Modular Messaging Software

Release 1.1

Messaging Application Server Administration Guide

for Avaya Modular Messaging with Microsoft Exchange or IBM Lotus Domino

Issue 1

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Preface

Overview

This guide provides all the information necessary to administer the Avaya Modular Messaging software on a messaging application server (MAS). It includes comprehensive step-by-step instructions on important tasks, such as how to configure the MAS and run diagnostic tools.

Audience

This guide is intended for use by system administrators. It assumes familiarity with mail server administration. The audience should also have a basic understanding of S3400 family message server concepts, as outlined on the *Avaya Modular Messaging Release 2 Documentation,* 585-310-819, Issue 1, CD-ROM.

Modular Messaging documentation

See the following documentation for more information about Avaya Modular Messaging on the S3400 family of messaging servers:

- *Avaya Modular Messaging Release 2 Concepts and Planning Guide*

  Explains important concepts and tells you what you need to know to set up an Avaya Modular Messaging system.

  - *Modular Messaging for Microsoft Exchange Release 2 Installation*, 585-310-331 or *Modular Messaging for IBM Lotus Domino Release 2 Installation*, 585-310-330.

    Provides information on installing voice cards for Avaya Modular Messaging.

  - *Avaya Modular Messaging Release 2 Telephone User Interface Guide*

    Provides information on using the telephone user interface.

  - *Aria® Telephone User Interface for Avaya Modular Messaging Quick Reference Guide, 585-310-786*

    Provides at-a-glance information on using Modular Messaging from the telephone user interface for subscribers using the Aria TUI.

  - *AUDIX® Telephone User Interface for Avaya Modular Messaging Quick Reference Guide*

    Provides at-a-glance information on using Modular Messaging from the telephone user interface for subscribers using the AUDIX TUI.

  - *Configuration Notes*

    Provides integration information for several types of PBX and fax devices. Available from your Avaya Modular Messaging support representative or at the Avaya Support Centre at support.avaya.com

  - *Brooktrout documentation*

    Provides information on installing Brooktrout voice cards, and on installing and configuring Brooktrout driver software and firmware. Available on the Avaya Modular Messaging CD-ROM.

Documentation for Microsoft Exchange version only

- *Avaya Modular Messaging for Microsoft Exchange Release 2 Installation*, 585-310-331

Provides information on the installing Avaya Modular Messaging server components for Microsoft Exchange 2000/2003 installations.

- *Avaya Modular Messaging Solution — Microsoft Exchange 5.5 version Installation Guide, 101-2018-B00*

  Provides information on the installing Avaya Modular Messaging server components for Microsoft Exchange 5.5 installations.

- *Avaya Modular Messaging Client Installation Guide, 101-1953-B01*

  Provides information on the installation process for client components.

- *Avaya Modular Messaging* Client User Guide, 101-1987-B00

  Provides information on using the desktop PC client components.

Documentation for IBM Lotus Domino version only

- *Avaya Modular Messaging for IBM Lotus Domino Release 2 Installation*, 585-310-330

  Provides information on the installing Avaya Modular Messaging server components for IBM Lotus Domino installations.

- *Installing and Configuring Domino Unified Communications Services for Avaya*

  Provides information on installing and configuring Domino Unified Communications Services for Avaya Modular Messaging.

Avaya Modular Messaging support

For Avaya Modular Messaging support, visit the Avaya Support Centre at http://support.avaya.com

For important, up-to-date information on Avaya Modular Messaging, see the Readme file available on the Avaya Modular Messaging CD-ROM.

Summary of chapters

Chapter	Summary
Chapter 1, “Messaging Application Server (MAS) Basics”	Introduces MAS administration, diagnostic, and reporting tools.
Chapter 2, “Introduction to Voice Mail System Configuration”	Introduces the Voice Mail System Configuration application.
Chapter 3, “Telephone User Interface Administration”	Describes how to configure a telephone user interface (TUI) for a voice mail domain.
Chapter 5, “Voice Mail Domain Administration”	Describes how to configure properties in a voice mail domain.
Chapter 8, “Messaging Application Server Configuration”	Describes how to configure an MAS in a voice mail domain.
Chapter 9, “Voice Mail Domain Management”	Describes how to manage voice mail domains.
Chapter 10, “Custom Prompts”	Describes how to use the Visual Voice Editor application to customize prompts for use by the automated attendant.
Chapter 11, “Caller Applications”	Describes how to use Caller Applications Editor to create and deploy caller applications.
Chapter 12, “Reports”	Describes how to use the Reporting Tool to help you monitor the voice mail system usage.
Chapter 13, “Operation History Events”	Describes how to use the Operation History Viewer to view operation history events generated by the voice mail system.
Chapter 14, “System Performance Monitoring”	Describes how to monitor the voice mail system.
Chapter 15, “Subscriber Accounts for Microsoft Exchange”	Describes how to create Avaya Modular Messaging accounts for Microsoft Exchange.
Chapter 16, “Octel Analog Networking Gateway Administration”	Describes how to administer an Octel Analog Networking gateway so that Avaya Modular Messaging subscribers can exchange voice messages with other Octel Analog Networking-enabled voice mail systems.

Chapter*(Continued)*	**Summary** *(Continued)*
Chapter 17, “Event, Error, and Alarm Logs”	Provides information about generating and viewing logs for system events, errors, and alarms.
Appendix A, MAS Alarms	Provides sample reports for reference.
Appendix B, Examples of Caller Applications	Provides an example caller application.
Appendix C, Glossary	Provides a glossary of Avaya Modular Messaging terms.

Conventions

The following conventions are used in this guide:

Convention	Description
Initial Capitals	Names of applications, field names, menu items and dialog boxes.
italic	Book titles.
KEY+KEY	Key combinations in which you press and hold down one key and then press another.
1	Numbers in square boxes correspond to numbers on your telephone keypad.
Bold	Field names.

1

Messaging Application Server (MAS) Basics

This chapter introduces messaging application server (MAS) administration, diagnostic, and reporting tools.

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System administration tools

The Avaya Messaging Application Server provides the following administration tools.

Voice Mail System Configuration

This administration tool presents a collection of dialog boxes for configuring and maintaining the voice mail system. Properties that are shared across messaging application servers (MASs) grouped in a voice mail domain can be configured centrally. Any changes made to a voice mail domain's properties are then updated and replicated automatically to all MASs in the domain. For more information, see Chapter 2, ‘‘Introduction to Voice Mail System Configuration,’’ Chapter 3, ‘‘Telephone User Interface Administration,’’ *Chapter 4, “PBX Configuration,” Chapter 5, “Voice Mail Domain Administration,”* and Chapter 9, “Voice Mail Domain Management”.

Visual Voice Editor

This administration tool provides a graphical user interface for recording company prompts for use by the automated attendant. Customized prompts can be recorded using the local multimedia capabilities on a personal computer. Visual Voice Editor displays audio data as a waveform to enable precise editing of a prompt. For more information, see Chapter 10, “Custom Prompts”.

Caller Applications Editor

Caller Applications Editor enables you to customize the Messaging Application Server telephone user interface by creating additional levels of menus and prompts. It consists of Microsoft Management Console (MMC) snap-ins and extensions. It is added to the Avaya Modular Messaging menu during installation. For more information, see Chapter 11, “Caller Applications”.

Subscriber administration tools

Subscriber administration tools are used to set up and maintain Avaya Modular Messaging subscriber accounts when using Microsoft Exchange servers or IBM Lotus Domino servers.

Subscriber administration (Microsoft Exchange version)

Depending on the Microsoft Exchange messaging environment, administrators can use one of the following tools to administer voice mail accounts for Avaya Modular Messaging subscribers:

- Voice Mail User Administration Extension

  This administration tool extends the Microsoft 5.5 Server Administrator with voice mail administration for a mailbox. Administrators can enable a mailbox for voice mail and maintain voice mail information for a Avaya Modular Messaging subscriber.

- Avaya Modular Messaging Subscriber Administration tool

  With this administration tool, administrators can enable users, groups, or contacts to use Avaya Modular Messaging under Microsoft Exchange 2000/2003 administration. Avaya Modular Messaging Subscriber Administration adds the Modular Messaging property page to Microsoft Exchange mailbox properties in Windows Active Directory. On the Modular Messaging property page, administrators can configure subscriber properties, and launch Subscriber Options.

Subscriber administration (IBM Lotus Domino version)

The Domino Directory has been enhanced to store subscriber information in the Person document. Access through the Notes client and Domino Administrator client allows administrators to enable mail files for use with Avaya Modular Messaging. In addition, administrators or subscribers can modify Modular Messaging settings, such as the TUI password. Changes and actions initiated are completed and distributed throughout the entire Domino environment.

Preventive maintenance

To help prevent possible disk problems and minimize disk errors, Avaya recommends that the MAS drive be maintained by running the following Windows maintenance tools on a regular basis:

- Disk Defragmenter system tool
- chkdsk command

For details about using these tools, see your Windows operating system documentation.

Diagnostic and reporting tools

The following diagnostic and reporting tools are provided.

Operation History Viewer

Using this diagnostic tool, you can view events generated by voice mail system activity and logged in the operation history database. By creating a “session”, you restrict the number of events to only those that meet your criteria. You can view live events as they are added to the operation history database, or view historical events. For more information, see Chapter 13, “Operation History Events”.

Monitoring tools

Using the following diagnostic tools, you can check the performance of MASs. Proper monitoring can help you to find and fix problems before they have an impact on your organization. Two monitoring tools are available:

- Microsoft Windows Performance Monitor

  You can make use of all the monitoring capabilities of this tool to check the status of a particular messaging application server.

- Port Monitor

  This provides a graphical user interface for checking and changing the status of ports on a particular messaging application server, as appropriate.

For more information, see Chapter 14, “System Performance Monitoring”.

Reporting Tool

Using the Reporting Tool, you can generate a number of reports for monitoring voice mail system usage, planning capacity, and tracking security. Once you have generated a report, you can view it on the screen or print it for easy reference. You can also export a report to many popular file formats or attach it to a message sent using a MAPI-enabled e-mail system. For more information, see Chapter 12, “Reports”.

Logging in to a messaging application server

As a customer administrator, you normally use the customer account when administering an MAS. This account is created on your primary controller and applies to each MAS in your Modular Messaging system. Your installer creates the initial account and password based on your input.

You log in to your account using the normal Windows initial login windows on your PC.

Octel Analog Networking gateway administration

Note: Octel Analog Networking is available with Avaya Modular Messaging Solution — Microsoft Exchange version only.

Depending on the messaging environment, you can use one of the following tools to administer an Octel Analog Networking gateway:

- Octel Analog Networking Gateway Administration Extension

  This administration tool extends Microsoft Exchange 5.5 Server Administrator with administration for an Octel Analog Networking gateway. Using Octel Analog Networking, Avaya Modular Messaging subscribers can exchange voice messages with any other Octel Analog Networking-enabled voice mail system, either at the same site or remote sites. For more information, see Administering Octel Analog Networking under Exchange 5.5 administration in Chapter 16, “Octel Analog Networking Gateway Administration”.”

- Octel Analog Networking Gateway Administration tool

This administration tool allows you to administer an Octel Analog Networking gateway in the Microsoft Exchange System Manager under Exchange 2000/2003 administration. Using Octel Analog Networking, Avaya Modular Messaging subscribers can exchange voice messages with any other Octel Analog Networking-enabled voice mail system, either at the same site or remote sites. For more information, see Administering Octel Analog Networking under Exchange 2000/2003 administration in Chapter 16, “Octel Analog Networking Gateway Administration”.”

Opening Messaging Application Server programs

To open the administration, diagnostic, and reporting tools, click **Start** > **Programs** > **Avaya Modular Messaging**.

Notes:

- Voice Mail User Administration Extension is available through the Microsoft Exchange 5.5 Server Administrator application.
- Avaya Modular Messaging Subscriber Administration is available through Windows 2000 Active Directory Users and Computers.
- The Octel Analog Networking Gateway Administration Extension is accessible through the Microsoft Exchange 5.5 Server Administrator application.
- The Octel Analog Networking Gateway Administration tool is accessible through the Microsoft Exchange 2000/2003 System Manager.
- Avaya Modular Messaging Administration tools do not support multibyte characters.

Changing the display language

You can change the display language for messaging application server administration, diagnostic and reporting tools.

Note: If you change the display language to a language that is not the system language, some buttons and dialog boxes may continue to appear in the system language.

To change the display language

1. From the Modular Messaging Software folder, click **Languages**.

   The system displays the Language page.

2. Select the language in which you want to display administration, diagnostic and reporting tools. You can select from the languages installed with the messaging application server.

3. Click **OK**.

2

Introduction to Voice Mail System Configuration

This chapter introduces you to configuring the voice mail system.

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Introduction to Voice Mail System Configuration

When configuring a voice mail system you define how messaging applications servers (MASs) in a voice mail domain interact with other parts of the messaging environment, for example, PBXs.

The Voice Mail System Configuration application presents a collection of dialog boxes for configuring the system. Properties fall into two categories:

- Shared across MASs grouped in a voice mail domain

  For these properties, configuration can be carried out centrally. Any changes made to a voice mail domain's properties are updated and replicated automatically to all MASs in the voice mail domain.

  For more information, see:

  — Telephone User Interface Administration

  — Voice Mail Domain Administration

  — Voice Mail Domain Management

- Specific to an MAS

  For these properties, configuration must be carried out for each MAS in a voice mail domain.

  For more information, see:

  — Messaging Application Server Configuration

Before you begin

Before you begin the configuration, you should be familiar with your messaging environment, including the e-mail server and MAS setup. You should also be familiar with the concept of a voice mail domain. For more information on the Avaya Modular Messaging messaging environment, see the *Avaya Modular Messaging Concepts and Planning Guide*.

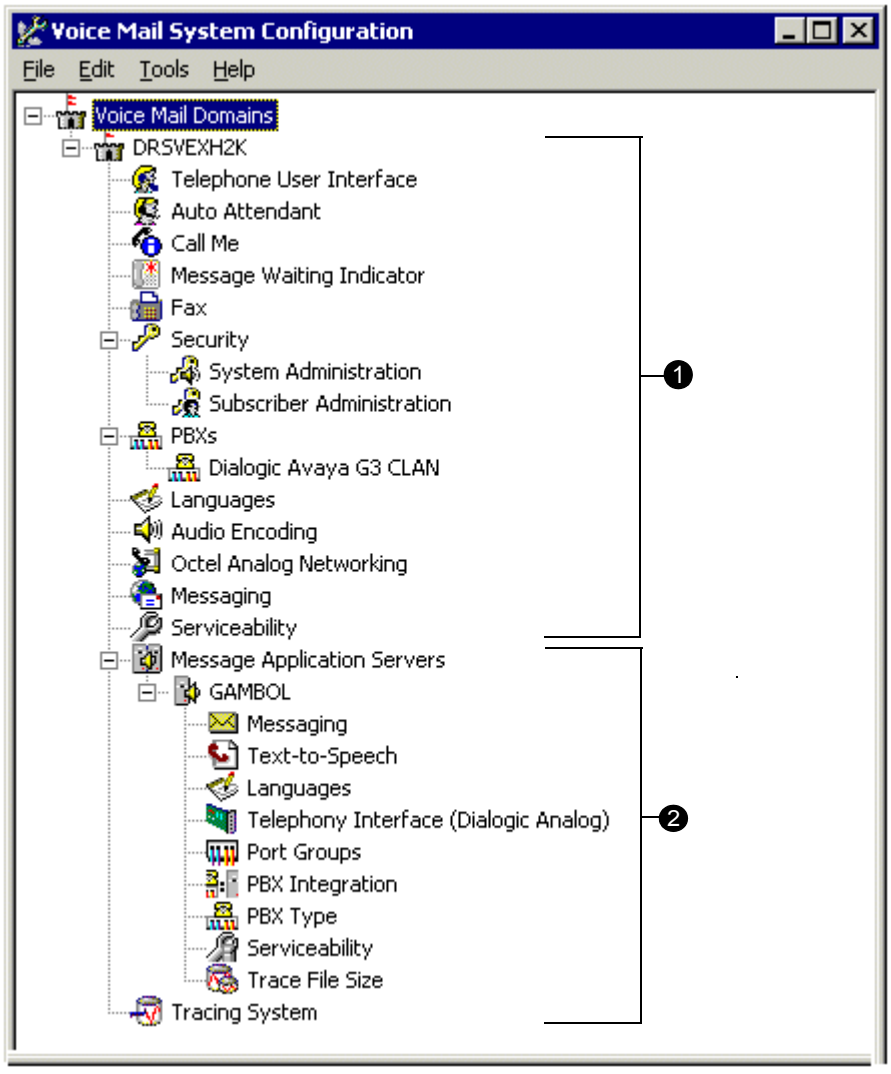
Opening Voice Mail System Configuration

To open the Voice Mail System Configuration application, click **Start** > **Programs** > **Avaya Modular Messaging** > **Voice Mail System Configuration**.

Components of the voice mail system are represented in a hierarchical tree structure in the Voice Mail System Configuration window.

Figure 2-1 shows an example of a hierarchy in the Voice Mail System Configuration window.

Figure 2-1. Voice Mail System Configuration window



1 Voice mail domain components
2 Messaging application server components

Selecting an item in the tree expands the branch to show additional items, or it may provide a direct path to a dialog box. To open the dialog box for a component that you want to configure, double-click the appropriate item.

Notes:

- If you have not installed a tracing system, the Tracing System branch is not displayed in the Voice Mail System Configuration window.
- Octel Analog Networking is available with Avaya Modular Messaging Solution — Microsoft Exchange version only.

Changing the home MAS

The home MAS is any machine in the voice mail domain from which you administer system configuration. You can change the home MAS by providing the Voice Mail System Configuration application with a new MAS name. It may be necessary to do this if the server or servers that it was previously using are not running or have been removed from the voice mail domain.

To change the home MAS

1. If it is not already open, start the Voice Mail System Configuration application (see Opening Voice Mail System Configuration on page 2-3).

2. On the **Tools** menu, click **Options**.

   The system displays the Options dialog box.

3. In the **Home Message Application Server** field, enter the name of an MAS. Clicking **Browse** opens the Select Computer dialog box where you can search for and select an MAS.

4. Click **OK**.

Supporting messaging subscribers

Avaya Modular Messaging subscribers have three tools for getting, receiving, and managing messages:

- The telephone user interface
- Subscriber Options
- An e-mail client

The client can be an IMAP4 client like Microsoft Outlook Express or IBM Lotus Notes 5, or a POP3 client like Microsoft Outlook. For more information, see *Avaya Modular Messaging Client Access to a Subscriber Mailbox*, 585-310-790, available on your *Modular Messaging Release 2 Documentation* CD-ROM.

In addition, with Microsoft Outlook, subscribers can use Modular Messaging Add-in tools, which appear as three new icons, two of which are integrated into Outlook, and one of which appears in your Programs submenu in Windows. These tools are as follows:

- The Voice Form, which allows voice recording and listening from Outlook.
- The Voice Recorder, which allows voice recording for attachments within Outlook messages and attachments within other application files such as Microsoft Word.
- The Voice Mail tab, which integrates the most common functions of Subscriber Options within Outlook.

For more information about these tools, see *Avaya Modular Messaging Client Add-in for Microsoft® Outlook® User Guide* on your *Modular Messaging Release 2 Documentation* CD-ROM.

To help your subscribers succeed and maximize their use of Modular Messaging, do the following:

- Install client add-ins on subscriber PCs.

The Subscriber Options software, which helps subscribers manage their mailboxes, as well as the client software add-in tools, is available on your messaging application server DVD or CD. The software is in a file called **setup.exe**. You can find it by accessing the MAS DVD or CD-ROM with your domain administrator account and searching the **d:/Install/Client Install/** directory.

You can allow subscribers to install the Subscriber Options and add-in software themselves. Simply post the software to your internal website and tell subscribers where to get it. Installation instructions are available in the *Client Add-in for Microsoft Outlook User Guide*.

Note: If the client is not running Microsoft Outlook, the installation program will allow only Subscriber Options to be installed.

- Post the following documents to your internal website and tell subscribers where to get them. These guides are in PDF format and are available on your documentation CD-ROM

  — *Avaya Modular Messaging Subscriber Options,* 585-310-789

  — *Avaya Modular Messaging Online TUI Guide*

  — *Avaya Modular Messaging Client Add-in for Microsoft® Outlook® User Guide*

  — *Avaya Modular Messaging Client Access to a Subscriber Mailbox,* 585-310-790

- Distribute the Avaya Modular Messaging quick reference guides. These documents are available on your *Modular Messaging Release 2* documentation CD-ROM.

Configuring the display name for incoming external calls

This section describes how to configure the display name in Microsoft Exchange for messages received outside your organization. The display name appears in the subscriber's inbox and on the Modular Messaging Voice Form, to indicate that a voice message was left by an outside caller.

By default, the display name is *External Caller* followed by the MAS name in parentheses. You may want to change the display name, or remove the MAS from the display name.

Note: If you are running Avaya Modular Messaging Solution — IBM Lotus Domino version, you must create an external caller mailbox in your Notes directory. See your Domino Administrator documentation for information on setting up mailboxes.

To configure the display name for incoming external calls

1. Run Microsoft Exchange Administrator from the **Microsoft Exchange** folder in the **Programs** menu.
2. Click the Microsoft Exchange site containing the MAS.
3. Click the **Octel** container.
4. Double-click the MAS's directory entry in the right side of the window.

   The system displays the External Caller tab.
5. Click the **General** tab.
6. If required, change the External Caller display name.
7. Click **OK** or **Apply**.

Important: The display name and alias name must be the same.

3

Telephone User Interface Administration

This chapter describes how to configure a telephone user interface (TUI) for a voice mail domain.

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Introduction to configuring the telephone user interface

The telephone user interface (TUI) provides callers and subscribers with easy access to the system over the telephone. You can configure the following TUI properties for a voice mail domain.

- **General**

  Use this tab to enable the automated attendant service and to activate the TUI's setup tutorial for new subscribers.

  See Configuring TUI general properties on page 3-4.

- **Receptionist**

  Use this tab to specify all the conditions for transferring a caller to the receptionist.

  See Configuring TUI receptionist properties on page 3-6.

- **Time / Greeting**

  Use this tab to define your organization's daily business hours and control which greetings are played by the automated attendant at different times of the day.

  See Configuring time and greeting properties on page 3-8.

- **Message Timing**

  Use this tab to configure timing parameters for voice message playback controls on the telephone keypad.

  See Configuring message timing properties on page 3-10.

- **Subscriber**

  Use this tab to set up security features to help prevent unauthorized user access to a mailbox.

  See Configuring subscriber properties on page 3-12.

- **Caller**

  Use this tab to configure caller options.

  See Configuring caller properties on page 3-15.

- **Class of Service**

Use this tab to configure classes of service. The class of service controls which TUI features a subscriber can use.

See Configuring class of service properties on page 3-16.

- **Attendant Schedules**

  Use this tab to add, delete, copy or rename attendant schedules.

  See Configuring attendant schedules on page 3-18.

- **Dial by Name**

  Use this tab to configure the way in which names are stored in the front end database (FEDB) for use by Dial by Name.

  See Configuring Dial by Name properties on page 3-21.

Notes:

- You need to administer the TUI only on the MAS that is the primary domain controller. The other servers, if any, will automatically pickup the properties established for the TUI from the primary controller.
- You may be prompted to stop and restart the MAS after you have made changes to a property in Voice Mail System Configuration. If so, the changes will not take effect until you stop and restart the MAS.
- When configuring the TUI, changes may take a few minutes to become effective on all MASs. It is recommended that you run only one instance of Voice Mail System Configuration at a time in the voice mail domain.

Before you begin

Ensure you have read Chapter 2, “Introduction to Voice Mail System Configuration”. That chapter introduces you to the Voice Mail System Configuration application used to perform the configuration.

Start the Voice Mail System Configuration application from the Modular Messaging Software folder.

Configuring TUI general properties

To configure basic TUI properties for a voice mail domain, use the **Telephone User Interface - Voice Mail Domain** dialog box, **General** tab.

To display the Telephone User Interface - Voice Mail Domain dialog box, General tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Telephone User Interface** for that voice mail domain.

   The system displays the **Telephone User Interface - Voice Mail Domain** dialog box, with the **General** tab active.

To configure general TUI properties, configure the following fields:

- **Enable Automated Attendant** The system Automated Attendant greets callers and instructs them how to proceed. It also allows other call handling features, such as call blocking, call screening, and intercom paging. When enabled, the system can be set to present callers with a list of menu options from which to choose (for more information, see Configuring the Automated Attendant on page 5-5). When disabled, the system transfers callers directly to the subscriber's mailbox, where they can leave a message.

  If your PBX does not support Direct Inward Dialing (DID), we recommend that you enable the Automated Attendant. By default, this check box is selected.

  Note: If you disable the automated attendant, subscribers cannot use the call screening, call blocking and intercom paging features.

- **Enable Caller Applications** Select to enable caller applications in the voice mail domain. If disabled, deployed applications are ignored by the MASs in the voice mail domain. If a caller application is in use when it is disabled, it will continue to work until it is no longer in use. By default, this check box is selected.

- **Number of Digits in a Mailbox** Enter the number of digits in a subscriber's mailbox number. The range is 2 through 10 and the default is 4. Avaya recommends that you make subscribers' mailbox numbers the same as their telephone extension numbers. For guidance on setting up a mailbox numbering scheme, see the *Avaya Modular Messaging Concepts and Planning Guide*.

- **Educator for New Mailboxes** (Aria TUI only) Select to play the setup tutorial to new subscribers the first time they open their mailboxes. The

tutorial guides new subscribers through the process of changing their passwords and recording personalized prompts. This check box is selected by default.

- **Maximum Call Duration in Minutes** Enter the number of minutes that callers or subscribers are permitted to spend using the TUI during one session. When this time is up, they are disconnected. The range is 0 through 99 and the default is 30. If 0 is configured, there is no time limit on a TUI session.

  Note: If subscribers reach the maximum duration time when recording a message, they are disconnected when they finish recording, and cannot address or send the message.

- **Default Input Timeout in Seconds** Enter the number of seconds the TUI waits for a dual tone multi-frequency (DTMF) response from callers before prompting them to proceed. The range is 0 through 99 and the default is 5.

  If a caller exceeds this timeout at any prompt, then the system prompts the caller to try again. In the case of a login attempt, the user is told that the login attempt was invalid and is prompted to try again.

  If the caller exceeds the timeout four consecutive times, then the system terminates the call.

  Note: Relevant United States regulations require that time-out periods be long enough to permit people with disabilities to make a selection without being disconnected. These regulations do not specify, or even suggest, a minimal amount of time that must be allowed. Avaya recommends that you use a value of at least 40 seconds for this field.

Configuring TUI receptionist properties

To configure receptionist properties for a voice mail domain, use the **Receptionist** tab. You can set up receptionist mailbox numbers and specify all the conditions for transferring a caller to the receptionist.

To display the Telephone User Interface - Voice Mail Domain dialog box, Receptionist tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Telephone User Interface** for that voice mail domain.

   The system displays the **Telephone User Interface - Voice Mail Domain** dialog box, with the **General** tab active.

3. Click the **Receptionist** tab.

To configure receptionist properties, configure the following fields:

- **Default Receptionist Mailbox Number** Enter the mailbox number to which callers are transferred when they require receptionist assistance. The default is 0.

- **After Hours Receptionist Mailbox Number** Enter the mailbox number to which callers are transferred when they require receptionist assistance outside of business hours. The default is 0.

- **Inform Subscriber Transfer is from Auto Attendant** Select to enable the automated attendant to inform a subscriber before it transfers a caller to the subscriber's extension. When cleared, the automated attendant transfers the caller immediately, without telling them it is doing so. This check box is cleared by default.

