the appropriate ending mailbox extension number for this dial plan's address range. For example, for a five-digit dial plan, you might enter **99999**.

3. When finished, press **F7** (Next Page).

   The server displays the Machine Profile screen, page 2.

4. Type a password to be used for SMTP networking with other messaging machines. This password will be known to other machines to allow them to communicate. See Required switch and messaging information on page A-12.

   ■ Do not change any other fields on this screen. Leave Updates In and Out set to **n**.

   ■ When finished, press **F3** (Enter).

5. Check the status line to verify that the command completed successfully.

Setting up the trusted servers

You must add a trusted server for every Avaya MAS and set up other required servers that will be in this messaging domain. Use your planning forms as directed to enter the correct values to set up the required trusted servers.

Add all MASs:

1. At the command prompt, type the following command (or use its abbreviation). You *must* type the MAS host name in all-capital letters as shown. For example, type **add tru ZIPPY me** and press Enter.

   add trusted-server *MASNAME* **messaging-application-server**

   > **Note:** The MAS NetBIOS or host name *must* be in all-capital letters.

   The Trusted-Server Profile screen appears. The **me** suffix in the command prepopulates most of the fields as shown in Figure 3-4.

Figure 3-4. Add MAS trusted server screen example

```
zigzag              Active          Alarms:    A                    Logins: 1
add trusted-server ZIPPY messaging-application-server              Page 1 of 1
                        TRUSTED-SERVER PROFILE


              Trusted-Server Name: ZIPPY_____
                        Password: m*s#1of2__
                       IP Address: 192.168.1.250█_

Service Name: Messaging Application Server

      Access to Cross Domain Delivery? n
            Default Community Number: 1
                   Trusted Server ID:

   Minutes of Inactivity Before Alarm: 10__
            (If field is 0, no Alarm will be generated)




Press [ENTER] to execute or press [CANCEL] to abort
enter command: add trusted-server ZIPPY messaging-application-server
Cancel   Refresh  Enter     ClearFld         Help      Choices  NextPage PrevPage
```

2. Tab through the form to update the password and IP address fields using the planning forms as shown in Table 3-3.

Table 3-3. Trusted Server Profile screen host settings

Field	Setting
Trusted-Server Name	Shows the *host name* (NetBIOS name) for this Avaya MAS in all-capital letters (such as *ZIPPY*). See item **1** for this MAS on the S3400-family system planning form on page A-6.
Password	Type a *password* that will be known to all machines in this network. All trusted servers that have Service Name **Messaging Application Server** *must* use the same password (see items **P1** and **P2** on the S3400-family password table on page A-9).
IP Address	Type the *private IP address* for this Avaya MAS (such as 192.168.1.250 for MAS#1). See item **14** for this MAS on the S3400-family system planning form on page A-6.
Service Name	Messaging Application Server *[This is a display-only field if you used the "me" suffix as shown; otherwise, type this name exactly.]*
Trusted Server ID	*Field will be filled in automatically.*
Minutes of Inactivity Before Alarm	**10**

3. When finished, press **F3** (Enter).

   The Trusted Server ID field is populated automatically.

4. *If you are installing more than one MAS:* Repeat steps 1 through 3 for every Avaya MAS in the system. Use the names, passwords, and IP addresses from the S3400-family system planning form on page A-6.

Add the MWI server (if used):

5. If the Message Waiting Indicator (MWI) Server is to be installed on any MAS, add a trusted server for it now. At the command prompt, type the following and press Enter:

   add tru VVSTS mw

   (Note that the server name has two Vs, as in V-V-S-T-S.)

   The Trusted-Server Profile screen appears. The **mw** suffix in the command (for mwi-server) prepopulates most of the fields as shown in Figure 3-5 on page 3-15.

Figure 3-5.   Add MWI trusted server screen example

```
zigzag              Active             Alarms:     A                    Logins: 1
add trusted-server VVSTS                                               Page 1 of 1
                         TRUSTED-SERVER PROFILE


               Trusted-Server Name: VVSTS_____
                          Password: s3cr3t#m___
                        IP Address: 192.168.1.250█_

Service Name: MWI Server

       Access to Cross Domain Delivery? n
              Default Community Number: 1
                     Trusted Server ID: 78

  Minutes of Inactivity Before Alarm: 0___
              (If field is 0, no Alarm will be generated)




enter command: add trusted-server VVSTS
Cancel   Refresh  Enter      ClearFld           Help      Choices  NextPage PrevPage
```

6.   Update the password and IP address fields in the Trusted Server screen as shown in Table 3-4.

Table 3-4.   Trusted Server Profile screen service settings

Field	Setting
Trusted-Server Name	VVSTS
Password	Type a *password* that will be known to all machines in this network. See item **P3** on the S3400-family password table on page A-9.
IP Address	Type the *private IP address* for the Avaya MAS that will have the MWI Server feature installed. Check your MAS features list on page A-11 to verify which MAS this is. Enter the appropriate IP address (see item **14** for this MAS on the S3400-family system planning form on page A-6).
Service Name	MWI Server *[This is a display-only field if you used the "mw" suffix as shown; otherwise, type this name exactly as shown.]*
Trusted Server ID	*Field will be filled in automatically.*
Minutes of Inactivity Before Alarm	**0**

7. When finished, press **F3** (Enter).

   The Trusted Server ID field is populated automatically.

Update the IMAP trusted server:

8. On all systems, modify the first IMAP trusted server to match the new settings. At the administration command prompt, type the following and press Enter:

   ch tru Imap4TS1

   Type the trusted server name exactly as shown in upper and lower case.

   The Trusted-Server Profile screen for this service is displayed as shown in Figure 3-6.

Figure 3-6.   Change IMAP trusted server screen example

```
zigzag              Active          Alarms:    A                    Logins: 1
change trusted-server Imap4TS1                                     Page 1 of 1
                       TRUSTED-SERVER PROFILE


              Trusted-Server Name: Imap4TS1_____
                         Password: c0munic@t3
                       IP Address: 127.0.0.1_____

Service Name: Imap4Service_____

      Access to Cross Domain Delivery? y
             Default Community Number: 1_
                    Trusted Server ID: 74

  Minutes of Inactivity Before Alarm: 0___
               (If field is 0, no Alarm will be generated)




_____
enter command: change trusted-server Imap4TS1
Cancel    Refresh  Enter      ClearFld          Help      Choices  NextPage PrevPage
```

9. Tab to the Password field, and type the IMAP4 password (see item **P4** on the S3400-family password table on page A-9).

10. Press **F3** (Enter).

    Check the status line to verify that the command completed successfully.

11. At the command prompt, type **exit** and press Enter.

12. Scroll down and click **Return to Main**.

Rebooting the MSS

To make sure that the MSS is working correctly, reboot it now as follows:

1. Starting from the Messaging Administration main menu, select:

   ```
   Utilities
     Reboot System
   ```

   The server displays the Reboot System screen.

2. Click **Reboot**.

3. At the reboot warning message, click **OK** to proceed.

   Status messages display as the server shuts down the messaging software. This may take several minutes. Proceed with the installation.

4

Administering the Avaya MAS

This chapter describes how to perform basic administration on the Avaya Messaging Application Server (MAS).

Note:	Before you can successfully complete the tasks in this section, you must have successfully completed the initial MSS administration tasks in Chapter 3, "Powering up the system and performing initial MSS administration."

Overview

You need to configure the Avaya Messaging Application Server (MAS) to work correctly on the corporate local area network (LAN) and the private LAN used for the required MSS and any other Avaya MASs. You also need to configure the port boards and set up all required Modular Messaging services.

To successfully install an MAS, you need:

- A completed copy of all the forms in Appendix A, "System planning forms," specifically:

  — S3400-family system planning form on page A-6

  — S3400-family password table on page A-9

  — MAS logon accounts form on page A-10

  — MAS features list on page A-11

  — Required switch and messaging information on page A-12

  — Services logins and passwords on page A-14

> ⚠️ **CAUTION:** Use your completed planning forms from Appendix A, "System planning forms," to enter the correct values. You *cannot* use these examples or guess at the values. If you do, the current operation of the customer LAN may be damaged.

- The software and documentation listed in "Required documentation" on page 1-2.

- All required hardware, including the MAS port boards, installed as described in Chapter 2, "Installing the system hardware."

- Initial MSS administration completed as described in Chapter 3, "Powering up the system and performing initial MSS administration."

Because an S3400-family system installation requires many steps, use your copy of the checklist in Appendix B, "Installation checklist." Check off steps as you complete them to track your progress.

Setting up the MAS

You need to set up the initial configuration on every Avaya Messaging Application Server (MAS) as described in this section.

⚠	**CAUTION:**	Because MAS#1 will become the domain controller, complete the administration of MAS#1 before administering any subsequent MASs. Otherwise, problems may occur.

Switching the monitor to show the correct server

The KVM switch is normally connected to the required Avaya MAS through the second computer port (VGA 02). Subsequent MASs (if present) are connected to computer ports VGA03, VGA 04, and VGA 05.

To switch the monitor to show the server that you need to administer:

1. *For a Belkin OmniView Pro2 KVM:* Press slowly in sequence Scroll Lock, then Scroll Lock, then the up (or down) arrow key to change to the server connected to a higher or lower port number.

   You can alternatively type the port number instead of pressing the up or down arrow key (such as *02* for port 2). See your KVM switch documentation for complete user instructions.

2. If you cannot access the correct server, see "Connecting the KVM cables" on page 2-26 and verify the cable connections. To correct cabling problems, power down the system, correct the cabling, then power up the system again.

Starting up the system

The Avaya MAS begins to boot after power up.

Note:	If an updated version of the MAS Modular Messaging software is required, it must be copied to the hard disk on each new Avaya MAS server before administration can begin. To reload the operating system, continue with Appendix E, "Reloading the software on an MAS."

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

   See "Powering up the S3400-family system" on page 3-2 for details if needed.

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

    a. Press **Esc** when the splash screen appears.

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

Setting up the Windows system

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

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.

    ■ If you agree to the terms, choose **I accept this agreement**.

    ■ If you decline the terms, you cannot proceed with the installation.

    ■ Click **Next**.

3. On the Regional Settings screen:

    a. Check if 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 your locale from the drop-down list.

        (2) Update your language settings if needed. Click **Apply**.

        (3) Click the other tabs in order, and verify that your **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 your 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 **17** on your S3400-family system planning form on page A-6. 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 needed.

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

   c. Click **Next**.

7. On the Computer Name and Administrator Password screen:

   a. Change the "Computer name" to the required host name (NetBIOS name) for this MAS (such as *zippy*). See item **1** on your S3400-family system planning form on page A-6. (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 **A4** on the MAS logon accounts form on page A-10.

   c. Click **Next**.

8. On the Modem Dialing Information screen:

   > **Note:** This screen appears only if a modem is connected. See "Connecting the USB modem on the MAS" on page 2-33.

   a. Select your 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 your settings, then click **Next**.

   The system pauses to update its settings.

10. On the Network Settings screen:

    a. Select **Custom settings**.

    b. Click **Next**.

Assigning IP addresses to this MAS

Use your completed S3400-family system planning form on page A-6 to assign IP addresses and other TCP/IP properties for the corporate and private LAN interfaces 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 interface 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 appears. See Figure 4-1 on page 4-7 for an example.

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

   a. Click the "Use the following IP address" radio button.

   b. Change the IP address, Subnet mask, and Default gateway to the corporate LAN values for this MAS listed in the S3400-family system planning form on page A-6 (items **8**, **9**, and **10**).

   c. Click "Use the following DNS server addresses." Specify the corporate DNS IP addresses as follows:

      (1) For the Preferred DNS server, enter the first Corporate DNS server IP address from your planning form (item **11**, if any).

      (2) For the Alternate DNS server, enter the next Corporate DNS server IP address from your planning form (item **11**, if any).

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

      The Advanced TCP/IP Settings window appears.

Figure 4-1. Sample corporate LAN TCP/IP properties
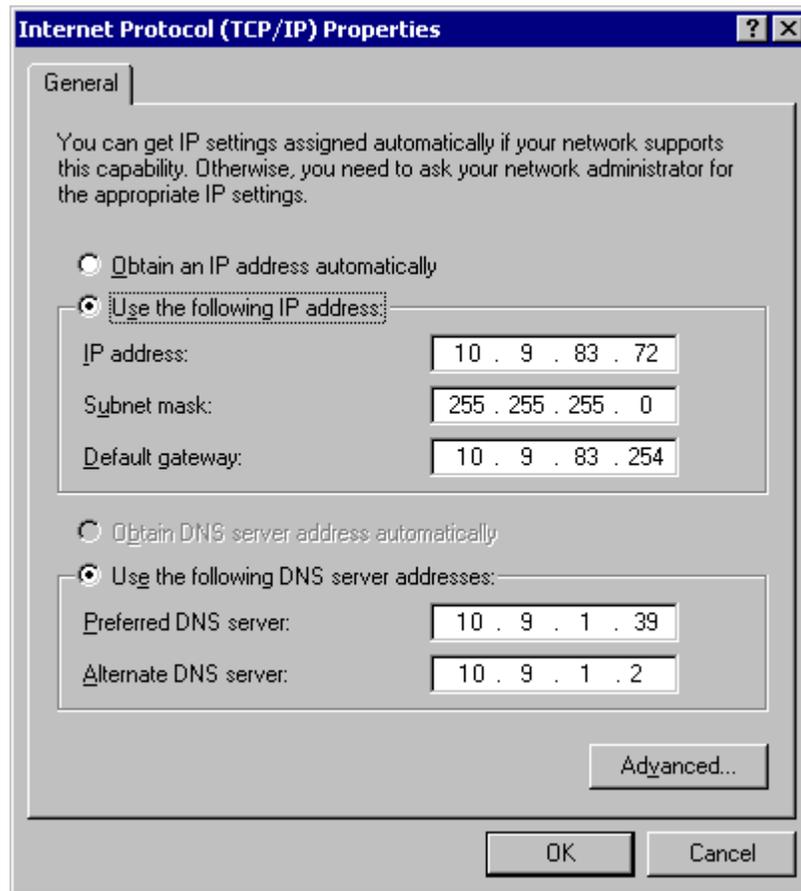
(4) Click the **DNS** tab. See Figure 4-2 for an example.

Figure 4-2. Sample advanced TCP/IP settings for the corporate LAN
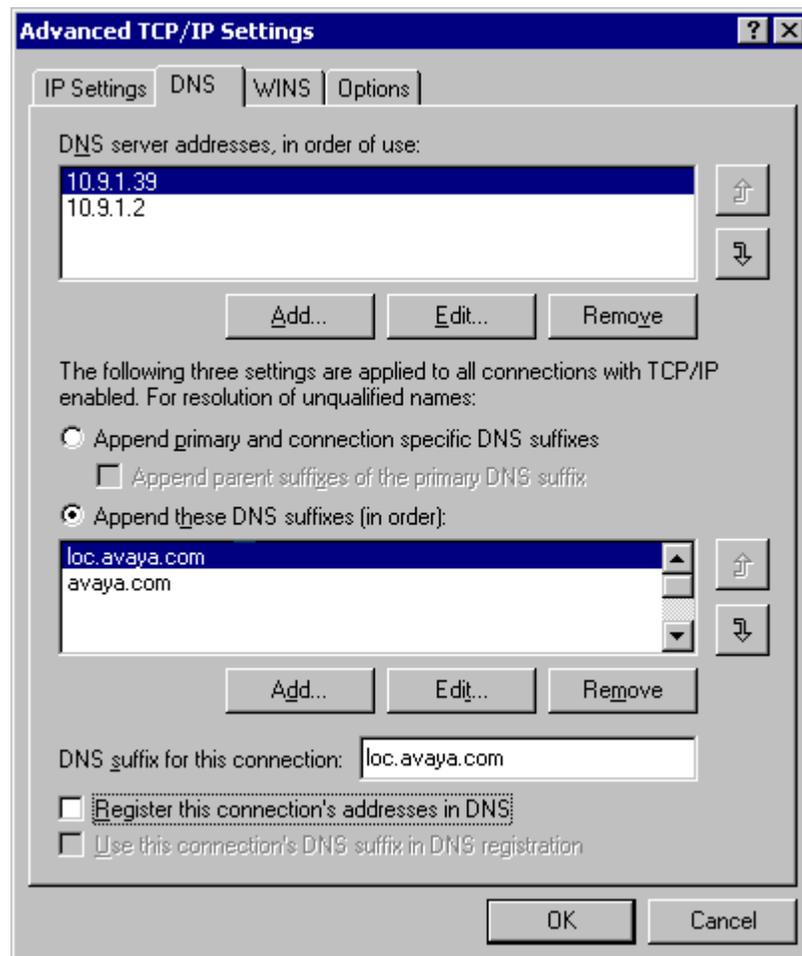
(5) On the Advanced TCP/IP Settings **DNS** tab, enter the following:

- If you need to add IP addresses for any additional corporate DNS servers, click **Add** (see item **11** on the S3400-family system planning form on page A-6). Click **OK** to approve each entry.

- Select the radio button for "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 Search order of DNS domains using item **12** 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" text box, enter the suffix for the fully qualified corporate LAN domain name (do *not* include the machine name). For example, *loc.avaya.com* (see item **6** on the S3400-family system planning form on page A-6).

(6) 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**.

On the **Networking Components** screen for device **Intel(R) PRO/100+ PCI Adapter**, specify the IP addresses for the *private* LAN for this MAS as follows:

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

7. Click **Properties**.

The Internet Protocol (TCP/IP) Properties window appears. See Figure 4-3 on page 4-9 for an example.

Figure 4-3.   Sample private LAN TCP/IP properties
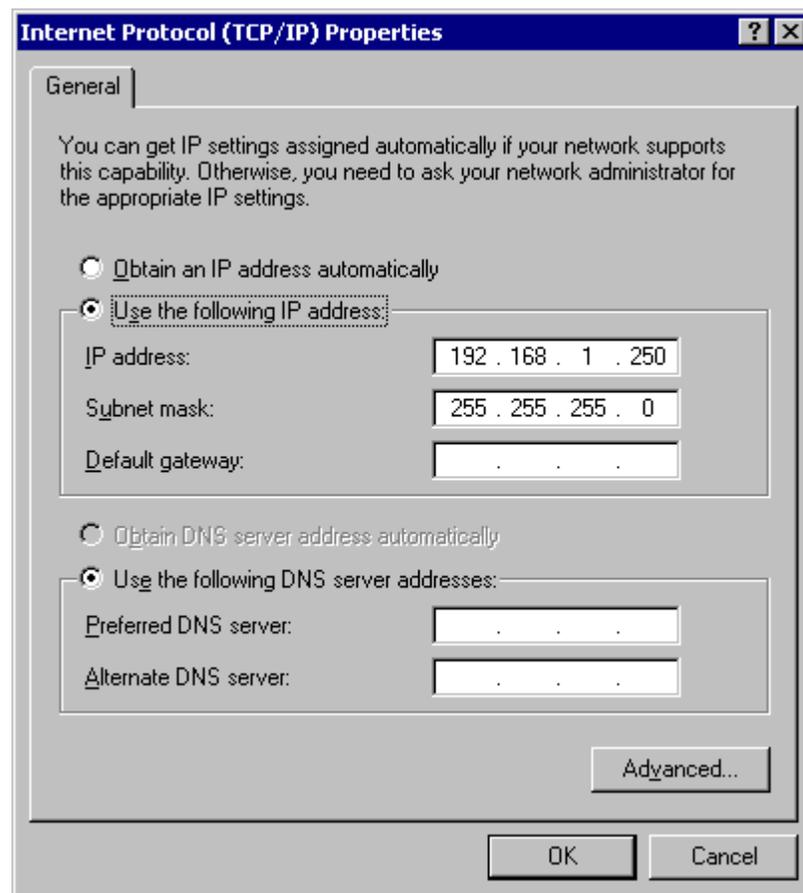
8. In the Internet Protocol (TCP/IP) Properties window:

a. Click the **Use the following IP address** radio button.