- **Disconnect all Rotary Callers** Select to disconnect callers using a non-touchtone telephone. When cleared, callers are transferred to the receptionist. If you select to disconnect callers from non-touchtone telephones, make sure your system greetings give another number to dial. This check box is cleared by default.

- **Number Attempts Rotary Transfer to Busy Receptionist** Specify the number of times the TUI attempts to transfer a caller from a non-touchtone telephone to a busy receptionist. The range is 0 to 9 and the default is 3. If the number of attempts is exceeded, callers are transferred to the receptionist mailbox where they can leave a message.

- **Maximum Number of Errors** Specify the number of errors a caller is permitted to make when attempting to use the TUI. The range is 0 through

9, and the default is 3. If the maximum number of errors is exceeded, the caller is disconnected or transferred to the receptionist. If you enter 0 as the maximum number of errors, the caller is disconnected after making the first error. If you want to transfer callers to the receptionist, make sure the **Transfer Calls to Receptionist after Maximum Errors** check box is selected.

- **Maximum Number of No Entries** Specify the number of "no entries" a caller is permitted to make when using the TUI. The range is 0 through 9 and the default is 3. A "no entry" is defined as no response from the caller when prompted to proceed. If the maximum number of no entries is exceeded, the caller is politely disconnected. If you enter 0 as the maximum number of no entries, the caller is disconnected after the first no entry occurrence. If the callers do not respond after your initial office greeting, they are transferred to the receptionist.

- **Transfer Calls to Receptionist after Maximum Errors** Select to transfer callers to the receptionist if they exceed the number of permitted errors when using the TUI. If this check box is cleared, callers are disconnected. This check box is selected by default.

- **Transfer Invalid Mailboxes during Business Hours** Select to specify what happens to calls to an invalid mailbox number during business hours. When selected, the TUI dials the extension number if the mailbox number is invalid. When cleared, callers are informed that the mailbox number is invalid. If callers exceed the maximum number of errors, they are politely disconnected or transferred to the business hours receptionist. This check box is cleared by default.

  Note: If you want callers to be transferred to the business hours receptionist, make sure that the **Transfer Calls to Receptionist after Maximum Errors** check box is selected.

- **Transfer Invalid Mailboxes after Business Hours** Select to specify what happens to calls to an invalid mailbox number after business hours. When selected, the TUI dials the extension number if the mailbox number is invalid. When cleared, callers are informed that the mailbox number is invalid. If callers exceed the maximum number of errors, they are politely disconnected or transferred to the after-hours receptionist. This check box is cleared by default.

  Note: If you want callers to be transferred to the after-hours receptionist, make sure that the **Transfer Calls to Receptionist after Maximum Errors** check box is selected.

Configuring time and greeting properties

To define your organization's daily business hours and to control when certain greetings are played by the automated attendant, use the **Time / Greeting** tab.

For information on configuring time of day greetings in the automated attendant, see Configuring Time of Day properties on page 5-10.

To display the Telephone User Interface - Voice Mail Domain dialog box, Time/Greeting tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Telephone User Interface** for that voice mail domain.

   The system displays the **Telephone User Interface - Voice Mail Domain** dialog box, with the **General** tab active.

3. Click the **Time / Greeting** tab.

To configure time and greeting properties, configure the following fields:

- **Daily Settings** Select the day for which you want to define business hours. For the selected day, you can select one of three options: 'Open All Day', 'Closed All Day' or 'Selected Hours'. Avaya recommends that you set up business hours for each day of the week.

- **Open All Day** Select to specify that the office is open all day. For any day that 'Open All Day' is set, the automated attendant greets callers with the appropriate Morning, Afternoon, or Evening greeting. It uses the start times you specify in the **Start of Morning**, **Start of Afternoon** and **Start of Evening** fields to determine which greeting to play.

- **Closed All Day** Select to specify that the office is closed all day. For any day that 'Closed All Day' is set, the automated attendant plays the Closed greeting to callers. They are then transferred to the after-hours receptionist mailbox.

- **Selected Hours** Select to specify the business and after-business hours for a particular day. This is the default setting. If you select this option, you must enter the Open and Close times:

  — **Open** Enter the time designated as the start of business hours for the selected day. During business hours, the appropriate greeting (Morning, Afternoon, or Evening) is played. The default is 09:00.

  - **Close** Enter the time designated as the end of business hours for the selected day. After business hours, the Closed greeting is played. The default is 17:00.

- **Start of Morning** Enter the start time for the Morning greeting. The default is 09:00.

- **Start of Afternoon** Enter the start time for the Afternoon greeting. The default is 12:00.

- **Start of Evening** Enter the start time for the Evening greeting. The default is 18:00.

Configuring message timing properties

To configure message timing properties for a voice mail domain, use the **Message Timing** tab. You can configure the voice message playback controls on the telephone keypad and specify the number of seconds permitted for recording personalized prompts.

To display the Telephone User Interface - Voice Mail Domain dialog box, Message Timing tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Telephone User Interface** for that voice mail domain.

   The system displays the **Telephone User Interface - Voice Mail Domain** dialog box, with the **General** tab active.

3. Click the **Message Timing** tab.

To configure message timing properties, configure the following fields:

- **Seconds to Rewind Message When Rewind Button Pressed** Enter the amount of time, in seconds, by which subscribers can rewind a voice message when they press the Rewind key on the keypad. The range is 0 through 99 and the default is 5.

- **Seconds to Pause Message When Pause Button Pressed** Enter the amount of time, in seconds, by which a message is paused when a subscriber presses the Pause key on the keypad while playing or recording a voice message. The range is 0 through 99 and the default is 5.

- **Seconds to Fast Forward Message When Fast Forward Button Pressed** Enter the amount of time, in seconds, by which subscribers can fast forward a voice message when they press the Fast Forward key on the keypad. The range is 0 through 99 and the default is 5.

- **Maximum Mailbox Prompt Length in Seconds** Enter the amount of time, in seconds, that subscribers are given for recording a mailbox prompt such as a personal greeting. The range is 1 through 999 and the default is 90. When using the TUI, subscribers hear a warning message 10 seconds before the end of the prompt length. To avoid this warning message playing at the start of a recording, it is recommended that you enter a minimum value of 20.

  Note: This setting does not apply to the Spoken Name prompt, which always has a maximum length of 7 seconds.

- **Minimum Message Length in Seconds** Enter the amount of time, in seconds, that defines the shortest allowable voice message from an external caller. Any shorter voice messages are discarded. If you set the minimum message length to 0, no messages are discarded. The range is 0 through 9, and the default is 0.

Configuring subscriber properties

To configure subscriber properties for a voice mail domain, use the **Subscriber** tab.

To display the Telephone User Interface - Voice Mail Domain dialog box, Subscriber tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Telephone User Interface** for that voice mail domain.

   The system displays the **Telephone User Interface - Voice Mail Domain** dialog box, with the **General** tab active.

3. Click the **Subscriber** tab.

To configure Subscriber properties, configure the following fields:

- **Enable Octel Analog Networking Addressing** Select to enable Octel Analog Networking addressing in the voice mail domain. This check box is selected by default.

  Note: Octel Analog Networking is available only with the Avaya Modular Messaging Solution — Microsoft Exchange version.

- **Enable Confirmation before Deleting Messages** Select to prompt subscribers to confirm message deletions. When cleared, deleted messages can still be reviewed during the same session. This check box is cleared by default.

- **Enable Extended Password Security** Select to force subscribers to press [#] after entering their mailbox password. If subscribers do not press [#] when this check box is selected, the system waits for a response and then permits access, as long as the correct password was entered. When this check box is cleared, subscribers can open their mailboxes as soon as the last digit of their password is entered. This check box is selected by default.

- **Minimum Password Length** Enter a value to specify the minimum number of digits for a mailbox password. The range is 0 through 32, and the default is 4. If you enter 0, subscribers are not required to enter a password. Therefore, 0 is not a recommended value for security reasons. Increasing the number of digits in a password lowers the probability that an unauthorized user can gain access.

If you change the minimum password length to a higher value, existing subscribers are prompted to enter a new password containing the new minimum number of digits before they can proceed.

Note: The setting in this field can be used—particularly when using the AUDIX TUI, which does not have an Educator function—to force a password change for new subscribers on initial login. The administrators can set an initial password that is shorter than this value so that, when the subscriber logs in for the first time, the system forces a password change.

- **Enable Password Expiry** Select to expire a subscriber's password after the time interval you specify in the **Days before Password Expiry** field. This check box is cleared by default.

- **Days before Password Expiry** (Active only if the **Enable Password Expiry** check box is selected) Enter the time interval, in days, from the date subscribers last changed their passwords before they are forced to change them again. The range is 1 through 999 and the default is 60. It is recommended that subscribers enter a new password at least every six months to reduce unauthorized user access.

- **Login Failures before Mailbox Lockout** Enter a number to specify how many password entry errors per call subscribers can make before they are locked out of their mailbox. The range is 3 through 999 and the default is 5.

- **Number of Previous Passwords Disallowed** Enter the number of different passwords a user must use before any old (previous) passwords can be reused.

- **Initial Password for New Mailboxes:**

  — **None** Select to allow new subscribers to open their mailboxes without entering a password, if the minimum password length is set to zero. For security reasons, use this option with caution.

  — **Default** Select to assign the default password to all new mailboxes. The default password is a string of 1s, for example, 1111 if the value entered in the **Minimum Password Length** field is 4. It is recommended that you make the default password more secure by entering a new number in the **Default Password** field.

Note: This value, used in conjunction with the **Minimum Password Length** setting, can be used to force a password change for new subscribers, particularly when using the AUDIX TUI, which does not have an Educator function. For example, if the **Minimum Password Length** field were set to 6, and you entered a value of 1111 in the **Default Password** field, the first time a new subscriber tries to log in, the system forces the subscriber to change the password.

— **Random** Select to assign a different randomly generated password to each new mailbox. On creating a subscriber account, a message box appears containing the password, which the administrator must communicate to the mailbox subscriber. “Random” is the default password method and is the most secure.

Configuring caller properties

To configure caller properties for a voice mail domain, use the **Caller** tab.

To display the Telephone User Interface - Voice Mail Domain dialog box, Caller tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Telephone User Interface** for that voice mail domain.

   The system displays the **Telephone User Interface - Voice Mail Domain** dialog box, with the **General** tab active.

3. Click the **Caller** tab.

To configure Caller properties, configure the following fields:

- **Permit Callers to Leave Multiple Messages** Select to allow callers to leave more than one voice message per call. If cleared, callers are disconnected after leaving the first voice message. This check box is selected by default.

- **Permit Callers to Access Directory Services** Select to allow callers to use Dial By Name to search for a subscriber extension or mailbox number by spelling the subscriber's name using the telephone keypad. This check box is selected by default.

- **Outcalling Restrictions** Clear the digits that callers are not allowed to enter as the initial digit in an invalid mailbox, when the **Transfer Invalid Mailboxes during Business Hours** check box is selected on the Receptionist tab.

  Avaya recommends that you clear the digit or digits used to request external lines from the PBX. This helps prevent telephone toll fraud by prohibiting callers from obtaining an external line when dialing the initial digit of an invalid mailbox number. For example, if 9 is configured to request an external line from the PBX, and 9 is cleared, dialing the invalid mailbox 9004 does not get an external line. All digits are selected by default.

  For information on the **Transfer Invalid Mailboxes during Business Hours** check box, see Transfer Invalid Mailboxes during Business Hours on page 3-7.

Configuring class of service properties

To configure class of service properties for a voice mail domain, use the **Class of Service** tab. You can set up classes of service to define specific subscriber functions, for example, “Receive Only” or “Send Only.” You assign a class of service when you create a subscriber account.

For information on creating subscriber accounts in Microsoft Exchange, see Chapter 15, “Subscriber Accounts for Microsoft Exchange”.

For information on creating subscriber accounts in IBM Lotus Domino, see your Lotus Domino documentation.

To display the Telephone User Interface - Voice Mail Domain dialog box, Class of Service tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Telephone User Interface** for that voice mail domain.

   The system displays the **Telephone User Interface - Voice Mail Domain** dialog box, with the **General** tab active.

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

To configure class of service properties, configure the following fields:

- **COS Number** Select a number for the class of service you want to define. You can define up to 24 classes of service according to your subscribers’ requirements.

  Note: The class of service number 1 is used as the default when creating a subscriber account. It is recommended that you enter a name for this class of service in the **COS Name** field.

- **COS Name** Enter a name that describes the purpose of the class of service. If you do not enter a name, the class of service cannot be selected when creating subscriber accounts.

- **Features** Select the following TUI features to assign to the class of service. All features are selected by default. Clear features that you want to disable for the class of service.

  — **Locate Messages Received** Select to allow subscribers to search for messages from a particular subscriber or Octel Analog Networking user.

- **Message Confirmation** Select to allow subscribers to view the date and time a recipient listened to a message and marked it as saved. This feature is helpful when subscribers must know if and when another subscriber or Octel Analog Networking user received their message.

- **Send Messages** Select to permit subscribers to send voice messages from their mailbox to other subscribers on the local voice mail system, on a remote voice mail system that supports Octel Analog Networking, or to any user on the electronic mail network.

- **Operator Access** Select to permit callers to transfer to an operator when they need live assistance. You can set options for transferring calls to the operator using the Receptionist tab. You can also set up a personal operator for a particular mailbox when you create a subscriber account.

- **Dial by Name** Select to allow subscribers to search for an extension or mailbox number by spelling the person's name using the telephone keypad.

- **Max Message Time (sec)** Enter the time, in seconds, allowed for each voice message sent to or from a subscriber's mailbox. The range is 30 through 6000 and the default is 500. When entering the maximum message time, you should consider the needs of all the subscribers with the same class of service. For example, a product support department may require a longer message time for callers to explain problems.

Configuring attendant schedules

To set up attendant schedule properties for a voice mail domain, use the **Attendant Schedules** tab. You can edit, copy, rename and delete existing schedules, and create new schedules.

The Attendant Schedule defines the availability of a subscriber's personal operator. A subscriber can configure an extension number as a personal operator number. The personal operator replaces the system-wide operator during the times specified in the Attendant Schedule.

To display the Telephone User Interface - Voice Mail Domain dialog box, Attendant Schedules tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Telephone User Interface** for that voice mail domain.

   The system displays the **Telephone User Interface - Voice Mail Domain** dialog box, with the **General** tab active.

3. Click the **Attendant Schedules** tab.

To add an attendant schedule:

1. On the **Attendant Schedules** tab, click **Add**.

   The system displays the **Enter Attendant Schedule Name** dialog box.

2. In the **Schedule Name** field, type the desired name for the schedule.

3. Click **OK**.

Note: Schedule names must be unique.

4. Use the schedule grid to set the schedule time. For more information, see Using the schedule grid on page 3-20.

To copy an attendant schedule:

1. On the **Attendant Schedules** tab, click the schedule to be copied.

2. Click **Copy As**.

3. In the **Schedule Name** field, type the desired name for the schedule.

4. Click **OK**.

Note: Schedule names must be unique.

5. Modify the new schedule as desired. For more information, see Using the schedule grid on page 3-20.

To rename an attendant schedule:

1. On the **Attendant Schedules** tab, click **Rename**.
2. In the **Schedule Name** field, type a name for the schedule.
3. Click **OK**.

Note: Schedule names must be unique.

To delete an attendant schedule:

Note: Before attempting to delete a schedule, verify that it is not currently in use.

Tip: If you delete a schedule by mistake, close the dialog box, using the **Cancel** button or use the **Escape** key to quit without saving your changes.

1. On the **Attendant Schedules** tab, click the name of the schedule to be deleted.
2. Click **Delete**.

Note: The system deletes the schedule immediately; there is no confirmation box.

To edit an attendant schedule:

1. On the **Attendant Schedules** tab, click the name of the schedule that you want to edit.

   The schedule appears in the panel at the bottom of the screen.

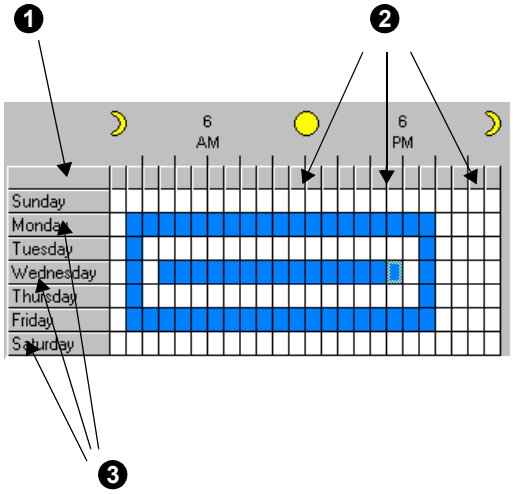
2. Edit the schedule as described in Using the schedule grid on page 3-20.

Using the schedule grid

To select a time or block of time for the attendant schedule, use the schedule grid. The grid has the weekdays along the y-axis and the time of day along the x-axis. Cells on the grid represent a time interval, either 1 hour, 15 minutes, or 5 minutes depending on the current selection under **Interval**.

A cell can have one of two states, on (blue) or off (white). Clicking a cell toggles its state. In Figure 3-2, each cell represents a quarter of an hour. If you select “15 Minute” under View detail, a scroll bar appears below the grid that you can use to view all the cells.

Figure 3-2. Schedule Grid



1 Toggle all
2 Column/Hour headers
3 Row/Day headers

Tips for using the schedule grid

- To toggle (select or deselect) all cells, click the top left cell.
- To toggle the state of the first cell of a column and set all of the other cells in that column to the same state, click a column/hour header. This action selects that block of time for all days.
- To toggle the state of the first cell of a row and set all of the other cells in that row to the same state, click a row/day header. This action selects or deselects all hours for the selected day.
- To change the state of multiple cells at the same time, click a cell and drag the mouse cursor over the other cells.

Configuring Dial by Name properties

Dial by Name is a method of addressing that allows callers to spell a recipient's name on the telephone keypad.

To configure the way in which names are stored in the front end database (FEDB) for use by Dial by Name, use the **Dial by Name** tab. If the FEDB contains names that are not easily mapped to a telephone keypad, for example if you are using a far eastern language, you should configure Dial by Name to map the recipient's e-mail address instead of their first name and last name.

To display the Telephone User Interface - Voice Mail Domain dialog box, Dial by Name tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Telephone User Interface** for that voice mail domain.

   The system displays the **Telephone User Interface - Voice Mail Domain** dialog box, with the **General** tab active.

3. Click the **Dial by Name** tab.

To configure Dial by Name properties:

From the **Match names using:** drop-down list, select the method to use when matching names using Dial By Name. You can select from:

- **Lastname, Firstname** Stores the subscriber's last name followed by their first name. This is the recommended setting.

- **E-mail Address** Stores the subscriber's e-mail address. This enables you to use Dial by Name for names that contain characters that do not appear on the telephone keypad, for example if you are using far eastern languages. It is recommended that you use this setting only if the FEDB contains names that are not easily mapped to a telephone keypad. Enter only the first part of the subscriber's e-mail address (before the @ symbol) for example, JSmith.

Note: If you use the "Last Name, First Name" method to match names, when all the last names in the GAL have been found, the system searches e-mail aliases for matches.

4

PBX Configuration

This chapter describes how to configure a Private Branch Exchange (PBX) for a voice mail domain.

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Introduction to configuring a PBX

Configuring a PBX determines the way in which the PBX communicates with the voice mail domain.

The screens you use to configure a PBX depend on the type of voice processing you are using.

You can configure a PBX for the following:

- **Analog**

  This topic describes how to configure PBX properties if you are using analog voice ports. Configure your PBX for analog telephony if your PBX supports any of the following types of switch integration:

  — Controlled LAN (C-LAN)

  — Digital Multiplexed Interface - 4 (DMI-4)

  — Inband

  — Serial RS-232

  See Configuring PBX properties (analog) on page 4-4.

- **IP H.323**

  This topic describes how to configure PBX properties if you are using IP connectivity between the messaging application server (MAS) and the Avaya PBX. Configure your PBX for IP telephony if your PBX supports H.323-based IP switch integration.

  See Configuring PBX properties (IP H.323) on page 4-14.

- **QSIG**

  This topic describes how to configure PBX properties if you are using E1 or T1 QSIG voice cards. Configure your PBX for QSIG telephony if your PBX supports Q-Signaling (QSIG) switch integration.

  See Configuring PBX properties (QSIG) on page 4-17.

- **Set emulation**

  This topic describes how to configure PBX properties if you are using set emulation voice cards. Configure your PBX for set emulation telephony if your PBX supports digital set emulation (DSE) switch integration.

  See Configuring PBX properties (set emulation) on page 4-26.

For more information on configuring your PBX, see the PBX configuration notes. Configuration notes are available from the Avaya Support Center, at http://support.avaya.com.

Notes:

- You need to administer the PBX configuration only on the MAS that is the primary domain controller. The other servers, if any, will automatically pickup the properties established for the PBX configuration from the primary controller.
- You may be prompted to stop and restart the MAS after you have made changes to a property in Voice Mail System Configuration. If so, the changes will not take effect until you stop and restart the MAS.
- When you configure a PBX, changes may take a few minutes to become effective on all MASs. It is recommended that you run only one instance of Voice Mail System Configuration at a time in the voice mail domain.

Before you begin

Ensure you have read Chapter 2, “Introduction to Voice Mail System Configuration”. That chapter introduces you to the Voice Mail System Configuration application used to perform the configuration.

Start the Voice Mail System Configuration application from the Modular Messaging software folder.

Configuring PBX properties (analog)

This section describes how to configure PBX properties if you are using analog voice cards.

To configure PBX properties for analog telephony:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Configure the following PBX properties:

   - **General**

     Use this tab to set up general PBX options. You can use it to control the voice mail system volume and to set options for dual tone multi-frequency (DTMF) dialing tones.

     See Configuring PBX General properties (analog) on page 4-5.

   - **Call Transfer**

     Use this tab to set up options for PBX call transfer. You can specify transfer release codes.

     See Configuring call transfer properties (analog) on page 4-7.

   - **Hangup Detection**

     Use this tab to set up options for PBX hangup detection. You can specify string options and tone settings for DTMF hangup.

     See Configuring Hangup Detection properties (analog) on page 4-10.

   - **Intercom Paging**

     Use this tab to set up options for PBX intercom paging. Intercom paging allows callers to page subscribers in the building if they do not answer their extensions.

     See Configuring Intercom Paging properties (analog) on page 4-12.
5. To save the settings, click **OK**.

Configuring PBX General properties (analog)

To specify basic PBX options for a particular PBX type, use the **PBX Configuration - Voice Mail Domain** dialog box, **General** tab. You can control the voice mail system volume and specify options for dual tone multi-frequency (DTMF) dialing tones.

To configure PBX analog General properties:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Click the **General** tab.
5. Configure the following fields:

   Note: Default values differ depending on the PBX type.

   - **Go Off Hook when Port Disabled** Select to place a port off hook when it is disabled. If cleared, the port rings but does not answer. This check box is selected by default.
   - **Input Gain** (Appears only if your system uses Brooktrout port boards). Enter a value to set the amount by which the voice mail system volume is magnified. The range is 0 through 15, and the default is 1.
   - **Record Cue during Silence** (Appears only if your system uses Brooktrout port boards). Select to prompt users with beeps when they are silent while recording. This check box is cleared by default.
   - **Silence before Record Cue (ms)** (Appears only if your system uses Brooktrout port boards). Enter the time, in milliseconds, that a user can be silent while recording before being prompted with record cue beeps. The range is 500 through 9999.
   - **Record Cue Volume** (Appears only if your system uses Brooktrout port boards). Enter a number to set the volume of record cue beeps. The range is 0 through 7.
   - **Pause before Digits (ms)** Enter the time, in milliseconds, that the voice mail system waits after taking the voice port off hook before becoming available. The range is 100 through 9999, and the default is 500.
   - **Pause Interval for Comma in Dial String (ms)** Enter the duration, in milliseconds, represented by a comma in a dial string. The range is 100 through 9999, and the default is 2000.

- **DTMF Inter-Digit Delay during Dialing (ms)** Enter the duration, in milliseconds, between DTMF tones when dialing. The range is 10 through 999, and the default is 80.

- **DTMF Length during Dialing (ms)** Enter the duration, in milliseconds, of a DTMF tone when dialing. The range is 10 through 999, and the default is 80.

- **DTMF Inter-Digit Delay during Detection (ms)** Enter the duration, in milliseconds, between DTMF tones during detection. The range is 1 through 999, and the default is 50.

- **DTMF Length during Detection (ms)** Enter the length, in milliseconds, of a DTMF tone during detection. The range is 1 through 999, and the default is 50.

- **DTMF Inter-Digit Delay during play (ms)** (Appears only if your system uses Brooktrout port boards). Enter the duration, in milliseconds, between DTMF tones during play. The range is 1 through 999.

- **DTMF Length during Play (ms)** Enter the length, in milliseconds, of a DTMF tone during play. The range is 1 through 999, and the default is 50.

Configuring call transfer properties (analog)

To configure PBX call transfer properties for a voice mail domain, use the **Call Transfer** tab. You can specify release codes, if required by the PBX type.

To configure PBX analog Call Transfer properties:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Click the **Call Transfer** tab.
5. Configure the following fields:

   Note: Default values differ depending on the PBX type.

   - **Transfer Mode** Select the mode to be used. You can select from Blind, Partial, or Full. The default is Blind.
   - **Transfer Prefix Code** Enter the code which prefixes a call transfer, if required by the PBX. The code can be DTMF or a combination of the letters A through D, H, N, T, X, P, M, and R, and the special characters pound (#), asterisk (*), dash (-), comma (,), plus sign (+), and ampersand (&). You can enter up to 99 characters.
   - **Transfer Completion Code** Enter the code that completes a call transfer, if required by the PBX. The code can be DTMF or a combination of the letters A through D, H, N, T, X, P, M, and R, and the special characters pound (#), asterisk (*), dash (-), comma (,), plus sign (+), and ampersand (&). You can enter up to 99 characters.

     Note: Leave this field blank for C-LAN integration.

   - **Transfer Release Code when Busy** Enter a transfer release code for a busy extension, if required by the PBX. The code can be DTMF or a combination of the letters A through D, H, N, T, X, P, M, and R, and the special characters pound (#), asterisk (*), dash (-), comma (,), plus sign (+), and ampersand (&). You can enter up to 99 characters.
   - **Transfer Release Code when No Answer** Enter a transfer release code for a ring-no-answer extension, if required by the PBX. The code can be DTMF or a combination of the letters A through D, H, N, T, X, P, M, and R, and the special characters pound (#), asterisk (*), dash (-), comma (,), plus sign (+), and ampersand (&). You can enter up to 99 characters.

- **Transfer Release Code when Reject** Enter a transfer release code for an extension rejection call, if required by the PBX. The code can be DTMF or a combination of the letters A through D, H, N, T, X, P, M, and R, and the special characters pound (#), asterisk (*), dash (-), comma (,), plus sign (+), and ampersand (&). You can enter up to 99 characters.

- **Flash Time Interval (ms)** Enter the time, in milliseconds, that the hookswitch must be pressed for the voice mail system to recognize it as a hookswitch flash signal. The range is 0 through 10000.

- **Enable Call Progress** Select to enable full call progress. When selected and a call is placed to an extension, the system listens for busy, invalid number, no answer, and connect signals. If cleared and a call is placed to an extension, the system assumes an answer. This check box is selected by default.

Note: This property may be overridden by other applications when placing an outbound call.

- **Start Delay for Call Progress** Enter the duration, in milliseconds, between dialing a number and starting call progress. The range is 0 through 5000. For more information, see Call transfer codes.

Note: This field is not available if you clear the **Enable Call Progress** check box.