(1) Enter the private IP address required for this MAS. See item **14** on your S3400-family system planning form on page A-6.

(2) Enter the private subnet mask (such as 255.255.255.0). See item **15** on your S3400-family system planning form on page A-6.

(3) Leave the DNS server addresses as they appear (blank is okay).

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

c. *If you see a warning that the DNS server list is empty,* click **OK**.

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

The system pauses to update its settings.

Completing the initial setup

Complete the initial administration for this MAS as follows:

1. On the Workgroup or Computer Domain screen, choose the correct option for this MAS machine:

   a. *For MAS#1:*

      (1) Select the first radio button: **No, this computer is not in a network**.

      (2) Leave the Workgroup or domain name set to **WORKGROUP**.

      (3) Click **Next**.

   b. *For a subsequent MAS:*

      (1) Select the second radio button, **Yes, make this computer a member of the following domain**.

      (2) Enter the name of the Windows domain that you already created (such as *zodiac*). See item **3** on the S3400-family system planning form on page A-6. (The name is forced to upper case.)

      (3) Click **Next**.

      (4) You are prompted to enter the user name and password that will allow this machine to join the domain:

         ◼ Enter the Modular Messaging account name (such as *mmacct*) in the format ***domain\account name*** (such as *zodiac\mmacct*). See item **A5** on the MAS logon accounts form on page A-10. (The name is forced to upper case.)

         ◼ Enter the correct Modular Messaging account password.

         ◼ Click **OK**.

It may take several minutes to join the domain.

(5) Click **Next**.

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

   The machine reboots.

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

   a. On the Log On to Windows screen, 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 **A4** on the MAS logon accounts form on page A-10.

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

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

Note:	If the wizard comes up in a tiny window, press **Esc** to cancel this wizard (subsequent wizards should run in a normal-sized window). The skipped wizard will reappear the next time the system restarts; run it then.
	If you reinstalled the operating system (see Appendix E, "Reloading the software on an MAS,") and ran the Found New Hardware wizards then, the wizards do not appear again.
	This wizard does not appear for IP H.323 configurations.

   Disable the Dialogic hardware for now 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, make sure that "**Disable the device**" is selected. Click **Finish**.

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

Changing the default LAN names

Rename the corporate and private LAN connections for this MAS so they will be easier to identify. To rename the LAN entries:

1. Click Start > Settings > Network and Dial-up Connections.

    The Network and Dial-up Connections window appears.

2. Verify that **Local Area Connection2** is the corporate LAN (a mouse-over should show "Intel(R) PRO/100 VE Network Connection" as the type).

3. Rename this item as follows:

    a. Right-click **Local Area Connection2** and select **Rename**.

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

4. Rename the other Local Area Connection entry as follows:

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

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

5. Close this window.

Testing IP addresses on the private network

To test if the IP addresses are correct and working on the private Ethernet interface:

1. Click the **Start** button, then select **Run** to open a Command prompt window.

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.

2. In the Run box, type **cmd** in the Open field and press Enter.

3. Test ping over the private Ethernet interface.

    a. At the command prompt, ping all IP addresses administered on the private network. For example, **ping 192.168.1.1** and verify success. See item **14** on your S3400-family system planning form on page A-6.

    b. If the ping test fails, verify that your network connections between the MAS and MSS are good. If so, check your administration.

See Figure 4-4 for an example of a successful ping by IP address.

Figure 4-4. Example of successful ping by IP address
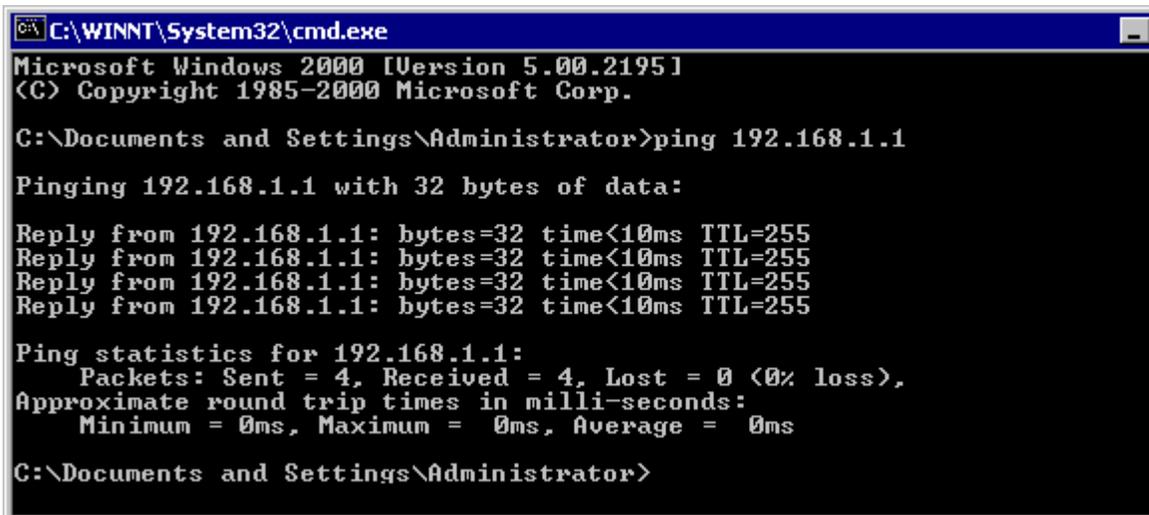
c. *Optional:* If you are using a corporate DNS, you may also want to test ping over the corporate Ethernet interface to make sure it is set up correctly. For example:

- You could ping any corporate IP addresses on your system (such as items **8** through **11** on your S3400-family system planning form on page A-6).

- You could also ping the MSS machine the corporate FQDN (such as **ping zigzag.loc.avaya.com**). Any name tests should show the *corporate* IP address for the entity you ping.

Note:	In order 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. When finished, type **exit** and press Enter to close this window.

Installing Modular Messaging software

You need to install all required Modular Messaging software and configure each MAS as described in this section.

Configuring Modular Messaging

Specify the message store and set up Modular Messaging accounts for this MAS as follows:

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

   The Modular Messaging OS Component Configuration Wizard appears.

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

3. On the Modular Messaging setup information screen:

   a. Select the message store type **Avaya MSS**.

   b. *For MAS#1:*

      (1) Check the box for "First MAS in system."

      (2) For **Private fully qualified domain name (FQDN)**, enter the private domain name (such as *zodiac.com*). See item **2** on the S3400-family system planning form on page A-6.

      (3) For **Windows NetBIOS domain**, enter the private NetBIOS name (such as *zodiac*). See item **3** on the S3400-family system planning form on page A-6.

      (4) Click **Next**.

   c. *For a subsequent MAS:*

      (1) Clear the checkbox for "First MAS in system."

      (2) For **Windows NetBIOS domain**, enter the private NetBIOS name (such as *zodiac*). See item **3** on the S3400-family system planning form on page A-6.

      (3) Click **Next**.

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

   ■ *For MAS#1,* under **New account information**, enter the following (these accounts will be shared across all MASs):

a. For **Administrator account for MAS**, enter the customer-defined domain administrator account logon name (such as *dom-admin*). Type the password in each password column to confirm it. See item **A1** on the MAS logon accounts form on page A-10.

b. For **Modular Messaging (MM) account**, enter the customer-defined Modular Messaging account logon name (such as *mmacct*). Type the password in each password column to confirm it. See item **A5** on the MAS logon accounts form on page A-10.

c. For **Services account**, enter the customer-defined services account logon name (such as *craft*). Type the password in each password column to confirm it. See item **A6** on the MAS logon accounts form on page A-10.

d. For **Customer account**, enter the customer-defined services account logon name (such as *cust*). Type the password in each password column to confirm it. See item **A7** on the MAS logon accounts form on page A-10.

e. For **Safe mode password**, enter the password that is to be used for the administrator to log in to Safe mode. See item **A8** on the MAS logon accounts form on page A-10.

f. Click **Next**.

■ *For a subsequent MAS,* enter the following:

a. Under **Existing account information**, enter the following:

(1) **Modular Messaging (MM) account**: enter the same customer-defined Modular Messaging account logon name (such as *mmacct*) that you entered for MAS#1. Type the password in each password column to confirm it. See item **A5** on the MAS logon accounts form on page A-10.

(2) **Domain Administrator account**: enter the same customer-defined domain administrator account logon name (such as *dom-admin*) that you entered for MAS#1. Type the password in each password column to confirm it. See item **A1** on the MAS 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 *mas2-admin*). Type the password in each password column to confirm it. See items **A2** to **A4** on the MAS logon accounts form on page A-10.

c. Click **Next**.

5. Wait while the system processes the information you have entered.

■ MAS#1 is promoted to a domain controller, after which the machine restarts twice. Allow up to 15 minutes for the entire process.

■ Subsequent MASs restart only once.

6. After the MAS reboots, you are prompted to log in or simply enter a password. The final reboot logs you into the Modular Messaging account (such as *mmacct*).

    a. If prompted, press **Ctrl+Alt+Del**.

    b. On the Log On to Windows screen, check the user name. The software selects the correct account to log into automatically.

    c. Enter the correct password for this account. See items **A1** to **A5** on the MAS logon accounts form on page A-10.

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

    a. Insert the first installation disk in the DVD 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.

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

Installing the Modular Messaging software

When the previous procedure completes, the Modular Messaging - Installation Wizard window appears.

To install the Modular Messaging software:

1. In the Modular Messaging - Installation Wizard window, for the "Configuration" drop-down box, verify that **Avaya MSS** is selected.

2. In the components list, check the boxes for any messaging services you need to install on this MAS as follows:

    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 the MAS features list on page A-11 for the specific services you need to put on this server. Services include:

- Call Me Server (includes the Mailbox Monitor Server)

- Caller Applications Editor

- Fax Sender Server

- Language Packs

- Message Waiting Indicator (MWI) Server (also includes the Mailbox Monitor Server)

- Tracing Server

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

4. 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 may take several minutes)*

5. 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 **3** on the S3400-family system planning form on page A-6.

- For **User Name** and **Password**, enter the Modular Messaging account name (such as *mmacct*) and its password. See item **A5** on the MAS logon accounts form on page A-10.

- Click **Next**.

c. Click **Install**.

d. When done, click **Finish**.

6. The following components may be installed on any MAS:

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

- Call Me Server

- Fax Sender 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 name of this MAS machine (such as *zippy*). See item **1** on the S3400-family system planning form on page A-6. Click **Next**.

c. When prompted, enter the password for the Modular Messaging account (such as *mmacct*). See item **A5** on the MAS logon accounts form on page A-10. Click **Next**.

d. Click **Install**.

e. When done, click **Finish**.

7. *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 drive's green LED 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 DVD drive.

- Repeat steps b and 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.

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

9.   Click **Restart** when prompted to restart the system now.

10. Remove the media from the DVD drive.

Configuring the MAS

To configure Modular Messaging services on this MAS:

1.   When the reboot completes, press **Ctrl+Alt+Del** to log back in. Use the Modular Messaging account name (such as *mmacct*) and its password (see item **A5** on the MAS logon accounts form on page A-10).

The Messaging Application Server - Configuration Wizard launches. It may take a few minutes to connect to the MAS.

2.   For the Peer Messaging Storage Server Selection screen:

    a. Enter the name of the Messaging Storage Server. This is always the MSS private system name **mss1** (the name is forced to upper-case). See item **13** on the S3400-family system planning form on page A-6.

    b. Click **Next**.

The Service configuration may take several minutes.

3.   For the Voice Mail Domain Selection screen:

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

- *For MAS#1:* Click the radio button for "First server in a new voice mail domain."

- *For a subsequent MAS:* Click the radio button for "Subsequent server in an existing voice mail domain."

    b. Click **Next**.

> ⚠ **CAUTION:** If you are restoring an MAS to service after a disk failure, you need to do a different procedure here. See Recovering from a catastrophic disk failure on page F-1.

4.   On the Messaging Application Server Credentials screen:

   a.   Enter and confirm the password for the LDAP service that you previously administered on the MSS. This is the MAS trusted server password specified in "Setting up the trusted servers" on page 3-13. See items **P1** and **P2** on the S3400-family password table on page A-9.

   b.   Click **Next**.

5.   *For MAS#1:* Another Messaging Application Server Credentials screen appears.

   a.   Enter the password for the IMAPI service that you previously administered on the MSS. This is the password for the MWI trusted server that activates message-waiting lamps, currently called VVSTS. See item **P3** on the password table.

   b.   Click **Next**.

6.   *For MAS#1:* A third Messaging Application Server Credentials screen appears.

   a.   Enter the password for the IMAP4 service that you previously administered on the MSS. This is the Imap4TS1 trusted server password. See item **P4** on the password table.

   b.   Click **Next**.

7.   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 pair of MAS and MSS servers (such as *zebra*). See item **4** on the S3400-family system planning form on page A-6.

   ⚠   **CAUTION:**   Be extremely careful to type the correct name for the voice mail domain. If you type the wrong name or spell it incorrectly, you will have to reinstall all the Modular Messaging software from the beginning to correct it.

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

   b.   Click **Next**.

   The VMD configuration may take several minutes.

8.   *For a subsequent MAS:* The Offline Storage Location screen appears if offline access is enabled in the voice mail domain and an offline message store has not already 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 **16** on the S3400-family system planning form on page A-6.

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**.

d. Click **Next**.

9. *For a subsequent MAS:* The Caller Application screen appears if Caller Applications are deployed in the domain.

a. Use the default setting for this step.

b. Click **Next**.

10. For the User Information screen, just click **Next**.

11. For the Setup Complete screen, click **Finish**.

Installing anti-virus software and Windows updates

We strongly recommend 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's requirements and local implementation.

In addition, Microsoft Windows security patches must be installed to protect the operating system from known security weaknesses. Check with the appropriate customer administrator for the software and installation/update procedures to use.

Setting up remote access

Use this procedure to set up the MAS to take incoming service calls.

To set up this MAS for remote access:

1. Activate remote access service as follows:

    a. Double-click the **Monitor** icon on the desktop.

    b. In the Monitor window, click **Services (Local)** in the left-hand pane.

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

    d. 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, then click **OK** to close this window.

    e. Close the Monitor window.

2. Double-click the **Configure** icon on the desktop.

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

3. To set up remote access properties for this MAS:

    a. Expand **Routing and Remote Access**.

    b. Expand the server name (such as *ZIPPY*).

4. Verify that remote access service (RAS) is running as follows:

    a. If a green upward-pointing arrow appears on the server's icon, RAS is running. Continue with step 5.

    b. If a red symbol appears on the server's icon, activate RAS as follows:

        (1) Right-click the server's name, and select All Tasks > Start.

        (2) When prompted to re-enable Routing and Remote Access, click **Yes**.

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

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

b. In the Ports Properties window, make sure the modem is highlighted, then click **Configure**.

c. In the Configure Device - *<model>* Modem window, verify that the box to activate **Remote access connections (inbound only)** is checked.

d. Click **OK**.

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

6. Verify your modem setup:

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

b. In the right-hand 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 7.

   - If the modem entry is missing, continue as follows:

   (1) Verify that the modem is plugged into the recommended USB port on the MAS (see).

   (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 following the steps on each screen to configure your locale settings.

      - When finished, your new entry appears 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 may need to remove the modem entry, 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 a and verify that the modem is now present.

7. Set up a static IP address pool as follows:

    a. In the left-hand pane, right-click the server name (such as *ZIPPY*) and select Properties.

    b. Click the IP tab.

    c. Under "IP address assignment," select "Static address pool".

    d. If an IP address range of 0000 to 0000 appears, select it and click **Edit**. (If no address appears, click **Add**.)

    e. In the New Address Range properties box, enter the start and end IP addresses depending on the MAS you are installing as follows:

        ■ MAS#1: 192.168.2.200 to 192.168.2.201

        ■ MAS#2: 192.168.2.202 to 192.168.2.203

        ■ MAS#3: 192.168.2.204 to 192.168.2.205

        ■ MAS#4: 192.168.2.206 to 192.168.2.207

    > **Note:** These IP addresses use a **2** (not a 1) in the third number place.

    f. Make sure the number of addresses is **2**.

    g. Click **OK**.

    h. For the Adapter field, select "Allow RAS to select adapter."

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

8. Close the Configure window.

9. Proceed with remote access administration as follows:

    ■ *For MAS#1,* continue with "Administering the first MAS for remote access" on page 4-24.

    ■ *For a subsequent MAS,* continue with "Adding a subsequent MAS to the remote access group" on page 4-26.

Administering the first MAS for remote access

Continue the previous procedure on MAS#1 as follows:

1. Log in to the domain administrator account for MAS#1. For example:

    a. From the task bar, click Start > Shut Down...

    b. On the Shut Down Windows screen, select **Log off** *mmacct*. Click **OK**.

    c. Press **Ctrl+Alt+Del** to log on.

    d. On the Log On to Windows screen, change the user name to the domain administrator account name (such as *dom-admin*). See item **A1** on the MAS logon accounts form on page A-10.

    e. Enter the password for this account.

    f. Press Enter or click **OK**.

2. Double-click the **Configure** icon on the desktop. In the left-hand pane of the Configure window:

    a. Expand **Active Directory Users and Computers**.

    b. Expand the directory for the domain name (such as *zodiac.com*).

    c. Click **Users**.

3. In the right-hand pane of the Configure window, double-click **RAS and IAS Servers** to open 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, locate this MAS (such as *ZIPPY*); it will have a blue terminal icon beside it. Double-click it.

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

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

    f. Click **OK** to close the RAS and IAS Servers Properties window.

5. In the right-hand pane, double-click **Services Account**. In the Services Account Properties window:

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

    b. Under Remote Access Permission (Dial-in or VPN), click the radio button to select **Allow access**.

    c. CallBack Options should be left at **No Callback**.

    d. Click **OK**.

6. Close the Configure window.

7. Log back in to the Modular Messaging services account. For example:

    a. Click Start > Log Off *dom-admin*.

    b. Click **Yes** when prompted to confirm the logoff.

    c. Press **Ctrl+Alt+Del** to log on.

    d. On the Log On to Windows screen, change the user name to the Modular Messaging services account name (such as *mmacct*). See item **A5** on the MAS logon accounts form on page A-10.

    e. Enter the password for this account.

    f. Press Enter or click **OK**.

8. Continue with "Configuring and testing the port boards" on page 4-27.

Adding a subsequent MAS to the remote access group

Add subsequent MASs to the existing remote access group as follows:

> **Note:** If you are installing multiple MAS units, you may want to do this procedure after you configure the final MAS. That way you only have to do this procedure once.

1. Switch the monitor to show MAS#1. See "Switching the monitor to show the correct server" on page 4-3 for this procedure if needed.

> **Note:** Do this procedure on MAS#1.

2. Repeat steps 1 through 3 in "Administering the first MAS for remote access" on page 4-24.

3. For step 4, do the following 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, locate this MAS (such as *ZORRO*); it will have a blue terminal icon beside it. Double-click it.

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

    e. Repeat steps c and d to add all MASs to this list. See the S3400-family system planning form on page A-6.

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

    g. Click **OK** again to close the RAS and IAS Servers Properties window.

4. Close the Configure window.

5. Log off the domain administrator account on MAS#1. For example:

    a. Click Start > Log off *dom-admin*.

    b. Click **Yes** when prompted to confirm the logoff.

6. Switch the monitor back to show the MAS that you are currently installing. Continue with the installation.

Configuring and testing the port boards

The MAS port boards must be configured and tested as described in this section.

> **Note:** If this MAS uses an IP H.323 integration, no port boards are present. Continue with "Configuring the voice mail system" on page 4-38.

Port board administration involves three phases:

1. The appropriate party must administer the switch for the port boards using the configuration notes for your particular PBX or switch integration. See "Required documentation" 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 your switch or PBX. The PBX administrator *must* have administered the ports on the switch before you can proceed.

2. Configure and test the port boards as described in this section.

3. Afterwards, complete board administration using the configuration notes as described in "Configuring MAS-specific parameters" on page 4-46.

Table 4-5 lists supported Dialogic port boards and their associated documents (copies of these PDF files are on the documentation CD and application software disk). The type of port boards may vary on different MASs in the system, although each MAS can have only one type of board installed in it.

Table 4-5. 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	Dialogic D/82JCT-U Dialogic D/82JCT-U-PCI-UNIV	5	**D/82JCT-U** (PDF 240K) **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)

Continue based on the type of port boards installed in this MAS:

- "Configuring analog port boards" on page 4-28

- "Configuring set emulation boards" on page 4-30

- "Configuring T1- or E1-QSIG boards" on page 4-32

Configuring analog port boards

You may have the following analog port boards 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 cards:

1. Click Start > Programs > Intel Dialogic System Software > Configuration Manager - DCM.

   The Intel Dialogic Configuration Manager window appears.

2. In the Computer Name popup window, make sure that the radio button for **Local** is selected and verify the server's name, 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 can't find a suitable TSF file for your PBX, you need to build an appropriate tone file now or the integration will not work. **Cancel** out of this screen, then see Appendix C, "Creating a new tone file."

5. In the Dialogic Configuration Manager Properties window:

   a. Click the **Files** tab.

      The **TSFFileName** parameter should be 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.

      b. Locate the prerecorded TSF file for your PBX or switch:

        (1) Click the **...** button to browse, 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.

6. After an appropriate TSF file is selected, click the **Misc** tab.

    a. Click the **TSFFileSupport** parameter.

    b. Select **Yes** from the Value drop-down list.

> **Note:** You must have selected an appropriate TSF file for your PBX or switch before setting the TSFFileSupport parameter to Yes, or errors may occur.

    c. Click the **DisconnectTone** parameter.

    d. Select **Yes** from the Value drop-down list.

    e. *For a D/120JCT-LS board:* Click the **FirmwareFile** parameter, then select **spfax.fwl** from the Value drop-down list.

> **Note:** You need to close the Dialogic Configuration Manager to load the new firmware (see step 8). The D/41JCT-LS board uses the default.fwl file and does not need to be specifically set.

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

7. Repeat steps 4 through 6 for any other installed Dialogic boards (such as #1).

> **Note:** Most of the first board's settings will persist between boards, except for the **FirmwareFile** parameter.

8. *For a D/120JCT-LS board:* When all boards are configured, close the Intel Dialogic Configuration Manager window, then reopen it (see step 1). This is required to load the new firmware file that supports fax.

9. Click the green Start Service button on the button bar.

    Wait for service to start. The installed boards show a green light when service is started, and the Stop Service button becomes active. See Figure 4-5 on page 4-30 for an example.

10. Close the Intel Dialogic Configuration Manager window.

11. Continue with

Figure 4-5. Sample Dialogic Configuration Manager analog window - service started
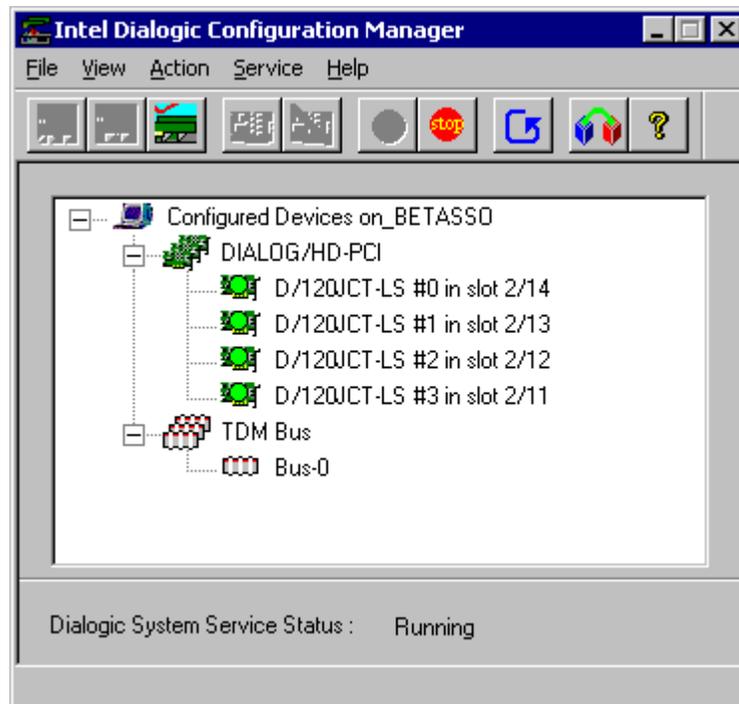
Configuring set emulation boards

You may have up to five 8-port Dialogic Digital Set Emulation boards installed in your MAS. See the **D/82JCT-U** or **D/82JCT-U PCI Univ** PDF file on the documentation media for more information.

To configure your digital set emulation boards:

1. Click Start > Programs > Intel Dialogic System Software > Configuration Manager - DCM.

   The Intel Dialogic Configuration Manager window appears.

2. In the Computer Name popup window, make sure that the radio button for **Local** is selected and verify the server's name, such as *ZIPPY*.

3. Click **Connect**.

   The Dialogic software locates any installed port boards. See Figure 4-6 on page 4-31 for an example.

Figure 4-6. Sample Dialogic Configuration Manager DSE window - service not started
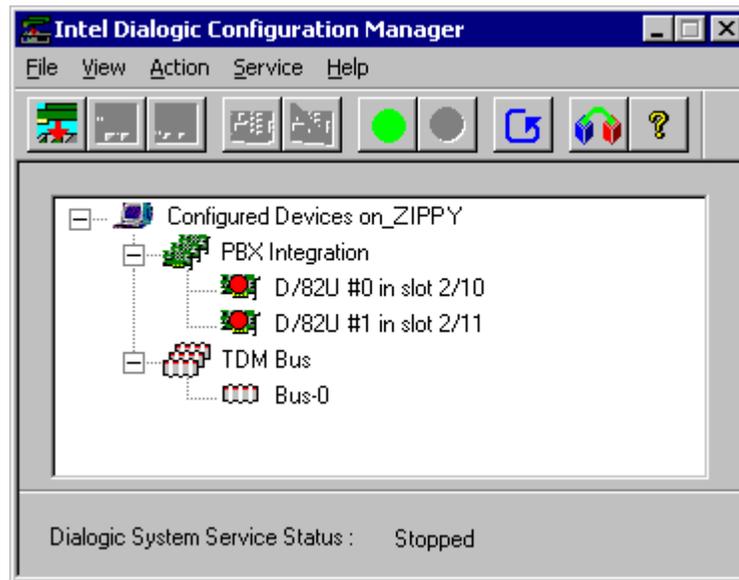
4. Under Configured Devices, double-click the name of the first Dialogic board shown (such as #0).

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 your 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 need to reboot the MAS *before* starting the Dialogic drivers. Close the DCM and reboot the system now. When the reboot completes, log back in and reopen the DCM (see step 1), then proceed to step 7.

7. When all boards are configured, click the green Start Service button on the button bar.

    Wait for service to start. The installed boards show a green light when service is started, and the Stop Service button becomes active.

8. Check 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 your board configuration, the physical connections between the board and the PBX, or the PBX configuration itself. (For example, make sure 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 4-35.

Configuring T1- or E1-QSIG boards

You may have either of the following QSIG port boards installed in your 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)

To configure either of these QSIG boards:

1. Click Start > Programs > Intel Dialogic System Software > Configuration Manager - DCM.

    The Intel Dialogic Configuration Manager window appears.

2. In the Computer Name popup window, make sure that the radio button for **Local** is selected and verify the server's name, 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 type of 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 this type of board from the pull-down list:

        ■ For E1-QSIG: select **A-Law**

        ■ For T1-QSIG: select μ-**Law**

    e. Click the **Misc** tab:

        (1) For the **FirmwareFile** parameter, verify that **default** is displayed.

        (2) Select the **FirmwareFile2** parameter. Select **spfax.fwl** from the Value drop-down list.

    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. The installed boards show a green light when service is started, and the Stop Service button becomes active. See for an example.

8. Check that the boards are operating correctly.

    a. Check the LED display on the Dialogic board faceplate.

        ■ A red status LED appears 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 about 20 to 30 seconds. LEDs on the other boards remain red.

    b. If a problem occurs, check your board configuration, the physical connections between the board and the PBX, or the PBX configuration itself. Repeat steps 4 through 8 as needed.

Figure 4-7. Sample Dialogic Configuration Manager QSIG window - service started
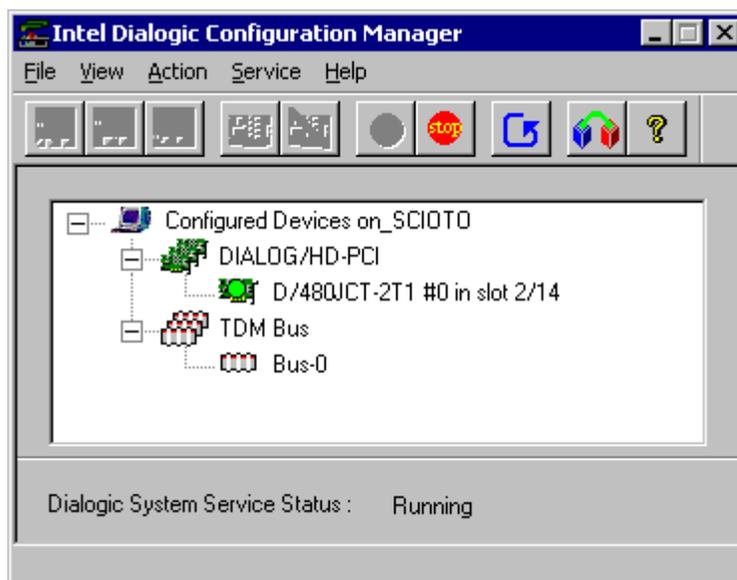
9.   Close the Intel Dialogic Configuration Manager window.

10. Continue with

Testing the port boards

Test all port boards and channels to verify that they can send and receive calls.

Prepare for port board testing as follows:

1. Stop Modular Messaging service as follows:

   a. Double-click the **Monitor** icon on the desktop.

   b. Click **Services (Local)** in the left-hand pane if it is not already selected.

   c. In the right-hand pane, scroll down to **MM Messaging Application Server**.

   d. Right-click **MM Messaging Application Server** and select **Stop**.

2. *For software updates only,* the Dialogic Line Tester program is not yet installed. Access the test program on disk as follows:

   a. Insert the application software disk in the DVD 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.

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

   c. In Windows Explorer, navigate to the DVD drive (D:).

   d. Navigate to the **Install** directory, then to the **DLTest** subdirectory.

   e. Double-click the file **DLTest.exe**.

   The Dialogic Line Test Application launches.

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 your configuration notes to identify the correct values:

      ■ For Layer 1 Protocol, select your ISDN protocol from the drop-down list.

      ■ For Number Type, select the destination number type.

      ■ For Number Plan, select the destination number plan.

 | Note: | The values you select here must be the same as those entered on the PBX or switch. Check your configuration notes. |
   |---|---|

To test Dialogic port board functionality:

1. Access the Dialogic Line Test application using one of these methods:

   ■ Click Start > Programs > Avaya Modular Messaging > Dialogic Line Tester

   ■ Access the DLTest program from the applications software disk described in step 2 on page 4-35.

   The Dialogic Analog - Line Test Application (or DLTest) window appears.

   The name of the window varies slightly depending on the type of port boards installed. All port numbers and channel designations should be listed. See Figure 4-8 for an example.

Figure 4-8.   Sample Dialogic Analog - Line Test Application window
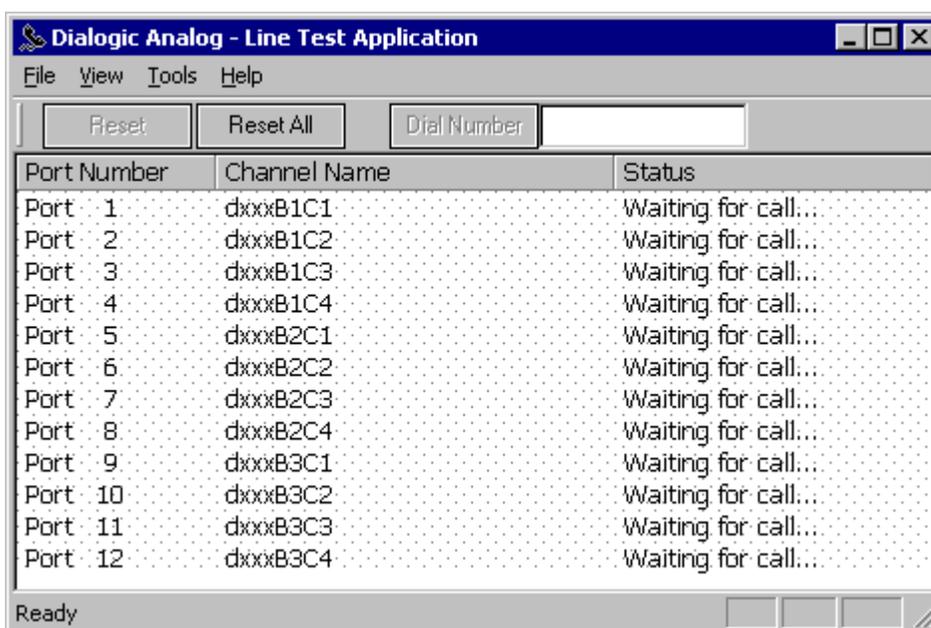
2. Test the incoming call connectivity of all ports as follows:

   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-12.

      ■ 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 4-6 for different status conditions.

The system should answer each connected call with a standard welcome message.

Table 4-6.   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 dialled to make on 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 channel occurred.	Error
Error, No Dial tone detected.	An outgoing call was made but no dial tone was detected before dialling.	Error

3. Test the outcalling capability of all ports as follows:

    a. Type the number of an extension on this PBX in the Dial Number field near the top of the window.

    b. Select a Port Number in the Dialogic Line Test Application window.

    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.

4. When finished, close the test application window.

5. If a problem occurs, check your board configuration, the physical connections between the board and the PBX, or the PBX configuration itself. For example, make sure that you have configured the correct PBX and administered it according to the appropriate configuration notes.

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 may 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 your PBX or switch. See "Required documentation" on page 1-2 for instructions on obtaining the configuration notes.

Configuring domain-wide features

This section covers 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 technically can be administered on any MAS.)

- Some domain-wide features are optional and may 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 need to 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. On the Modular Messaging User Properties screen, select the **Preferred language** from the drop-down list.

   c. Click **OK**.

2. Verify that Modular Messaging service is started as follows:

   a. Double-click the **Monitor** icon on the desktop.

   b. Click **Services (Local)** in the left-hand pane if it is not already selected.

   c. In the right-hand pane, scroll down to **MM Messaging Application Server**.

   d. 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 Monitor window immediately shows a status of Started. However, service may actually take several minutes to start, depending on the number of port boards installed and the integration method.

   e. Track startup progress as follows:

      (1) In the left pane, expand **Event Viewer (Local)**, then click **Application**.

      (2) Refresh the window periodically until you see Telephony User Interface event 1241, "TUI service has been enabled." You can now proceed.

   f. When service is restarted, close or minimize this window.

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

The Voice Mail System Configuration window appears. All MASs present in the messaging system are listed.

> **Note:** Do the steps in this section under the voice mail domain, not under a specific MAS.
>
> Although you are prompted to restart service several times during this procedure, you actually need to restart service only before entering the port board extension numbers in "Configuring MAS-specific parameters" on page 4-46 and at the end, when configuration is complete.

4. *On MAS#1:* Double-click **Telephone User Interface**.

   a. On the **General** tab, set the "Number of Digits in a Mailbox" to match the number of digits in the extension numbers on the customer's PBX. See Required switch and messaging information on page A-12.

   b. Click the **Subscriber** tab.

      (1) If prompted that your extension number changes will invalidate all previous mailboxes, click **Yes**.

      (2) 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 procedure if the optional Call Me Server is installed on any MAS. See the 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, check the box 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 procedure if the optional Message Waiting Indicator Server is installed on any MAS. See the 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, check the box 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" box, list all MAS servers that support MWI. To add a server's name:

   (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. *To set up fax service:* Do this procedure if the optional Fax Sender Server is installed on any MAS. See the MAS features list on page A-11.

a. Double-click **Fax**.

b. In the Fax - Voice Mail Domain window, on the **General** tab:

   (1) Check the box for **Fax Enable**.

   (2) Next to **MAS Fax Sender server,** click **Browse**.

   (3) In the Select Computer window, double-click the name of the MAS on which the Fax Server software is installed. See the MAS features list on page A-11.

   (4) For **Fax Mailbox**, enter the extension for the fax mailbox (this mailbox must be set up on the MSS as well). See the Required switch and messaging information on page A-12.