Call transfer codes

You can create a transfer sequence using the codes listed below plus any dual tone multi-frequency (DTMF) digits.

Code	Meaning
& (ampersand)	Flash
, (comma)	Pause
- (minus sign)	On hook
+ (plus sign)	Off hook
A, **B**, **C**, or **D**	Dial with full call progress, listen for busy, invalid number, no answer or connect
P	Dial with partial call progress, listen for busy or invalid number
N	Dial without call progress
X	Extension (place extension in dial string)
H	Hard hangup
T	DTMF
M	MF
R	Earth recall
0–9, **#** and *****	Valid DTMF key presses

Configuring Hangup Detection properties (analog)

To configure PBX hangup detection properties for a voice mail domain, use the **Hangup Detection** tab. You can specify hangup string options and tone settings.

To configure PBX analog Hangup Detection properties:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Click the **Hangup Detection** tab.
5. Configure the following fields:

   Note: Default values differ depending on the PBX type.

   - **Maximum Continuous Tone before Hanging Up (ms)** Enter the time, in milliseconds, that the voice mail system listens to a dial tone once a caller hangs up, before dropping the line. The range is 0 through 12000.
   - **Hangup String** Enter the sequence of DTMF digits and call transfer codes (& - = D H N T X P M) that the PBX sends to indicate that a call has terminated (been hung up).

     Note: This field is applicable to only certain switches that support inband integration. Leave this field blank for C-LAN, DMI-4, and RS-232 integrations.

   - **Hangup String Timeout (ms)** Enter the time, in milliseconds, that the voice mail system waits between digits before validating a hangup string. The range is 0 through 9999.
   - **Minimum Duration for Drop in Loop Current (ms)** Enter the time, in milliseconds, that must elapse before the voice mail system recognizes a true drop in loop current. The range is 0 through 3000. Setting this field to 0 disables this feature.
   - **Maximum Silence before Hanging Up (ms)** Enter the time, in milliseconds, that the voice mail system waits before hanging up if a user falls silent while recording. The range is 0 through 12000.

- **Tone Settings:**

  — **Tone Name** (Appears only if your system uses Brooktrout port boards) Select the hangup tone that you want to use. For information about adding and removing a hangup tone, see To add a hangup tone (only if Brooktrout analog board is used) on page 4-11.

  — **Tone Identifier** (Appears only if your system uses Brooktrout port boards) Enter a unique identifier number for the new hangup tone. The range is 0 through 999.

  — **Tone Length (ms)** (Appears only if your system uses Brooktrout port boards) Enter the time, in milliseconds, a recording can be allowed to continue after the hangup tone has been detected. The range is 0 through 9999.

To add a hangup tone (only if Brooktrout analog board is used)

1. Click **Add New Tone**.

   The system displays the Add New Tone dialog box.

2. Enter a unique name for the hangup tone in the **Tone Name** field. You can configure up to 64 tones.

Note: You must specify a tone identifier and length in the Hangup Detection dialog box.

To remove a hangup tone (if Brooktrout analog board is used only)

1. In the **Tone Settings** field, select the tone you want to remove.

2. Click **Remove Tone**.

   The system prompts you to confirm your decision before deleting the tone.

Configuring Intercom Paging properties (analog)

To configure PBX intercom paging properties for a voice mail domain, use the **Intercom Paging** tab. Using intercom paging, callers can page subscribers in the building if they do not answer their extensions.

Notes:

- Your PBX type may not support intercom paging.
- For Modular Messaging to do trunk-level paging, you must have additional hardware between the Modular Messaging system, the PBX, and the paging system. For more information, contact your Modular Messaging service or technical support representative.

To configure PBX Intercom Paging properties for analog telephony:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Click the **Intercom Paging** tab.
5. Configure the following fields:

   - **Enable Intercom Paging** Select to allow a caller to page subscribers in the building if they do not answer their extension. This check box is cleared by default.
   - **Intercom Paging Code** Enter the intercom paging code sent to the PBX to start intercom paging, if required by the PBX. This field is blank by default.
   - **Release Code for Intercom Paging** Enter the code sent to the PBX to stop intercom paging. This field is blank by default.
   - **Repeat Intercom Paging Phrase** Select to get the automated attendant to play the intercom paging phrase (“there is a call for <*subscriber's name*>”) twice instead of once. This check box is cleared by default.
   - **Number of Retries when Paging System is Busy** Enter a number to specify the number of times the voice mail system attempts to page a subscriber when met by a busy response. The range is 0 through 9, and the default is 3.

- **Number of Retries when No Answer** Enter a number to specify the number of times a caller can request to page a subscriber whose extension is not answered. The range is 0 through 9, and the default is 3.

- **Paging Wait Time (sec)** Enter the number of seconds a caller is kept on hold after paging a subscriber. The range is 0 through 99, and the default is 10.

Note: After you make changes to Intercom Paging properties, you must stop and restart the MAS. If you do not do so, the changes do not take effect.

Configuring PBX properties (IP H.323)

This section describes how to configure PBX properties for H.323-based IP integration.

To configure PBX properties for H.323-based IP integration:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Configure the following PBX properties:

   - **Transfer / Outcall**

     Use this tab to configure the transfer mode.

     See Configuring Transfer / Outcall properties (IP H.323) on page 4-15.

   - **Outgoing Call**

     Use this tab to set up PBX outgoing call options, including the number plan and the number type.

     See Configuring Outgoing Call properties (IP H.323) on page 4-16.
5. To save the settings, click **OK**.

Configuring Transfer / Outcall properties (IP H.323)

To configure PBX IP H.323 call transfer properties for a voice mail domain, use the **Transfer / Outcall** tab.

To configure PBX IP H.323 Transfer / Outcall properties:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Click the **Transfer / Outcall** tab.
5. Configure the following field:

   - **Transfer mode** Select to set up call progress analysis during call transfer. If **Full** is selected, the system listens for busy, invalid number, no answer, and connect signals. If **Partial** is selected, the system listens for busy and invalid number signals. If **Blind** is selected, no call progress analysis takes place.

Note: To prevent callers from being disconnected when calls are re-routed to the MAS, select the **Full** transfer mode. Select the **Blind** or **Partial** transfer modes only when calls are not re-routed to the MAS.

Configuring Outgoing Call properties (IP H.323)

To specify the properties of an outgoing call, use the **Outgoing Call (IP H.323)** tab.

To configure PBX IP H.323 Outgoing Calls properties:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Click the **Outgoing Calls** tab.
5. Configure the following fields:

   - **Number Type** Select the Number Type designated by the local ISDN provider. The default is Unknown. Select one of the following supported values:

     — Unknown

     — International

     — National

     — Local

   - **Number Plan** Select the Number Plan designated by the local ISDN provider. The default is Unknown. Select one of the following supported values:

     — Unknown

     — ISDN/Telephony E.164/E.163

     — Private

   - **Origin Number** The Origin Number is the originating telephone number for all outgoing calls. This must be a unique number that does not conflict with any other extension in the MAS. You can enter up to 32 digits, and the default is 9999.

Configuring PBX properties (QSIG)

This section describes how to configure PBX properties if you are using Q-Signaling (QSIG) cards.

To configure PBX properties for QSIG integration:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Configure the following PBX properties:

   - **General**

     Use this tab to set up general PBX options. You can use it to set options for dual tone multi-frequency (DTMF) dialing tones.

     See Configuring PBX General properties (QSIG) on page 4-19.

   - **Transfer / Outcall**

     Use this tab to configure the transfer mode.

     See Configuring Transfer / Outcall properties (QSIG) on page 4-20.

   - **Tone Detection**

     Use this tab to specify the maximum silence before hanging up.

     See Configuring tone detection (QSIG) on page 4-21.

   - **Outgoing Call**

     Use this tab to set up PBX outgoing call options, including the layer 1 protocol and the number type.

     See Configuring Outgoing Call properties (QSIG) on page 4-22.

   - **Intercom Paging**

     Use this tab to set up PBX intercom paging options. Intercom paging allows callers to page subscribers in the building if they do not answer their extensions.

     See Configuring Intercom Paging properties (QSIG) on page 4-24.

5. To save the settings, click **OK**.

Configuring PBX General properties (QSIG)

To specify basic PBX options for a particular PBX type (QSIG), use the **PBX Configuration - Voice Mail Domain** dialog box, **General** tab.

To configure PBX QSIG general properties:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Click the **General** tab.
5. Configure the following fields:

   - **DTMF Inter-Digit Delay during Dialing (ms)** Enter the duration, in milliseconds, between DTMF tones when dialing. The range is 10 through 999, and the default is 80.
   - **DTMF Length during Dialing (ms)** Enter the duration, in milliseconds, of a DTMF tone when dialing. The range is 10 through 999, and the default is 80.
   - **DTMF Length during Detection (ms)** Enter the length, in milliseconds, of a DTMF tone during detection. The range is 1 through 999, and the default is 50.

Configuring Transfer / Outcall properties (QSIG)

To configure PBX QSIG call transfer properties for a voice mail domain, use the **Transfer / Outcall** tab.

To configure PBX QSIG Transfer / Outcall properties:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Click the **Transfer / Outcall** tab.
5. Configure the following field:

   - **Transfer mode** Select to set up call progress analysis during call transfer. If Full is selected, the system listens for busy, invalid number, no answer, and connect signals. If Partial is selected, the system listens for busy and invalid number signals. If Blind is selected, there is no call progress analysis.

Configuring tone detection (QSIG)

To configure QSIG tone detection for a voice mail domain, use the Tone Detection tab. You can specify maximum continuous tone before hanging up.

To configure tone detection (QSIG) properties:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Click the **Tone Detection (QSIG)** tab.
5. Configure the following field:

   - **Maximum Silence Before Hanging Up (ms)** Enter the duration, in milliseconds, that the voice mail system listens to a dial tone after a caller hangs up, before dropping the line. The range is 0 through 9999, and the default is 6000.

Configuring Outgoing Call properties (QSIG)

To specify the properties of an outgoing call, use the **Outgoing Call** (QSIG) tab.

To configure PBX QSIG Outgoing Calls properties:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Click the **Outgoing Calls** tab.
5. Configure the following fields:

   - **Layer1 Protocol** This value defines the Layer 1 protocol used with the outgoing call. The default is G.7.11 A-law. Select one of the following supported values:

     — G.7.11u-law

     — G.7.11A-law

   - **BC Transfer Cap** This value defines the transfer rate for bearer capability information. The default is Speech. Select one of the following supported values:

     — Speech

     — Unrestricted Digital Data

     — Restricted Digital Data

   - **Number Type** Select the Number Type designated by the local ISDN provider. The default is Unknown. Select one of the following supported values:

     — Unknown

     — International

     — National

     — Local

- **Number Plan** Select the Number Plan designated by the local ISDN provider. The default is Unknown. Select one of the following supported values:

  — Unknown

  — ISDN/Telephony E.164/E.163

  — Private

- **Origin Number** The Origin Number is the originating telephone number for all outgoing calls. This must be a unique number that does not conflict with any other extension in the MAS. You can enter up to 32 digits, and the default is 9999.

Configuring Intercom Paging properties (QSIG)

The intercom paging feature allows callers to page subscribers in the building if they do not answer their extensions. To configure PBX intercom paging properties for a voice mail domain, use the **Intercom Paging** tab.

Notes:

- Your PBX type may not support intercom paging.
- For Modular Messaging to do trunk-level paging, you must have additional hardware between the Modular Messaging system, the PBX, and the paging system. For more information, contact your Modular Messaging service or technical support representative.

To configure PBX Intercom Paging properties for QSIG:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Click the **Intercom Paging** tab.
5. Configure the following fields:

   - **Enable Intercom Paging** Select to allow a caller to page subscribers in the building if they do not answer their extension. This check box is cleared by default.
   - **Intercom Paging Code** Enter the intercom paging code sent to the PBX to start intercom paging, if required by the PBX. This field is blank by default.
   - **Release Code for Intercom Paging** Enter the code sent to the PBX to stop intercom paging. This field is blank by default.
   - **Repeat Intercom Paging Phrase** Select in order for the automated attendant to play the intercom paging phrase (“there is a call for <*subscriber's name*>”) twice instead of once. This check box is cleared by default.
   - **Number of Retries when Paging System is Busy** Enter a number to specify the number of times the voice mail system attempts to page a subscriber when met by a busy response. The range is 0 through 9, and the default is 3.

- **Number of Retries when No Answer** Enter a number to specify the number of times a caller can select to page a subscriber whose extension is not answered. The range is 0 through 9, and the default is 3.

- **Paging Wait Time (sec)** Enter the number of seconds a caller is kept on hold after paging a subscriber. The range is 0 through 99, and the default is 10.

Note: After you make changes to **Intercom Paging** properties, you must stop and restart the MAS. If you do not do so, the changes do not take effect.

Configuring PBX properties (set emulation)

This section describes how to configure PBX properties if you are using set emulation cards.

To configure PBX properties for digital set emulation integration:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Configure the following PBX properties:

   - **General**

     Use this tab to set up general PBX options. You can use it to set options for dual tone multi-frequency (DTMF) dialing tones.

     See Configuring PBX General properties (set emulation) on page 4-27.

   - **Outcall / Transfer**

     Use this tab to set up PBX call transfer options, including the transfer mode and call progress options.

     See Configuring outcall/transfer properties (set emulation) on page 4-28.

   - **Tone Detection**

     Use this tab to set up PBX hangup-detection options.

     See Configuring tone detection (set emulation) on page 4-31.

   - **Intercom Paging**

     Use this tab to set up PBX intercom paging options. Intercom paging allows callers to page subscribers in the building if they do not answer their extensions.

     See Configuring intercom paging properties (set emulation) on page 4-32.
5. To save the settings, click **OK**.

Configuring PBX General properties (set emulation)

To specify basic PBX options for a particular PBX type (set emulation), use the **PBX Configuration - Voice Mail Domain** dialog box, **General** tab.

To configure PBX set emulation general properties:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Click the **General** tab.
5. Configure the following fields:

   - **DTMF Inter-Digit Delay during Dialing (ms)** Enter the duration, in milliseconds, between DTMF tones during detection. The range is 1 through 999, and the default is 80.
   - **DTMF Length during Dialing (ms)** Enter the duration, in milliseconds, of a DTMF tone when dialing. The range is 10 through 999, and the default is 80.
   - **DTMF Length during Detection (ms)** Enter the length, in milliseconds, of a DTMF tone during detection. The range is 1 through 9999, and the default is 50.
   - **Port Disable Key** Select the key used to disable the port on the MAS. When disabled, the PBX cannot send calls to that port and the port cannot make outgoing calls. The default is C.

Configuring outcall/transfer properties (set emulation)

To configure PBX set emulation call transfer properties for a voice mail domain, use the **Transfer / Outcall** tab.

To configure PBX set emulation Transfer / Outcall properties:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Click the **Transfer / Outcall** tab.
5. Configure the following fields:

   - **Transfer mode** Select to set up call progress analysis during call transfer. If Full is selected, the system listens for busy, invalid number, no answer, and connect signals. If Partial is selected, the system listens for busy and invalid number signals. If Blind is selected, no call progress analysis takes place.
   - **Start Delay for Call Progress** Enter the duration, in milliseconds, between dialing a number and starting call progress. The range is 0 through 20000, and the default is 6000.
   - **Initiate Transfer** Enter the dial string required to start a transfer. You can enter up to 50 characters. The default is ^KD,L%s for NT M-1 and ^Kk,L%s for G3 switches.
   - **Initiate Blind Transfer** Identifies the dial string required to start an unsupervised transfer. By default the behavior of the Initiate Blind Transfer dial string is the same as the behavior of the Initiate Transfer dial string. If required, you can add characters to control the behavior of this dial string. You can enter up to 50 characters, and the default is %s.
   - **Complete Transfer** Enter the dial string required to complete a transfer. You can enter up to 50 characters. The default is ^KD for NT M-1, and ^Kk for G3 switches.
   - **Retrieve Call** Enter the dial string required to drop a transferring call and reconnect the MAS to the calling party. You can enter up to 50 characters, and the default is ^KA.
   - **Drop Call** Enter the dial string required to drop a call by emulating the Release key. You can enter up to 50 characters. The default is ^KR for NT M-1, and ^Kj for G3 switches.

- **Make Call Prefix** Enter the dial string required when using an alternate key for outgoing calls. This setting is used mostly for automatic call distribution (ACD) integrations, where outgoing calls are made on a different call appearance than incoming calls. You can enter up to 50 characters, and the default is Blank.

For more information on automatic call distribution, see Configuring automatic call distribution (ACD) on page 6-8.

For more information on dialing string syntax, see Dialing string syntax on page 4-30.

Dialing string syntax

Character	Meaning
^	Substituted with the Escape key
L	Wait for dial tone
%s	Substituted with the number dialed
,	Pause
K	Identifies a particular key. For example, KD identifies the ‘D’ key

Configuring tone detection (set emulation)

To configure set emulation tone detection properties for a voice mail domain, use the **Tone Detection** tab. You can specify maximum continuous tone before hanging up.

To configure tone detection (set emulation) properties:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Click the **Tone Detection (set emulation)** tab.
5. Configure the following fields:

   - **Maximum Silence before Hanging Up (ms)** Enter the time, in milliseconds, that the voice mail system listens to a dial tone after a caller hangs up, before dropping the line. The range is 0 through 9999, and the default is 6000.
   - **Maximum Tone before Hanging Up (ms)** Enter the time, in milliseconds, that the voice mail system listens to a continuous tone, before dropping the line. This prevents the system from recording dial tones. The range is 0 through 12000, and the default is 6000.

Configuring intercom paging properties (set emulation)

To configure PBX intercom paging properties for a voice mail domain, use the **Intercom Paging** tab. Using intercom paging, callers can page subscribers in the building if they do not answer their extensions.

Notes:

- Your PBX type may not support intercom paging.
- For Modular Messaging to do trunk-level paging, you must have additional hardware between the Modular Messaging system, the PBX, and the paging system. For more information, contact your Modular Messaging service or technical support representative.

To configure PBX intercom paging properties for set emulation:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Click **PBXs** (expanding the list, if necessary).
3. Double-click the PBX you want to configure.

   The system displays the **PBX Configuration - Voice Mail Domain** dialog box for the selected PBX.
4. Click the **Intercom Paging** tab.
5. Configure the following fields:

   - **Enable Intercom Paging** Select to allow a caller to page subscribers in the building if they do not answer their extension. This check box is cleared by default.
   - **Intercom Paging Code** Enter the intercom paging code sent to the PBX to start intercom paging, if required by the PBX. This field is blank by default.
   - **Release Code for Intercom Paging** Enter the code sent to the PBX to stop intercom paging. This field is blank by default.
   - **Repeat Intercom Paging Phrase** Select in order for the automated attendant to play the intercom paging phrase (“there is a call for <*subscriber's name*>”) twice instead of once. This check box is cleared by default.
   - **Number of Retries when Paging System is Busy** Enter a number to specify the number of times the voice mail system attempts to page a subscriber when met by a busy response. The range is 0 through 9, and the default is 3.

- **Number of Retries when No Answer** Enter a number to specify the number of times a caller can select to page a subscriber whose extension is not answered. The range is 0 through 9, and the default is 3.

- **Paging Wait Time (sec)** Enter the number of seconds a caller is kept on hold after paging a subscriber. The range is 0 through 99, and the default is 10.

Note: After you make changes to **Intercom Paging** properties, you must stop and restart the MAS. If you do not do so, the changes do not take effect.

5

Voice Mail Domain Administration

This chapter describes how to configure properties in a voice mail domain.

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Introduction to configuring a voice mail domain

Notes:

- You need only administer the voice mail domain on the messaging application server (MAS) that is the primary domain controller. The other servers, if any, will automatically pickup the properties established for the domain from the primary controller.
- You may be prompted to stop and restart the MAS after you have made changes to a property in Voice Mail System Configuration. If so, the changes will not take effect until you stop and restart the MAS.
- When configuring a voice mail domain, changes to domain-wide properties may take a few minutes to become effective on all MASs. It is recommended that you run only one instance of Voice Mail System Configuration at a time in the voice mail domain.

You can configure the following groups of properties for a voice mail domain:

- **Automated attendant**

  You can configure how the Automated Attendant greets callers and instructs them on how to proceed.

  See Configuring the Automated Attendant on page 5-5.

- **Call Me**

  You can configure Call Me properties.

  See Configuring Call Me on page 5-13.

- **Message Waiting Indicator**

  You can configure Message Waiting Indicator properties.

  See Configuring message waiting indicator (MWI) on page 5-16.

- **Fax**

  You can configure how the Fax feature integrates with third-party fax servers.

  See Configuring fax on page 5-18.

- **Security**

  You can configure which users or groups can administer the voice mail domain.

See Configuring voice mail domain security on page 5-21.

- **Languages**

  You can configure the primary language to be used by the telephone user interface in the voice mail domain. You can also enable and disable multi-language text-to-speech, and select text-to-speech languages.

  See Configuring languages on page 5-28.

- **Audio Encoding**

  You can configure the audio encoding format used for recording messages.

  See Configuring the audio encoding format on page 5-30.

- **Octel Analog Networking**

  You can enable Octel Analog Networking for each MAS in the voice mail domain using the Octel Analog Networking entry.

  Note: Octel Analog Networking is available with Avaya Modular Messaging Solution — Microsoft Exchange version only.

  See Configuring Octel Analog Networking on page 5-31.

- **Messaging**

  You can configure how the system responds when one or more components go offline, including how users are able to access messages.

  See Configuring access to messages when the mail server or MAS goes offline on page 5-32.

- **Serviceability**

  You can configure how alarm notifications are handled on your system.

  See Configuring serviceability on page 5-38.

- **Licensing**

  You can view licensing information for your system.

  See Viewing licensing information on page 5-44.

- **Tracing system**

  You can configure how the information about voice mail system activity is logged.

See Configuring the tracing system on page 5-48.

Before you begin

Ensure you have read Chapter 2, “Introduction to Voice Mail System Configuration”. That chapter introduces you to the Voice Mail System Configuration application used to perform the configuration.

Starting the Voice Mail System Configuration application

To perform many of the procedures and administrative tasks on the MAS, you must start the Voice Mail System Configuration application.

To start the Voice Mail System Configuration application, click **Start** > **Programs** > **Avaya Modular Messaging** > **Voice Mail System Configuration**.

Configuring the Automated Attendant

Note: If you are familiar with or are migrating from an Intuity AUDIX environment, you should be aware that the use of the term “automated attendant” in Avaya Modular Messaging systems carries somewhat different connotations than in AUDIX systems. In Modular Messaging, “Automated Attendant” refers solely to this optional prompt presented to callers when they first enter the system. In Modular Messaging, caller applications provide roughly the same functionality as AUDIX nested and other automated attendants. For a more thorough discussion of “automated attendants” in AUDIX compared with Modular Messaging, see Appendix B, Examples of Caller Applications. For more information about using caller applications, see Chapter 11, “Caller Applications”.

The system Automated Attendant greets callers and instructs them how to proceed through the system. We recommend using the Automated Attendant if:

- Your PBX does not support Direct Inward Dialing (DID).
- You want to use other call handling features, such as intercom paging, call blocking, and call screening.

Note: To enable or disable the Automated Attendant at the system level, you must use the **Telephone User Interface - Voice Mail Domain** dialog box, **General** tab. For more information, see Configuring TUI general properties on page 3-4.

The Automated Attendant provides only the initial prompt to get callers into the system. It is designed primarily to:

- Provide an initial welcome/greeting prompt to callers.
- Allow callers up to nine key press menu options (the **0** key is reserved for system use). Each key press menu option can be set to any of the following:
  - Allow callers to use the Dial By Name feature (**Directory**).
  - Allow callers to leave a message for the subscriber they are trying to reach (**Message**).
  - Transfer callers to somewhere else. Transfer options include subscriber mailboxes, system operators, or caller applications (**Transfer**).
  - Be invalid—that is, the system does not recognize the key press as being a valid option (**Invalid**).

You can configure the following Automated Attendant properties for the voice mail domain.

- **Attendant Main Menu Editor**

  Use this tab to configure the Automated Attendant Main Menu Prompt. This prompt helps callers to navigate through the TUI by providing them with menu options they can select using touchtone key presses.

  See Configuring Attendant Main Menu Editor properties on page 5-7.

- **Holidays**

  Use this tab to configure the Automated Attendant holiday prompts. You can set up alternate prompts to be played on specific dates, for example, when the office is closed for a public holiday.

  See Configuring Holidays properties on page 5-9.

- **Time of Day**

  Use this tab to configure the prompts that will be used during business morning, afternoon, evening, and closed hours.

  See Configuring Time of Day properties on page 5-10.

- **Language/Key Association**

  Use this tab to allow callers to select a language when entering the system. You can assign keypad digits for up to three languages supported by the TUI.

  See Configuring Language/Key Association properties on page 5-11.

Configuring Attendant Main Menu Editor properties

To configure the Automated Attendant main menu for a voice mail domain, use the **Attendant Main Menu Editor** tab. The Automated Attendant main menu helps callers find their way around the telephone user interface by prompting them on how to proceed. For example:

> "For sales, press 1. For technical support, press 2. For accounting, press 3."

Important: Before you can use this prompt on a live system you must record it or import a recording of it. If you record it before setting these properties, make a note of the prompt number. For information on recording this and other prompts, see Chapter 10, "Custom Prompts".

To display the Attendant Main Menu Editor tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Auto Attendant**.

   The system displays the **Auto Attendant - Voice Mail Domain** dialog box.

3. Click the **Attendant Main Menu Editor** tab.

To configure the Attendant Main Menu Editor properties, complete the following fields:

Note: The options on this tab are unavailable if any languages have been selected in the **Language/Key Association** tab (see Configuring Language/Key Association properties on page 5-11).

- **Auto Attendant Main Menu Prompt** Enter the number of the main Automated Attendant prompt as recorded in Visual Voice Editor. The range is 0 through 9999. By default, this is **0**, which means that the system uses the pre-recorded system prompt, "Please enter the mailbox of the person you are calling."

- **[Keypad Digits] 1 through 9** Select a keypad digit to configure. You can configure touchtone keypad digits **1** through **9**. (The keys for *****, **#** and **0** are reserved for system use and cannot be configured). Each keypad digit must be configured individually, using the **Key Settings** options.

- **Key Settings** You can make individual settings for each numeric key on the touchtone keypad (except **0**, which is reserved for system use). By default, all key settings are **Invalid**.

  — **Invalid** Select to indicate this key is an invalid option. Use this setting if you specifically do not want to associate any action with the key press.

  — **Directory** Select to allow caller to use the Dial By Name feature when this key is pressed. The Dial By Name feature allows a caller to search for a subscriber extension or mailbox number by "spelling" the person's name using the telephone keypad.

  — **Message** Select to allow a caller to leave a voice message when this keypad digit is pressed, followed by the extension number. This feature is called Quick Message.

  Notes: If you select this option, make sure you either:

  - Record your Automated Attendant Main Menu prompt to notify callers that they must enter this key press followed by the extension of the subscriber they are trying to reach; or
  - Instruct your subscribers that they must include this key press as the first digit when giving their extension number to potential callers.

  — **Transfer to: Mailbox Number** Select to allow the caller to transfer to the mailbox number you enter in the **Mailbox Number** field. This option is useful for transferring callers to particular departments, for example, "For technical support, press [2]". The mailbox number you enter must have the correct number of digits, as required by the **Number of Digits in a Mailbox** field (see Configuring TUI general properties on page 3-4).

  Note: This mailbox number can be associated with a caller application. For more information, see Chapter 11, "Caller Applications".

Configuring Holidays properties

To configure the Automated Attendant holiday prompts for a voice mail domain, use the **Holiday** tab. You can set up alternate prompts to be played on specific dates, for example, when the office is closed for a public holiday. You can configure up to 18 holidays to be active at one time.