   (5) For **Company Fax Number**, enter the externally diallable number that callers should use to send faxes to subscribers. This number also appears on any outgoing fax cover page.

c. Click the **Advanced** button.

   (1) In the Advanced Fax window, change the **Max Concurrent Outgoing Calls** number to a customer-specified number to allow faxes to be sent. See the MAS features list on page A-11.

   (2) Adjust any other options if required.

(3) When finished, click **OK** to close this window.

d. Click **OK** to close the Fax - Voice Mail Domain window.

e. In the Voice Mail System Configuration window, expand **Security**.

f. Double-click **Messaging Servers Administration**.

g. In the Message Servers - Voice Mail Domain window, on the **Message Servers** tab:

   (1) The Credentials list shows entries for LDAP, IMAPI, and IMAP4.

   (2) Click the key button above the list to add a new entry for fax.

   The **FAX** value should appear in the box.

   (3) Click in the Password column next to the new Fax entry.

   (4) Type the password for the fax mailbox and press **Enter**. This value must be numeric (see the Required switch and messaging information on page A-12).

   (5) Click **OK** to close this window.

8. *On MAS#1:* Set up access permissions for Modular Messaging administration as follows:

   a. In the Voice Mail System Configuration window, expand **Security** (if not already expanded).

   b. Double-click **System Administration**.

      (1) In the Permissions for System Administration window, verify that the Modular Messaging service account (such as *mmacct*) is already listed. Click **Add**.

      (2) In the Select Users, Computers, or Groups window, scroll down to **Domain Admins**. Double-click it, 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**.

      (2) In the Select Users, Computers, or Groups window, scroll down to **Domain Admins**. Double-click it, then click **OK**.

      (3) Click **OK** to close this window.

9. ***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 to be used at this site. See the MAS features list on page A-11.

   b. *If the Text-to-Speech (TTS) feature is used at this site:*

      (1) Check the box to enable **Enable Multilingual Text to Speech**.

      (2) In the list box, check all the languages to use for TTS at this site. See the MAS features list on page A-11.

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

10. *To set up the optional offline access feature:* Do this procedure on any MAS.

    a. Double-click **Messaging**.

    b. In the Messaging - Voice Mail Domain window, click the Offline Access tab.

    c. Check the box to **Enable offline access to messages**.

    d. *If multiple MASs are installed,* check the box 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 **6** on the Modular Messaging MAS planning form on page A-6.

    > **Note:** If the offline message store is to be on a machine other than an MAS, the share must be mapped as a network drive on this MAS. See the *Administration* guide (PDF 3 MB) for details.

    e. Alter any other parameters on this screen as needed. See the *Avaya Modular Messaging Software Messaging Application Server Administration* guide (PDF 3 MB) on the documentation media for details.

11. ***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:** If SNMP alarming is selected, INADS alarming on the MSS must be disabled. See "Disabling MSS alarm origination for SNMP alarming" on page 5-17.
    >
    > If no modem is present, INADS alarming is not available.

    b. If alarming is activated, enter the unique product ID for this system. See Services information on page A-13 for this number.

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

- 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-14 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).

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

12. *On MAS#1:* Install the license for this system as follows:

> **Note:** The procedure for obtaining a license file varies. Follow your local procedures for obtaining a license for this system.
>
> You can continue administering the system while a license is being generated. Return to this procedure after the license is received to install the license.

a. To obtain a license, in the Voice Mail System Configuration window, right-click **Licensing** and select **Copy Host ID to Clipboard**.

b. Open a text editor application such as Notepad and **Paste** the ID into the file. This is the unique ID for this voice mail domain (system).

c. Include the following information in the same file:

(1) The platform (Microsoft Exchange)

(2) Whether this is a new installation or an upgrade (for upgrades, specify the release you are upgrading from)

(3) The number of seats (voice mail-enabled user mailboxes) purchased for the system

(4) The maximum number of concurrent sessions of text-to-speech conversion purchased for the system

(5) Specify the text-to-speech engine (such as Fonix DECtalk US English, ScanSoft Realspeak Any Language, or ScanSoft TTS-3000 International).

(6) The installer's name and contact information (telephone number and email address)

d. Notify the appropriate Modular Messaging remote support center and transmit the file as directed (through email, FTP, and so on).

e. Continue the installation while the remote support center generates and transmits back a valid license for this system.

After the license is obtained, install it as follows:

a. In the Voice Mail System Configuration window, right-click **Licensing** and select **Import License**.

b. On the License Import Wizard welcome screen, click **Next**.

c. On the Importing the License screen, click **Browse**.

d. Navigate to the location where the license file is stored.

e. Double-click the appropriate *.xml license file. Click **OK**.

f. Click **Next** to install the license.

g. When the wizard completes, click **Finish**.

h. In the Voice Mail System Configuration window, double-click **Licensing**.

i. On the Licensing - Voice Mail Domain properties screen, on the **General** tab, verify that the correct values for this customer are displayed.

j. 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) On the Edit Sessions screen, enter the number of TTS sessions required for this MAS (for example, 2 sessions per MAS). See the MAS features list on page A-10.

(3) When finished, click **OK**.

k. Click **OK** again to close the Licensing properties screen.

13. *On MAS#1:* Set up the 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 your 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:** Even though you are using the configuration notes for your PBX or switch to do many of these steps, read through this section to get an overview of the whole configuration procedure.

To specify MAS-specific parameters:

1. In the Voice Mail System Configuration window, expand **Messaging Application Servers**. See item **1** on your S3400-family system planning form on page A-6 for MAS names.

    a. *For MAS#1:* The first time you access this item, a Telephony Configuration Wizard runs to help 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*), then select **Telephony Configuration Wizard**.

    b. *For a subsequent MAS:* Right-click the server name (such as *ZORRO*), then select **Telephony Configuration Wizard** to run the wizard. Complete all steps in the wizard as prompted.

2. When the wizard completes:

    a. Expand **Messaging Application Servers** again, then expand the directory for this server's name.

    b. Check your configuration notes and add any additional detailed data that are dependent on the switch and the integration type.

3. When the configuration note programming is complete, restart service as follows:

    a. Double-click the **Monitor** icon on the desktop.

b. Click the **Services (Local)** item in the left-hand pane if it is not already selected.

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

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

The system begins a messaging service startup.

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

---

e. Track startup progress as follows:

(1) In the left pane, expand **Event Viewer (Local)**, then click **Application**.

(2) Refresh the window periodically until you see Telephony User Interface event 1241, "TUI service has been enabled." You can now proceed.

f. When service is restarted, minimize the Monitor window.

4. In the Voice Mail System Configuration window, expand **Messaging Application Servers**.

Note: Some values may already be set. Follow the configuration notes for your PBX integration.

---

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

b. Double-click **Telephony Interface**. Configure the port boards in this MAS. Use your configuration notes. See the Required switch and messaging information on page A-12 for port board extensions.

c. Click **PBX Type**. Select the same type of PBX service as you did in step 13 for "Configuring domain-wide features" on page 4-38. Make sure the entry in the **PBXs** box is highlighted, and click **OK**.

d. Click **PBX Integration** and configure the integration type for your system. Use your configuration notes to specify or confirm the detailed settings required by your 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,* double-click **Port Groups**. See the Required switch and messaging information on page A-12 for details.

f. *If INADS alarming is used,* double-click **Serviceability** to set up dial-out information for this MAS. See

(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 the recommended USB port A on the MAS.

(2) For **Phone number**, enter the complete telephone number that the modem must dial to place an alarm notification with the remote service center. Include any special characters needed (for example, to access an outside line, insert pauses, and so on).

(3) For **Modem setup**, enter the modem initialization (setup) string if required for the modem to make alarm notification calls.

(4) Click **OK** to close this window.

5. When configuration is complete, restart service again (see step 3).

6. When finished, close all open windows.

Completing initial MAS administration

This section covers 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 messaging services:

1. Click Start > Run.

2. In the Run box Open field, type the following and press Enter:

   C:\Avaya_Support\Scripts\serverrecovery.vbs

   The script takes a few seconds to run. When it completes, all installed MM services will be started.

3. *Optional.* To verify that all services are started:

   a. Double-click the **Monitor** icon on the desktop.

      The **Services (Local)** item in the left-hand pane should be selected.

   b. In the Monitor window, scroll down to the list of Modular Messaging (MM) services. Make sure 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**.

Verifying alarming setup

Run the following test to verify that alarm notification is working:

1. Click Start > Run.

2. In the Run box Open field, type **cmd** and press Enter.

3. In the command prompt window, type the following and press Enter:

   testaom -v

4.   Check 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.

Continue with administration as required

Continue with administration as required based on the number of MASs in the system:

■   If you have another new MAS to install (up to four may be present), return to "Setting up the MAS" on page 4-3. Follow the instructions in each section for setting up each additional MAS.

■   If all your MASs are now installed, continue with Chapter 5, "Completing initial administration," and complete all steps in order.

5

Completing initial administration

This chapter describes how to complete initial administration on the Message Storage Server (MSS) and each Messaging Application Server (MAS) to bring the S3400-family system into full service.

Note:	Before you can successfully complete the tasks in this section, you must have successfully completed the installation tasks in Chapter 4, "Administering the Avaya MAS."

Completing required administration on the MSS

After you complete the initial administration of all Avaya MASs in your S3400-family system, you need to return to the MSS-S or MSS-H to complete the basic messaging administration, set up test subscribers, and perform acceptance tests. The amount of remaining administration required varies depending on the optional features that the customer has chosen to implement.

Displaying the MSS

Log back in to the MSS as follows:

1. Switch the monitor to show the MSS.

   - *For a Belkin OmniView Pro2 KVM:* Press slowly in sequence Scroll Lock, then Scroll Lock, then the down arrow key to change to the MSS (usually connected to port one).

   - See "Switching the monitor to show the correct server" on page 4-3 for more information if needed.

   You rebooted the MSS at the end of Chapter 3, ''Powering up the system and performing initial MSS administration.'' You need to relogin now.

2. You should see a "Press Enter to return to prompt..." message. Press **Enter**.

3. At the login prompt, log in to the MSS as **craft** using the current password.

   The server displays the Messaging Administration main menu.

Administering Internet messaging

Activate Internet messaging before load is running or when server usage is low.

To activate Internet messaging:

1. Starting from the Messaging Administration main menu, select:

   ```
   Feature Administration
     Internet Messaging
       General Options and Settings
   ```

   The General Options and Settings screen appears.

2. Click the **Yes** radio buttons to enable POP3 and IMAP4. (The pushbuttons look dark when they are *on*.)

Enabling these protocols allows other clients such as Microsoft Outlook to access their mailboxes using these protocols.

3. Click **Submit** to save your changes.

> **Note:**   A security certificate acceptance dialog box may appear when you make changes to this screen. Use the default values to accept the certificate, and then proceed.

---

4. Click **Return to Main**.

Updating MAS host information

Host information for each MAS must be entered and then sent to all machines in the S3400-family system. See your S3400-family system planning form on page A-6 for system information.

To update the host information for one or more MASs:

1. Starting from the Messaging Administration main menu, select:

```
Basic System Administration
  TCP/IP Administration
    MAS Host Information Setup
```

The MAS Host Information Setup screen appears.

2. Select the MAS whose information you want to change (MAS1 through MAS4). Click **Edit**.

3. On the MAS Host Information Setup screen, update the host information to identify this MAS on the corporate and private networks:

    a. **Public System Name** is the corporate fully qualified domain name or FQDN of the MAS (such as *zippy.loc.avaya.com*). See item **7** on your S3400-family system planning form on page A-6.

        If this name has a domain qualifier (such as *loc.avaya.com*), then you should include just the host name (such as *zippy*) as an alias.

    b. **Public IP Address** is the corporate IP address of the MAS (see item **8** on your planning form).

    c. **Public Aliases** *must* include at least the following:

        ■ The host name of the public MAS system name (such as *zippy* for *zippy.loc.avaya.com*). See item **1** on your planning form.

        ■ Any other required aliases. Separate names with a space.

    d. *Do not change* any information in the Private System Name and Private IP Address fields for a new system.

---

e. **Private Aliases** *must* include the private FQDN for the private network (such as *zippy.zodiac.com*). See item **5** on your planning form.

⚠️ **CAUTION:** It is strongly recommended that you do *not* change any default private host information (such as the private host machine name or its IP address). A change to these values could prevent the system from working.

---

4. For **Administrator Login**, enter the MAS domain administration account login (such as *dom-admin*) and its password to make any changes. See item **A1** on the MAS logon accounts form on page A-10.

5. When finished, click **Save**.

    The MSS updates its internal information, and then sends this information to all MASs in the network.

    ■ The system reports whether or not the information was successfully updated. Check that all machines in the network were updated.

    ■ *If an update to a machine failed,* check your network operation using a ping test as follows:

        (1) Click **Return to Main**.

        (2) Starting from the Messaging Administration main menu, select:

```
Diagnostics
  TCP/IP Diagnostics
     Send & Receive Packets To & From (Ping Test)
```

        (3) On the ping test screen, enter the name or IP address of the failed MAS to establish connectivity.

        (4) Repeat the test as needed to try to isolate the problem.

        (5) Once the problem is corrected, try to send the host information again using the MAS Host Information Send screen (under Basic System Administration > TCP/IP Administration).

6. Continue as follows:

    ■ If you have one MAS, click **Return to Main**.

    ■ If you have more than one MAS:

        (1) Click **Back**, then click **Back** again to return to the MAS Host Information Setup screen.

        (2) Repeat steps 2 through 5 for every MAS in this system.

        (3) When finished, click **Return to Main**.

7. *If you changed a private MAS IP address (NOT recommended),* you must synchronize the time on the MSS and MAS servers as follows:

    a. Log in to the MAS whose private IP address changed.

    b. Click Start > Run to open a Command prompt window.

    c. In the Run box, type the following in the Open field and press Enter:

        C:\Avaya_Support\cmd\time.bat

        The clocks on the message servers will soon show the same time.

Placing the MSS in the Windows domain

The MSS must be added to the Windows domain that you set up on the MAS.

To add the MSS to the Windows domain:

1. Starting from the Messaging Administration main menu, select:

    ```
    Basic System Administration
      TCP/IP Administration
        Windows Domain Setup
    ```

    The Windows Domain Setup screen appears.

2. Enter the following information in each field:

    a. For **Eth1 NetBIOS Name**, type the MSS private system name **mss1** (see item **13** on the S3400-family system planning form on page A-6).

    b. For **NetBIOS Domain Name**, type the Windows NetBIOS domain name (such as *zodiac*) that was created on MAS#1 (see item **3** on your planning form).

    c. For **Fully Qualified Domain Controller Name**, type the MAS host name for MAS#1, such as *zippy* (see item **1** on your planning form).

    d. For **Domain Controller Administrator**, type the domain administrator account name (such as *dom-admin*). See item **A1** on the MAS logon accounts form on page A-10.

> ⚠ **CAUTION:** This same account *must* be used to set up system backups on every MAS (see "Backing up the system (MAS and MSS)" on page 5-18).

    e. For **Domain Controller Administrator Password**, type the password for this account.

3. When finished, click **Save**.

4. Click **Return to Main**.

Administering special mailboxes and classes of service

You need to administer a class of service that will be used for the PostMaster and fax mailboxes and for the required test subscribers. Use the Required switch and messaging information on page A-12 to complete the information in this section.

To set up a new class of service and the required mailboxes:

1. From the Messaging Administration main menu, select:

```
Global Administration
  Subscriber Management
    Manage Classes-of-Service
```

The Manage Classes-of-Service screen appears.

a. Select the class of service to modify (such as class00). You may set up different classes of service if required (for example, you may use a different class of service for the PostMaster and fax-enabled subscribers).

b. Click **Edit the Selected COS**.

c. On the Edit a Class-of-Service screen, scroll down to **Subscriber Features and Services**. Activate the following features:

(1) Set Outbound Fax Calls to **Yes** (required for fax service).

(2) Set Record Mailbox Greetings to **Yes**.

(3) Adjust other feature values if directed. Generally, you enable features that you have installed and must test.

d. When finished, click **Save**.

e. Click **Back** to return to the Managing Subscribers screen.

2. Set up the mailbox for the subscriber who is to receive PostMaster messages. Use the name and extension specified on the Required switch and messaging information on page A-12.

> **Note:** Typically an existing subscriber such as the system administrator is set up to receive postmaster messages. If the PostMaster message volume is large, you may set up a secondary mailbox for a subscriber to receive postmaster messages, but that secondary mailbox must be checked regularly (on a daily basis if possible).

a. On the Managing Subscribers screen, next to the **Local Subscriber Mailbox Number** field, click **Add or Edit**.

    b. On the Add Local Subscriber screen, enter the following information:

       (1) In the Last Name field, type the last name of the subscriber who is to receive the postmaster messages.

       (2) In the First Name field, type the subscriber's first name.

       (3) Enter the subscriber's mailbox password (see the planning form).

       (4) In the Mailbox Number field, type a valid mailbox extension number; enter 3-to-10 digits as required by your dial plan.

       (5) In the Numeric Address field, type a unique number for that mailbox in the network. For example, you could prepend a **1** or the area code to the mailbox number.

       (6) Select the required class of service.

    c. Scroll down and click **Save**.

3. *If fax service is installed:* Set up the required fax service mailbox using the Required switch and messaging information on page A-12.

    On the Managing Subscribers screen:

    a. Click **Add or Edit**.

    b. On the Add Local Subscriber screen, enter the following information:

       (1) In the Last Name field, type **fax**.

       (2) Enter a password (see the planning form).

       (3) In the Mailbox Number field, type a valid mailbox extension number. This number should *not* be a real telephone extension on your system, or the fax feature will not work correctly.

       (4) In the Numeric Address field, type a unique number for that mailbox in the network.

       (5) Select the required class of service.

    c. Scroll down and click **Save**.

4. From the Managing Subscribers screen, select:

```
Configure Subscriber Management
```

    The Configure Subscriber Management screen appears.

    a. In the **System Mailboxes** section:

       (1) For the **Fax Mailbox Number**, enter the extension for the Mailbox Number that you used in step 3.

(2) For the **Internet Postmaster Mailbox Number**, enter the extension for the Mailbox Number that you used in step 2.

b. Click **Save**.

You return to the Managing Subscribers screen.

Adding a test subscriber

You need to set up at least one local subscriber to test the system.

To add a test subscriber:

1. From the Managing Subscribers screen, next to the **Local Subscriber Mailbox Number** field, click **Add or Edit**.

   The Add Local Subscriber screen appears.

2. Fill in the fields in the Subscriber Information section as shown in Table 5-1 on page 5-8. Use the Required switch and messaging information on page A-12 for mailbox extension numbers and passwords.

   Click **Help** if you need details about completing any fields on this screen.

Table 5-1.   Subscriber screen sample settings

Field	Setting
Last Name	**Smith**
First Name	**Test**
Password	**1111** *(must comply with minimum password length)*
Mailbox Number	Type a valid mailbox extension number; enter 3-to-10 digits as required by your dial plan.
COS	0 *(Use the one you modified or as directed; it must have all the features that you need to test activated.)*
Numeric Address	Type a unique number for that mailbox in the network (for example, you could prepend a **1** or the area code to the mailbox number)

3. When finished, scroll down and click **Save**.

4. Click **Return to Main**.

Performing acceptance tests

After installing the system, verify that it is working correctly by doing the following tests.

> ⚠️ **CAUTION:** You must wait about 1 minute for the MSS and MAS to synchronize their data after adding any test subscribers. Otherwise, the acceptance tests will not run correctly.

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 test subscriber's extension.

To create and send a call answer test message:

1. Call the test-subscriber extension from any other telephone. Allow the S3400-family 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 your test messages in integrated mode:

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

   > **Note:** The message-waiting lamp may 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. Check that the Mailbox Monitor and MWI services are started. Double-click the **Monitor** icon on the MAS desktop, then scroll down to these MM services in the right-hand pane and verify status. If needed, select **Start**.

      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 messaging system message retrieval number.

     The system voices the test subscriber's name.

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 your new messages.

6.   Press 1 to retrieve a voice message.

7.   Listen to the message. If the message does not play properly, contact your 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 your 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 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 your message.

8. Enter the mailbox number for the test subscriber when prompted for the extension, followed by #.

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 5-9.

Creating and printing a fax message

Do this test if the Fax Sender Server is installed.

To create and send a test fax message:

1. From a fax machine, send a fax to the test-subscriber mailbox. This subscriber mailbox should have been set up to be fax enabled.

2. Wait a few minutes for the fax to be delivered. The MWI lamp (if present) on the test-subscriber telephone should light.

3. From the fax machine, dial the Modular Messaging messaging system message retrieval number for that telephone.

4. Press * to access the test subscriber's mailbox.

5. Enter the extension number for the test-subscriber mailbox and press #.

6. Enter the password and press #.

7. Press 1 to retrieve new messages.

8. Press 3 to retrieve the fax message.

9. When the prompt finishes, press 2 to print the fax.

10. Press 3 to print the fax at this fax machine.

11. Press the Start key on the fax machine.

12. Verify that the fax prints correctly. The call is then disconnected.

13. *If MWI is installed:* Check the MWI on the test-subscriber telephone again. The MWI should be off.

Testing the outcalling capability

Test the outcalling capability of the system using the Subscriber Options package.

To test system outcalling:

1. Switch the monitor to show the appropriate MAS. See "Switching the monitor to show the correct server" on page 4-3 if needed.

2. Install the Subscriber Options package:

    a. Navigate to the directory **C:\MM_Install\Client Distrib**

    b. To install the new software, double-click the **Install.exe** file.

3. To run the Subscriber Options package, click Start > Programs > Avaya Modular Messaging > Subscriber Options.

4. In the User Logon window:

    a. Enter the mailbox number and password for the test subscriber. See Required switch and messaging information on page A-12.

    b. Use the host name for MAS#1 (such as *ZIPPY*). See item **1** on the S3400-family system planning form on page A-6.

    c. Click **OK**.

5. Play back the spoken name to test outcalling as follows:

    a. In the Modular Messaging Software User Properties window, click the **Record Greetings** tab.

    b. Under Standard Greetings, click the **Spoken Name** radio button.

    c. Verify that the telephone will be used for name playback:

        (1) Check the icon to the left of the status display. If it shows a telephone, continue with step d.

        (2) If the icon shows a terminal, right-click and select **Telephone**. The icon changes to show a telephone. Continue with step d.

    d. Click the **Play** button (large black single arrow) on the player near the bottom of the window.

    e. Answer the telephone when it rings.

        The picture of the phone should change to become off-hook.

    f. Listen for the system to play the spoken name of the test subscriber.

    g. Hang up the telephone.

        The picture of the phone should change back to being on-hook (this may take a couple of seconds).

6. When finished, click **OK** to close the Modular Messaging Software User Properties window.

Running additional tests

You may 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.

Removing the test subscriber on the MSS

When acceptance testing is completed, remove the test subscriber as follows:

1. Switch the monitor to show the MSS if needed. See "Switching the monitor to show the correct server" on page 4-3.

2. Starting from the Messaging Administration main menu, select:

```
Global Administration
    Subscriber Management
```

3. On the Managing Subscribers screen, next to **Local Subscribers** for this MSS machine (such as *zigzag*), click **Manage**.

   The Manage Local Subscribers screen appears.

4. Select the test subscriber.

5. Click **Delete the Selected Subscriber**.

6. Click **Return to Main**.

Setting up remote access on the MSS

Complete remote access administration on the MSS as follows:

- If INADS alarming is used at this site, complete the steps in this section to allow a remote service center to dial in to the MSS to perform troubleshooting or system maintenance.

- If SNMP alarming is used at this site, continue with "Disabling MSS alarm origination for SNMP alarming" on page 5-17.

Administering PPP logins and passwords for INADS alarming

It is necessary to administer point-to-point protocol (PPP) logins and passwords for all INADS-supported systems to support remote maintenance. See PPP logins, passwords, and IP addresses on page A-13 for required PPP logins and passwords.

To administer PPP logins:

1. Starting from the Messaging Administration main menu, select:

   ```
   Basic System Administration
     Password Administration
       Assign/Change Password
   ```

   The Assign/Change Password screen appears.

2. At the **Login** drop-down box, select the PPP login that you want to administer (for example, sappp).

3. For **New Password**, enter the appropriate PPP password. See PPP logins, passwords, and IP addresses on page A-13 for passwords.

4. For **Re-enter New Password**, type the PPP password again for verification.

5. Click **Save**.

   The system displays a confirmation message.

6. Click the **Back** arrow in your web browser to return the Assign/Change Password screen.

7. Complete steps 2 through 6 for each additional PPP login that needs administration.

8. When finished, click **Return to Main**.

Activating the RMB modem for INADS (external modems only)

The on-board modem for the model of RMB installed in the United States is automatically activated. However, international users must activate the external modem that is required for INADS alarming through their RMB boards.

To activate the modem for an external RMB board:

1. Starting from the Messaging Administration main menu, select:

   ```
   Basic System Administration
     Modem and Terminal Administration
       Install Modem/Terminal Software
   ```

   The Install Modem/Terminal Software screen appears.

2. Locate Device Type **RMB** and update the fields for the modem you are using. Click **Help** for information about completing each field.

3. When finished, click **Save**.

4. Click **Return to Main**.

Setting up the PPP server configuration for INADS alarming

Use this page to identify the local and remote IP addresses that are required for remote access to the system.

To set up PPP service on this machine:

1. Starting from the Messaging Administration main menu, select:

   ```
   Basic System Administration
     TCP/IP Administration
       PPP Server Configuration
   ```

   The PPP Server Configuration screen appears.

2. For each login account that you are to administer, enter the following information. See PPP logins, passwords, and IP addresses on page A-13.

   a. For **Local IP Address**, type the customer-provided IP address for PPP access through the MSS modem.

   b. For **Remote IP Address**, type the customer- or Services-provided IP address for the remote device that will connect to this MSS.

3. Repeat step 2 for each of the PPP logins you need to set up.

4. When finished, click **Save**.

5.   Click **Return to Main**.

Specifying MSS alarm origination

Activating alarm origination causes an entity such as the remote service center to receive notification of alarms that occur on the S3400-family system. Alarm notification through the MSS can only occur if the maintenance modem for the RMB is installed and active, and if INADS alarming is enabled for the voice mail domain at this site.

> **Note:**   If SNMP alarming is enabled at this site, continue with "Disabling MSS alarm origination for SNMP alarming" on page 5-17.

Activating MSS alarm origination for INADS alarming

To use INADS alarming, set up alarm origination through the MSS as follows:

1.   Clear all alarms.

2.   Insert a labeled writable DVD into the DVD drive for the nightly backup. The backup disk *must* be in place before you activate alarm origination.

3.   Starting from the Messaging Administration main menu, select:

```
Basic System Administration
  Alarming Administration
```

   The Alarm Management screen appears.

4.   Provide the **Product ID** and **Alarm Destination** telephone number. See PPP logins, passwords, and IP addresses on page A-13.

5.   Complete the remaining fields as required. Generally:

   ■   Alarm Origination should be **ACTIVE**.

   ■   Alarm Suppression should be **INACTIVE**.

   If needed, click **Help** for information about completing each field.

6.   When finished, click **Save**.

7.   Click **Return to Main**.

Disabling MSS alarm origination for SNMP alarming

To use SNMP alarming, disable alarm origination through the MSS as follows:

1. Starting from the Messaging Administration main menu, select:

   ```
   Basic System Administration
     Alarming Administration
   ```

   The Alarm Management screen appears.

2. Set Alarm Origination to **INACTIVE**.

3. Click **Return to Main**.

4. Click **Save**.

Testing INADS alarming

To test INADS alarming on this system:

1. Starting from the Messaging Administration main menu, select:

   ```
   Global Administration
     Messaging Administration
   ```

   The system displays the administration command prompt screen and and the SSH dialog box.

2. Verify your login and type the password. Press Enter or click **Login**.

3. At the command prompt, type **test alarm** and press Enter.

4. On the test alarm-origination screen, press **F3** (Enter).

5. Check the status line to verify that the command completed successfully.

6. Wait 5 minutes for the test alarm to be acknowledged and resolved.

7. Starting from the Messaging Administration main menu, select `Logs > Alarm Log`.

8. Set the Alarm Type to **Resolve**. Click **Display**.

9. Verify that the minor alarm VM type ALARM_ORIG was acknowledged and resolved.

   The alarm is resolved by MAINT in 30 minutes if the test fails. Check your administration to make sure you have a good connection to the remote service center, then retry this test.

Backing up the system (MAS and MSS)

As a final installation task, set up the system to perform regular, scheduled backups. Do an attended backup to verify the backup function.

Setting up and running backups on every MAS

Do this task on every MAS.

You need to send MAS backup data to the MSS (a nightly basis is recommended), so that it can be backed up with the rest of the system data on DVD-RAM.

To set up a scheduled backup of data on the MAS:

1. Switch the monitor to show MAS#1. See "Switching the monitor to show the correct server" on page 4-3 if needed.

2. To view the scheduled backup program for this MAS, double-click the **Scheduled Tasks** icon on the desktop.

3. In the Scheduled Tasks window, run an attended backup on this MAS as follows:

   a. Right-click the task named **MAS Backup**.

   b. Select **Run**.

      In Scheduled Tasks window, the Status column shows Running as the system immediately begins to back up the data on this MAS to the MSS. The Status column goes blank (shows nothing) when the backup completes.

   c. *Optional.* To verify that the backup completed correctly:

      (1) Click Start > Run. In the Open field, type **\\mss1\masbackup**

         You are prompted for an account name and password.

      (2) In the Connect As window, use the domain administrator account name (such as *dom-admin*) and password. See item **A1** on the MAS logon accounts form on page A-10. Click **OK**.

         Windows Explorer launches.

      (3) Confirm that a backup file has been created on the MSS with the correct time and date (such as *ZIPPYDailyBackup.bkf*, where *ZIPPY* is the host name of this MAS). You can expect an initial file size of approximately 264 MB.

         If a backup file has *not* been successfully created, check your configuration. Make sure that the account used to join the MSS to

the Windows domain matches the account that the scheduled task runs under (this should always be the domain administrator account, such as *ZODIAC\dom-admin*).

4.   Close the Scheduled Tasks window.

5.   Repeat this procedure for every MAS in the system.

Setting up and running an attended backup of the MSS

After you have run an attended backup of every MAS machine, run an attended backup on the MSS.

See the MSS administration section on the documentation media for information on:

■   Backing up system files (attended)

■   Backing up system files (unattended)

When finished, log off of the system.

6

Updating Modular Messaging software

This chapter describes how to update Modular Messaging software from Release 1.0 to Release 1.1 on the Message Storage Server (MSS) and any Avaya Messaging Application Server (MAS). Procedures for updating the client software on the MAS and any other computer where it was previously installed are also covered.

Note:	Do the tasks in this section only if you are updating the software on a system that is running an earlier release of the Modular Messaging software.
	Review the new version of the planning forms in Appendix A, "System planning forms," *before* **beginning the software update. Make sure that all fields required for the new features are completed.**

Overview

If a system running Modular Messaging software is already installed, it can be updated to the latest release as described in this chapter.

> **Note:** Updating the Modular Messaging software requires several server restarts. Plan to do the software update during low-usage hours.

Update requirements

To successfully update a Modular Messaging system, you need:

- A completed copy of all the forms in Appendix A, "System planning forms," specifically:

  — S3400-family system planning form on page A-6

  — MAS logon accounts form on page A-10

  — MAS features list on page A-11

  > **Note:** Review the new version of these forms in Appendix A, "System planning forms," *before* beginning the software update. Make sure that all fields required for new features are completed.

- The newest release of the Modular Messaging application software on DVD or CD as follows:

  — *Avaya Modular Messaging Message Storage Server (MSS) Software* CD

  — *Avaya Modular Messaging Application Software* for the Avaya Messaging Application Server (MAS) (may be on CD or DVD)

    If the MAS 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 MAS application software is provided on a DVD, the DVD contains all of the information listed on the separate CDs above.

Update procedure

The update procedure involves:

1. Updating the software on the MSS.

2. Preparing the MAS for the update.

3. Updating the software on each of the MASs and configuring new features as needed.

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

4. Updating the client software on each MAS and any other computer where it was previously installed.

5. Performing acceptance tests on the entire system.

Note:	The CD-ROM drive in a Release 1.0 Avaya MAS must be replaced with a DVD drive for Release 1.1. The physical mounting, cable connections, and jumper settings are identical between the Release 1.0 CD-ROM drive and the new DVD player. See the *Change description for Modular Messaging R1.1* for details.

Updating software on the MSS

This section describes how to update the Modular Messaging software from Release 1.0 to Release 1.1 on the Message Storage Server (MSS).

> **Note:** This procedure requires a server restart.

Logging in to the server

To log in to the MSS:

1. Switch the monitor to show the MSS.

    - *For a Belkin OmniView Pro2 KVM:* Press slowly in sequence Scroll Lock, then Scroll Lock, then the down arrow key to change to the MSS server (usually connected to port one).

    - See "Switching the monitor to show the correct server" on page 4-3 for more information if needed.

2. At the login prompt, log in to the MSS as **craft** using the current password.

    The server displays the Messaging Administration main menu.

Updating the software

To update the MSS to the latest software release:

1. Perform an attended backup. See "Backing up system files (attended)" on the documentation media for more information.

2. Press the eject button on the front of the DVD-RAM drive and remove the DVD-RAM backup medium, if necessary.

3. Insert the *Avaya Modular Messaging Message Storage Server (MSS) Software* CD into the DVD-RAM drive.

    > **Note:** When inserting the CD into the DVD-RAM drive tray, make sure that you place the CD solidly between the plastic clips.

4. Starting from the Messaging Administration main menu, select:

```
Utilities
  Software Management
    Software Update
```

The software update screen appears.

5. Click **CD** to navigate to the CD.

6. Click **Install the newer software management software**.

7. After the new software management package installs, click **Continue**.

   The server displays a list of available packages, some of which are marked for installation.

Note:	If you did not complete an attended backup within the past 2 hours, the system displays a warning message. Click **Cancel (return to Utilities menu)** to cancel the software update. Return to step 1 and do an attended backup.

8. Click **Install selected packages**.

9. The server displays a list of packages to be installed. Verify the list.

Note:	You have to wait up to 1 minute before you can continue.

10. The system calculates the time needed to install the new software, update the LDAP database, and reboot the system. Note the time estimate shown on the screen.

11. Click **Proceed with installation**.

12. While the server is installing the software, scroll down the page periodically to view the installation status.

13. When the update finishes, verify that the software installed successfully.

14. If all software was installed successfully, remove the CD from the drive.

Note:	*Do not* leave the CD in the drive.

15. Insert a new DVD-RAM backup medium into the DVD-RAM drive to support the next unattended backup.

⚠	**CAUTION:**	*Do not* reinsert the same DVD on which you just made a backup. Set the pre-update DVD aside until you are sure that the update is successful.

16. Click **Restart the system**.

   The system reboots. Proceed with updating the MAS.

Preparing the MAS for the update

Do this task on every MAS.

This section describes how to take the Messaging Application Server (MAS) ports offline and prepare for the Release 1.1 Modular Messaging software update.

Switching the monitor to show the correct server

The KVM switch is normally connected to the required MAS through the second computer port (VGA 02). Subsequent MASs (if present) are connected to computer ports VGA03, VGA 04, and VGA 05.

To switch the monitor to show the server that you need to administer:

- *For a Belkin OmniView Pro2 KVM:* Press slowly in sequence Scroll Lock, then Scroll Lock, then the up (or down) arrow key to change to the server connected to a higher or lower port number.

  You can alternatively type the port number instead of pressing the up or down arrow key (such as *02* for port 2). See your KVM switch documentation for complete user instructions.

Preparing the MAS for the software update

To prepare the MAS for the software update:

1. The PBX administrator must make sure that the ports for this MAS are made busy and rerouted to other MASs using the procedures appropriate for your PBX. Otherwise callers into the system could hear ringing-no answer or a busy signal.

2. If anti-virus software is installed, disable it while you upgrade the Modular Messaging software. You will enable the virus-checking software again after the update is complete.

3. Log in to the server using the customer-specified Modular Messaging (MM) account name (such as *mmacct*) and its password (see item **A5** on the MAS logon accounts form on page A-10).

4. Close any open windows on the system before you begin.

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

   a. Double-click the **Monitor** icon on the desktop.

      Select the **Services (Local)** item in the left-hand pane if it is not already selected.

b. In the right-hand pane of the Monitor window, scroll down to the set of installed Modular Messaging services. These all begin with **MM**.

c. Double-click the first **MM** service to open the Properties window.

d. Set the "Startup type" to **Manual**.

e. Under "Service status," click **Stop**.

Note:	Stop the **MM Messaging Application Server** service last.

f. Wait for service to stop, then click **OK** to close this window.

g. Repeat steps c through f for each MM service.

h. Close the Monitor window.

Updating the Dialogic drivers

This section describes how to replace the drivers for the Dialogic port boards as part of the Release 1.0 to Release 1.1 Modular Messaging software update.

Note:	If no Dialogic port boards are installed (for example, for IP H.323 integrations), you do not need to update the drivers. Continue with "Updating software components on the MAS" on page 6-12.

Preparing for driver installation

To prepare the MAS for the Dialogic driver update:

1. *If Dialogic port boards are installed,* stop the Dialogic drivers as follows:

   a. From the task bar, click Start > Programs > Dialogic System Software > Dialogic Configuration Manager - DCM.

   b. At the "DCM could not detect devices" message, click **OK**.

   The Dialogic Configuration Manager window appears.