Important: Make sure you have recorded the holiday prompts and made a note of the associated prompt numbers. For information on recording holiday prompts, see Chapter 10, “Custom Prompts”.

To display the Holidays tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Auto Attendant**.

   The system displays the **Auto Attendant - Voice Mail Domain** dialog box.

3. Click the **Holidays** tab.

To configure holiday properties, configure the following fields:

- **Date** Enter the date on which an alternate greeting is to be played. You can specify up to 18 dates as holidays.
- **Prompt** Enter the number of the prompt to be played as the holiday greeting. The default is 0 (which means that no holiday prompt is played).

Configuring Time of Day properties

To configure a voice mail domain with the prompts to play at certain times of the day, use the **Time of Day** tab. This means that you can set up one prompt to play in the morning hours (as defined by your organization's daily business hours), a slightly different one to play in the afternoon, another to play in the evening hours, and a different one to play when you are closed for business.

Your organization's daily business hours (morning, afternoon, evening, and closed hours) are defined in the **Time/Greeting** tab in the telephone user interface configuration. For information on defining daily business hours see Configuring time and greeting properties on page 3-8.

Important: Make sure you have recorded the time of day prompts and made a note of the associated prompt numbers. For information on recording time of day prompts, see Chapter 10, "Custom Prompts".

To display the Time of Day tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Auto Attendant**.

   The system displays the **Auto Attendant - Voice Mail Domain** dialog box.

3. Click the **Time of Day** tab.

To configure Time of Day properties, configure the following fields:

- **Morning prompt** Enter the number of the prompt that greets callers during morning business hours. The range is 0 through 9999. By default, the system plays the standard pre-recorded welcome prompt.
- **Afternoon prompt** Enter the number of the prompt that greets callers during afternoon business hours. The range is 0 through 9999. By default, the system plays the standard pre-recorded welcome prompt.
- **Evening prompt** Enter the number of the prompt that greets callers during evening business hours. The range is 0 through 9999. By default, the system plays the standard pre-recorded welcome prompt.
- **Closed prompt** Enter the number of the prompt that greets callers after business hours. The range is 0 through 9999. By default, the system plays the standard pre-recorded welcome prompt.

Configuring Language/Key Association properties

If you require more than one language to be available to callers, you can set the system to present a list of language options to callers as the first prompt they hear when calling in to the system. You can also assign a keypad digit and Automated Attendant main menu greeting to each language supported by the TUI. These options are all set using the **Language/Key Association** tab.

When configured in this way, unless you use a **Custom Language Selection Greeting** prompt (see below), callers hear a default system prompt similar to the following:

> “For English, press one. Pour français, appuyez sur le deux...".

Note that the prompt for each language is in that language.

Callers can then select the desired language by pressing the appropriate key on their touchtone keypads. When they do, they hear all following prompts in the selected language.

Notes:

- Selecting any language options on this tab automatically disables the Main Menu prompt on the **Attendant Main Menu Editor** tab (see Configuring Attendant Main Menu Editor properties on page 5-7). If you want your initial prompt to callers to include language selection as well as other options, you should not use this tab. Instead, you can use the system Automated Attendant and caller applications. For more information, see Chapter 11, “Caller Applications”.
- You can record the Main Menu Greeting for each required language. For information on recording customized prompts, see Chapter 10, “Custom Prompts”.

To display the Language/Key Association tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Auto Attendant**.

   The system displays the **Auto Attendant - Voice Mail Domain** dialog box.

3. Click the **Language/Key Association** tab.

To configure the Language/Key Association properties, configure the following fields:

- **Language 1 through 3** Select the languages that you want to configure. You can select any language supported by the TUI.
- **DTMF Key 1 through 3** Select DTMF keys for each associated language. You can select any DTMF key from **1** through **9**.
- **Main Menu Greeting 1 through 3** Enter prompt numbers for the Automated Attendant main menu greeting to play when the associated language is selected. If you select anything other than **0**, you must ensure that this welcome prompt is recorded in the correct language, but the system will automatically use the appropriate language prompts for all subsequent prompts. The range is 0 through 9999, and the default is **0**, which is the default system prompt (in that language).
- **Custom Language Selection Greeting** Enter a prompt number in this field if you want to replace the default system language selection prompt with a different prompt. The range is 0 through 9999, and the default is **0**, which is the default system prompt.

Configuring Call Me

To configure Call Me for a voice mail domain, use the **Call Me** dialog box.

Call Me allows subscribers to be called at a designated number each time they receive a message that meets certain criteria. The subscriber is then invited to log on to the TUI in order to review the message.

Notes:

- If your system has more than one MAS, you should enable Call Me on only one MAS.
- When the MAS is offline and offline access to call answer messages is configured, the Call Me feature does not operate.
- To enable Call Me for individual mailboxes, use the Subscriber Administration tool.
- To use Call Me, you must use the Windows Time service to synchronize system clocks on the Call Me server, MASs and e-mail server.
- Microsoft Outlook must be installed on the Call Me server for the account that runs the Mailbox Monitoring service.

For more information on Call Me, see the *Avaya Modular Messaging Concepts and Planning Guide.*

To display the Call Me property dialog box:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Call Me**.

   The system displays the **Call Me - Voice Mail Domain** dialog box, which has only one tab, the **General** tab.

To configure Call Me properties, configure the following fields:

- **Enable Call Me** To enable the Call Me feature, select this check box. By default, this check box is cleared and this feature is not enabled.

Note: The following Call Me configuration fields are active only when Call Me is enabled. For more information about enabling Call Me, see Enabling Call Me for subscribers on page 5-14.

- **MAS Call Me Server** Enter the name of the Call Me server, or use the browse button  to locate the Call Me server.
- **Maximum number of concurrent calls** This parameter controls the number of concurrent Call Me processes supported by the voice mail system. This number is limited in any case to a maximum of 24, but it should not exceed the number of ports configured for Call Me in the voice mail domain. The range is 1 through 24, and the default is 5.

  The value of this field also controls the maximum number of outcalls that may be simultaneously in the process of being initiated by the voice mail system. However, once a call is initiated and connected, another process takes over and the system is free to initiate another outcall. This means you can have more than 24 ports with outcalls in progress.

  For information on configuring port groups for Call Me, see Configuring usage properties for port groups on page 8-17.
- **System minimum interval between calls (mins)** Enter the time, in minutes, for the minimum interval between calls. The interval determines the minimum time allowed between mailbox checks for messages meeting specified criteria. It also determines the minimum time allowed between call retries to the subscriber's telephone number if the line is busy. The range is 1 through 1000, and the default is 3.
- **System default interval between calls (mins)** Enter the time, in minutes, for the default interval between calls. The system displays the default interval time in the Call Me rule. The range is 1 through 1000, and the default is 10.
- **Line busy retries** Enter the maximum number of retries attempted for a number if the system receives a line busy signal. The range is 0 through 5, and the default is 2.

Enabling Call Me for subscribers

To enable a subscriber to use Call Me you must select the **Call Me** option for the subscriber's mailbox in the Subscriber Administration tool.

Subscribers set up their own rules for using Call Me in Subscriber Options by specifying values in the following rule description:

When [*schedule*] is active, if [*message type*] with [*importance*], from [*sender*] have arrived, call telephone numbers in [*phone list*] within [*minutes*] and then every [*interval*].

Subscribers can set up multiple Call Me rules, and can have more than one rule active at any time. For example they may want to be notified at 10 minute intervals if voice messages have arrived, and at 20 minute intervals if e-mail messages have arrived during the same schedule.

Note: The interval time automatically resets each time the subscriber logs on. For example, if the interval time for checking for voice messages is 10 minutes, and the interval time for checking for e-mail messages is 20 minutes, after listening to a new voice message, the mailbox will not check for e-mail messages until 20 minutes after the subscriber has logged off, regardless of the when it last checked for e-mail messages. This ensures that the interval time between logging off the TUI and receiving another Call Me call is never lower than the interval time specified in a rule.

Configuring message waiting indicator (MWI)

To configure the message waiting indicator (MWI) for a voice mail domain, use the **Message Waiting Indicator - Voice Mail Domain** dialog box.

MWI allows subscribers to be alerted when messages meeting specified criteria arrive in their mailbox. Subscribers are alerted either by a lamp indicator on their telephone, or an audible tone (stutter dial-tone) when they pick up the receiver. The indicator is cleared when the message is opened, or saved or deleted using the TUI. Subscribers can set up mailbox rules for using MWI in Subscriber Options.

Note: The following procedure configures the MWI feature for the entire system. For individual mailboxes, enable MWI using the Subscriber Administration tool.

To display the Message Waiting Indicator - Voice Mail Domain dialog box:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Message Waiting Indicator**.

   The system displays the **Message Waiting Indicator - Voice Mail Domain** dialog box, which has only one tab, the **General** tab.

To configure MWI properties, configure the following fields:

- **Enable Message Waiting Indicator (MWI)** To enable MWI for the system, select this check box. By default, this check box is cleared (MWI is not enabled).

  Notes:

  - If your system has more than one MAS, you should enable MWI on only one MAS.
  - The following MWI configuration fields appear only when MWI is enabled. For more information about enabling MWI, see Enabling MWI for subscribers on page 5-17.

- **MAS MWI server** Enter the name of the machine on which the MWI service is installed. To locate the server by browsing, click the browse button .
- **Limit requests** Select if you want to restrict the number of MWI requests made per minute. By default, this check box is cleared.

- **Maximum requests per minute** Enter the maximum number of MWI requests that can be made to the MWI MAS per minute. This field is available only if you have selected the **Limit requests** check box. The default is 60.

- **Message Application Servers that support MWI** This box displays a list of MASs in the voice mail domain that support MWI. If you are using per-port integration, (e.g. Inband, QSIG or set emulation), an MAS can support MWI only if it has an MWI port group defined.

  To add an MAS to the list of MASs that support MWI, click the **Add** icon  and type the name of the MAS.

  To delete an MAS from the list, click the MAS that you want to delete and click the **Delete** icon  . The system prompts you to confirm the deletion.

Tip: The first MAS in the list is the first MAS to which MWI requests are made. If required, you can use the Up and Down  arrows to move MASs up or down the list.

Enabling MWI for subscribers

To enable a subscriber to use MWI you must click the **Allow Message Waiting Indicator** option for the subscriber's mailbox in the Subscriber Administration tool.

Subscribers set up their own rules for using MWI in Subscriber Options by specifying values in the following rule description:

"If [*message type*] messages, with [*importance*], have arrived, set my message waiting indicator."

Configuring fax

Using the fax capability, subscribers can send and receive faxes using their mailboxes. To enable fax for a voice mail domain, you must configure the system to communicate with a fax server.

Note: If you are enabling fax after the initial installation, you must modify the existing tone file (.tsf file) to include the fax tone. For information on modifying the tone file, see the voice card installation section of the installation guide for your system.

To use the fax feature, do the following:

- Configure general properties for fax. See Configuring fax general properties on page 5-18.
- Configure fax access codes. See Configuring access codes on page 5-20.

Configuring fax general properties

To configure fax for a voice mail domain, use the **Fax - Voice Mail Domain** dialog box.

To display the Fax - Voice Mail Domain dialog box:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Fax**.

   The system displays the **Fax - Voice Mail Domain** dialog box, which has only one tab, the **General** tab.

To configure general fax properties, configure the following field:

Notes:

- Only one server (usually an MAS) should be selected to process outgoing faxes for the voice mail domain.
- The options available to you depend on whether your message store is an MSS, Exchange, or Lotus Domino server. Options not available to you are grayed out on this screen.

- **Fax Enable** Select to enable faxing. This check box is cleared by default.

Note: The following fax fields are active only if you have the previous check box selected.

- **Use third party fax support** This button is automatically turned on if your message store is a Microsoft Exchange or Lotus Domino server.
- **Hunt Group Pilot Number** Enter the telephone number for the fax server's hunt group, for the fax server that is to receive incoming fax calls. Include any required telephone prefix, such as the country code or area code.

  Notes:

  - The hunt group can contain destination ports on different fax servers.
  - The hunt group pilot number can map to multiple fax servers only if the fax servers support the same fax server address type.

- **Address Type** Enter the address type used by the fax server, such as Fax or FACSys. If you do not know what this should be, contact your fax vendor to find out.
- **Canonical Addressing** Select if your fax servers support canonical addressing. Canonical addressing specifies the full fax telephone number for the voice mail domain, for use by the telephone user interface. When a subscriber wants to send a fax, the system prompts for these outgoing numbers or allows alternative entries as an aid to addressing. The canonical address also allows the system to prevent unnecessary toll calls if the receiver of the fax uses the same country code or area code as the sender.

  The canonical address includes the country code and area code, in other words:

  +CountryCode [(AreaCode)] SubscriberNumber

  For example:

  +1 (408) 345 8000

  If you enable canonical addressing, you must specify a default country code and area code for this voice mail domain.

- **Access Codes** Use this button to configure access codes required for fax transmission. See Configuring access codes on page 5-20.

Configuring access codes

If you are using canonical addressing, you must also enter access codes for the fax address. Use the Access Codes dialog box to enter access codes.

To display the Access Codes dialog box and enter access codes:

1. In the **Fax - Voice Mail Domain** dialog box, click **Access Codes**.

   The system displays the **Access Codes** dialog box.

2. Configure the following fields:

   - **Trunk Code** Enter the digits required to get an outside line. You can enter up to 4 digits.
   - **Long Distance Code** Enter the national direct dialing prefix required to make a call within a country, from one area to another. For example, 1 if you are in the United States.
   - **International Code** Enter the international dialing prefix required to call a country from another country, for example 011 if you are dialing from the United States.

Configuring voice mail domain security

You can limit the number of people in a voice mail domain who have access to administration applications and tools by editing two access control lists (ACLs). These ACLs define the following types of administration:

- **System administration**

  Members of the System Administration ACL can access and use all Modular Messaging Software administration applications and tools except subscriber administration tools.

  The default System Administration ACL has a single entry containing the account under which the first MAS was installed.

  See Administering a System Administration access control list on page 5-22.

- **Subscriber administration**

  Members of the Subscriber Administration ACL can use subscriber administration tools to enable subscribers to use Modular Messaging Software.

  The default Subscriber Administration ACL is empty. To enable subscribers to use the system, you must add at least one account or group to this list.

  Note: If you are running Avaya Modular Messaging Solution — IBM Lotus Domino version, subscriber administration is restricted to members of an ACL in the Domino Administrator. For more information on setting up an ACL for DUCS administration, see *Lotus Domino Unified Communications Services for Avaya, Administrator's Guide.*

  See Administering a Subscriber Administration access control list on page 5-23.

- Multiple Exchange site administration

  If your system requires the use of more than one Exchange site, then there are special security considerations you must keep in mind.

  See Security and multiple Microsoft Exchange sites on page 5-25.

To run administration applications and tools, you must be logged on to a Windows domain.

Note: For more information about system security, see the "Getting Started" section on your system documentation CD.

Administering a System Administration access control list

Members of the System Administration access control list (ACL) can access all Modular Messaging Software administration applications and tools except subscriber administration tools.

Note: For more information about system security, see the “Getting Started” section on your system documentation CD.

To set up a System Administration ACL:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Click **Security**.

3. Double-click **System Administration**.

   The system displays the **Permissions for System Administration** dialog box.

4. Click **Add**.

   The system displays the **Select Users, Computers, or Groups** dialog box.

5. In the **Name** column, highlight the group or user you want to add to the ACL.

   Note: By default, the groups and users listed belong to the same Windows domain as your account. If required, you can select a different Windows domain in the **Look in:** drop-down list.

6. Click **Add**.

   The system displays the group or user in the lower part of the screen.

7. Repeat step 5 and step 6 for all groups and users you want to add.

8. To return to the **Permissions for System Administration** dialog box, click **OK**.

9. In the **Permissions for System Administration** dialog box, click **OK**.

Administering a Subscriber Administration access control list

If you are running Avaya Modular Messaging Solution — Microsoft Exchange version, you must be a member of the Subscriber Administration access control list (ACL) to administer subscribers in Microsoft Exchange Administrator or Active Directory Users and Computers.

If you are running Avaya Modular Messaging Solution — IBM Lotus Domino version, you must be a member of the Subscriber Administration ACL to launch and use Modular Messaging Options in the Domino Administrator.

If you want to use Subscriber Options in an administrative role, then you must be included in the Subscriber Administration ACL.

Note: For more information about system security, see the “Getting Started” section on your system documentation CD.

Important: To administer a Subscriber Administration ACL, you must be a member of the System Administration ACL.

To set up a Subscriber Administration ACL:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Click **Security**.

3. Double-click **Subscriber Administration**.

   The system displays the **Permissions for Subscriber Administration** dialog box.

4. Click **Add**.

   The system displays the **Select Users, Computers, or Groups** dialog box.

5. In the **Name** column, highlight the group or user you want to add to the ACL.

Note: By default, the groups and users listed belong to the same Windows domain as your account. If required, you can select a different Windows domain in the **Look in:** drop-down list.

6. Click **Add**.

   The system displays the group or user in the lower part of the screen.

7. Repeat Step 5 and Step 6 for all groups and users you want to add.

8. To return to the **Permissions for Subscriber Administration** dialog box, click **OK**.

9. In the **Permissions for Subscriber Administration** dialog box, click **OK**.

Security and multiple Microsoft Exchange sites

When administering voice mail domains across multiple Microsoft Exchange sites or domains, you must ensure that the appropriate permissions have been set up in Exchange administration.

Windows 2000 with Exchange 2000/2003

You must ensure that appropriate connection agreements exist between Windows 2000 domains. If you cannot open a voice mail domain, you may receive the following message.

```
Failed to retrieve list of MASs in the XXX voice mail
domain. (8007005). General access denied error.
```

This is due to one of two reasons:

- The MAS account does not have access rights to the Exchange domain that you are trying to administer.

  See your Microsoft documentation for information on adding the MAS account to the Exchange domain permissions.

- If the Exchange domains are in separate domains, a connection agreement may be required.

  See your Microsoft documentation for information on adding connection agreements to Windows 2000 domains.

Configuring the Privacy Enforcement Level

Traditional voice mail systems typically prevent subscribers from forwarding messages marked as private or from replying to private messages with the original message attached. Most email systems and email clients, however, do not prevent these actions, even when a message is marked as private.

The Privacy Enforcement Level setting allows system administrators to control how the system behaves with respect to subscriber attempts to forward messages marked as private, or attempts to reply to messages with the original private messages attached. Through the use of this setting, system administrators can determine whether their systems behave more like like traditional voice mail systems or more like typical email systems.

To configure the Privacy Enforcement Level:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Messaging**.

   The system displays the **Messaging - Voice Mail Domain** window, with the **General** tab active.

3. From the **Privacy Enforcement Level** field, select one of the following options:

   - **Partial** (Default for new MAS/Exchange and MAS/Domino systems) This option prevents subscribers from forwarding any message marked as private or from replying to a private message with the original message attached. It does not, however, restrict delivery of new private messages to recipients on networked machines (that is, other MAS/MSS or message systems in the network). This allows private messages to be delivered to messaging systems that may not be capable of enforcing privacy settings.

     Note: Avaya Modular Messaging subscribers may receive messages marked private from users on networked voice mail systems, such as Voice Profile for Internet Mail (VPIM) systems, who do not expect recipients to be able to forward them. This Privacy Enforcement Level does not, in all cases, preserve traditional voice mail semantics for private messages.

     This also means that recipients of messages marked private may be able to forward them to others using email. This includes subscribers using the Avaya Outlook “thick” client and non-Avaya IMAP4 and

POP3 clients, if the class of service (COS) has the **Restrict Client Access to Mailbox?** property set to **No**.

Note: This is the highest level of privacy enforcement for MAS/Exchange and MAS/Domino systems, because client access to mailboxes and delivery of private messages cannot be controlled by the Modular Messaging software in these configurations.

- **Notification Only** (Default for upgrades from previous Modular Messaging releases) This option does not prevent subscribers from forwarding private messages or replying with the original private message attached. Although messages are marked and announced in the TUIs as being private, they are not restricted from client access, and may be forwarded without restriction.

  Note: Allowing recipients to forward messages marked as private violates the Voice Profile for Internet Mail (VPIM) specification (RFC 2421, section 4.2.13). Because of this, private messages originating from VPIM systems are not delivered to Modular Messaging subscribers when this option is selected.

Configuring languages

Multiple languages can be configured for use by the telephone user interface. When you configure a voice mail domain, you must configure a primary language. The primary language is the language that is played by the telephone user interface, unless instructed otherwise, for example, by caller language selection, or by subscriber mailbox configuration. The primary language is also used if multilingual text-to-speech conversion is requested, and the language of the text cannot be determined.

Note: The primary language must be a language that is installed on all MASs in the voice mail domain. See Chapter 8, "Messaging Application Server Configuration" for information on how to view a list of languages installed on an MAS.

To configure voice mail domain languages:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

2. Double-click **Languages**.

   The system displays the **Languages - Voice Mail Domain** dialog box, which has one tab, the **Domain Languages** tab.

3. Configure the following options:

   - **Primary Language** Select the primary language to be used by the telephone user interface. Listed are all the languages in the voice mail domain. The system displays **Not Set** by default.

   - **Enable Multilingual Text-to-Speech** Select if you want language recognition to be used to identify the correct language for converting text into speech. If cleared, the primary language in the voice mail domain is used for all text-to-speech conversions. This check box is cleared by default.

   - **Select one or more languages to use for text-to-speech** Select the languages that you want to enable for text-to-speech conversions. By default the primary language only is selected.

     If the voice mail domain contains MASs from an earlier release, all languages supported by these MASs are listed. The languages supported by *all* MASs in the voice mail domain are selected by default. You can select additional languages; however, these will only be available on MASs that support them.

Important: After removing the last MAS that does not support multiple languages from the voice mail domain, you must refresh the domain languages. To do this, click **Refresh Domain Languages** from the **Edit** menu in the **Voice Mail System Configuration** window.

Configuring the audio encoding format

Modular Messaging Software supports Global Systems for Mobile Communications (GSM) 6.10 and G.7.11 audio encoding formats. These formats determine the way in which audio is recorded on every MAS in the voice mail domain. In turn, this determines the format of voice messages sent using the TUI and desktop clients. The client applications configure themselves to use the selected audio encoding format.

For detailed information on audio recording formats, see the *Avaya Modular Messaging Concepts and Planning Guide*.

To configure the audio encoding format:

1. Stop operation of the MAS.

   For the procedure to stop the MAS service, see Stopping and restarting the MAS service on page A-35.

2. In the **Voice Mail System Configuration** window, click the voice mail domain.

   If you have more than one voice mail domain, you may need to expand the tree hierarchy to find the one you want.

3. Click **Audio Encoding**.

   The system displays the **Audio Encoding** dialog box.

4. From the **Default Audio Encoding Format** drop-down list, select the audio encoding format you require. You can select one of the following:

   - Microsoft GSM 6.10 (the default)
   - G.7.11 mu-law
   - G.7.11 A-law

5. Restart the MAS.

   For the procedure to restart the MAS service, see Stopping and restarting the MAS service on page A-35.

Configuring Octel Analog Networking

Note: Octel Analog Networking is available with Avaya Modular Messaging Solution — Microsoft Exchange version only.

You can configure Octel Analog Networking for each MAS in a voice mail domain. Octel Analog Networking allows users on one Octel Analog Networking system to exchange messages with users on other Octel Analog Networking systems.

To receive Octel Analog Networking messages, all MASs in a voice mail domain must either be Octel Analog Networking-enabled, or a hunt group on the PBX must be configured to only connect to the Octel Analog Networking-enabled MASs in a voice mail domain.

To configure Octel Analog Networking:

1. In the **Voice Mail Configuration** window, click the voice mail domain.
2. Double-click **Octel Analog Networking**.

   The system displays the **Octel Analog Networking** tab.
3. Select the check boxes next to the MASs for which you want to enable Octel Analog Networking.

Configuring access to messages when the mail server or MAS goes offline

You can configure the MAS to continue backup service when a mail server or the MAS goes offline.

- When the MAS goes offline

  When the MAS goes offline, subscribers cannot access their messages using e-mail. However, you can configure the MAS so that while it is offline, subscribers can continue to access call answer messages using their telephones. During the time the MAS is offline, however, they cannot send or receive voice mail messages.

  Note: Offline access is not available when using the AUDIX TUI.

- When a mail server goes offline

  When initially installed, an MAS is configured to have a single Microsoft Exchange server handle message storage and processing for subscribers. This Exchange server is known as the primary peer server. Each MAS in the system configuration has an assigned primary peer server, though all MASs may share the same primary peer server.

  You can identify and configure additional peer servers within the voice mail domain that can handle messaging on behalf of subscribers if the primary peer server fails. Thus, if the primary peer server for an MAS fails, the MAS can search for another peer server to allow messaging to continue. Each MAS in the system is assigned its own list of non-primary peer servers for backup relief.

Notes:

- If the primary peer server fails and the MAS switches control to a non-primary peer server, subscribers whose mailboxes are on that peer server can only access call answer messages (assuming offline access is also administered). Voice mail messages can neither be sent nor accessed while a non-primary peer server controls messaging.
- If the primary peer server fails and the MAS switches control to a non-primary peer server, subscribers whose mailboxes are on other mail servers that are still online will continue to receive normal messaging service.

Your peer messaging servers must be installed and configured in the same way as that of the primary peer server.

For more information, see the following additional topics:

- Displaying the list of peer servers (Microsoft Exchange only) on page 5-33

- Configuring parameters for fail over on page 5-33
- Configuring Offline Access on page 5-36
- Configuring messaging on page 8-4

Displaying the list of peer servers (Microsoft Exchange only)

The MAS will identify any peer servers and primary peer servers currently assigned to its voice mail domain and list them in the **Messaging - Voice Mail Domain General** tab.

To display the list of peer servers:

1. In the **Voice Mail Configuration** window, click the voice mail domain.
2. Double-click **Messaging**.

   The system displays the **Messaging - Voice Mail Domain** window, with the **General** tab active.
3. Check the **Messaging Servers** box for messaging peer servers that are not primary peer servers. These are the servers that might serve as backup messaging servers in case of failure of the primary peer server.
4. Check the **Primary Peer Messaging Servers** box for primary peer messaging servers. These are the servers that are assigned to one or more MASs in the system as the Exchange servers for normal operation.

Configuring parameters for fail over

The MAS decides when to stop communication with a failed primary peer server and start communication with another peer server based on fail-over parameters that you set.

To configure the parameters for fail over:

1. In the **Voice Mail Configuration** window, click the voice mail domain.
2. Double-click **Messaging**.

   The system displays the **Messaging - Voice Mail Domain** window with the **General** tab active.
3. Click the **Configuration** tab.

To set up the Configuration properties, configure the following fields as required:

- **Fail over time limit (minutes)** This field sets the length of time in minutes that the currently selected peer Exchange server must be inaccessible before the MAS initiates a search to locate another peer Exchange server. The range is 1 to 720. One (1) minute is the default. You cannot set this to zero (0).

- **Maximum ping time (ms)** This field sets the number of milliseconds the MAS may take to receive a successful ping with a peer server in order to select it for backup messaging service. The default is 1000 milliseconds (or one second).

- **Fail back idle time (minutes)** This field sets the number of minutes that voice ports on the MAS must be idle before the MAS attempts to return service to the primary peer server. The default is 15 minutes.

- **Enable unlimited fail over attempts** When selected, this option allows the MAS to check indefinitely for another peer server to provide service if the primary peer server fails. If you do not select (check) this field, you must select a limit on the number of attempts the MAS makes to find another peer server before switching to offline mode. Avaya recommends that you select this option. The default is selected.

- **Fail over attempt limit** This field sets the limit for the number of attempts the MAS makes to find another peer server when the primary peer server fails. This field is available only if you clear (do *not* select) the **Enable unlimited fail over attempts** check box. The range is 1 through the number of fail over peer servers you have configured on the system.

- **Monitor exception list** This is a list of the peer Exchange servers in the voice mail domain for which you can control monitoring using the **Monitor exception mode** property. Typically, this list is used to prevent the monitoring of Exchange servers across WANs, in which case the **Monitor exception mode** field (see below) should be set to **None**.

  Servers appearing on this list also will not be considered for fail over service. You may wish to add a peer server to this list if that server typically has high traffic volume and its performance would be significantly impaired if it were selected for fail over service.

To add a peer server as an exception:

1. Click the **Add** icon  on the upper right border of the **Monitor exception** list box.

   A new line appears in the **Monitor exception list** box.

2. Type the name of the server you want to add to the list.

   - **Monitor exception mode** This option determines how the Exchange peer servers listed in the Monitor exception list will be monitored by the MASs. If this is set to **None**, then these servers will

not be monitored by the MASs. If this set to **Automatic**, then the servers will be monitored exactly as if they were not on the **Monitor exception list** at all. The default is **Automatic**.

- **Monitor new servers** When selected, any new Exchange servers added to the voice mail domain are automatically monitored. When cleared (not checked), the MAS adds any new Exchange servers it encounters to the **Monitor Exception List**, meaning its monitoring is governed by the **Monitor exception mode** setting (see previous item).

  Clearing this check box is typically done in conjunction with selecting **None** for the **Monitor exception mode** option, to prevent accidental monitoring of servers across a WAN, which can degrade system performance. You should consider using these settings only if your Exchange environment is large and distributed across a WAN.

Configuring Offline Access

The MAS allows subscribers to continue to access call answer messages if the MAS becomes unavailable to subscribers over the network. In this case, subscribers must use the telephone and the Modular Messaging telephone user interface to retrieve message. You must administer parameters for offline access to determine if call answer messages on the MAS will be kept up-to-date in its offline message store and how long and how often they will be kept up-to-date.

Notes:

- When the MAS is offline and offline access to call answer messages is configured, the Call Me feature does not operate.
- If a subscriber modifies the Find me rule for his or her mailbox but the subscriber's mailbox does not subsequently receive any messages prior to the MAS going offline, the Find me feature in offline mode will operate using the Find me rule that existed prior to the subscriber's modifications.
- Offline access is not available when using the AUDIX TUI.

To configure offline access:

1. In the Voice Mail Configuration window, click the voice mail domain.
2. Double-click **Messaging**.

   The system displays the **Messaging - Voice Mail Domain** window, with the **General** tab active.
3. Click the **Offline Access** tab.
4. Configure the following fields on the **Offline Access** tab, as required:

   - **Enable offline access to messages** Select this check box to allow the MAS to provide service for offline access to messages.

     Note: If this check box is cleared, all other options on this tab are inactive.

   - **Synchronize offline messages with remote store** To allow the MAS to update the offline access message store with the current call answer messages, select this check box.

     Note: If this check box is cleared, the **Offline Message Store** option is inactive.

   - **Offline Message Store** (Available only if **Synchronize offline messages with remote store** is selected) Enter the directory path of

the offline access message store. If you need help determining where the message store should be, click **Browse**.

If you want your offline message store to reside on a machine other than an MAS, do the following before entering the directory path:

1. Start Windows Explorer.
2. From the **Tools** menu, select **Map Network Drive...**
3. In the Folder: field, type the name of the network machine and shared directory where you want offline access messages to be stored (for example: ***machineName**shareName***)
4. Click **Connect using a different user name**.
5. In the **Connect As...** dialog box, enter a user name and password for an account that has permissions to the network shared directory you specified in Step 3.
6. Click **OK**.
7. Click **Finish**.

Now you can use the **Browse** button to select the directory path for the network shared directory you just mapped.

- **Time to store offline messages (Hours)** Enter the length of time, in hours, that the MAS should should store call answer messages in the message store. The default is 24 hours.
- **Time to store empty mailboxes (Hours)** Enter the length of time, in hours, that the MAS should save space for an empty mailbox in the message store. An empty mailbox indicates no message activity, but the mailbox still requires allocated space. The default is 72 hours.
- **Message store full synchronization interval (Minutes)** Enter the length of time, in minutes, that the MAS should wait between synchronization updates between the MAS and the message store.
- **Allow subscribers to access messages using the TUI** Select this check box to allow subscribers to access their messages using the TUI when the message store is offline.

Configuring serviceability

Serviceability in Avaya Modular Messaging refers, among other things, to the ability of the MAS to generate logs and notifications related to system errors and alarms. The error and alarm logs can be accessed using a command line interface tool. Notifications can be sent out automatically to a designated support site, either Avaya Services, your own network management system (NMS), or a trusted business partner. The system sends these notifications out using either the Avaya Initialization and Administration System (INADS) or by means of SNMP traps to a network management server.

Notes:

- Serviceability in Avaya Modular Messaging also refers to many other things, such as the ability to generate system error and alarm logs and notifications related to the MSS and controlling voice port service on the MAS.
- Notifications can be sent only to one designated support site, not more than one.

For more information about error logs, see Displaying the MAS event and error logs on page 17-3. For more information about alarm logs, see Displaying the MAS alarm logs on page 17-5.

If you are using INADS for sending and receiving error and alarm notifications, then you must configure the system at both the voice mail domain and the MAS level. For information about serviceability administration at the MAS level, see Configuring MAS serviceability on page 8-18.

Use the following tabs of the Serviceability - Voice Mail Domain dialog box to configure alarm notifications at the voice mail domain level:

- **General**

  Use this tab to configure general alarm notification settings.

  See Serviceability - Voice Mail Domain dialog box, General properties on page 5-39.

- **SNMP**

  Use this tab to configure alarm notification settings when an SNMP network management tool is being used to collect and view alarms.

  See Serviceability - Voice Mail Domain dialog box, SNMP properties on page 5-41.

Serviceability - Voice Mail Domain dialog box, General properties

To configure general alarm notification settings, use the **General** tab of the **Serviceability - Voice Mail Domain** dialog box.

To display the Serviceability - Voice Mail Domain dialog box, General tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Double-click **Serviceability**.

   The system displays the **Serviceability - Voice Mail Domain** dialog box, with the **General** tab active.

To configure alarm notification General settings, configure the following fields:

- **Send alarms using:** Use this drop-down menu to select whether you want to send alarms using:
  - **None** Selecting this causes no alarms to be sent at all.

    If you select this option, no alarm notifications are sent out. You can still, however, view alarm logs on the MAS.
  - **SNMP** Selecting this option allows you to have alarm traps sent to a network management station using SNMP.

    Note: If you select this option, it is your responsibility to provide and provision your SNMP network management station and configure it to receive the traps from the MAS.
  - **INADS** Selecting this option allows you to use the INADS tool to send alarm notifications to an alarm collection server for analysis and corrective action. If you select this option, you must also configure the individual MASs for INADS (see Configuring MAS serviceability on page 8-18).
- **Suppress alarm notifications** This option should be selected primarily when you are engaged in maintenance and/or repair activities that will likely result in the generation of additional alarms and errors. In this case, you do not want more notifications being sent out, so you would use this option to temporarily suppress alarm notifications.

  Note: Be sure, when using this option in a maintenance or repair situation, that you remember to clear this check box when you are done, or alarm notifications will not resume.

  The default is for this check box is to be cleared.

- **Send notification when all alarms are cleared** Use this option if you want to be notified when all alarms on the system are corrected and cleared. The default is for this option to be selected.

- **Send alarm at this level or higher:** Use this drop-down box to determine at what level alarm notifications will be sent out. If **Minor** is selected, both Minor and Major alarm notifications will be sent out. If **Major** is selected, only Major alarm notifications will be sent out. The default setting is **Minor**.

- **Product identifier:** This is a unique 10-digit number used to identify your particular Modular Messaging system. It is assigned at system installation.

  This may also be NULL.

- **When stopping the MAS service:** This section determines how the system will behave when the MAS service is being stopped:

  — **Wait for ports to become idle** Selecting this option allows ports that are in use to become idle before being taken offline. As ports become idle, then they are taken offline. This allows for a more graceful shutdown of the system and should be used whenever possible. If this option is selected, you have two further options:

  Note: When this option is selected, if the system tries to stop MAS service, it waits until all ports are idle. As a result, some length of time may pass before service is actually stopped. During this period, while ports are becoming idle, your Windows operating system may display a timeout error 1053. Ignore this error. The stopping process is unaffected by this message and MAS service will stop according to the parameters you have set.

  - **Wait indefinitely** When this option is selected, the system will wait until all ports are idle before shutting down the MAS service. If possible, this is the most desirable option, as it allows all ports to be taken offline naturally, with no interruption of service for the user.

  - **Wait for (minutes)** This option allows you to set a number of minutes that the system will wait before breaking port connections and shutting down, whether ports are in use or not. In this case, ports that become idle within the time limit are taken offline, but ports that are still busy at the end of the time limit are forcibly taken offline. The default is 10 minutes.

  — **Stop straight away** This option causes all ports that are in use when the MAS service is being stopped to immediately be taken offline. This should only be used as a last resort, as it interrupts any calls that may be in progress. This is the default setting for stopping the MAS service.

Serviceability - Voice Mail Domain dialog box, SNMP properties

To configure SNMP-specific alarm notification settings, use the **SNMP** tab of the **Serviceability - Voice Mail Domain** dialog box.

Note: You should configure the fields on this tab only if you are using SNMP to send traps to an SNMP Network Management Station (NMS).

To display the Serviceability - Voice Mail Domain dialog box, SNMP tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Double-click **Serviceability**.

   The system displays the **Serviceability - Voice Mail Domain** dialog box, with the **General** tab active.
3. On the General tab, select **Send alarms using: SNMP**.
4. Click the **SNMP** tab.

To configure general alarm notification settings, configure the following fields:

- **Network Management Station:** Enter in this field the fully qualified domain name or IP address of the NMS to which you want to send alarm notification traps.
- **Context (Community):** Enter in this field the name of the context or community to which the NMS belongs.

  For more information about how to configure this field, see the documentation for your SNMP NMS.
- **Acknowledgement type:** The Avaya Modular Messaging system offers two methods for you to get acknowledgement from the SNMP NMS that the alarm notification traps have been received:

  — **Return trap** This acknowledgement type is potentially better and more reliable, because it means that, when an alarm trap is received by your NMS, it is configured to send a trap of its own back to the MAS, acknowledging that it has received the alarm notification. It is also more complicated to set up and requires that you configure your NMS to generate such return traps.

— **Ping surround** This acknowledgement type is easier to implement but inherently less informative and makes certain assumptions. When this option is selected, and an alarm trap is ready to be sent to the NMS, a ping command is first generated to the NMS. Only if the MAS receives a ping response does it go ahead and send the trap. Then it sends another ping request. If it receives another ping response from the NMS, the assumption is that the trap was received on the NMS.

  If no initial ping response is received from the NMS, then the MAS waits 5 minutes before trying again. It keeps trying at 5-minute intervals, then, until it receives a response from the NMS. If after 16 tries there is still no response from the NMS, then the MAS stops trying and raises a warning alarm against the alarming system.

  If the first ping is successful and the trap is sent, but the second ping is not successful, then the assumption is that the trap was not sent successfully. In this case, the trap is rescheduled to be sent at 5-minute intervals until it is successfully sent. If after 16 tries there is still no response from the NMS, then the MAS stops trying and raises a warning alarm against the alarming system.

Viewing and configuring licensing

Avaya Modular Messaging systems are priced according to:

- The number of voice-enabled mailboxes the customer wants
- The platform the customer wants to use for the “back-end” servers (Avaya S3400 family, Microsoft Exchange, or Lotus Domino)
- The number of telephone ports in the system
- The maximum number of concurrent Text-to-Speech (TTS) sessions the customer wants to provide for

Avaya controls the use and access of some of these features using a license that the customer must purchase. The features that Avaya controls using licensing include:

- The platform
- The number of seats (voice mail-enabled mailboxes)
- The maximum number of TTS sessions allowed for each TTS engine installed

From the **Licensing** entry of the Voice Mail System Configuration application, you can do the following:

- View licensing information for your system (see Viewing licensing information on page 5-44).
- Distribute Text-to-Speech (TTS) licenses across two or more MASs (see Distributing TTS licenses across MASs on page 5-45).
- Install a license file for the voice mail domain (see Installing a license file on page 5-46).

Viewing licensing information

You can view the licensing for your system using the Licensing utility in the Voice Mail System Configuration application.

To view licensing information:

1. In the **Voice Mail System Configuration** window, click the voice mail domain for which you want to view licensing information.

   You may need to expand the tree to see all options for the voice mail domain.

2. Double-click **Licensing**.

   The system displays the **Licensing - Voice Mail Domain** window, with the **General** tab active. This tab displays a field listing the features licensed on the system. It also includes information about each licensed feature, including:

   - What platform is licensed
   - How many voice-enabled mailboxes are licensed
   - The maximum number of concurrent TTS sessions allowed

   If you do not yet have a valid license, the display at the bottom of this window notifies you of that fact.

   Note: This notice at the bottom of the window will appear if the license is invalid because an integrity check on it has failed or because the license has expired. The latter case happens only if you did not import and install a license within 30 days of installation. (At system installation and setup, the system installs a temporary license with limited capabilities; if your license was not installed at the time of installation, you must either install it or have it installed within 30 days.)

3. To view more detailed information about your system's TTS licensing, click the **Text-to-Speech** tab (see Distributing TTS licenses across MASs on page 5-45).

Distributing TTS licenses across MASs

If you have more than one MAS in your system, you can distribute your TTS licenses across any or all of them. This is done on a per-TTS-engine basis. Say, for example, you have two MASs in your voice mail domain. You also have eight licenses for the ScanSoft RealSpeak TTS engine. Using the Voice Mail System Configuration Licensing utility, you can allocate three of those licenses to one MAS and five to the other.

Note: If, in this example, you also had another TTS engine installed on your system, you could not use any of these licenses for the other TTS engine.

To distribute TTS licenses across two or more MASs:

1. In the **Voice Mail System Configuration** window, click the voice mail domain for which you want to view licensing information.

   You may need to expand the tree to see all options for the voice mail domain.

2. Double-click **Licensing**.

   The system displays the **Licensing - Voice Mail Domain** window, with the General tab active.

3. Click the **Text-to-Speech** tab.

   The system displays a list of all the MASs in your system, with the number of TTS licenses installed on each MAS (in the Value column).

4. Double-click the TTS entry under the MAS to which you want to allocate TTS licenses.

   The system displays the **Edit Sessions** dialog box.

5. Enter the number of TTS licenses you want to assign to the selected MAS, or use the spin-box arrows to select the number.

6. Click **OK**.

7. Repeat steps 4 and 5 for all other MASs in the system to which you want to allocate TTS licenses.

   Note: The total number of TTS sessions assigned across all MASs cannot exceed the number TTS sessions licensed for your system.

8. Click **OK**.

Installing a license file

When your system is initially installed and set up, a temporary license file is automatically installed. This temporary license sets up the system with ten mailboxes and one TTS session. It is only good for 30 days. If a license file is not installed within that period, the system writes a warning into the Windows event log ten days, three days, and one day before the temporary license is set to expire. If, at the time the temporary license expires, a license is still not installed, the system writes an error to the Windows event log every 90 minutes until the license is installed. This also causes an alarm to be raised.

Normally, at the time of system installation the service technician installs the permanent license, so you should not have to use the following procedure. However, in some cases, for instance, when you upgrade your system by adding more mailboxes or TTS sessions, you may need to install a new license file.

Before installing the permanent license file, you must first obtain the file from your technical or service representative. Before the technical or service representative can provide you the permanent license file, you must supply the representative with the following:

- An identification code for the voice mail domain
- The platform on which you are running your system
- The number of mailboxes (seats) you require
- The number of TTS sessions you want enabled

To install a license file:

1. Copy the license file to a temporary location on the MAS or to another location accessible from the Voice Mail System Configuration application.
2. Start Voice Mail System Configuration.

   For the procedure to start Voice Mail System Configuration, see Starting the Voice Mail System Configuration application on page 5-4.
3. Under **Voice Mail Domains**, select the voice mail domain for which you want to install the license file.

   You may need to expand the voice mail domain tree hierarchy to see the **Licensing** entry.
4. Right-click **Licensing**.
5. From the pop-up menu, click **Import License...**

   The system starts the **License Import Wizard**.
6. Follow the on-screen instructions in the **License Import Wizard...**

7. (Only if your license files have changed your TTS session settings) Stop and restart the MAS.

   For information about TTS session settings, see Distributing TTS licenses across MASs on page 5-45. For the procedures to stop and restart the Messaging Application Server service, see Stopping and restarting the MAS service on page A-35.

8. Verify that the file has been installed correctly by viewing licensing information and verifying that the values have changed (see Viewing licensing information on page 5-44).

Configuring the tracing system

The tracing system is a Windows 2000 service where information about voice mail system activity (operation history events) is logged. Operation history events are dynamically stored in the operation history database. Periodically, this database is purged and summarized information is stored in the transaction database. For more information on the tracing system, see the *Avaya Modular Messaging Concepts and Planning Guide*.

You can view the operation history database using the Operation History Viewer. For information, see Chapter 13, “Operation History Events”.

You can generate a number of reports from the transaction database using the Reporting Tool. For information, see Chapter 12, “Reports”.

Important: It is recommended that one tracing system is installed per voice mail domain. If you install a second tracing system in a voice mail domain, it replaces the original tracing system. This means that, if your system has more than one MAS, you should install tracing on only one MAS.

Use the following tabs to configure the tracing system for a voice mail domain.

- **General**

  Use this tab to configure general tracing system properties.

  See Tracing System dialog box, General tab on page 5-49.

- **Operation History Collection**

  Use this tab to configure operation history database properties for event logging.

  See Tracing System dialog box, Operation History Collection tab on page 5-50.

- **Transaction Generation**

  Use this tab to configure transaction database properties for transaction logging.

  See Tracing System dialog box, Transaction Generation tab on page 5-51.

Tracing System dialog box, General tab

Use the General - Tracing System tab to configure general properties for the tracing system.

Note: If you have not installed a tracing system, Tracing System is not displayed in the Voice Mail System Configuration Window.

To display the Tracing System dialog box, General tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Double-click **Tracing System**.

   The system displays the **Tracing System** dialog box, with the **General** tab active.

To configure general tracing system properties, configure the following fields:

- **MAS Tracing Server Machine Name** Displays the name of the computer running the tracing system.
- **Home Message Application Server** Enter the home MAS for the tracing system. This is the first MAS that the tracing system connects to in order to perform its operation. The default is the home MAS for the voice mail domain. For more information on the home MAS, see Changing the home MAS on page 2-5.

Tracing System dialog box, Operation History Collection tab

Use the Operation History Collection tab to specify operation history database properties for a voice mail domain.

To display the Tracing System dialog box, Operation History Collection tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Double-click **Tracing System**.

   The system displays the **Tracing System** dialog box, with the **General** tab active.
3. Click the **Operation History Collection** tab.

To configure operation history collection properties, configure the following fields:

Note: The Windows 2000 Schedule service must be started on the tracing system machine for the configuration settings to take effect.

- **Enable Operation History Collection** Select to log events in the operation history database. This check box is selected by default.
- **Retry Period when Connecting to a Message Application Server (secs)** Enter the time, in seconds, between retries when connecting to an MAS. The range is 1 through 999 and the default is 30.
- **Number of Days before Events Expire** Enter the number of days after which events are set to expire. If you enter 0, events are set to expire immediately and are deleted at the time specified in the **Delete Expired Events** box. The range is 0 through 999 and the default is 3.

  The number of days should be based on how many events your voice mail system is generating. It is recommended that you monitor the generation of events over a period of time and update the expiration time as appropriate.
- **Delete Expired Events:**
  - **Never** Select to never delete expired events. This check box is cleared by default. When cleared, expired events are deleted daily at the time you specify in the **Delete Expired Events** box.
  - **At time** Enter the time of day the operation history database deletes expired events. It is recommended that you schedule this for at least 2 hours before transaction generation. For more information, see To configure transaction generation properties, configure the following fields: on page 5-51.

Tracing System dialog box, Transaction Generation tab

To configure transaction database properties for the voice mail domain, use the Transaction Generation tab.

To display the Transaction Generation tab:

1. In the **Voice Mail System Configuration** window, click the voice mail domain.
2. Double-click **Tracing System**.

   The system displays the **Tracing System** dialog box, with the **General** tab active.
3. Click the **Transaction Generation** tab.

To configure transaction generation properties, configure the following fields:

Note: The Windows 2000 Schedule service must be started on the tracing system machine for the configuration settings to take effect.

- **Enable Transaction Generation** Select to log voice mail system transactions in the transaction database. When using Reporting Tool, transaction generation must be enabled for the time period you want to report on. This check box is selected by default.
- **Time to Generate Transactions** Enter the time of day to generate transactions.
- **Transaction Expiry: Number of Days before Transactions Expire** Enter the number of days after which transactions are set to expire. If you enter 0, transactions are set to expire immediately and are deleted at the time specified in the **Delete Expired Transactions** box. The range is 0 through 999 and the default is 30.
- **Delete Expired Transactions:**
  - **Never** Select to never delete expired transactions. This check box is cleared by default. When cleared, expired transactions are deleted daily at the time you specify in the **Delete Expired Events** box.
  - **At time** Enter the time of day the transaction database deletes expired events. It is recommended that you schedule this for at least 2 hours before transaction generation.

6

Telephony Interface Configuration

This chapter describes how to configure the telephony interface for a messaging application server (MAS).

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Introduction to configuring the telephony interface

You can configure the telephony interface to support analog or digital voice boards. Depending on the type of integration or the voice boards you are using, you can configure one of the following telephony interface types:

- **Analog**

  To configure ports for Controlled LAN (C-LAN), Digital Multiplexed Interface - 4 (DMI-4), inband, and Serial RS-232 integration, use the Telephony Interface (Analog) dialog box.

  See Configuring the analog telephony interface on page 6-3.

- **IP H.323**

  To configure ports for H.323-based IP integration, use the Telephony Interface (IP H.323) dialog box.

  See Configuring the telephony interface for IP H.323 on page 6-5.

- **QSIG** or **set emulation**

  To configure ports for Q-Signaling (QSIG) integration or digital set emulation (DSE) integration, use the **Telephony Interface** (QSIG or set emulation) dialog box.

  See Configuring the telephony interface for QSIG or set emulation on page 6-6.

You can also configure the system for automatic call distribution (ACD). For more information, see Configuring automatic call distribution (ACD) on page 6-8.

Notes:

- You may be prompted to stop and restart the MAS after you make changes to a property in Voice Mail System Configuration. If so, the changes do not take effect until you stop and restart the MAS.
- You must configure the telephony interface for each MAS in your system.

Before you begin

Ensure you have read Chapter 2, “Introduction to Voice Mail System Configuration”. That chapter introduces you to the Voice Mail System Configuration application used to perform the configuration.

Start the Voice Mail System Configuration application from the Modular Messaging software folder.

Configuring the analog telephony interface

To configure ports, use the **Telephony Interface** dialog box, **Analog** tab.

To configure analog telephony interface properties:

1. In the Voice Mail System Configuration window, click **Message Application Servers**.
2. Click the MAS you want to configure.
3. Double-click **Telephony Interface**.

   The system displays the **Telephony Interface** dialog box, which has only one tab, the **Analog** tab.

Tip: To make the analog telephony interface active, click the down arrow and click **Make Active**. If the analog telephony interface is already active, this field does not appear.

To configure ports, configure the following fields:

- **Playback Volume** Enter a value for the playback volume. The range is – 8 through 8. We recommend that you enter 2 for 30-port, 24-port, 8-port, or 4-port cards. For Controlled LAN (C-LAN) and Inband integrations, the default value is 2.
- **Number of Ports** Enter the number of ports that connect the MAS with the PBX. The default is set during installation. The range is 0 through 999.

  If you increase the number of ports, you must restart the MAS before you can administer them.

  Note: The AUDIX TUI supports only up to 24 ports for analog telephony.

- **Enable DTMF Call Progress Tones** Select this check box to configure selected ports to receive DTMF tones from the PBX,.

  Note: If you are using Dialogic analog cards, this field is not available.

- Configure the **port** fields.

  — Enable or disable ports as required, by selecting or clearing the check boxes to the left of each port. All ports are selected by default.

Tip: You can also enable/disable a port using the Port Monitor application. Any changes made there are reflected in the Voice Mail System Configuration application and vice versa. For more information on Port Monitor, see Chapter 14, "System Performance Monitoring".

— **Extension** Enter the port extension number. You can enter up to 10 digits. This field is blank by default.

— **Incoming Ring Count** Enter a number to specify the number of rings before a call on the port is answered. The range is 1 through 9, and the default is 1.

— **Primary Id** Enter the first part of the PBX integration identifier, known as the logical terminal number (LTN), for serial integration only. You can enter up to 10 characters and digits (including & * # and ,). This field is blank by default.

Note: This field is applicable to DMI-4 and RS-232 integrations only. Leave this field blank for C-LAN and inband integrations.

— **Secondary Id** Enter the second part of the PBX integration identifier, known as the message desk number (MD), for serial integration only. You can enter up to 10 characters and digits (including & * # and ,). This field is blank by default.

Note: This field is applicable to DMI-4 and RS-232 integrations only. Leave this field blank for C-LAN and inband integrations.

- **Tone File Path** (Available only if your system uses Brooktrout boards.) Enter the location of the tone file, **accucall.ton**. The location of the tone file is specified at installation. This is **C:\Rht** by default.

Note: If you are administering the voice mail system remotely and Voice Mail System Configuration is not running on the MAS, the **Browse** button is not available.

To activate the new settings, you must restart the MAS.

Note: You can restart the MAS at this point, or you can continue with configuring PBX integration and then restart the MAS.

Configuring the telephony interface for IP H.323

To configure telephony ports for IP H.323, use the **Telephony Interface** dialog box.

To configure IP H.323 telephony interface properties:

1. In the Voice Mail System Configuration window, click **Message Application Servers**.
2. Click the MAS you want to configure.
3. Double-click **Telephony Interface**.

   The system displays the **Telephony Interface** dialog box, with the **General** tab active.

Tip: To make the IP H.323 telephony interface active, click the down arrow and click **Make Active**. If the IP H.323 telephony interface is already active, this field does not appear.

To configure ports for IP H.323, configure the following fields:

- **Playback Volume** Enter a value for the playback volume. The range is – 8 through 8, and the default is 2.
- **Maximum Concurrent Calls** Enter the maximum number of ports that connect the MAS to the PBX. This is the maximum number of concurrent calls that the MAS can support. The default is set during installation. The range is from 0 to 999.

  Note: The AUDIX TUI supports only up to 20 ports for IP H.323 telephony.

- **Port** Enable or disable ports as required, by selecting or clearing the check boxes to the left of each port. All ports are selected by default.

To activate the new settings, you must restart the MAS.

Note: You can restart the MAS at this point, or you can continue with configuring PBX integration and then restart the MAS.

Configuring the telephony interface for QSIG or set emulation

To configure ports for QSIG or set emulation, use the Telephony Interface tab.

To configure QSIG or set emulation telephony interface properties:

1. In the Voice Mail System Configuration window, click **Message Application Servers**.
2. Click the MAS you want to configure.
3. Double-click **Telephony Interface**.

   The system displays the Telephony Interface dialog box, **General** (QSIG or set emulation) tab.