   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 copied to the correct directory now, or it will be destroyed during the update process:

   a. In the Windows Explorer window, navigate to the C:\Program Files\Dialogic\DATA directory.

   b. If any tone files are present (those with a .tsf extension), select them (use Ctrl+click to select multiple TSF files).

   c. Right-click one of the selected files and select **Copy**.

   d. Navigate to the C:\Avaya_Support\Tone_Files directory.

   e. In the right-hand 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 DVD 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 DVD drive (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 first.

   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" and click **Finish**.

   e. 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 Uninstall completes, the Remove Programs From Your Computer screen may 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 Modular Messaging (MM) 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 DVD drive (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 completes, 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 Modular Messaging (MM) 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 DVD drive (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 launches.

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, 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 appears. Click **Next**.

    This step may take several minutes to complete.

11. When prompted, select **Yes, I want to restart my computer now**.

12. Click **Finish**.

    The system reboots.

Reconfiguring the Dialogic port boards

Finally, restore the configuration for your Dialogic boards:

1. Log back in to the server using the Modular Messaging (MM) 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 DVD drive (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.

    For a system that uses CD-ROMs, remove the Dialogic drivers CD from the DVD drive.

7. Reconfigure and test the Dialogic port boards for this MAS. See "Configuring and testing the port boards" on page 4-27.

Note:	Because the Dialogic Line Test application is not yet installed, you must insert the application software disk in the DVD drive. See step 2 in "Testing the port boards" on page 4-35. When testing is complete, continue with the next section.

Updating software components on the MAS

Do this task on every MAS.

This section describes how to update the Modular Messaging software from Release 1.0 to Release 1.1 on the Messaging Application Server (MAS).

Updating the Modular Messaging software

To update the Modular Messaging software on this MAS to the latest release:

1. Run the Modular Messaging Installation Wizard as follows:

   a. In Windows Explorer, navigate to the DVD drive (D:).

   b. Navigate to the **Install** directory.

   c. Double-click the file **Setup.exe**.

   The Modular Messaging - Installation Wizard launches.

2. On the main screen, verify that the Configuration drop-down box shows **Avaya MSS**.

3. All components that were previously installed on this machine are already selected, as well as the Diagnostic tools. Verify that all necessary components are checked.

4. Click **Install**.

   Previously installed software components are updated automatically (no response is needed). New software components that are required for Release 1.1 are also installed.

5. You may be prompted to enter information for the following components:

   ■ 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 **3** on the S3400-family system planning form on page A-6.

      ■ For **User Name** and **Password**, enter the Modular Messaging account name (such as *mmacct*) and its password. See item **A5** on the MAS logon accounts form on page A-10.

      ■ Click **Next**.

  c. Click **Install**.

  d. When done, click **Finish**.

6. You may be prompted for additional information for other software components. If prompted, complete the wizards as follows:

  a. If an additional server installation wizard runs, click **Next**.

  b. When prompted, enter name of this MAS machine (such as *zippy*). See item **1** on the S3400-family system planning form on page A-6. Click **Next**.

  c. When prompted, enter the password for the Modular Messaging account (such as *mmacct*). See item **A5** on the MAS logon accounts form on page A-10. Click **Next**.

  d. Click **Install**.

  e. When done, click **Finish**.

7. *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 drive's green LED 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 DVD 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.

8. To complete the update, click **Close**.

9. Click **Restart** when prompted to restart the system now.

10. Remove the media from the DVD drive.

Updating the MAS database

To update the database on this MAS for the new Modular Messaging software:

1. When the reboot completes, log back in to the server using the Modular Messaging (MM) account name (such as *mmacct*) and its password.

    The Messaging Application Server - Configuration Wizard launches.

    It make take a few minutes to connect to the MAS.

2. On the Front End Database Update screen, click **Next**.

    > **Note:**   This step may take several hours for a large database.

    The service starts up.

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

> **Note:**   You can enable the anti-virus software on the MAS at this time.

Configuring new features

After the new Modular Messaging software is installed, you must configure and activate new features for this release using the Voice Mail System Configuration program.

To configure new features:

1. See "Configuring domain-wide features" on page 4-38 and complete steps 1 through 3.

2. Set up the following new Modular Messaging features:

    a. **Serviceability:** See step 11 on page 4-43 to activate alarming for the system.

    b. **Licensing:** See step 12 on page 4-44 to obtain and install the required license file.

    c. *Optional:* If the Text-to-Speech (TTS) feature is used at this site, see **Languages** (step 9 on page 4-43) to activate this feature.

    d. *Optional:* If Offline Access to stored messages is used at this site, see **Messaging** (step 10 on page 4-43) to activate this feature.

3. If INADS alarming is used at this site, configure it as follows:

    a. In the Voice Mail System Configuration window, expand **Messaging Application Servers**, then expand the entry for this MAS (such as *ZIPPY*).

b. Click **Serviceability** to set up INADS service. See step 4-f on page 4-48 under Configuring MAS-specific parameters for details.

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 box Open field, type the following and press Enter:

   C:\Avaya_Support\Scripts\serverrecovery.vbs

   The script takes a few seconds to run. When it completes, all installed MM services will be started.

3. *Optional.* To verify that all services are started:

   a. Double-click the **Monitor** icon on the desktop.

      The **Services (Local)** item in the left-hand pane should be selected.

   b. In the Monitor window, scroll down to the list of Modular Messaging (MM) services. Make sure 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**.

Completing the software update

Continue the Modular Messaging software update as appropriate:

- *If client software is installed on this MAS:* Update the client software on this MAS as described in "Updating client software" on page 6-16. When finished, return to this section.

- *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 6-6 to begin updating the next MAS.

  c. Repeat the Modular Messaging software update procedure through this section until all MASs are updated.

- *When all MASs are updated:* Continue with "Performing acceptance tests" on page 6-17.

Updating client software

Do this task on every MAS and every subscriber machine where client software is installed.

The client software packages (such as Subscriber Options) must be updated on every MAS and on every subscriber's machine where they are already installed.

> **Note:** Update all MASs in the system before you update the software on any subscriber machines.

To update the client software to the latest release:

1. Log in to each MAS or subscriber machine where a client software package from the previous release is installed. You must use an account with administrator rights to install software (such as the Modular Messaging account or local administrator account for a client machine).

2. Install a new version of the client software. For example, to reinstall the Subscriber Options package:

   a. Navigate to the directory that contains the latest client software.

      - *On an Avaya MAS:* Navigate to the directory **C:\MM_Install\Client Distrib**

      - *From the Avaya Modular Messaging Application Software* media*: Insert the disk in the machine's drive, then navigate to the directory **D:\Install\Client Distrib**

      - *From the network:* If the administrator has posted this software on an accessible share, navigate to the appropriate directory. Locate and execute the file **Install.exe**.

   b. To install the new software, double-click the **Install.exe** file.

   The reinstallation process removes the old software and installs the newest version.

   > **Note:** If Microsoft Outlook is installed on the same machine where you are trying to install Subscriber Options, the Add-in Client program (which includes Subscriber Options) is installed instead. See *Avaya Modular Messaging Client Add-in for Microsoft Outlook User Guide* (PDF 1 MB) for details on the installation, operation, and use of this package.

3.   Repeat this procedure until all existing versions of client software have been replaced with the version for the newest release.

> **Note:**   The Subscriber Options software should be updated on every MAS prior to performing the acceptance tests.

For details on installing or using a client software package, see the appropriate user guide in the reference section on the documentation CD:

■   The *Modular Messaging Subscriber Options User Guide* (585-310-789, PDF 1 MB), used for the outcalling acceptance test

■   *Avaya Modular Messaging Client Add-in for Microsoft Outlook User Guide* (PDF 1 MB), used instead of Subscriber Options for the outcalling acceptance test if Outlook 2000 or 2003 is installed on a client machine

■   The *Avaya Mailbox Manager User Guide* (available on the Mailbox Manager CD)

Performing acceptance tests

After updating the system, verify that it is working correctly by doing acceptance tests.

1.   See "Performing acceptance tests" on page 5-9 and perform all the tests relevant to this system.

2.   When all performance tests are complete, back up the system. See "Backing up the system (MAS and MSS)" on page 5-18.

A

System planning forms

Overview

A new Avaya S3400-family message server system installation 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.

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 on page A-2

- Guidelines for completing the forms on page A-3

- S3400-family system planning form on page A-6

- S3400-family system planning form (completed example) on page A-8

- S3400-family password table on page A-9

- MAS logon accounts form on page A-10

- MAS features list on page A-11

- Required switch and messaging information on page A-12

- Services information on page A-13

Terminology

The following terminology applies to the LAN administration process.

Host name – The unique name of the machine. In Microsoft Windows terminology, this is often called the NetBIOS machine name. This name may or may not match one of the network interface names. This is often the short name of the public IP interface.

NetBIOS name – The Microsoft Windows term for a host name, also called a NetBIOS machine name.

Domain name – A unique designator used to identify a group of related computers on the internet (such as *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.

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.

Fully Qualified Domain Name (FQDN) – A domain name which identifies an individual computer and the network on which it resides (such as *zippy.loc.avaya.com*). The leftmost label is the host name of the computer.

Private FQDN – An FQDN containing the host name and the private domain name (such as *zippy.zodiac.com*).

Public (corporate) FQDN – An FQDN containing the host name and public domain name (such as *zippy.loc.avaya.com*).

NetBIOS domain – A Microsoft Windows domain that is not fully qualified (has no periods), such as *zodiac*.

IP address – A value used to identify a computer connected to a network. If a machine has multiple network interfaces, then the machine 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*).

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.

Corporate IP LAN and interface – Each S3400-family server has two network IP interfaces. One is connected to the LAN infrastructure constructed and maintained by the enterprise that purchased the system. The LAN is the corporate IP LAN and the interface connected to it is the corporate IP interface. This LAN is also identified as Ethernet interface 0, Local Area Connection, or Corporate LAC. This LAN gives the S3400-family system access to other machines and users.

Private IP LAN and interface – The second network IP interface in each S3400-family server is connected to an Ethernet switch provided by Avaya as part of the product. The LAN is the private IP LAN and the interface connected to it is the private IP interface. This LAN is identified as Ethernet interface 1, Local Area Connection 2, or the Private LAC. It is used only to send information between the S3400-family servers.

IP gateway – An IP gateway is 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.

Default IP gateway – The IP gateway to use if no other specified gateway is available. Each S3400-family server has at most one default gateway connected to the corporate IP interface. There is *no* IP gateway on the private LAN.

PPP – Point-to-Point Protocol, an Internet standard protocol used for serial line connections, such as dial-up modems.

Voice Mail Domain (VMD) – A group of one or more messaging servers. Messaging (or voice) servers in a VMD share configuration properties of the VMD and subscribers to the VMD.

Windows domain – A grouping of network objects, such as users, groups, and computers. All objects in a domain are stored in Active Directory. Active Directory can reside on one or more domain controllers within a domain.

Guidelines for completing the forms

Use the following guidelines to complete the S3400-family system planning form on page A-6 for each S3400-family message server you need to install.

> **Note:** Do not change any values that are already filled in on the form unless it causes a conflict with the corporate network. Work with the LAN administrator to identify and correct any potential addressing problems or conflicts.
>
> It is crucial to coordinate the IP addresses that will be used on the S3400-family servers 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.

See the S3400-family system planning form (completed example) on page A-8 for a sample completed form.

To complete the S3400-family system planning form:

1. Choose unique NetBIOS machine (host) names for the MSS and all MAS machines (for example, *zigzag, zippy,* and *zorro*). You *must* keep track of what machine you are administering. In this guide, zigzag is the MSS, zippy is MAS#1, and zorro is a subsequent MAS.

> **Note:** The first MAS will be promoted to a domain controller, after which its name *cannot* change. Use its final name now.
>
> MAS machine names must be 14 characters or less. Names shorter than 10 characters long are recommended for ease in completing the online screens. (For CLAN integrations, the MSS host name *must* be no longer than 7 characters.)
>
> The host and domain names can be any term you want, as long as they are unique and comply with local conventions.

2. *For MAS#1:* Select a fully qualified domain name (FQDN) for the private Windows domain that will be set up on this MAS (such as *zodiac.com*). This is a new domain and MAS#1 will be the domain controller. Coordinate this name with the LAN administrator (see step 6).

> **Note:** All domain names (FQDN, Windows domain, and VMD) should be unique to avoid confusion. See the S3400-family system planning form (completed example) on page A-8.

3. *For MAS#1:* The private Windows NetBIOS domain name is everything up to the first period of the previously specified FQDN for the Windows domain (for example, *zodiac*).

4. *For MAS#1:* The voice mail domain (VMD) is a simple term different from the Windows domain (for example, *zebra*).

5. The private FQDN for an MAS machine is used only on the private network (for example, *zippy.zodiac.com*).

6. The corporate FQDN, LAN addresses, domain names, and default gateway (if any) must be supplied by the corporate LAN administrator. See items **6** through **12** in the S3400-family system planning form.

   - The IP address for any required DNS servers are on the corporate LAN and 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:** It is strongly recommended that only static IP addresses be assigned to the Ethernet interfaces and machines in an S3400-family system.
>
> IP addresses should be configured on the corporate DNS servers (if used) by LAN personnel in keeping with local policy and practices. Customers must also register the corporate FQDNs for the MSS and each MAS on any relevant corporate DNS servers.

7. The machine names for the private LAN, their associated IP addresses, and subnet masks (items **13** through **15** in the S3400-family system planning form) are already specified and do not normally change.

8. *If the Offline Access feature will be used in a multiple-MAS system,* specify the location to be used for the offline message store. The remote store is used to synchronize messages in a multiple-MAS configuration.

> **Note:** If the offline message store is to be on a machine other than an MAS, the share must be mapped as a network drive on the MAS machine. See the *Avaya Modular Messaging Software Messaging Application Server Administration* guide (PDF 3 MB) on the documentation media for details.

9. Complete the S3400-family password table on page A-9 so you can supply the correct passwords for all required services and trusted servers on the MSS and MAS machines.

10. Complete the MAS logon accounts form on page A-10 using the customer-provided account names and passwords required for this site.

11. Have the customer specify the messaging services that they want to install on each MAS using the MAS features list on page A-11.

12. Complete the Required switch and messaging information on page A-12 with help from the relevant messaging or switch administrator.

13. Complete the required Services information on page A-13 with help from the customer and the entity responsible for providing ongoing services maintenance of the system. This information varies depending on whether INADS or SNMP alarming is to be used at this site.

> ⚠ **CAUTION:** Keep a copy of the completed planning forms handy during initial administration and system configuration. Save your 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.

S3400-family system planning form

#	Item	MSS	MAS #1	MAS #2
1	Host name (machine or NetBIOS name)			
2	Private fully qualified Windows domain	—Use MAS#1 value—		—Use MAS#1 value—
3	Private Windows NetBIOS domain	—Use MAS#1 value—		—Use MAS#1 value—
4	Voice mail domain	—NOT USED—		—Use MAS#1 value—
5	Private FQDN for Eth1	—NOT USED—		
6	Corporate domain name			
7	Corporate FQDN for Eth0			
8	Corporate IP address for Eth0			
9	Corporate subnet mask for Eth0			
10	Corporate default gateway IP address			
11	Corporate DNS servers IP addresses			
12	Search order of DNS domains			
13	Private system name	mss1	mas1	mas2
14	Private IP address for Eth1	192.168.1.1	192.168.1.250	192.168.1.249
15	Private subnet mask for Eth1	255.255.255.0	255.255.255.0	255.255.255.0
16	Offline message store	—NOT USED—		
17	Customer name: Organization:			

Page 1 of 2

S3400-family system planning form (continued)

#	Item	MAS #3	MAS #4
1	Host name (machine or NetBIOS name)		
2	Private fully qualified Windows domain	—Use MAS#1 value—	—Use MAS#1 value—
3	Private Windows NetBIOS domain	—Use MAS#1 value—	—Use MAS#1 value—
4	Voice mail domain	—Use MAS#1 value—	—Use MAS#1 value—
5	Private FQDN for Eth1		
6	Corporate domain name		
7	Corporate FQDN for Eth0		
8	Corporate IP address for Eth0		
9	Corporate subnet mask for Eth0		
10	Corporate default gateway IP address		
11	Corporate DNS servers IP addresses		
12	Search order of DNS domains		
13	Private system name	mas3	mas4
14	Private IP address for Eth1	192.168.1.248	192.168.1.247
15	Private subnet mask for Eth1	255.255.255.0	255.255.255.0
16	Offline message store		
17	Customer name: Organization:		

Page 2 of 2

The following planning form shows a completed example for a two-MAS system. These sample values are used in this guide for illustration purposes.

S3400-family system planning form (completed example)

#	Item	MSS	MAS #1	MAS #2
1	Host name (machine or NetBIOS name)	zigzag	zippy	zorro
2	Private fully qualified Windows domain	—Use MAS#1 value—	zodiac.com	—Use MAS#1 value—
3	Private Windows NetBIOS domain	—Use MAS#1 value—	zodiac	—Use MAS#1 value—
4	Voice mail domain	—NOT USED—	zebra	—Use MAS#1 value—
5	Private FQDN for Eth1	—NOT USED—	zippy.zodiac.com	zorro.zodiac.com
6	Corporate domain name	loc.avaya.com	loc.avaya.com	loc.avaya.com
7	Corporate FQDN for Eth0	zigzag.loc.avaya.com	zippy.loc.avaya.com	zorro.loc.avaya.com
8	Corporate IP address for Eth0	10.9.83.214	10.9.83.72	10.9.83.39
9	Corporate subnet mask for Eth0	255.255.255.0	255.255.255.0	255.255.255.0
10	Corporate default gateway IP address	10.9.83.254	10.9.83.254	10.9.83.254
11	Corporate DNS servers IP addresses	10.9.1.39 10.9.1.2	10.9.1.39 10.9.1.2	10.9.1.39 10.9.1.2
12	Search order of DNS domains	loc.avaya.com avaya.com	loc.avaya.com avaya.com	loc.avaya.com avaya.com
13	Private system name	mss1	mas1	mas2
14	Private IP address for Eth1	192.168.1.1	192.168.1.250	192.168.1.249
15	Private subnet mask for Eth1	255.255.255.0	255.255.255.0	255.255.255.0
16	Offline message store	—NOT USED—	\\zorro\OfflineStore	\\zorro\OfflineStore
17	Customer name: Messaging Administrator Organization: Avaya Inc.			

Account and password tables

Fill out the following tables with the customer to assign the passwords, account names, and login names at this site.

S3400-family password table

#	Trusted server on MSS	MSS calls this:	MAS calls this:	Password
P1	MAS #1 host name (NetBIOS name)	trusted-server *MAS#1NAME*	LDAP	
P2	MAS #2 through MAS #4 (if present)	trusted-server *MASNAME*	LDAP	—Use MAS #1 password—
P3	Message Waiting Indicator (MWI) Server	VVSTS	IMAPI	
P4	IMAP trusted server	Imap4TS1	IMAP4	

> **CAUTION:** We strongly recommend that passwords be at least 8 characters long (up to 10 characters) and not composed of easily guessed words or numeric combinations, including sequential or repeated numbers. For best security, use a combination of alphanumeric characters (case is not important for trusted-server passwords). At least one of the first 7 characters should be a symbol (such as a # sign or punctuation mark).
>
> Be sure to file records of passwords securely.

Account logon names and passwords should be site-specific for security reasons.

MAS logon accounts form

#	Account	Logon name (should be customer specified)	Password	Used for
A1	Domain administrator account for MAS#1 (required)	*customer specified* (for example, **dom-admin**)		Domain controller administration and system backups
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	Modular Messaging (MM) account	*customer specified* (for example, **mmacct**)		MAS messaging services (MM) administration
A6	Services account for any MAS	*customer specified* (for example, **craft**)		Services administration account for MM
A7	Customer account for any MAS	*customer specified* (for example, **custacct**)		Customer administration account for MM
A8	Safe mode administration for any MAS	N/A		Safe mode login used for system state restoration

CAUTION: We strongly recommend 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. At least one of the first 7 characters should be a symbol (such as a # sign or punctuation mark), but *not* a **%** symbol.

Do not use the above examples as the actual MAS account names; they are provided for example purposes only.

MAS services and features

Fill out the following table with the customer 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 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 Service, and should be installed on the MAS with the smallest number of ports if possible, or on the MAS with the second smallest number of ports if the Tracing Server is installed.

  — Install the Tracing Server on a *different* MAS than the one that is hosting the Call Me and/or MWI software. Always put the Tracing Server service on the MAS with the smallest number of ports.

MAS features list

Messaging service to install	Max. # of sessions:*	on MAS#1	on MAS#2	on MAS#3	on MAS#4
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				
Fax Sender Server *(install only once per VMD)*					
Tracing Server *(install only once per VMD)*	N/A				
Text-to-Speech *(If required, note languages to use; only 2 sessions are allowed per MAS.)*					
Messaging Application Server Prompt Files *(One set is required for each MAS that is running the Messaging Application Server software; list the default file set first and additional prompt files 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 the feature based on expected usage.

Switch and messaging information

Collect the required information from the relevant administrator prior to installation.

> ⚠️ **CAUTION:** You must obtain the required configuration notes for your PBX. See "Required documentation" on page 1-2.

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:*
DID numbers used for: • MM hunt group for messaging services: • MSS alarm port number (RMB): • MAS dial-in number (1 per modem):		*Complete dial-in number*
Extension number range for subscriber mailboxes in customer dial plan	*Starting number*	*Ending number*
SMTP networking password used for messaging networking (optional feature)		—
Subscriber mailbox to act as PostMaster: • subscriber's extension number • password (must be numeric) • class of service (cos) to use		—
Fax mailbox extension number: • password (must be numeric) • complete company fax printer number • class of service (cos) to use		—
Test subscriber name and information: • extension number to test telephone • password (must be numeric) • class of service (cos) to use		—

Services information

Fill out the appropriate section depending on how alarming will be implemented at this site: either through Avaya's Initialization and Administration System (INADS) or the corporation's Simple Network Management Protocol (SNMP) system.

> **Note:** If SNMP alarming is used, it is the customer's responsibility 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.

Services information required for every installation includes:

- Alarming notification used at this site (INADS, SNMP, or none): ____

- Product ID number: _____

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 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 your modem for details: _____

Use the following table to record required customer- or services-provided information for establishing a remote access point-to-point (PPP) connection to the Services modem on the MSS.

PPP logins, passwords, and IP addresses

MSS login	Password	Local IP address for PPP access through MSS modem (customer-provided)	Remote IP address for PPP access through remote modem (may be customer- or Services-provided)
sappp			
craftppp			

Use the following table if you install new software on an MSS using the steps in Appendix D, "Reloading the software on an MSS."

Services logins and passwords

MSS login	Password
root	
craft	
tsc	
craftppp	

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 your 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 checklist

Overview

Use this checklist for a S3400-family message server system installation. As you complete a procedure, make a check mark in the " ✔ " column.

S3400-family system installation checklist

Task	Description	Comments	✔
Complete preinstallation planning:			
1.	Complete the planning forms in Appendix A. Requires customer input.	See LAN, messaging, & switch administrators as needed.	
2.	Obtain virus-checking software for the MAS.	Customer obtains if required.	
3.	Arrange for LAN administration of the S3400-family system. Some LANs may be administered in advance; others require new machine administration to be done at installation. Register MAS and MSS corporate FQDNs on DNS if required. **Note:** Avaya Inc. is not responsible for the installation, administration, or test of communications between customer PCs and the LAN.	See the LAN administrator.	
4.	Verify that the switch is administered.	See the switch administrator.	
5.	Assemble and review the required documentation.	Web access is required.	
6.	Review preinstallation site requirements, including: • environmental requirements • weight and space requirements • customer-provided cabinet requirements • installation area requirements • power and grounding requirements • demarcation points		

(1 of 4)

S3400-family system installation checklist

Task	Description	Comments	✔
7.	Review security issues.		
8.	Gather the necessary tools and test equipment.		
9.	Collect any software CDs that will be needed during the installation (such as anti-virus software or Windows updates)		
Install the hardware:			
10.	Unpack the S3400-family system and peripheral components.	Open boxes as instructed to reuse packing materials.	
11.	Assemble and identify the system components.		
12.	Attach mounting brackets and handles to UPS and any EBM units as needed, then cable the units together.	A UPS is optional for an Avaya MAS or MSS-S, but required for an MSS-H; EBMs are always optional.	
13.	Attach the front bezel to each MSS or MAS.		
14.	Attach rails for rack-mount or rubber spacers for stackable configuration to each MSS or MAS.		
15.	Connect the S3400-family system power cables.		
16.	If present, connect the MAS port boards to the switch or PBX.	See the Dialogic documentation for details.	
17.	Assemble the KVM switch. Steps include: • Attach mounting brackets to KVM switch (if needed). • Connect KVM switch to the monitor and keyboard/mouse. • Connect the KVM switch to each MSS and MAS.	Procedure varies depending on type of KVM switch purchased.	
18.	Connect each MSS and MAS to the Ethernet switch (private LAN) and to the corporate LAN.		
19.	Attach the required ferrites to the video cables and QSIG port board cables (if present).		
20.	Set up the external modem for each MAS.		
21.	Connect the RMB (and its external modem if required) to the MSS and the switch.		
Do initial MSS administration:			
22.	Power up the S3400-family system and peripheral components.		
23.	Log in to the MSS.		
24.	Adjust the monitor settings if needed.		
25.	Set the date and time on the system.		

(2 of 4)

S3400-family system installation checklist

Task	Description	Comments	✔
26.	Set up network addressing on the private and corporate LANs.		
27.	Administer the message core including: • Set up the MSS host machine profile. • Set up all required MAS, MWI, and IMAP trusted servers.	Requires information from LAN and messaging administrators (use the planning forms).	
28.	Reboot the MSS.		
Do initial MAS administration:			
29.	Switch the monitor to show the correct MAS.		
30.	Install the hard disk image from the OS boot CD or DVD.	Do only if the operating system must be reloaded on this MAS.	
31.	Complete the Found New Hardware wizards if they appear.	Complete wizards as prompted.	
32.	Complete the Windows 2000 Server Setup Wizard to: • Localize system information • Assign IP addresses and DNS servers • Skip (for MAS#1) or join the Microsoft Windows domain	Use your planning forms.	
33.	Change the default names of the private and corporate LAN.		
34.	Test the IP addresses on the private network using ping.		
35.	Test IP addresses on the corporate network using ping.	Optional but recommended.	
36.	Use the Modular Messaging OS Component Configuration Wizard to: • Identify the MSS message store • Set up account information	Use your planning forms.	
37.	Install Modular Messaging software packages using the Installation wizard.	Install on each MAS based on the planning forms.	
38.	Use Messaging Application Server - Configuration Wizard to: • Identify the MSS message store and supply credentials • Set up (on MAS#1) or join the voice mail domain	Steps vary between MAS#1 and a subsequent MAS.	
39.	Install, update, and enable anti-virus software on the MAS.	Do if required; installation procedures vary.	
40.	Install the latest Microsoft Windows security patches.	Do if required; procedures vary.	
41.	Set up remote access on each MAS.		
42.	Add all MASs to the remote access group.	Do this on MAS#1 only.	
43.	Configure and test the port boards. This includes: • *For analog cards*, create or use an appropriate tone file. • Configure each port board. • Test incoming and outgoing calls on each board.	Configuration notes required. IP H.323 integrations skip this step.	

(3 of 4)

S3400-family system installation checklist

Task	Description	Comments	✔
44.	Use the Voice Mail System Configuration program to: • Enable the messaging services you have installed. • Configure the MAS for this PBX. • Set up specific features for each MAS. • Install the license file when received.	Configuration notes required.	
45.	Arrange to obtain a license for this system.	Local procedures may vary.	
46.	Set up and start MAS messaging services.		
47.	Verify the alarming setup on the MAS.		
48.	Administer each additional MAS.	Repeat Chapter 4 as needed.	
Complete initial administration:		Do these tasks on the MSS unless otherwise noted.	
49.	Administer Internet messaging.		
50.	Update MAS host information and test using ping.		
51.	Place the MSS in the Microsoft Windows domain.		
52.	Modify classes of service for special mailboxes.		
53.	Set up the PostMaster and fax mailboxes.		
54.	Administer a test subscriber.		
55.	Perform acceptance tests. These include: • Creating and receiving test messages in both integrated and nonintegrated mode • Creating and printing faxes (if fax service is installed) • Testing system outcalling using Subscriber Options • Testing additional features as required		
56.	Remove the test subscriber.		
57.	Set up remote access on the MSS for INADS if required: • Administering PPP logins and passwords • Activating each RMB modem (if applicable) • Setting up the PPP server configuration • Activating and testing alarm origination	Do if INADS alarming is used.	
58.	Disable alarm origination on the MSS for SNMP if required.	Do if SNMP alarming is used.	
59.	Perform an attended backup on every MAS.	Do this on each MAS.	
60.	Perform an attended backup on the MSS.		
61.	Set up unattended backups on the MSS.		
62.	Save the planning forms in a safe place.		

(4 of 4)

C

Creating a new tone file

Overview

This appendix describes how to build a tone file for analog port boards by using the PBXpert utility to learn PBX tones.

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 4-28).

> ⚠ **CAUTION:** Use the configuration notes to administer the port boards for your particular PBX or switch integration. 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 your 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 on page C-2

- Consolidating and saving the TSF file on page C-6

- Using the new TSF in Dialogic Configuration Manager on page C-6

Running the PBXpert wizard

The PBXpert wizard guides you through learning the tones used by your 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 4-28.

   b. Click the green **Start Service** button on the button bar.

   The installed boards show a green light when service is started, and the Stop Service button becomes active.

2.   Click Start > Programs > Dialogic System Software > PBXpert.

   The PBXpert main window appears (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 your 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 appears, click **Next**.

2. On the PBX Information page:

    ■ 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 appears, or alter it as desired.

    ■ Click **Next**.

3. On the TAPI Information page, just 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-12 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 different port number or channel to use.

   ■ For "Phone Number," enter the extension number of this port.

   ■ Click **Next**.

7. On the Settings Confirmation screen:

   ■ Verify your settings. Click **Back** if you need to change anything.

   ■ Make sure that the **Run Wizard Auto-Test** box is checked.

   ■ Click **Next**.

8. The Auto Line Test window appears 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 your settings, and try the test again.

9. On the Learn Tones screen, click **Next** to begin learning tones automatically.

   The Learn Tones window appears. 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)
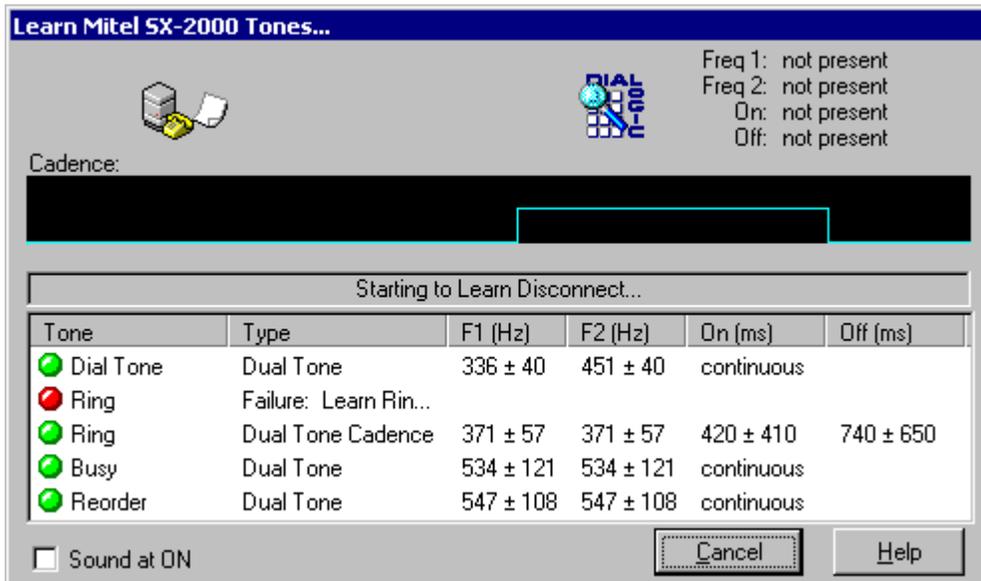
10. When PBXpert completes learning, buttons appear allowing you to keep or discard the data.

    ■ 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 your 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.

    ■ **OK** to close this window. Click **Back** on the wizard, adjust your settings, and try the test again.

12. The Summary of Results page 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
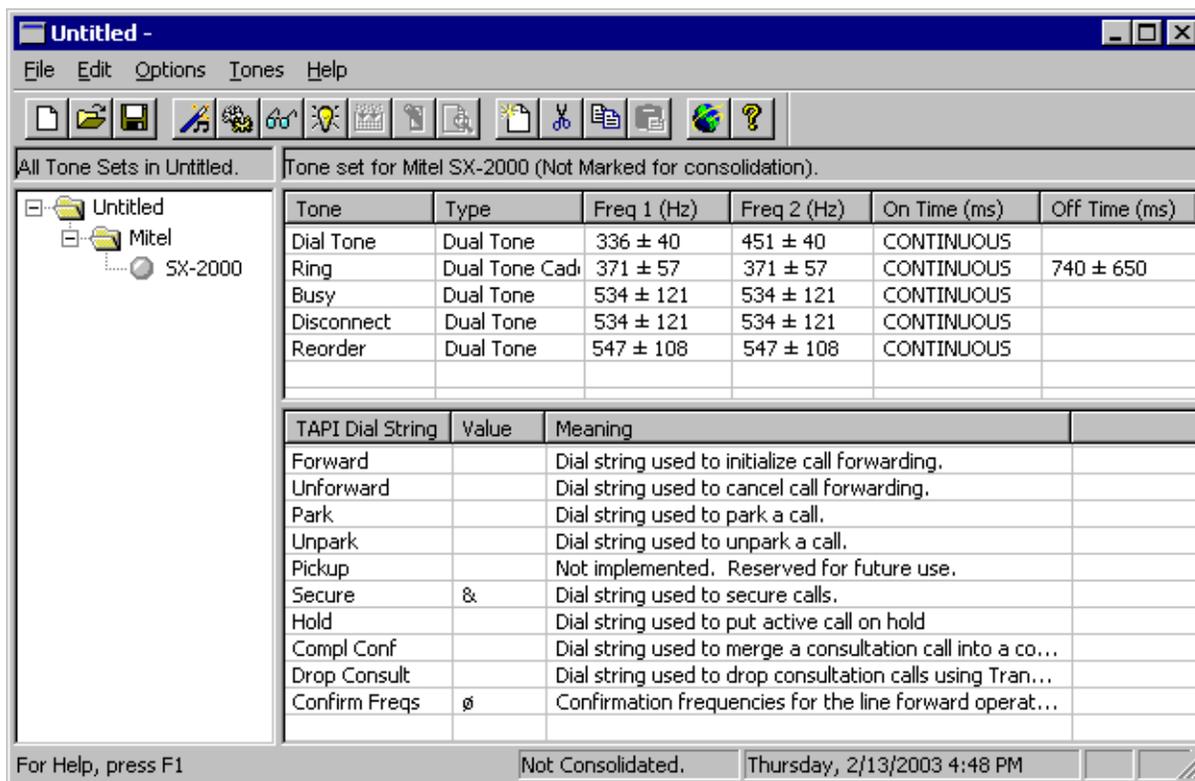
Consolidating and saving the TSF file

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. On the Save As screen, 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 4-28 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 4-28.

    b. Click the green **Start Service** button on the button bar.

    The installed boards show a green light when service is started, and the Stop Service button becomes active.

2. Click Start > Programs > Dialogic System Software > PBXpert.

    The PBXpert main window appears (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, check 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-12 for port board extensions

      You can use the default values for all the other fields on this screen. Click **Help** for more information if needed.

   > **Note:** If you are familiar with your 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 appears (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)
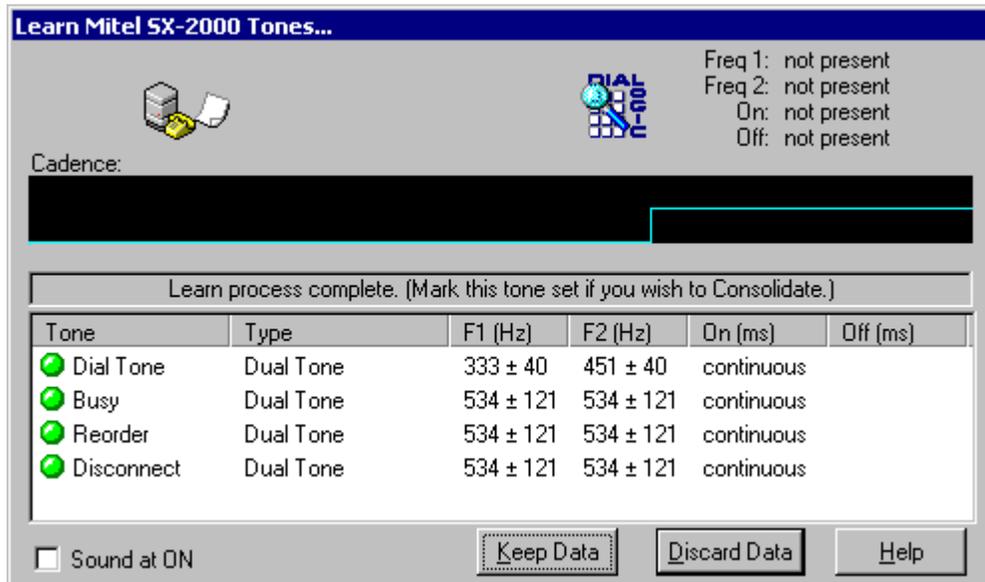
3. You are prompted to listen for ringing, and to pick up or replace the telephone handset during the test. When the message box pops up, do the requested action, then click **OK**.