Note: The Agent Based ACD dialog box is available only with NT M-1 switches using set emulation. For more information, see Configuring automatic call distribution (ACD) on page 6-8.

Tip: To make the QSIG or set emulation telephony interface active, click the down arrow and click **Make Active**. If the QSIG or set emulation telephony interface is already active, this field does not appear.

To configure ports for QSIG or set emulation, configure the following fields:

- **Playback Volume** Enter a value for the playback volume. The range is – 8 through 8, and the default is 2. We recommend that you enter 2 for 30-port, 24-port, 8-port, or 4-port cards.
- **Concurrent Calls** Enter the number of ports that connect the MAS to the PBX. The default is set during installation. The range is from 0 to 999.

  Note: The AUDIX TUI supports only up to 24 ports for set emulation, 23 ports for T1 cards, and 30 ports for E1 cards.

- **Port** Enable or disable ports as required, by selecting or clearing the check boxes to the left of each port. All ports are selected by default.
- **Extension Number** Enter the extension number associated with the MAS port. The extension number is required only if you are using linear chain integration with set emulation. You can enter up to ten digits. The Extension Number field is available only with set emulation.

  Note: The Extension Number field is not available with the QSIG telephony interface.

To activate the new settings, you must restart the MAS.

Note: You can restart the MAS at this point, or you can continue with configuring PBX integration and then restart the MAS.

Configuring automatic call distribution (ACD)

Automatic call distribution (ACD) is a form of integration available with NT M-1 switches only. On the ACD dialog box, you can configure ACD settings for agent-based ACD and position-based ACD.

To configure ACD:

1. In the Voice Mail System Configuration window, click **Message Application Servers**.
2. Click the MAS you want to configure.
3. Double-click **Telephony Interface**.
4. Click the **ACD (set emulation)** tab.

To configure ACD, configure the following fiels:

- **Enable ACD** Select to enable the voice mail system to use ACD as the form of integration. This check box is cleared by default.
- **Outcall Key** Select the key that must be pressed to make an outgoing call. You can select from characters A through H, and the default is B.
- **Incall Key** Select the key that must be pressed to answer a call. You can select from characters A through H, and the default is A.
- **MSB Key** Select the key that must be pressed for ‘make set busy’. You can select from characters A through H, and the default is C.
- **MSB Lamp** Select a value that identifies the lamp on the handset associated with ‘make set busy’. You can select a digit from 0 through 7, and the default is 2.
- **Agent ID** Enter the ACD agent login IDs for ports that you have configured on the switch. You can enter up to thirty digits for each agent ID.

7

PBX Integration

This chapter describes how to configure private branch exchange (PBX) integration for a messaging application server (MAS).

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Introduction to configuring PBX integration

Integration is accomplished when a call is forwarded to the MAS, and the PBX passes information about the call to the MAS. This information includes calling party identification (if known), called party identification, and a call type code. This call information can be transmitted in several ways, depending on the integration type. With PBX integration, callers who are forwarded to the MAS can leave a message for the called party or can transfer to another extension.

You can configure the following PBX integration properties for each MAS in the voice mail domain.

- **General**

  Use this tab to select the type of PBX integration for an MAS. Depending on the telephony interface, some PBX integration types may not be available.

  See Configuring PBX integration general properties on page 7-6.

- **Serial General**

  Use this tab to configure serial PBX integration for an MAS. With serial integration, the MAS receives incoming call information by means of a serial link. Configure serial PBX integration if your PBX supports digital multiplexed interface - 4 (DMI-4) integration or serial RS-232 integration.

  See Configuring serial general properties on page 7-8.

- **Serial NEC/Ericsson/DMID**

  Use this tab to configure serial integration for NEC, Ericsson, and DMID protocols.

  See Configuring serial NEC/Ericsson/DMID properties on page 7-10.

- **Inband**

  Use this tab to configure inband PBX integration for an MAS. With inband integration, the MAS receives incoming call information in the form of dual tone multi-frequency (DTMF) digits.

  See Configuring inband properties on page 7-12.

- **Remote**

  Use this tab to configure remote PBX integration for an MAS. With remote integration, the MAS receives its incoming call information through another MAS that has a serial integration.

  See Configuring remote properties on page 7-19.

- **QSIG/SE**

  Use this tab to configure an MWI port group for QSIG and set emulation PBX integration.

  See Configuring QSIG and set emulation properties on page 7-20.

- **Avaya C-LAN**

  Use this tab to configure C-LAN integration. C-LAN integration is available with Avaya DEFINITY®, IP600, MultiVantage™, and Communication Manager switches only.

  See Configuring C-LAN properties on page 7-22.

- **IP Configuration**

  Use this tab to configure H.323-based IP integration. H.323-based IP integration is available with Avaya DEFINITY®, IP600, MultiVantage™, and Communication Manager switches only.

  See Configuring PBX integration properties for IP H.323 on page 7-24.

Notes:

- You may be prompted to stop and restart the MAS after you make changes to a property in Voice Mail System Configuration. If so, the changes do not take effect until you stop and restart the MAS.
- You must configure the PBX integration for each MAS in your system.

For more information on configuring your PBX, see the PBX configuration notes. Configuration notes are available from the Avaya Support Center at http://support.avaya.com.

Before you begin

Ensure you have read Introduction to Voice Mail System Configuration on page 2-2. That chapter introduces you to the Voice Mail System Configuration application used to perform the configuration.

Start the Voice Mail System Configuration application from the Modular Messaging Software folder.

Before you can configure PBX integration, ensure that you have selected the correct PBX type.

Selecting a PBX type

You must select a PBX type for an MAS when you physically change the PBX connected to an MAS, or add an MAS to a voice mail domain.

To select a PBX type:

1. In the Voice Mail System Configuration window, click **Message Application Servers**.

   Note: You may need to expand the tree to see the MAS you want.

2. Click the MAS you want to configure.

3. Double-click **PBX Type**.

   The system displays the **PBX Type** dialog box, which has only one tab, the **General** tab.

4. From the **Telephony Type:** drop-down list, select the type of PBX you require.

5. Click **OK**.

Configuring PBX integration general properties

To select the type of PBX integration for an MAS, use the **PBX Integration** dialog box, **General** tab. The integration type determines how the PBX provides the MAS with additional information about incoming calls.

Note: Depending on the telephony interface, some PBX integration types may not be available.

To configure general integration properties:

1. In the Voice Mail System Configuration window, click **Message Application Servers**.

   You may need to expand the tree to see the all the MASs in the voice mail domain.

2. Click the MAS you want to integrate.

   You may need to expand the tree to see the available PBXs

3. Double-click **PBX Integration**.

   The system displays the **PBX Integration** dialog box for that MAS, with the **General** tab active.

4. From the **Integration Type** list, select the one you want from the following:

   Note: Depending on the PBX type you selected (see To select a PBX type: on page 7-5), some of the following options may not be available (grayed out).

   - **None** Select this if the PBX does not support integration. This is the default.
   - **IP** Select this to specify H.323-based IP integration. The MAS receives incoming call information in the form of QSIG messages embedded in the H.323 packet, over an IP network. Use the IP Configuration tab to configure the PBX integration.
   - **Serial** Select this to specify serial integration. The MAS receives incoming call information through a serial link. Use the Serial General tab to configure the PBX integration.
   - **Inband** Select this to specify inband integration. The MAS receives incoming call information in the form of DTMF digits. Use the Inband tab to configure the PBX integration.

- **Remote** Select this to specify remote PBX integration. The MAS receives incoming call information through another serial integration server. Use the Remote tab to configure the PBX integration.
- **QSIG** Select this to specify Q-Signaling (QSIG) integration. The MAS receives incoming call information by means of QSIG.
- **Set Emulation** Select this to specify set emulation integration.
- **CLAN** Select this to specify CLAN integration.

5. In the **Max time to Wait for Serial and Remote Integration Data (sec)** spin box, enter or select the maximum amount of time, in seconds, that an incoming call waits to receive integration information before going off hook. This field is available with remote and serial integrations only. The default is 18.

6. If you are finished, click **OK**. If you need to do more specific configuration for your PBX type, click the appropriate tab.

Configuring serial general properties

To configure serial PBX integration for an MAS, use the **Serial General** tab. With serial integration, the MAS receives incoming call information by means of a serial link.

To display the PBX Integration dialog box, Serial General tab:

1. In the **Voice Mail System Configuration** window, click **Message Application Servers**.
2. Click the MAS you want to configure.

   You may need to expand the tree to see the all the MASs in the voice mail domain.
3. Double-click **PBX Integration** for that MAS.

   The system displays the **PBX Integration** dialog box, with the **General** tab active.
4. In the Integration Type column, click **Serial**.
5. In the **Max Time to Wait for Serial and Remote Integration Data (sec)** field, type the maximum time, in seconds, that an incoming call waits to receive integration information before going off hook. This field is available with remote and serial integrations only. The default is 18.
6. Click the **Serial General** tab.

To configure serial general integration properties, configure the following fields:

- **Packet Format** Select the PBX serial integration data packet format from the list. Depending on your PBX type, select SMDI, Intecom, DMID, NEC-2400, or Ericsson MD110. If you are using NEC-2400, Ericsson MD110, or DMID, use the Serial NEC/Ericsson/DMID tab to configure the protocol type. For more information, see Configuring serial NEC/Ericsson/DMID properties on page 7-10.
- **Extension Field Length in Packet** Enter the number of digits in the packet sent from the integration device. The range is 2 through 10, and the default is 4.
- **Maximum Number of Remote Service Sessions** Enter the maximum number of remote MASs that are dependent on the primary server for integration. The range is 0 through 999, and the default is 0.
- **Log Serial Packets** Select to log the serial integration data in the operation history database. This check box is selected by default.

7. Click **Serial Settings**.

The system displays the **Serial Settings** dialog box, where you can configure the serial line settings.

To configure serial settings, configure the following:

- **Line Speed (Bits per Second)** Enter the serial line speed in bits per second. The range is 110 through 115200, and the default is 9600.
- **Data Bits** Select the number of data bits for the serial line. The default is 8.
- **Stop Bits** Select the number of stop bits for the serial line. The default is 1.
- **Parity: None, Odd, Even, Space** Select to specify the type of parity for the serial line. The default is Odd.
- **Flow Control: None, DTR/DSR, RTS/CTS, Xon/Xoff** Select to specify None, DTR/DSR, RTS/CTS, or Xon/Xoff flow control for the serial line. The default is Xon/Xoff.
- **Connector** Select the serial port for the line. The default is COM1.

If you are using NEC-2400, Ericsson MD110, or DMID, you must also configure the serial properties for these cards. For more information and the procedures, see Configuring serial NEC/Ericsson/DMID properties on page 7-10.

After making these settings, you must stop and restart the MAS service for the settings to take effect.

Configuring serial NEC/Ericsson/DMID properties

To configure serial integration for NEC, Ericsson, and DMID protocols, use the **Serial NEC/Ericsson/DMID** dialog box.

To display the PBX Integration dialog box, Serial NEC/Ericsson/DMID tab:

1. In the **Voice Mail System Configuration** window, click **Message Application Servers**.
2. Click the MAS you want to configure.

   You may need to expand the tree to see the all the MASs in the voice mail domain.
3. Double-click **PBX Integration** for that MAS.

   The system displays the **PBX Integration** dialog box, with the **General** tab active.
4. Click the **Serial NEC/Ericsson/DMID** tab.

> **Note:** The options available on this tab depend on the packet format selected in the **Serial General** tab. For more information, see Configuring serial general properties on page 7-8.

To configure serial integration properties for NEC, Ericsson and DMID, configure the following fields:

- For the NEC-2400:
  - **Tenant Number** Enter the tenant number used by NEC integration. The range is 1 through 99, and the default is 1.
- For the Ericsson MD110:
  - **Filler Character** Enter the filler character used by Ericsson integration. The filler character can be **zero** or **space**. The default is **space**.
  - **Port Field Length** Enter the length of the port number field. The range is 2 though 5, and the default is 2.
  - **Tenant Number** Enter the tenant number used by Ericsson integration. The range is 1 through 99, and the default is 1.
  - **First Port Number** Enter the number of the first port to receive incoming calls. The range is 1 through 250, and the default is 1.
- For the DMID:

— **Enable Full Error Logging from DMID Integration Device** Select to place any errors reported by the DMID integration device in the Windows 2000 Significant Event Log. This check box is cleared by default.

— **Extension of First Port in DMID Hunt Chain** Enter the extension number of the port that is the first directory number in the hunt chain programmed for the DMID device. This must be a valid extension number. This field is blank by default.

Configuring inband properties

PBX integration establishes communication between the PBX and the voice mail system. The PBX supplies information such as who is calling on internal calls and the extension that the caller is trying to reach.

With inband integration, the MAS receives information about an incoming call from the PBX in a call information packet. The call information packet contains DTMF digits indicating the type of call (known as the call packet type), the called party ID, the calling party ID, and the trunk ID.

To configure inband PBX integration for an MAS, use the **Inband** tab.

To display the PBX Integration dialog box, Inband tab:

1. In the Voice Mail System Configuration window, click **Message Application Servers**.

2. Click the MAS you want to configure.

   You may need to expand the tree to see the all the MASs in the voice mail domain.

3. Double-click **PBX Integration** for that MAS.

   The system displays the **PBX Integration** dialog box, with the **General** tab active.

4. Click the **Inband** tab.

To configure PBX integration inband properties, configure the following fields:

- **Maximum Inter-digit Gap (ms)** Enter the time, in milliseconds, for the delay between each DTMF digit in the call information packet. This setting does not apply to the delay until the first DTMF digit arrives in a call information packet. The range is 16 through 999, and the default is 48.

- **Pause before Inband Digits (ms)** Enter the maximum time, in milliseconds, to wait after taking the voice port off hook before the first DTMF digit arrives in a call information packet. The range is 100 through 9999, and the default is 2500.

- **DTMF On Time (ms)** Enter the length (duration), in milliseconds, of a DTMF digit in a call information packet. The range is 32 through 999, and the default is 32.

- **Search Entire String for Reason Code** Select to allow the integration service to search the entire call information packet for the call packet type (also known as the reason code). The call packet type is a string of DTMF digits that form a code for the type of call received, such as a direct call, a forwarded call, or a diverted call. If this field is cleared, the integration service looks for the call packet type at the digit position specified in the

Location of Inband Reason Code field. This check box is cleared by default.

Tip: If you do not know the location of the inband reason code (call packet type), you can get this information by making a call of the appropriate call packet type and checking the call information in using Operation History Viewer. To do this, you must first set the Maximum Inter-digit Gap and the Pause before Inband Digits to high values, and select the **Log Inband Packets** check box.

- **Location of Inband Reason Code** Enter the position within the call information packet of the first DTMF digit in the call packet type (also known as the reason code). The call packet type is a string of DTMF digits that form a code for the type of call received, such as a direct call, a forwarded call, or a diverted call. Each call information packet must have a call packet type.

  For example, if the call packet type is the first field in the call information packet, enter 1. If the call packet type is the second field in the call information packet and follows a field that is 6 DTMF digits in length, enter 7. In this case, the first DTMF digit in the call packet type is the 7th DTMF digit in the call information packet.

  The range is 1 through 99, and the default is 1.This field is not available if **Search Entire String for Reason Code** is selected.

- **Log Inband Packets** Select to log the inband call information packets in the operation history database. When selected, inband call information can be viewed in Operation History Viewer. This check box is cleared by default.

- **Fixed Length Packets** Select if your PBX sends out call information packets of a fixed length. Within fixed length call information packets, each piece of call information, that is, the call packet type, the calling party ID, the called party ID, and the trunk ID, is in a fixed position.

  In the following example, the call packet type starts at position 1 (the first DTMF digit in the packet), the called party ID starts at position 4 (the 4th DTMF digit in the packet), the calling party ID field starts at position 11 (the 11th DTMF digit in the packet), and the trunk ID field starts at position 18 (the 18th DTMF digit in the packet). The total fixed packet length is 21.

Call packet type	Called party ID field	Calling party ID field	Trunk ID field
XXX	XXXXXXX	XXXXXXX	XXXX
Start position = 1	Start position = 4	Start position = 11	Start position = 18

  You define the length and position of fields in call information packets using settings in the **Inband Protocol Settings** dialog box (see Configuring inband properties on page 7-12).

  If this check box is cleared, the packet length is variable. This check box is cleared by default.

Tip: To define the length and position of fields in call information packets, click **Protocol Settings...** and use the settings in the Inband Protocol Settings dialog box.

- **Filler Character** Select the filler character used in the call information packet. A filler character is required if your PBX sends out fixed length call information packets. The filler character is the character that is used to fill in blanks in a fixed length field, if the number of DTMF digits received is less than the fixed number defined.

  For example, if the fixed length of a called party ID field is 7 (as defined in the Inband Protocol Settings dialog box), but only 4 DTMF digits are received, 3 filler characters are required to maintain the fixed length of the call information packet. These are added after the **DTMF digits in the called party id** field.

  You can select from *, #, A, B, C, D, 0, or <NONE>. 0 is available only if the **Right Alignment of Digits in a Field** check box is selected. Note that the filler character cannot be the same as the delimiter character.

  In the following example, hash (#) is used as the filler character.

Call packet type	Called party ID	Calling party ID	Trunk ID
3 digits	7 digits	7 digits	4 digits
11#	4001###	6783000	3008

  The default is asterisk (*).

- **Delimiter Character** Select the delimiter character used in call information packets to distinguish between different fields. For example, in the following call information packet, * is used to distinguish between the call packet type, called party ID, calling party ID, and trunk ID:

  1000*4001234*6009*1200

  You can select from *, #, A, B, C, D, or <NONE>. <NONE> is available only if the **Fixed Length Packets** check box is selected. The default is #. Note that the delimiter character cannot be the same as the filler character.

- **Right Alignment of Digits in a Field** Select to indicate that in a fixed length call information packet, the DTMF digits in each field are to be right aligned. This check box is cleared by default.

- **Request String Supported** Select if your PBX requires the MAS to send it a request string before it can send the call information packet. If selected, two fields are enabled, Inband Request Digit String and Pause before Request String.

- **Inband Request Digit String** Enter the sequence of DTMF digits that the MAS must send to the PBX when requesting a call information packet. The range is 0 through 99, and the default is blank. This field is available only if the **Request String Supported** check box is selected.

- **Pause before Request String (ms)** Enter the time, in milliseconds, before the MAS sends the request string to the PBX after going off hook. The PBX

may require this time to stabilize. The range is 0 through 10000, and the default is 500.

5. Click **Protocol Settings...**

   The system displays the Inband **Protocol Settings** dialog box, where you can configure inband protocol types. For more information, see Configuring inband protocol types on page 7-16.

6. To close the **Inband Protocol Settings** dialog box and return to the Inband tab, click **OK**.

7. Click **MWI Settings**.

   The system displays the **MWI Settings** dialog box, where you can configure message waiting indicator (MWI) settings. For more information, see Configuring MWI settings on page 7-18.

8. To close the **MWI Settings** dialog box, click **OK**.

After making these settings, you must stop and restart the MAS service for the settings to take effect.

Configuring inband protocol types

Configure inband protocol types in the **Inband Protocol Settings** dialog box. To reach this dialog box, you must click **Protocol Settings...** on the **Inband** tab of the **PBX Integration** dialog box (see Configuring inband properties on page 7-12).

To configure inband protocol settings, configure the follwoing fields:

- **Show Advanced Call Packet Type** Select to configure the following call packet types:

  — An **Auto Logon** call packet type is used by Alcatel PBXs to identify the calling party in a direct internal call. In a regular direct internal call, the calling party is not identified. With an Auto Logon call, if the extension of the calling party is identified as a subscriber, the caller is prompted to enter a password.

  — A **Check Mailbox** call packet type is used by Matra PBXs when an extension is forwarded to a voice mail port on a ring-no-answer condition, a busy condition, or on always. It contains the call packet type (Check Mailbox) followed by the extension number of the telephone that is forwarded.

  — A **Confirm Mailbox** call packet type is sent by Modular Messaging software when it receives a Check Mailbox call information packet. It is required for the forwarding operation to continue.

  — A **Transfer Initiate** call packet type is sent by Matra PBXs when an attempt is made to transfer a call to an extension that has been forwarded to a voice mail port.

- **Call Packet Type** Select the call packet type you want to configure. The call packet type represents the type of call that is received. You can select Divert, No Answer Extension, Busy Extension, Direct Call, or Immediate Transfer.

  Certain switches, such as Matra and Alcatel, may also require you to configure the following call packet types: Auto Logon, Check Mailbox, Confirm Mailbox, and Transfer Initiate. To configure these call packet types, select the **Show Advanced Call Packet Type** check box.

  Once you have selected the call packet type, and entered information about the call packet type in the remaining fields, you can select another call packet type to configure.

  To enable your PBX to do this, you must configure the DTMF digit strings for each code. As an example, in a No Answer Extension call, an external no-answer call may be A1, and an internal no-answer call may be B1.

  Codes can have up to five characters including the digits 0–9, *, #, A, B, C, or D. Note that if you are configuring Check Mailbox, only one code is

available since the PBX uses just one code for a Check Mailbox call information packet.

The required DTMF codes are already defined in your PBX. See your PBX documentation for information.

- **Packet Length** Enter the total length of the selected call information packet. This field is available only if the **Fixed Length Packets** check box is selected in the Inband tab. The range is 0 through 255.

- **Codes for Call Type, Code 1 through Code 4** A PBX can send up to four different codes for each call packet type. For example, for a No Answer Extension call, the PBX may send three different codes: one for an internal call, one for an external call, and one for an external trunk call.

- **Field Type Settings** Use the fields in this area to determine the format of call information packets in the selected call packet type. If your call information packets are of fixed length, you can define starting position and field length for each field in the selected call information packet. This may be different for each call information type. For example, in a No Answer Extension call, the starting position of the called party ID field may be 9 (the 9th DTMF digit in the call information packet), whereas in a Divert call it may be 7 (the 7th DTMF digit in the call information packet.)

  If your call information packets are of variable length, you can define the sequence of each field in the selected call packet type.

  Note: You cannot configure field type settings for Confirm Mailbox and Check Mailbox call packet types.

  — **Starting Position** Enter the starting position for the corresponding field in a fixed length call information packet. For example, if the first DTMF digit of the called ID is the 4th digit in a call information packet, enter **4** opposite Called Id.

  — This field is available only if the **Fixed Length Packets** check box is selected in the Inband tab. The range is 1 through 99.

  — **Fixed Field Length** Enter the fixed field length for the corresponding field in a fixed length call information packet. This field is enabled only if the **Fixed Length Packets** check box is selected in the Inband tab. The range is 1 through 20.

  — **Sequence Number** Enter the sequence number of the corresponding field type. For example, if the fields are in the following order: call packet type, called ID, calling ID, and trunk ID, enter **2** opposite Called Id (second position), **3** opposite Calling Id (third position), and **4** opposite Trunk Id (fourth position).

Configuring MWI settings

Configure message waiting indicator (MWI) settings in the **MWI Settings** dialog box. To reach this dialog box, you must click **MWI Settings...** on the **Inband** tab of the **PBX Integration** dialog box (see Configuring inband properties on page 7-12).

To configure MWI settings, configure the following fields:

- **Port Group Name** Select the port group to be used for MWI. The Default port group is selected by default. Port groups are defined in the Port Usage tab. For more information, see Configuring port groups on page 8-12.
- **Max MWI Sessions** Enter the maximum number of MWI sessions allowed at one time. The maximum number cannot exceed the maximum number of ports in the selected port group.
- **Indicator On/Off signals must use the same port** Select if your PBX has port affinity. This check box is cleared by default.
- **Indicator On:**
  - **Prefix** Enter the DTMFs, if any, that the MAS must dial before the subscriber's extension to turn on the message waiting indicator.
  - **Suffix** Enter the DTMFs, if any, that the MAS must dial after the subscriber's extension to turn on the message waiting indicator.
- **Indicator Off:**
  - **Prefix** Enter the DTMFs, if any, that the MAS must dial before the subscriber's extension to turn off the message waiting indicator.
  - **Suffix** Enter the DTMFs, if any, that the MAS must dial after the subscriber's extension to turn off the message waiting indicator.

Configuring remote properties

To configure remote PBX integration for an MAS, use the **Remote** tab. With remote integration, the MAS receives incoming call information through another MAS that has a serial integration connection. You can specify a primary and secondary remote server for the MAS to use.

A secondary remote server would typically be used, for example, in the case of SMDI from a Centrex, where the integration data is sent to both the primary and secondary remote server, and the secondary server is accessed if the primary server is unavailable.

To display the PBX Integration dialog box, Remote tab:

1. In the **Voice Mail System Configuration** window, click **Message Application Servers**.

2. Click the MAS you want to configure.

   You may need to expand the tree to see the all the MASs in the voice mail domain.

3. Double-click **PBX Integration** for that MAS.

   The system displays the **PBX Integration** dialog box, with the **General** tab active.

4. Click the **Remote** tab.

To configure PBX integration remote properties, configure the following fields:

- **Primary Remote Server Name** Enter the name of the primary server from which the MAS can get integration data for an incoming call. The default is the first server in the voice mail domain server list.

- **Secondary Remote Server Name** Enter the name of the secondary server from which the MAS can get integration data for an incoming call. The default is the first server in the voice mail domain server list.

After making these settings, you must stop and restart the MAS service for the settings to take effect.

Configuring QSIG and set emulation properties

To configure a port group for MWI, use the QSIG/SE tab.

To display the QSIG/SE tab:

1. In the **Voice Mail System Configuration** window, click **Message Application Servers**.
2. Click the MAS you want to configure.

   You may need to expand the tree to see the all the MASs in the voice mail domain.
3. Double-click **PBX Integration** for that MAS.

   The system displays the **PBX Integration** dialog box, with the **General** tab active.
4. Select one of the following Integration **Types**:

   - **Set Emulation** for digital set emulation (DSE) integration
   - **QSIG** for Q.signaling (QSIG) integration
5. Click the **QSIG/SE** tab.

To configure QSIG and set emulation properties, configure the following fields:

- **Port Group Name** Select the port group to be used for MWI. The Default port group is selected by default. Port groups are defined in the Port Usage tab. For more information, see Configuring port groups on page 8-12.
- **Max MWI Sessions** Enter the maximum number of MWI sessions allowed at one time. The maximum number cannot exceed the maximum number of ports in the selected port group.
- **Indicator On/Off signals must use the same port** Select this if your PBX has port affinity. This check box is cleared by default.

  Note: Do not select this check box for Avaya switches supporting QSIG integration.
- **MWI On** Enter the dial string required to switch on a subscriber's MWI light. You can enter up to 50 characters. The default is ^O,%s,^O for NT M-1, and *4%s for G3. The system substitutes %s with the subscriber's extension number. This field is not available with QSIG integrations.
- **MWI Off** Enter the dial string required to switch off a subscriber's MWI light. You can enter up to 50 characters. The default is ^F,%s,^F for NT M-1, and

#4%s for G3. The system substitutes %s with the subscriber's extension number. This field is not available with QSIG integrations.

After making these settings, you must stop and restart the MAS service for the settings to take effect.

Configuring C-LAN properties

C-LAN is an Avaya proprietary TCP/IP protocol that provides voice integration to Avaya DEFINITY®, IP600, MultiVantage™, and Communication Manager switches. With C-LAN, switch integration is performed using a local area network.

To configure the C-LAN link, use the Avaya **C-LAN** tab.

Note: C-LAN is available with analog telephony only.

To display the PBX Integration dialog box, Avaya C-LAN tab:

1. In the **Voice Mail System Configuration** window, click **Message Application Servers**.
2. Click the MAS you want to configure.

   You may need to expand the tree to see the all the MASs in the voice mail domain.
3. Double-click **PBX Integration** for that MAS.