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 your 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 checks 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, Tones > Test.

2. A Test window appears.

   When testing is complete, test results are displayed in the Test window.

3. Check 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. On the Save As screen, 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 4-28 and complete board configuration and testing.

D

Reloading the software on an MSS

Overview

This appendix describes how to reload the operating system and application software on a Message Storage Server (MSS). This procedure may be used to install new software on a new system, or to put the required software on the hard disk if the MSS suffered a catastrophic disk failure and all the hard disks had to be replaced.

The new MSS software is provided on a CD-ROM.

Loading new MSS software

To copy new software to the MSS:

1. The KVM switch should be connected to the MSS through the first computer port (VGA 01). Verify that the monitor is showing the MSS.

    ■ *For a Belkin OmniView Pro2 KVM:* To have the monitor show a different server, press slowly in sequence Scroll Lock, then Scroll Lock, then the up (or down) arrow key to change to the server connected to a higher or lower port number.

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

    ■ If the monitor does *not* showing the correct server, see "Connecting the KVM cables" on page 2-26 and verify the cable connections. To correct cabling problems, power down the system, correct the cabling, then power up the system again.

2. Insert the *Avaya Modular Messaging Message Storage Server (MSS) Software* CD into the MSS's DVD drive.

> **Note:** Make sure that the CD is seated solidly between the plastic clips.

- For a picture of the MSS-S, see Figure 2-5 on page 2-12.

- For a picture of the MSS-H, see Figure 2-7 on page 2-14.

3. To reboot the system, press **Ctrl + Alt + Del** (or use a thin tool to press the reset switch on the front of the system).

    The machine begins to boot, then displays the following options:

    ```
    To install on a "standard availability" platform,
    type: standard <ENTER>.
    To install on a "high availability" platform, type:
    high <ENTER>.
    To reboot, remove the CD and press the
    <Ctrl><Alt><Delete> keys.
    ```

4. Type the word for the model of MSS that you installed and press Enter:

    - Type **standard** for the MSS-S (*no* drive handles on the front).

    - Type **high** for the MSS-H (has drive handles on the front).

    The system takes about 20 minutes to copy the software.

    When the copy is finished, you are prompted to remove the CD from the drive as follows:

    ```
    Please, remove the Install CD from the CD drive, and
    press <ENTER>.
    ```

5. Remove the MSS software CD from the MSS's DVD drive.

> **Note:** *Do not* leave the CD in the drive, or the system will boot from it.

6. When the CD is removed, press **Enter** to reboot the system.

7. At the Avaya Messaging welcome screen, press Enter to select **OK**.

    The server displays the Time Date Selection screen.

8. Set the time and date as follows:

    a. Use the up or down arrow keys to highlight your time zone.

    b. Press **Tab** to move to the New Time section.

    c. Enter the current time in *hh:mm* (hours and minutes) format, based on a 24-hour clock.

    d. Press **Tab** to move to the New Date section.

    e. Enter the current time in *mm/dd/yy* (month, day, and year) format, such as *12/04/03* for December 4, 2003.

    f. Make sure an asterisk (*****) appears in the Set hardware clock to GMT box. If not, press the space bar to add one.

    g. Press **Tab** to move to the **OK** field, then press **Enter**.

9. When prompted to log in at the **localhost login** prompt, type **root** and press Enter.

10. Put the MSS software CD back in the DVD drive.

> **Note:**   Wait for the drive's light to stop flashing before you proceed.

11. At the # prompt, type **autoinstall** and press Enter.

12. When prompted to continue or quit, press **Enter** to continue.

13. You are prompted to change several passwords.

    ■ Enter the passwords you are provided for the following logins: **root**, **craft**, **tsc**, and **craftppp**. See Services logins and passwords on page A-14.

    ■ It is okay to ignore any warnings, such as the passwords being too short.

When the autoinstall program completes, you are prompted to remove the MSS software CD from the drive as follows:

```
Please remove the Installation CD from the CD drive
and press <ENTER>.
```

14. Remove the MSS software CD from the MSS's DVD drive.

> ⚠   **CAUTION:**   *Do not* leave the CD in the drive. If the system reboots from the CD, you *must* remove the CD and press **Ctrl + Alt + Del** when you see the menu listed in step 3. If you fail to do this and enter the machine type again, all your data will be erased, and you will have to install the software again.

15. When the CD is removed, press **Enter** to reboot the system.

16. Continue with step 2 in "Logging in to the MSS server" on page 3-3.

E

Reloading the software on an MAS

Overview

This appendix describes how to reload the operating system and application software on an Avaya Messaging Application Server (MAS). This procedure may 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 (MAS):

1. The KVM switch should be 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, press slowly in sequence Scroll Lock, then Scroll Lock, then the up (or down) arrow key to change to the server connected to a higher or lower port number.

     You can alternatively type the port number instead of pressing the up or down arrow key (such as *02* for port 2). See your KVM switch documentation for complete user instructions.

   - If the monitor does *not* showing the correct server, see "Connecting the KVM cables" on page 2-26 and verify the cable connections. To correct cabling problems, power down the system, correct the cabling, then power up the system again.

2. Insert the *Avaya Modular Messaging OS Boot Software* DVD in 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. On the Shut Down Windows screen, select **Restart** and click **OK**.

4. When the machine begins to boot, it displays a warning message that the hard drive contents will be overwritten. Press any key to continue.

5. At the message confirming that the hard drive will be overwritten, press any key to continue.

   The MAS begins to copy the disk image to the hard disk. The entire copy procedure may take up to 20 minutes.

⚠ **CAUTION:** *Do not* touch the keyboard once the software starts loading, or the software will not install properly.

   If you are prompted to Cancel, click **Yes**. Reload the software starting with step 3.

6. When finished, the program prompts you to remove the media before the system reboots.

   ■ Remove the DVD from the drive and close the drive door.

   ■ Press any key to continue.

7. When the reboot completes, the Windows 2000 Server Setup Wizard appears. 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 on its own.

   The machine automatically reboots.

8. When the reboot completes, proceed as follows:

   ■ If no Found New Hardware Wizard appears, continue with step 9.

■ If a Found New Hardware Wizard appears, *it must be completed first, or the software will not install correctly.* The hardware wizard appears once for every Dialogic port board installed in the system.

Disable the Dialogic hardware for now 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, make sure that "Disable the device" is selected.

e. Click **Finish**.

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

9. Double-click the **MM_Setup.bat** icon on the desktop.

A C:\WINNT\system32\cmd.exe window appears.

10. The program prompts you to load the required application software:

a. When prompted, insert the *Avaya Modular Messaging Application Software* DVD or CD in the DVD drive.

b. Wait for green LED on the drive to go out.

c. When ready, press any key to continue.

d. When notified that the D:\MM_Load\MM_Load.bat file was copied, press any key to continue.

The machine displays the list of files that were copied.

e. When prompted, press any key to continue.

11. 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.

12. When prompted that the Mini-Setup program will run after the system reboots, press any key to continue.

The machine stores the information and shuts down.

13. Continue with "Setting up the Windows system" on page 4-4.

F

Recovering from a catastrophic disk failure

Overview

This appendix summarizes the procedure for restoring an Avaya Messaging Application Server (MAS) if the hard disk drive failed and had to be replaced. The procedures are slightly different if you are restoring the first MAS in the system, or a subsequent MAS.

> ⚠ **CAUTION:** This procedure is only valid for the following cases:
> - The first MAS was damaged and there is no other MAS in the domain.
> - A subsequent MAS was damaged but MAS#1 is fine.
>
> All other failure cases must be escalated at this time.

To recover from a catastrophic disk failure, you will need:

- *Avaya Modular Messaging OS Boot Software* DVD for the Messaging Application Server (MAS).

- This guide and other required documentation for system installation. See "Required documentation" on page 1-2 for a complete list.

- A copy of the completed planning forms, which should be on file. See Appendix A, "System planning forms."

> **Note:** Make sure that the planning forms are accurate and up-to-date. When you restore the MAS machine, you must duplicate *exactly* the information from your original setup (machine names, domain names, passwords, and so on) to avoid problems.

Recovery procedure

To restore an Avaya MAS following a catastrophic disk failure:

1. The faulty drive must be replaced and the system powered back up. See "IDE drive replacement" on the documentation media for these steps.

2. Install the operating system on the new disk drive. Follow the steps in Appendix E, "Reloading the software on an MAS."

3. Continue restoring the system depending on the MAS as follows:

   ■ *If you are restoring MAS#1:* Continue with "Restoring the first MAS" on page F-2.

   ■ *If you are restoring a subsequent MAS:* Continue with "Restoring a subsequent MAS" on page F-3.

Restoring the first MAS

The first MAS is the domain controller for a Modular Messaging system, so it requires a unique procedure. To restore MAS#1:

1. Follow the steps in Chapter 4, "Administering the Avaya MAS," from "Setting up the Windows system" on page 4-4, through "Installing the Modular Messaging software" on page 4-16.

⚠️   **CAUTION:**   The procedure for restoring MAS#1 to service after a disk failure is slightly different from the procedure listed in "Configuring the MAS" on page 4-19. Follow the instructions below exactly to restore the first MAS.

---

2. In the section "Configuring the MAS" on page 4-19, for step 3 (the Voice Mail Domain Selection screen), you *must* select the radio button for "Subsequent server in an existing voice mail domain."

3. Complete the rest of Chapter 4, "Administering the Avaya MAS."

4. On the MSS, repeat the procedure for "Placing the MSS in the Windows domain" on page 5-5.

5. Continue with restoring MAS#1 as follows:

   ■ *If MAS#1 is the only MAS in the system,* continue with "Completing system restoration on every MAS" on page F-4.

   ■ *If any additional MASs are in the system,* continue with step 6.

6. Log in to each subsequent MAS as the local administrator as follows:

   a. On each additional MAS, click Start > Log off *admin-account*.

   b. On the Log Off Windows screen, click **Yes**.

   c. Press **Ctrl+Alt+Del** to log on.

   d. On the Log On to Windows screen, change the User name to the Local Administrator account name for this MAS (such as *mas2-admin*). See items **A2** through **A4** on the "MAS logon accounts form" on page A-10.

   e. Enter the password for this account.

   f. Log on to the machine name for this MAS (such as *zorro*). See item **1** on the "S3400-family system planning form" on page A-6.

   g. Press Enter or click **OK**.

7. Now make this MAS a member of a workgroup as follows:

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

   b. In the System Properties window, click the **Network Identification** tab.

   c. Click the **Properties** button. The Identification Changes window appears.

   d. Click the Member of **Workgroup** radio button.

   e. Name the workgroup (WORKGROUP is okay) and click **OK**.

   f. Click **OK** to close the System Properties screen.

   g. Reboot the system when prompted.

8. Log back in as the local machine administrator (the same account you used in step 6).

9. Do the section "Adding an MAS to the Windows domain" on page F-6 to join the existing Windows domain (such as *zodiac*).

10. Repeat steps 6 through 9 for every additional MAS in the system.

11. To complete the system restoration, continue with "Completing system restoration on every MAS" on page F-4.

Restoring a subsequent MAS

To restore an additional MAS in a multiple-MAS system:

1. Follow the steps in Chapter 4, "Administering the Avaya MAS," from "Setting up the Windows system" on page 4-4, through "Installing the Modular Messaging software" on page 4-16.

2. *Before* you begin the section "Configuring the MAS" on page 4-19, delete the old account for this machine as follows:

    a. Double-click the **Configure** icon on the desktop.

    b. In the left-hand pane of the Configure window, expand **Active Directory Users and Computers**.

    c. Expand **Computers**.

    d. Locate the name of the MAS machine that had the failed drive (the machine that you are now restoring).

    e. Right-click this machine name and select **Delete**.

    f. Close the Configure window.

> ⚠ **CAUTION:** You must delete the old account for this MAS before you begin "Configuring the MAS" on page 4-19.

3. Continue with the section "Configuring the MAS" on page 4-19 and complete the steps as documented.

4. Complete the rest of Chapter 4, "Administering the Avaya MAS."

5. To complete the system restoration, continue with "Completing system restoration on every MAS" on page F-4.

Completing system restoration on every MAS

To complete restoring the system for any MAS:

1. Reinstall any previously installed patches on this MAS.

2. Restore data files from backup including spooled messages, customized caller applications and prompts, and the hosts file.

> ⚠ **CAUTION:** *Do not* restore the System State following a catastrophic disk failure.

    a. Run the Restore Wizard as described in "Restoring backed-up MAS data (after a non-catastrophic failure)" on the documentation media.

    b. Restore the following:

       ■ hosts file

       ■ CABACKUP folder (contains Caller Applications)

       ■ Spool directory

■ custom prompt files (if they have been changed by the customer)

> **Note:** *Do not* restore the System State.

c. Complete the restoration wizard as directed.

3. To complete the restoration of Caller Applications, do the following:

a. Click Start > Run to open a Command prompt window.

b. In the Run box, type the following in the Open field and press Enter:

C:\Avaya_Support\CMD\CARestore.bat

> **Note:** This step works only on Release 1 systems after installing RFU1.01. Without this patch, the Caller Applications files could be lost unless they were backed up in another way.

4. As a precaution, preserve a copy of the existing backup file as follows:

a. Click Start > Run. In the Open field, type **\\mss1\masbackup**

You are prompted for an account name and password.

b. In the Connect As window, use the domain administrator account name (such as *dom-admin*) and password. See item **A1** on the "MAS logon accounts form" on page A-10. Click **OK**.

Windows Explorer will launch.

c. Locate the backup file for the MAS that you are restoring (such as *ZIPPYDailyBackup.bkf*, where *ZIPPY* is the host name of this MAS). Right-click the file name and select **Rename**.

d. Type a new name for this backup file (such as *OldZIPPYDailyBackup.bkf*) and press Enter.

5. Do "Performing acceptance tests" on page 5-9.

6. Reinstall any other software that was previously installed on this MAS (for example, Subscriber Options or virus-checking software).

7. When you are satisfied that the system is running correctly, do the "Backing up the system (MAS and MSS)" on page 5-18 procedure for the MAS that you just restored.

> **Note:** If you restored MAS#1, when you repeat the procedure for "Setting up and running backups on every MAS" on page 5-18, you need to re-enter the domain-administrator account and password for every MAS in the system to schedule backups again.

Adding an MAS to the Windows domain

> ⚠ **CAUTION:** Do this task *only* on an additional MAS (not MAS#1, which is the domain controller).

If you are adding an additional MAS to the system, it must join the Windows domain that you already created for MAS#1 so that it can be administered.

To add an MAS to the existing Windows domain:

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

2. In the System Properties window, click the **Network Identification** tab.

> ⚠ **CAUTION:** If you are restoring an additional MAS to service after a catastrophic disk failure, you need to first create a workgroup entry before you can join the domain. See "Restoring a subsequent MAS" on page F-3 for details.

3. Click the **Properties** button. The Identification Changes window appears.

   a. Click the Member of **Domain** radio button.

   b. Enter the name of the Windows domain that you already created (such as *zodiac*). See item **3** on the "S3400-family system planning form" on page A-6).

   c. Click **OK**.

   d. In the Domain Username And Password window:

      (1) Enter the Modular Messaging account name (such as *mmacct*) in the format ***domain\account name*** (such as *zodiac\mmacct*). See item **A5** on the "MAS logon accounts form" on page A-10.

      (2) Enter the Modular Messaging account password.

      (3) Click **OK**.

         It may take several minutes to join the domain.

   e. A Network Identification box welcomes you to the domain. Click **OK** to close this box.

   f. When prompted to reboot, click **OK**.

   g. Click **OK** to close the System Properties window.

4. Restart the machine when prompted (click **Yes**).

5. When the reboot completes, press **Ctrl+Alt+Del** to log back in using the Modular Messaging account name for this system.

    a. On the Log On to Windows screen, click **Options**.

    b. Expand the "Log on to" drop-down list and select the Windows domain (such as *zodiac*).

    > **Note:**   It may take a few minutes for the personal settings to load.

    c. Change the user name to the Modular Messaging account name (such as *mmacct*).

    d. Enter the password for this account. See item **A5** on the "MAS logon accounts form" on page A-10.

    e. Click **OK**.

G

Removing Modular Messaging components from an MAS

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 an administrator's Microsoft Windows machine.

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 the name **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.

Index

A

about this book, i-ix

acceptance tests, 5-9 to 5-13, 6-17

account and password tables, A-9 to A-10

activating RMB modem, 5-15

Active Directory Users and Computers, 4-25, F-4

Add Local Subscriber screen, 5-7

adding an MAS to the Windows domain, F-6

adding test subscribers, 5-8

adding the MSS to the Windows domain, 5-5

administering special mailboxes and classes of service, 5-6

Administration Tools, 4-16 to 4-17

Advanced TCP/IP Settings window, 4-6

air flow considerations, 1-9

alarm logs on MAS, 4-50

Alarm Management screen, 5-16 to 5-17

alarm origination on MSS, 5-16

alarming method, 4-43, 5-16

alarming origination test, 4-49, 5-17

Alarming Server, 4-17, 6-12

alarming telephone number, 4-48, A-12 to A-13

aliases for machine names, 5-3

analog boards
  cabling, 2-24
  configuring, 4-28, C-6, C-10
  testing, 4-35
  tone file, 4-29, C-1 to C-2, C-7

anti-virus software, 1-4 to 1-5, 4-21, 6-6, 6-14

Assign/Change Password screen, 5-14

assigning IP addresses, 3-6, 4-6, 4-24

attended backup, 5-18 to 5-19, 6-17

B

backing up the system, 5-18 to 5-19, 6-17

Belkin OmniView Pro2 Series KVM switch, 2-25, 3-3, 4-3, 6-4, 6-6

C

cabinet depth, 1-9

cabinet height, 1-8 to 1-9

cabling
  Ethernet switch, 2-29, 2-31
  ferrites, 2-31
  KVM switch, 2-26, 2-28
  S3400 servers, 2-22, 2-24
  UPS and EBMs, 2-11

call answer test, 5-9

Call Me - Voice Mail Domain window, 4-40

Call Me Server, 4-17 to 4-18, 4-40, A-11

Caller Applications Editor, 4-17, A-11

catastrophic disk failure, 4-19, E-1, F-1 to F-2, F-4, F-6

CD set and contents, 1-3

changing default LAN names, 4-12

checklist for installing the system, B-1

CLAN integration, A-4

class of service on MSS, 5-6, A-12

client software packages, 6-16 to 6-17

comment on this book, i-xii

completing initial administration, 5-2

configuration notes, 1-2, 4-27, 4-35, 4-38, 4-46 to 4-47

configure modem, 4-23

Configure Subscriber Management screen, 5-7

configuring domain-wide features, 4-38

configuring MAS-specific parameters, 4-46