   The system displays the **PBX Integration** dialog box, with the **General** tab active.
4. Click **C-LAN** in the **Integration Type** column.
5. Click the **Avaya C-LAN** tab.

   The system displays the **Avaya C-LAN** tab. This tab supports administration of the nodes with which the messaging server communicates.

To configure Avaya C-LAN properties, configure the following fields:

- **Message Server Number** Enter the identification number of the Message Server. The Message Server number is set on the switch, and is normally the same value as the switch number. The default is 1.
- **Switch Number** Enter the identification number of the switch that communicates with the MAS. The default is 1.
- **Switch Host Address** Do one of the following:
  - Click **Name**, and enter the domain name of the switch on the network. For example, pbx.avaya.com.
  - Click **IP Address**, and enter the IP address of the switch on the network.

- **TCP Port** Enter the TCP number of the port on the switch that is used to communicate with the MAS. By default, the TCP number is 5002.
- **Notes** Enter notes associated with the C-LAN integration. For example, you may find it useful to enter a description of the switch you are using.
- **Maximum Number of Remote Service Sessions** Enter the maximum number of remote MASs that are dependent on the primary server for integration. The range is 0 through 999, and the default is 0.
- **Connect Link / Disconnect Link** Do one of the following:
  - To connect the C-LAN link, click **Connect Link**. This button is only displayed when the link between the MAS and switch is disconnected.
  - To disconnect the C-LAN link, click **Disconnect Link**. This button is only displayed when the link between the MAS and switch is connected.

Note: If the MAS is unable to establish a connection with the switch, a link connection down event is logged in the Windows event log. The source of the error is gv_vserver, and the category is PBX Integration.

After making these settings, you must stop and restart the MAS service for the settings to take effect.

Configuring PBX integration properties for IP H.323

H.323-based IP integration provides voice integration to Avaya DEFINITY® (Release 10 or later), IP600, MultiVantage™ (Release 1.2), and Communication Manager switches. H.323-based IP integration provides IP connectivity between the MAS and the Avaya PBX.

In a Definity PBX, IP network connectivity is established using C-LAN and MedPro circuit packs on the PBX and the network interface card (NIC)/Ethernet card on the MAS. In a MultiVantage or Communication Manager PBX, IP network connectivity is established using the PROCR on the PBX and the NIC/ethernet card on the MAS.

In H.323-based IP integration, signaling or call information, message waiting indicator (MWI) information, and voice data are transmitted over the IP network. H.323 connectivity between the MAS and the Avaya PBX is accomplished by means of H.323 trunk groups configured as tie trunks supporting Q-Signaling (QSIG) features. Q-SIG is a standards-based, private networking protocol, based on Q.931 standards (ISDN). Signaling information and MWI information are transmitted using QSIG messages embedded in an H.323 packet.

To configure the IP link, use the **IP Configuration** tab.

To display the PBX Integration dialog box, IP Configuration tab:

1. In the **Voice Mail System Configuration** window, click **Message Application Servers**.
2. Click the MAS you want to configure.

   You may need to expand the tree to see the all the MASs in the voice mail domain.
3. Double-click **PBX Integration** for that MAS.

   The system displays the **PBX Integration** dialog box, with the **General** tab active.
4. In the **Integration Type** column, click **IP**.
5. Click the **IP Configuration** tab.

To configure IP PBX integration properties, configure the following fields:

- **MAS Corporate IP Address:** Enter the IP address of the MAS. This is the IP address that the MAS uses to connect to the corporate LAN.
- **PBX IP Address:** Enter the IP address assigned to the device that is terminating the H.323 signaling link. For a Definity PBX, this is the IP address of the PBX C-LAN card and for a MultiVantage or Communication Manager PBX, this is the IP address of the PROCR.

- **Port:** Enter the port number on the MAS that would be used for transmission of signaling information and MWI information. By default, the port number is 1720.

- **UDP Port Range:** Enter a minimum and maximum port number to specify a block of user datagram protocol (UDP) port numbers to be used for audio connections. The H.323 call setup protocol dynamically negotiates the UDP ports within the specified range that are available for use. The voice channels use the available ports from this UDP port range for transmission of voice data. The default range is 5000 through 5999.

- **Packet size (ms):** Enter, in milliseconds, the size of the real time protocol (RTP) packets that are used to transmit H.323 media over the IP network. The packet size represents the amount of voice data sent per packet. The value you enter here should match the packet size sent by the PBX. Packet size is typically 30 milliseconds.

  The packet size sent by the PBX is configured at the time of administering the codec type on the PBX. See the IP Codec screen on the PBX to check the packet size value configured on the PBX. For more information on configuring your PBX, see the PBX configuration note.

- **Enable Tunneling:** Select to enable tunneling. Tunneling is the encapsulation of protocols that are at the same layer, into one another. When you enable tunneling, the QSIG message set, which contains call information and MWI information, is encapsulated in H.323 packets. This check box is selected by default.

- **Enable Fast Start:** Select to enable Fast Start. Fast Start, also known as Fast Connect, is a call setup method that bypasses some initial steps in order to reduce the connection setup time. This feature makes the call setup faster as the voice data transmission can start immediately after sending a Fast Start message. This check box is selected by default.

- **Silence Suppress:** Select to enable silence suppression. Enabling silence suppression prevents the transmission of voice packets during silence. Silence suppression ensures that no bandwidth is used during periods of silence.

- **Max MWI Sessions:** Enter the maximum number of MWI sessions allowed at one time. The maximum number cannot exceed the maximum number of ports in the port group that will be used for MWI.

- **Port Group Name:** Select the port group to be used for MWI. The Default port group is selected by default. Port groups are defined in the Port Usage tab. For more information, see Messaging Application Server Configuration on page 8-1.

- **IP Supported Codecs:** Enter the supported codec standards, in descending order of priority. An IP codec is the voice line coding algorithm that is used for communication between the MAS and the PBX. IP H.323 integration supports A-law and u-law codecs.

To add a codec to the list of supported codec standards, click **Add...** and select the codec.

To remove a codec from the list, select the codec that you want to remove and click **Remove**.

To increase or decrease the priority of a codec in the list, select the codec and click **Move Up** and **Move Down**, respectively.

After making these settings, you must stop and restart the MAS service for the settings to take effect.

8

Messaging Application Server Configuration

This chapter describes how to configure a messaging application server (MAS) in a voice mail domain.

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Introduction to configuring a messaging application server

You can configure the following properties for an MAS:

- **Messaging**

  You can configure the peer electronic mail server and directory server.

  See Configuring messaging on page 8-4.

- **Text-to-Speech**

  You can configure the maximum number of concurrent text-to-speech (TTS) conversions allowed on an MAS.

  See Configuring text-to-speech on page 8-7.

- **Languages**

  You can view a list of the languages installed on an MAS and set multilingual TTS properties.

  See Viewing languages installed on the MAS on page 8-11.

- **Port Groups**

  You can set up group ports for use by PC client applications, the telephone user interface (TUI), Octel Analog Networking, Call Me, and fax.

  See Configuring port groups on page 8-12.

- **Tracing file size**

  You can configure the size of the tracing file that stores operation history events before they are sent to the tracing server.

  See Configuring the tracing file size on page 8-20.

- **MAS additions or removals**

  You can add MASs to or remove MASs from your system.

  See Adding or removing MASs on page 8-21.

- **MAS account password**

  You can configure the password for MASs running under the Windows 2000 account.

See Changing the password for the account running MASs on page 8-23.

Notes:

- The system may prompt you to stop and restart the MAS after you make changes to a property in Voice Mail System Configuration. If so, the changes do not take effect until you stop and restart the MAS.
- You must configure each MAS in your system.

For information on configuring properties shared across MASs in a voice mail domain, see Chapter 5, “Voice Mail Domain Administration”.

Selecting an MAS for the first time

When you select an MAS in a voice mail domain for the first time, the system prompts you to run the Telephony Configuration Wizard. This wizard enables you to quickly configure the telephony interface, add PBXs, configure a PBX type, and configure the number of ports or time slots for the MAS.

For more information on the Telephony Configuration Wizard, see the chapter on post-installation in the installation guide for your system.

Before you begin

Ensure you have read Chapter 2, “Introduction to Voice Mail System Configuration”. That chapter introduces you to the Voice Mail System Configuration application used to perform the configuration.

Start the Voice Mail System Configuration application from the Modular Messaging Software folder.

Configuring messaging

You configure messaging by specifying the following servers:

- **Peer Mail Server**

  This is the mail server that MASs communicate with when sending and receiving voice messages. The peer electronic mail server is initially selected at installation.

  For more information, see Configuring the primary peer server and directory server on page 8-5.

- **Directory Server**

  This is the server that contains information about subscribers. The directory server is initially selected at installation.

  For more information, see Configuring the primary peer server and directory server on page 8-5.

- **Failover Peer Servers**

  These are candidates to become the peer server in the event that the primary peer server becomes unavailable for some reason.

  For more information, see Selecting the failover peer servers on page 8-6.

Configuring the primary peer server and directory server

To select the peer mail server and directory server, use the Messaging dialog box, General tab.

To configure messaging:

1. In the Voice Mail System Configuration window, click **Message Application Servers**.

   Note: You may need to expand the tree to see the MAS you want.

2. Under that MAS, double-click **Messaging**.

   The system displays the **Messaging** dialog box, with the **General** tab active.

3. In the **Mail Server Name** field, enter the domain name of the MAS.

   The tab display automatically updates with the MAS domain details.

4. In the **Mail Database Name** field, enter the mail path and name of the mail server database.

   The **Mail Database** is the mailbox for the Domino MAS account. By default, this is the database specified when Avaya Modular Messaging was installed.

   Note: This field appears only in Avaya Modular Messaging — IBM Lotus Domino version.

5. In the **Primary Directory Server** field, enter the mail path and name of the directory server on which the voice mail domain object is installed.

   By default, this is the directory server specified when the MAS was installed.

6. In the **Directory Database Name** field, enter the name of the directory server database.

   The default is Names.nsf.

   Note: This field appears in Avaya Modular Messaging — IBM Lotus Domino version only.

7. If you are configuring Avaya Modular Messaging for IBM Lotus Domino and want to add secondary directory servers, do the following:

   a. Click **Add Server**.

b. Under **Server**, enter the name of the secondary Domino server that you want to add.

The default, database name appears automatically. You can change the database name if required.

c. Add more secondary servers, if required.

Note: To delete a secondary server, click the server and click **Remove Server**. The system does not prompt you to confirm the deletion but deletes it immediately.

8. Click **OK.**

Selecting the failover peer servers

To select the peer mail servers to become active for an MAS when the primary peer server becomes unavailable, use the Messaging dialog box, **Advanced** tab.

To select the failover peer servers for an MAS:

1. In the Voice Mail System Configuration window, click **Message Application Servers**.

Note: You may need to expand the tree to see the MAS you want.

2. Under that MAS, double-click **Messaging**.

   The system displays the Messaging dialog box, with the General tab active.

3. Click the **Advanced** tab.

4. On the upper right border of the Fail over peers list, click the **Add** icon .

   The system displays a new line in the Fail over peers list.

5. Enter the name of the server you want as a candidate failover peer server.

6. From the Selected Peer Messaging Server drop-down list, click the server that should be the first peer server to be checked by the MAS for providing backup service should the primary peer server fail.

Configuring text-to-speech

Text-to-speech (TTS) conversion enables subscribers to hear their e-mail messages read over the telephone. To use TTS, you must have a license that includes TTS sessions for your system (see Viewing and configuring licensing on page 5-43). You must also configure the general properties for TTS (see General properties - text-to-speech on page 8-8).

You can customize text-to-speech pronunciation using the Scansoft RealSpeak TTS engine (see Customizing TTS pronunciation with Scansoft® RealSpeak™ on page 8-9).

General properties - text-to-speech

Use the General - Text-to-Speech tab to set the maximum number of concurrent TTS conversions for an MAS.

To display the Text-to-Speech dialog box, General tab:

1. In the **Voice Mail System Configuration** window, click **Message Application Servers**.

   Note: You may need to expand the tree to see the MAS you want.

2. Double-click **Text-to-Speech** under that MAS.

   The system displays the **Text-to-Speech** dialog box, which has only on tab, the **General** tab.

To configure TTS properties, configure the following fields:

Note: Depending on your system's configuration, you may not see both of these fields.

- **English** Enter a number to specify the maximum number of English TTS conversions allowed at any one time on the current server. The number cannot exceed the number of English TTS licenses purchased. The range is 2 through 24, and the default is 2.
- **Non-English** Enter a number to specify the maximum number of non-English TTS conversions allowed at any one time on the current server. The number cannot exceed the number of non-English TTS licenses purchased. The range is 2 through 24, and the default is 2.

  Important: Running multiple concurrent TTS conversions on a single MAS may have a detrimental effect on the MAS's performance.

Customizing TTS pronunciation with Scansoft® RealSpeak™

With Scansoft RealSpeak, you can customize English and non-English language text-to-speech pronunciation by adding the following:

- Proper names
- Unpronounceable sequences, such as uppercase initials
- Application-specific words
- Culture-specific or language-specific terms

To customize text-to-speech pronunciation

1. Run RSUDE.EXE by double-clicking it.

   This file is located in the RealSpeak directory from the Avaya Modular Messaging base directory, for example:

   ```
   C:\Program Files\Avaya Modular
   Messaging\Vserver\RealSpeak\RSUDE.EXE
   ```

2. Click **File** > **Open**.

3. In the Open file dialog box, **Files of Type:** field, use the drop-down list to select: **Text Files (*.tdc, *.txt)**

4. If necessary, navigate to the **C:\Program Files\Avaya Modular Messaging\VServer\ RealSpeak** directory, and then select the dictionary file for your system's language.

   At system installation, each dictionary file, except the US English file (which has one entry for "Avaya"), is empty. We have provided these files so you can simply modify the existing file for your system language. For the dictionary file name for your system's language see the following table:

Language	Dictionary file name
Chinese (Mandarin, traditional)	RSUserDict_MandarinB5.txt
Chinese (Mandarin, simplified)	RSUserDict_MandarinGB.txt
Dutch	RSUserDict_Dutch.txt
French	RSUserDict_French.txt
German	RSUserDict_German.txt
Italian	RSUserDict_Italian.txt
Japanese	RSUserDict_Japanese.txt

Language	Dictionary file name
Portuguese	RSUserDict_Portuguese.txt
Spanish	RSUserDict_Spanish.txt
U.S. English	RSUserDict_USEnglish.txt

5. Click **Open**.
6. Customize TTS pronunciation as required and add it to the dictionary file.

   If you need help performing this step, see the RealSpeak documentation that came with your system.
7. When you are finished making your changes, click **File** > **Save**.
8. Repeat this procedure for all MASs in the voice mail domain.

Viewing languages installed on the MAS

You can view a list of languages installed on the MAS. This is useful if you are configuring languages in the voice mail domain.

To view languages installed on the MAS:

1. In the **Voice Mail System Configuration** window, click **Message Application Servers**.

   Note: You may need to expand the tree to see the MAS you want.

2. Click the MAS for the language list you want to view.

3. Double-click **Languages**.

   The system displays a list of all languages installed on the MAS in the Languages display window, which has only one tab, the **Server Languages tab**.

   Note: You can only view a list of the languages installed on this MAS from this window. You cannot administer languages here.

Configuring port groups

You can configure the port groups for use by PC client applications, the TUI, incoming and outgoing Octel Analog Networking calls, Call Me, and fax.

You can configure the following port group properties for each MAS in the voice mail domain.

- **General**

  Use this tab to set up port groups.

  See Configuring general properties for port groups on page 8-15.

- **Usage**

  Use this tab to define port group usage for PC client applications and the TUI.

  See Configuring usage properties for port groups on page 8-17.

For more general information about port groups, see the following:

- Guidelines for port group usage on page 8-12
- About port groups on page 8-14

Guidelines for port group usage

The following guidelines are to assist you in allocating ports:

- **PC Client group**

  One or more ports on the MAS must be configured in the PC Client group.

- **Telephone User Interface group**

  One or more ports on the MAS must be configured in the Telephone User Interface group.

- **Octel Analog Networking Incoming group**

  This is the port or ports associated with the access telephone number for incoming Octel Analog Networking calls.

Important:	Ports that receive incoming Octel Analog Networking calls must be in both the Telephone User Interface group and the Octel Analog Networking Incoming group.

- **Octel Analog Networking Outgoing group**

  If an MAS is running Octel Analog Networking gateway, one or more ports on the MAS must be configured in the Octel Analog Networking Outgoing group.

  Note: We recommend that you configure an Octel Analog Networking Outgoing group on each server in the voice mail domain. This means that if you want to change the server configured for sending messages, you can select any other server in the voice mail domain without having to redefine outgoing Octel Analog Networking ports.

For information on calculating the number of ports required, see the *Avaya Modular Messaging Concepts and Planning Guide.*

About port groups

The following port groups can be administered using the **Port Groups** dialog box:

- **PC client applications** The ports in the PC Client group must allow outgoing calls. You need to set up the port group usage on the **Usage** tab.
- **Telephone user interface** The ports in the Telephone User Interface group must allow incoming calls. You need to set up the port group usage on the **Usage** tab.
- **Call Me** The ports in the Call Me group must also be in the Telephone user interface port group. You must set up the port group usage on the **Usage** tab.
- **Fax** The ports in the Fax group are used for outgoing faxes. You need to set up the port group usage on the **Usage** tab.
- **MWI** The ports in the MWI group are used with inband integration, IP H.323 integration, QSIG or set emulation. You configure the port group in the **MWI Settings** dialog box.

  For more information on configuring port groups for inband integration, see Configuring message waiting indicator (MWI) on page 5-16.
- **Incoming Octel Analog Networking calls** The port group must be called “Octel Analog Networking Incoming”. Octel Analog Networking ports must also be in the range of ports used by the TUI.
- **Outgoing Octel Analog Networking calls** The port group must be called “Octel Analog Networking Outgoing”. The ports in the group must allow outgoing calls.

Notes:

- Ports can be shared across port groups and can be used for both incoming and outgoing calls.
- If you do not set up port groups for incoming and outgoing Octel Analog Networking calls, the ports in the Telephone User Interface group are used by default.

Configuring general properties for port groups

To display the Port Groups dialog box, General tab:

1. In the **Voice Mail System Configuration** window, click **Message Application Servers**.

   Note: You may need to expand the tree to see the MAS you want.

2. Click the MAS you want to configure.

3. Double-click **Port Groups** under that MAS.

   The system displays the **Port Groups** dialog box, with the **General** tab active.

To configure port group general properties, configure the following fields:

- **Port Group** Select from the drop-down list the port group that you want to configure. The default is **Default Group**.

  If you are using Octel Analog Networking, you must create the Octel Analog Networking Incoming and Octel Analog Networking Outgoing port groups.

- **Port Group Members** Lists the ports available on the current MAS. Select a port to add it to the selected port group. Clear a port's check box to remove it from the selected port group. All ports are selected by default when the system is installed. Ports installed after installation are not automatically included in a port group. You must add these ports to a port group for use by the MAS.

  Note: Ports referenced in the port group that no longer exist are marked with an exclamation mark (!).

- **Port Group Usage**

  — **Incoming** Select this to permit the port group to receive incoming calls to the MAS. By default, this check box is selected.

  — **Outgoing** Select this to permit the port group to send outgoing calls from the MAS. By default, this check box is selected.

- **Add Group** Clicking this button opens the Add New Group dialog box, where you can create a new port group. For more information, see To add a port group: on page 8-16.

- **Remove Group** Clicking this button removes the current port group. The system prompts you to confirm your decision before it deletes the port group.

Adding a port group

To add a port group:

1. Click **Add Group**.

   The system displays the **Add New Group** dialog box.

2. In the **Port Group Name** field, enter a unique port group name.

3. Click **OK**.

4. On the **Port Groups** dialog box, **General** tab, select the appropriate port group members and port group usage settings.

5. On the **Usage** tab, define the port group usage.

Configuring usage properties for port groups

Define the port group usage on the **Usage** tab.

To display the Port Groups dialog box, Usage tab:

1. In the **Voice Mail System Configuration** window, click **Message Application Servers**.

   Note: You may need to expand the tree to see the MAS you want.

2. Click the MAS you want to configure.

3. Double-click **Port Groups**.

   The system displays the **Port Groups** dialog box, with the **General** tab active.

4. Click the **Usage** tab.

To configure port usage properties, complete the following fields:

- **PC Clients:**

  — **Number of Instances** Enter the number of ports that can be accessed simultaneously by PC clients. This is limited to the number of ports configured for the port group. The range is 0 through the maximum number of ports available in the system, and the default is the maximum number of ports.

  — **Port Group** Select the port group to be used by the PC client applications. The default is **Default Group**.

- **Telephone User Interface: Port Group** Select the port group to be used by the TUI. The default is **Default Group**.

- **Call Me: Port Group** Select the port group to be used for Call Me. Ports in this group must also be in the Telephone User Interface port group. The default is **Default Group**.

- **FAX: Port Group** Select the port group to be used for outgoing Fax calls. The default is **Default Group**.

  Note: If you are using third-party fax servers, you do not need to configure a Fax port group.

Configuring MAS serviceability

Serviceability in Avaya Modular Messaging refers, among other thing, to the ability of the MAS to generate logs and notifications related to system errors and alarms. Notifications can be sent out automatically to a designated support site, either Avaya Services, your own network management system (NMS), or a trusted business partner. These notifications are sent out using either the Avaya Initialization and Administration System (INADS) or by means of SNMP traps to a network management server.

If you are using INADS for sending and receiving error and alarm notifications, then you must configure the system at both the voice mail domain and the MAS level. For information about serviceability administration at the voice mail domain level, see Configuring serviceability on page 5-38.

Use the **Serviceability - [MAS]** dialog box to configure alarm notifications for INADS at the MAS level.

To display the MAS Serviceability dialog box:

1. In the **Voice Mail System Configuration** window, click **Message Application Servers**.

   Note: You may need to expand the tree to see the MAS you want.

2. Click the MAS you want to configure.

3. Double-click **Serviceability**.

   The system displays the **Serviceability - [MAS]** dialog box, which has only one tab, the **General** tab.

To configure MAS (INADS) serviceability properties, configure the following fields:

- **COM port:** Select from the drop-down menu the COM port you want to use for sending and receiving alarm notifications.
- **Phone number:** Enter the telephone number of the INADS system to which you want to send alarm notifications.

  Valid values for this field include:

  — Numerals **0** through **9**

  — **W**, which instructs the system to wait for a dial tone

  — **,** (comma), which creates a pause

  — ***** (asterisk) or (**#**) pound sign, both of which signal trunk or feature access codes

- **Modem setup:** Enter the modem initialization (setup) string required for the modem to make the alarm notification calls. If you do not know what this is, consult your modem documentation or contact your technical service representative.

Configuring the tracing file size

The tracing file stores operation history events before they are sent to the tracing server. You can change the default size of the tracing file for an MAS. You may need to increase the size of the tracing file, particularly if heavy traffic is expected or if you expect the tracing server to be out of service for an extended period of time.

To configure the tracing file size:

1. In the **Voice Mail System Configuration** window, click **Message Application Servers**.

   Note: You may need to expand the tree to see the MAS you want.

2. Click the MAS you want to configure.

3. Double-click **Trace File Size**.

   The system displays the **Trace File Size** dialog box, which has only one tab, the **Operation History File Size** tab.

4. In the **Size of Operation History Trace File (MB)** field, enter the desired file size, in megabytes.

   The range is 1 through 99, and the default is 4.

Adding or removing MASs

If necessary, you can add or remove an MAS from a voice mail domain.

Adding an MAS

Before you add an MAS, you must ensure that it has been removed from its old voice mail domain, if applicable.

Note: If you are adding the first MAS in a voice mail domain, you must select the primary language to be used by the TUI.

To add an MAS to a voice mail domain:

1. Open the **Voice Mail System Configuration** window.
2. In the tree hierarchy, click the **Message Application Servers** branch.
3. Click **Edit** > **Add Message Application Server**.

   The system displays the **Add New Message Application Server** dialog box.
4. In the **Message Application Server Name** field, enter a name for the MAS.

   Note: The MAS must be running.
5. Click **OK**.
6. Select the PBX type for the MAS.
7. Stop and restart the MAS Service.

   For the procedure to stop and restart the MAS service, see Stopping and restarting the MAS service on page A-35.

Removing an MAS

This section describes how to remove an MAS from a voice mail domain. We recommend that you remove the MAS from the voice mail domain before uninstalling MAS software from the machine.

For information on removing the MAS software, see the installation guide for your system.

Important: After removing the last MAS that does not support multiple languages from a voice mail domain, you must refresh the domain languages. To do this, click **Edit** > **Refresh Domain Languages**.

To remove an MAS from the voice mail domain:

1. Open the **Voice Mail System Configuration** window.
2. Navigate to the MAS list in the tree hierarchy and click the MAS you want to remove.
3. Click **Edit** > **Remove Message Application Server**.

   The system prompts you to confirm the deletion.
4. Click **OK**.

Note: To use Subscriber Administration to edit subscriber details, there must be at least one MAS in the voice mail domain to which the subscriber belongs. Therefore, before you remove the last MAS in a domain, we recommend that you first move subscribers into another voice mail domain. For information on moving subscribers, see Chapter 11, “Caller Applications”.

Changing the password for the account running MASs

MASs run under a Windows account. If the password for this account changes, you must ensure that the password is also updated in the following locations:

- DCOM configuration
- MAS service

Updating the NT account password in the DCOM configuration

If you change the Windows account password, you must update the password in the DCOM configuration for each MAS running under the account. If you do not update this password, PC client applications cannot be used.

To update the NT account password in the DCOM configuration:

1. Run **DCOMCNFG.exe**.

   This utility is supplied with Windows and is normally located in %WINDIR%\SYSTEM32.

2. In the **Applications** page, click **Modular Messaging** MAS, and click **Properties**.

3. In the **Identity** page, enter the new Windows account password in the **Password** and **Confirm Password** fields.

4. To exit Modular Messaging settings, click **OK**.

5. To exit the DCOMCNFG utility, click **OK**.

6. Restart the MAS.

Updating the Windows account password in the Avaya Modular Messaging service

When you change the Windows account password, you must update the password in the MAS service for each MAS running under the account. The MAS service is located in the Control Panel, Services applet. If you do not update this password, the MAS cannot be restarted.

9

Voice Mail Domain Management

This chapter describes how to manage voice mail domains.

Section	Page
Introduction to managing voice mail domains	9-2
Taking a peer e-mail server out of service	9-8
Administering multiple voice mail domains	9-10

Introduction to managing voice mail domains

This section describes how to perform the following tasks:

- Add a voice mail domain.

  See Adding a voice mail domain on page 9-3.

- Remove a voice mail domain.

  See Removing a voice mail domain on page 9-4.

- Rename a voice mail domain.

  See Renaming a voice mail domain on page 9-5.

- Add a PBX type.

  See Adding a PBX type on page 9-6.

- Remove a PBX type.

  See Removing a PBX type on page 9-7

Before you begin

Ensure you have read Chapter 2, “Introduction to Voice Mail System Configuration”. That chapter introduces you to the Voice Mail System Configuration application used to perform the configuration.

Start the Voice Mail System Configuration application from the Modular Messaging Software folder.

Adding a voice mail domain

This task is performed in the **Voice Mail System Configuration** window. For information on how to open the **Voice Mail System Configuration** window, see Opening Voice Mail System Configuration on page 2-3.

To add a voice mail domain:

1. Open the **Voice Mail System Configuration** window.
2. Click **Edit** > **New Voice Mail Domain**.

   The system displays the **Add New Voice Mail Domain** dialog box.
3. In the **Voice Mail Domain Name** field, enter the name of the new domain. You can enter up to sixteen characters.
4. Click **OK**.

   An empty voice mail domain is created.
5. Add MASs and PBX types as required.

Removing a voice mail domain

This task is performed in the **Voice Mail System Configuration** window. For information on how to open the **Voice Mail System Configuration** window, see Opening Voice Mail System Configuration on page 2-3.

To remove a voice mail domain:

Note: You can only remove a voice mail domain when it is empty.

1. Open the **Voice Mail System Configuration** window.
2. From the tree hierarchy, click the voice mail domain you want to remove.
3. Click **Edit** > **Remove Voice Mail Domain**.

   The system prompts you to confirm the deletion.
4. Click **OK**.

Renaming a voice mail domain

This task is performed in the **Voice Mail System Configuration** window. For information on how to open the **Voice Mail System Configuration** window, see Chapter 2, “Introduction to Voice Mail System Configuration”.

To rename a voice mail domain:

1. Open the **Voice Mail System Configuration** window.
2. From the tree hierarchy, click the voice mail domain you want to rename.
3. Click **Edit** > **Rename Voice Mail Domain**.

   The system displays the **Rename Voice Mail Domain** dialog box.
4. In the **Voice Mail Domain Name** field, enter the new name for the domain. You can use up to sixteen characters.
5. Click **OK**.

Adding a PBX type

This task is performed in the **Voice Mail System Configuration** window. For information on how to open the **Voice Mail System Configuration** window, see Chapter 2, “Introduction to Voice Mail System Configuration”.

To add a PBX type

1. Open the **Voice Mail System Configuration** window.
2. In the tree hierarchy, click the PBX’s branch.
3. Click **Edit** > **Add PBX Type**.

   The system displays the **Add New PBX** dialog box.
4. From the drop-down list, select the telephony type.
5. Select one or more PBX types to be added.
6. Click **OK**.
7. Configure the PBX type to communicate with the voice mail system.

   For more information, see Chapter 4, “PBX Configuration”.

Removing a PBX type

This task is performed in the **Voice Mail System Configuration** window. For information on how to open the **Voice Mail System Configuration** window, see Chapter 2, “Introduction to Voice Mail System Configuration”.

To remove a PBX type:

1. Open the **Voice Mail System Configuration** window.
2. Click the PBX you want to remove.
3. Click **Edit** > **Remove PBX Type**.

   The system prompts you to confirm the deletion.
4. Click **OK**.
5. Select a new PBX type for any MASs that were using the PBX type you have just removed.

Taking a peer e-mail server out of service

If you need to take a peer e-mail server out of service and assign a new one, you must ensure that the voice mail domain and Octel Analog Networking gateway objects are transferred to the new machine.

To transfer the voice mail domain and Octel Analog Networking gateway objects, follow the procedure outlined below.

Notes:

- The following procedure is required only if you are running Avaya Modular Messaging for Microsoft Exchange, and the voice mail domain and Octel Analog Networking gateway objects are located on the Exchange server that you want to withdraw. If you want to withdraw any other e-mail server, simply ensure that no other MAS is using it as a peer server. You can then switch off the machine.
- Before you can complete the following procedure, you must set up the new peer e-mail server that is dedicated to the peer e-mail server that you are taking out of service.
- If there are multiple voice mail domains on the e-mail server you want to withdraw, you must repeat the procedure for each voice mail domain and Octel Analog Networking gateway object.

To transfer the voice mail domain and Octel Analog Networking gateway objects:

1. In Microsoft Exchange Administrator, select the Octel Analog Networking gateway object to be transferred.
2. Start the Octel Analog Networking Gateway Administration extension. For information on Octel Analog Networking gateway administration, see Chapter 16, “Octel Analog Networking Gateway Administration”.
3. Make a note of all existing Octel Analog Networking gateway settings.
4. In the **Nodes** tab, make sure that the **Allow Messages to this Node** check box is cleared.
5. In the **Address Space** tab, remove all addresses. For information on removing addresses, see your Microsoft Exchange Administrator documentation.
6. In the **Advanced** tab, set all maximum transfer times to one minute. For information on the Advanced tab, see your Microsoft Exchange Administrator documentation.
7. Click **OK**.

8. Using Voice Mail System Configuration, make a note of all existing voice mail domain settings for the voice mail domain you want to transfer.

9. In Microsoft Exchange Administrator, use the Message Transfer Agent to recalculate the routing table. For information on recalculating the routing table, see your Microsoft Exchange Administrator documentation.

10. Reinstall Modular Messaging, creating a new voice mail domain on the new Exchange server. For information on installing Modular Messaging, see the installation guide for your system.

11. Using Voice Mail System Configuration and Octel Analog Networking Gateway Administration Extension, configure the voice mail domain and Octel Analog Networking gateway objects. Configure the same settings as those in the original voice mail domain (noted in Steps 3 and 8). For information on configuring Octel Analog Networking gateway, see Chapter 16, “Octel Analog Networking Gateway Administration”.

12. Using Voice Mail System Configuration, move the remaining MASs in the original voice mail domain to the new voice mail domain. For information on moving MASs to a voice mail domain, see Chapter 8, “Messaging Application Server Configuration”.

13. In Microsoft Exchange Administrator, delete the voice mail domain and Octel Analog Networking gateway objects from the original peer e-mail server. For information on deleting objects, see your Microsoft Exchange Administrator documentation.

14. Reset the voice mail domain for each subscriber mailbox to the new voice mail domain. You can do this in the **Modular Messaging** tab. For information on the Modular Messaging tab, see Chapter 15, “Subscriber Accounts for Microsoft Exchange”.

Note: When replacing the peer e-mail server, you must delete the External Caller mailbox from the machine you are replacing. You should do this when the voice service is shut down.

Administering multiple voice mail domains

When administering multiple voice mail domains from a single machine, you must observe the following rules:

- Run only one administration application or client application at any one time.
- If you are administering a voice mail domain other than the home voice mail domain, always use Voice Mail System Configuration to reset the home server to a server in the home voice mail domain. You can do this by opening one of the local voice mail domain's dialog boxes, for example, **Telephone User Interface**.

  Voice Mail System Configuration only displays voice mail domains in the directory used by the current home MAS. To view other voice mail domains, click **Tools** > **Options**, and then select an MAS in the voice mail domain that is not visible.

Note: These rules do not apply if you are administering multiple voice mail domains from more than one machine.

10

Custom Prompts

This chapter describes how to use thfe Visual Voice Editor application to customize prompts for use by the system Automated Attendant.

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Working with Visual Voice Editor	10-8
Setting up customized prompts	10-11
Copying changes across MASs	10-20
Configuring customized prompts	10-21
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Introduction to customizing prompts

Avaya Modular Messaging systems ship with a set of standard, pre-recorded prompts for the system Automated Attendant. You can use these generic prompts, but, to make them work better for you, we recommend that you customize the following prompts for use by the Automated Attendant:

- Auto Attendant Main Menu prompt

  This prompt is the main prompt that the auto attendant voices.

  For more information, see Auto Attendant Main Menu prompt on page 10-4.

- Morning, afternoon, evening and closed prompts

  These prompts greet callers during designated business hours.

  For more information, see Morning, afternoon, evening, and closed prompts on page 10-4.

- Holiday prompts

  These prompts greet callers on days specified as holidays.

  For more information, see Holiday prompts on page 10-5.

- Custom language selection greeting

  This prompt asks callers to select the language they require.

  For more information, see Custom language selection greeting on page 10-5.

To customize prompts, you must perform the following tasks:

- Make a working copy of the prompt file.

  Customized prompts are stored in a prompt file, called CustomPrompts.OVF, in the MAS directory. Before setting up customized prompts, you must create a working copy of this file. For information on creating a working copy of the prompt file, see Creating a working copy of the prompt file on page 10-6.

- Start Visual Voice Editor.

  Visual Voice Editor provides a graphical interface for setting up customized prompts using local multimedia or a telephone. For information on Visual Voice Editor, see Working with Visual Voice Editor on page 10-8.

- Set up your customized prompts.

You set up customized prompts in Visual Voice Editor. Once you have recorded a customized prompt, you can play back the recording and, if necessary, edit the customized prompt. For information on setting up customized prompts, see Setting up customized prompts on page 10-11.

- Copy changes across MASs.

  Once you have set up your customized prompts, you must copy the changes across all the MASs in the voice mail domain. For information on copying changes to MASs, see Copying changes across MASs on page 10-20.

- Configure your customized prompts.

  When you have copied your changes across all MASs in the voice mail domain, you must configure the prompts using Voice Mail System Configuration. For information on configuring customized prompts, see Configuring customized prompts on page 10-21.

Note: You can also import sound files created using other audio software or export sound files you create to a different application. For information on importing and exporting sound files, see Importing and exporting recordings on page 10-26.

Auto Attendant Main Menu prompt

You can record the main menu prompt used by the system Automated Attendant. The purpose of this prompt is to help callers navigate the telephone user interface by prompting them on how to proceed. For example, “For Sales, press 1. For Technical Support, press 2. For Accounting, press 3”.

If the Auto Attendant Main Menu Prompt is not customized, the default is:

> “Please enter the mailbox number of the person you are calling. If you have a mailbox on this system, press #. For assistance, press 0.”

Then, if callers are allowed to use Dial by Name:

> “If you do not know the mailbox number, press * to spell the name.”

Followed by:

> “If you do not have a touchtone telephone or require assistance, please stay on the line.”

Morning, afternoon, evening, and closed prompts

You can customize the following prompts:

- Morning prompt

  Greets callers during morning business hours. For example, “Good morning, thank you for calling Avaya …” If you do not customize this prompt, callers hear “Welcome to Avaya Messaging.”

- Afternoon prompt

  Greets callers during afternoon business hours. For example, “Good afternoon, thank you for calling Avaya …” If you do not customize this prompt, callers hear “Welcome to Avaya Messaging.”

- Evening prompt

  Greets callers during evening business hours. For example, “Good evening, thank you for calling Avaya …” If you do not customize this prompt, callers hear “Welcome to Avaya Messaging.”

- Closed prompt

  Greets callers after business hours. For example, “Thank you for calling Avaya. Our business hours are between 9.00 A.M. and 5.30 P.M., Monday through Friday. Please leave a message after the tone and we’ll return your call as soon as possible.” If you do not customize this prompt, callers hear “Welcome to Avaya Messaging.”

Holiday prompts

You can configure up to 18 holiday prompts for a voice mail domain. The TUI plays holiday prompts to callers on days you specify as holidays. For example: “Seasons Greetings from Avaya. Our offices will reopen on Monday. Please leave a message at the tone and we’ll be sure to return your call then.” If you do not create any holiday prompts, the system treats all days as the same.

Custom language selection greeting

If your system supports multiple languages, you can customize the prompt that asks callers to select the language they require. If you do not customize this prompt, callers hear the following default language selection greeting:

> “For <*language 1*> press 1, for <*language 2*> press 2...”

You use the Language/Key Association Auto Attendant in Voice Mail System Configuration to assign keypad digits to each language supported by the TUI.

Note: You can configure up to three languages.

Creating a working copy of the prompt file

You store customized prompts in the prompt file in the MAS directory. This file is called CustomPrompts.OVF. Before you record customized prompts, you must create a working copy of this file. Avaya strongly recommends that you create a backup of the working copy before you record or edit your customized prompts. That way, you can recover from any editing mistakes by using the backup file.

Important: CustomPrompts.OVF contains prompts that you can modify. All other files with the OVF extension contain standard system prompts. These files should not be modified.

Note: If you are upgrading from an earlier version of the software, English3.OVF is renamed CustomPrompts.OVF. Any changes that you made to English3.OVF are retained.

To create a working copy of CustomPrompts.OVF:

1. Locate an MAS in the voice mail domain.
2. Stop operation of the MAS.

   For the procedure to stop the MAS service, see Stopping and restarting the MAS service on page A-35.
3. Locate and make a working copy of the CustomPrompts.OVF file.

   The MAS directory containing the prompt files is specified at installation.
4. If required, change the audio format.

   For more information, see Changing the audio format on page 10-7.
5. Make a backup of the working copy.

   We recommend that you name the file CustomPrompts.OLD.
6. Restart the MAS:

   For the procedure to restart the MAS service, see Stopping and restarting the MAS service on page A-35.

Changing the audio format

By default, the audio format for CustomPrompts.OVF is Brooktrout's ADPCM. If you are using a PCM audio format for recording prompts, you can change the format accordingly. You can select one of the following:

- PCM CCITT A-Law (*.ovf)
- PCM CCITT Mu-Law (*.ovf)

To change the audio format:

1. Start Visual Voice Editor.

   For the procedure, see Starting Visual Voice Editor on page 10-8.

2. Locate and open your working copy of the CustomPrompts.OVF file.
3. Click **File** > **Save As**.
4. In the **Save as type** field, select one of the following formats:
   - PCM CCITT A-Law (*.ovf)
   - PCM CCITT Mu-Law (*.ovf)
5. Click **Save**.

Working with Visual Voice Editor

You use Visual Voice Editor to customize the prompts used by the system Automated Attendant to greet callers to your organization. This section describes how to start Visual Voice Editor and provides an overview of Visual Voice Editor screen areas and controls.

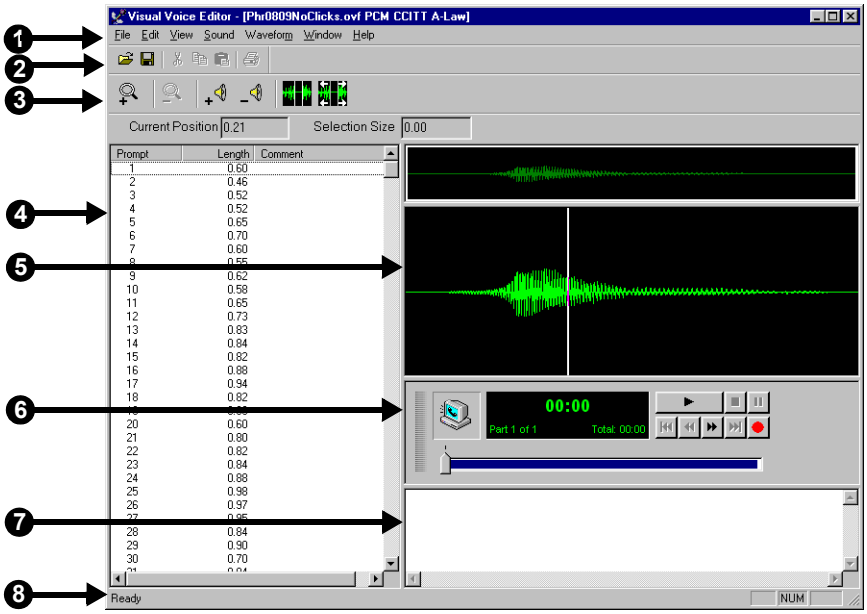
Starting Visual Voice Editor

To run Visual Voice Editor, click **Start** > **Programs** > **Avaya Modular Messaging** > **Visual Voice Editor**.

Screen areas and controls

Read this section to familiarize yourself with the Visual Voice Editor screen areas and controls. Figure 10-3 shows the Visual Voice Editor main window.

Figure 10-3. Visual Voice Editor main window.



1 Main toolbar
2 Waveform toolbar
3 Waveform infobar
4 Prompt view
5 Waveform view
6 Voice Player
7 Comment view
8 Status bar

View tips

- Use the **View** menu commands to display or hide a view as required.
- Click in a view or use the **Window** menu to make a view active.
- Resize a view to focus on a particular task.

Main toolbar

Provides standard file management options.

From left to right, the options are **Open** prompt file, **Save** prompt file, **Cut** selection, **Copy** selection, **Paste** clipboard contents, **Print** prompt list.

Figure 10-4. Main toolbar



Waveform toolbar

Provides options for performing operations on audio data in the **Waveform** view.

From left to right, the options are Zoom in, Zoom out, Increase amplitude after recording, Decrease amplitude after recording, Force to silence, Insert silence.

To display or hide the Waveform toolbar as required, use the **View** menu.

Figure 10-5. Waveform toolbar



Waveform infobar

Provides information about the current edit position and the size of the detailed waveform current selection, in seconds. Use the Waveform infobar to guide you when selecting a section of a prompt to edit

Prompt view

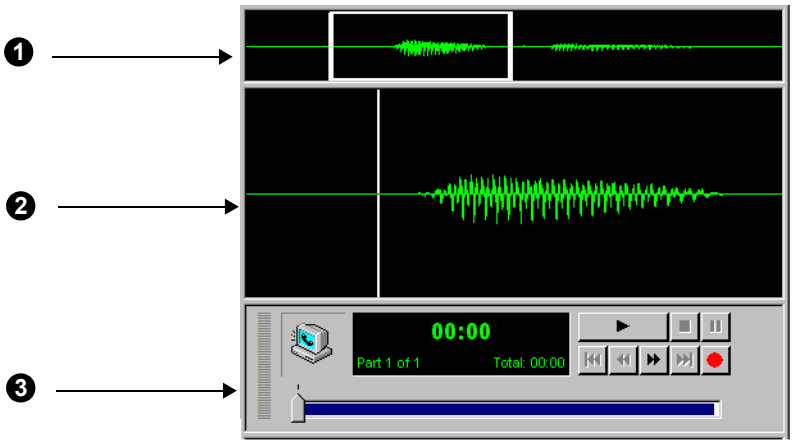
Use this view to select a prompt with which to work. This view lists all the prompts that are stored in the prompt file in three columns showing the prompt number (**Prompt**), the duration of prompt playback in seconds (**Length**), and a textual description of the prompt (**Comment**).

Note: To print the prompt list, click the **Print** icon on the main toolbar. This option is available in Prompt view only.

Waveform view

Use this view to edit audio data. The currently selected prompt is graphically represented as a waveform.

Figure 10-6. Waveform view



1 Overview of waveform
2 Detailed waveform
3 Voice Player

Overview of waveform This shows the entire recording. A white frame indicates the extent of the recording in the Detailed waveform view. Once zooming is applied to the view, you can drag the frame to move around the recording.

Detailed waveform This allows you to do precise editing of audio data. A white vertical bar indicates the current edit point. Use the mouse or keyboard to select audio data in a similar way to selecting text in a word processor.

Voice Player This utility allows you to play, pause, record, fast forward, and rewind a recording using standard CD player-type controls. It shows the length of the recording in seconds and indicates the currently selected audio device, whether telephone or local multimedia.

Comment view

Use this view to create or edit text descriptions of prompts. This view also allows you to review the description of the currently selected prompt.

Status bar

The status bar provides useful information, for example, about toolbar icons and progress during an operation. To toggle between displaying or hiding the status bar, use the Status Bar command on the View menu.

Setting up customized prompts

Make sure you read the introduction to this chapter for more information about the prompts you are about to set up.

To set up customized prompts, perform the following tasks:

- Set up the appropriate audio device.

  For more information, see Setting up the audio device on page 10-12.

- Record the customized prompt.

  For more information, see Recording customized prompts on page 10-13.

- Play back the customized prompt, if required.

  For more information, see Playing customized prompts on page 10-15.

- Edit the customized prompt, if required.

  For more information, see Editing customized prompts on page 10-16.

Setting up the audio device

You can record customized prompts using local multimedia or a telephone. For ease of recording and editing, we recommend that you use the multimedia option. However, in some situations, you may find that you can achieve higher quality recordings using the telephone, especially if you are in an environment where a microphone would pick up background noise.

The current audio device is indicated on the Voice Player by the following icons:

- Telephone icon 
- Multimedia icon 

To set up telephone recording in Visual Voice Editor:

1. Click **Sound** > **Preferences**

   The system displays the Media Setup dialog box.

2. In the **When composing voice messages** field, click **Telephone**.

3. Click **Configure**.

   The system displays the Telephone Properties screen.

4. In the **Extension number** field, enter your extension or telephone number.

5. In the **Message application server name** field, enter the name of the MAS.

6. Click **OK**.

   The system displays the telephone icon in the Voice Player.

7. For the configuration changes to take effect, close and restart Visual Voice Editor.

To set up multimedia recording in Visual Voice Editor:

1. Click **Sound** > **Preferences**.

   The system displays the Media Setup dialog box.

2. In the **When composing voice messages** field, click **Multimedia**.

3. Click **OK**.

   The system displays the multimedia icon in the Voice Player.

Note: To quickly change the audio device for recording customized prompts, in the Voice Player right-click the telephone or multimedia icon, and then click **1 Multimedia** or **2 Telephone**.

Recording customized prompts

Before you can record a customized prompt, you must create a working copy of the CustomPrompts.OVF file. For more information, see Creating a working copy of the prompt file on page 10-6.

Important: Use the working copy of CustomPrompts.OVF when recording and editing your customized prompts. Ensure that the OVF file is saved in the audio format that you are using.

To record a customized prompt in Visual Voice Editor:

1. Click **File** > **Open**, or click the **Open** icon.
2. Locate and open your working copy of the CustomPrompts.OVF file.

   For more information, see Creating a working copy of the prompt file on page 10-6.
3. Click **Edit** > **Insert**.

   The system displays the Goto/Insert Prompt dialog box.
4. Enter a unique number for the prompt.
5. Click **OK**.

   Note: You will need the prompt number when you configure the prompt for the voice mail domain as described in Configuring customized prompts on page 10-21.
6. Click **Comment** and type the prompt text. Edit the text as you would with a word processor.

   You can use the Cut, Copy and Paste commands on the Edit menu.
7. Verify that the correct audio device is selected.

   For more information, see Setting up the audio device on page 10-12.

   Note: To quickly change the audio device for recording customized prompts, right-click the telephone or multimedia icon, and click **1 Multimedia**, or **2 Telephone**.

8. Click **Sound** > **Record**, or click  on the Voice Player.

9. Record your prompt, as follows.

   - If using local multimedia, begin speaking into the microphone.
   - If using the telephone, pick up the receiver when the telephone rings, and record the prompt after the tone.

10. When you are finished, click **Sound** > **Stop**, or click  on the Voice Player.

11. Play back your recording to verify that it is what you want.

    For more information, see Playing customized prompts on page 10-15.

    - If you want to re-record the prompt, repeat Steps 7 through 10.
    - If you want to edit the prompt, see Running an edit command on page 10-17 and Adjusting amplitude and silence on page 10-18.

12. Once you are satisfied with the recording, click **File** > **Save**, or click the **Save** icon.

13. If you want to record more prompts, repeat Steps 3 through 11.

Note: When you have finished a recording or editing session, click **File** > **Compact**. This removes extra data and unused space in the file that may result from some editing operations.

14. Copy the changes to the prompt file across all MASs in the voice mail domain.

    For more information, see Copying changes across MASs on page 10-20.

15. Configure the customized prompts for the voice mail domain.

    For more information, see Configuring customized prompts on page 10-21.

Playing customized prompts

You can play (to review) any of the customized prompts that you have recorded.

To play a customized prompt in Visual Voice Editor:

1. Click **Sound** > **Play**, or click the **Play** icon  on the Voice Player.

Note: If a range of audio data is selected in Waveform view, the system plays only that range. For more information, see Editing customized prompts on page 10-16.

2. If necessary, adjust the playback using one of the commands listed below.

Action	Sound menu command	Voice Player button
Skip back 5 seconds	Skip Back	
Skip forward 5 seconds	Skip Forward	
Pause playback	Pause	
Stop playback	Stop	
Increase playback volume	Volume Up	N/A
Decrease playback volume	Volume Down	N/A

Note: You can also use the slider bar to move backward and forward in the prompt.

Editing customized prompts

This section describes how to edit a customized prompt in Visual Voice Editor. This process involves the following procedures:

- Selecting a range of audio data on page 10-16
- Running an edit command on page 10-17
- Adjusting amplitude and silence on page 10-18

Selecting a range of audio data

Most of the Visual Voice Editor editing functions require that you select the section or “range” of the prompt that you want to edit. Selecting audio data is similar to selecting text in a word processor.

Using the mouse

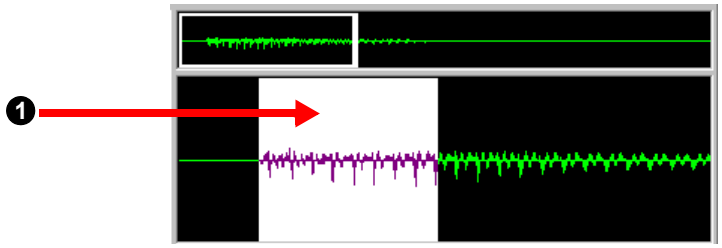
Click the desired edit start point in Waveform view, drag to the desired edit end point, and then release. The selected range is highlighted.

Using the keyboard

Click the desired edit start point in Waveform view, hold down the **Shift** key, and then use the left arrow or right arrow key to highlight your selection. Using the keyboard enables more precise data selection.

Figure 10-7 shows a selected range in Waveform view.

Figure 10-7. Waveform view



1 Selected range

Selection tips

- For greater accuracy, you can zoom in to see even more detail of the waveform. To zoom in, click the Zoom icon  on the Waveform toolbar.
- For fine control, use the Current Position and Selection Size markers on the Waveform infobar to guide you.
- To select the whole prompt, click **Edit** > **Select All**.

Running an edit command

You can edit audio data. The method is similar to editing text in a word processor:

1. Select the range you want to edit.
2. Click the required Edit menu item.

To cut a section of a prompt:

1. Select the range of the prompt that you want to remove.
2. Click **Edit** > **Cut**, or click the **Cut** icon.

   Visual Voice Editor cuts the section from the prompt and places it on the Clipboard. Visual Voice Editor then shifts the rest of the prompt back to fill in the gap, similar to deleting text in a word processor.

To copy a section of a prompt:

1. Select the range of the prompt that you want to copy.
2. Click **Edit** > **Copy**, or click the **Copy** icon.

   Visual Voice Editor places a copy of the prompt section on the Clipboard.

Tips:

- To move quickly to a specified prompt, click **Edit** > **Goto**.
- To toggle an edit on or off in order to see its effect, click **Edit** > **Undo**.
- To remove any extra data or unused space in the prompt file when finishing a recording or editing session, click **File** > **Compact**.

To paste the contents of the Clipboard into a prompt:

Pasting audio data applies to the Waveform and Comment views only. Visual Voice Editor prevents pasting data not intended for that view. For example, you cannot paste text into Waveform view.

1. Select the prompt in which you want to paste the Clipboard contents.
2. Select the point where you want to paste.
3. Click **Edit** > **Paste**, or click the **Paste** icon.

   The Clipboard contents are inserted at the desired point. Data after that point is shifted to the right, similar to inserting text in a word processor.

To trim a prompt:

Trimming a prompt deletes all data except the selected range. This is useful for eliminating leading or trailing silence at the beginning and end of a prompt:

1. Select the range of prompt, excluding any unwanted data at the beginning and end.
2. Click **Edit** > **Trim**.

   Visual Voice Editor deletes all data except for the selected range. Nothing is placed on the Clipboard.

Adjusting amplitude and silence

When recording, you can increase or decrease the audio level, overwrite a range with silence to remove background noise, and insert silence to add pauses.

Note: Adjusting amplitude and silence is only possible when the Waveform view is active and an audio selection has been made.

To increase amplitude by 10%:

You can select a range or increase the amplitude of the whole prompt.

1. Select the range, if required.
2. Click **Waveform** > **Increase Amplitude**, or click .

To decrease amplitude by 10%:

You can select a range or decrease the amplitude of the whole prompt.

1. Select the range, if required.
2. Click **Waveform** > **Decrease Amplitude**, or click .

To overwrite a range with silence:

1. Select the range you want to overwrite with silence.
2. Click **Waveform** > **Overwrite Silence**, or click .

To insert silence into a recording:

1. Place the current edit point where you want to insert the silence.
2. Select the range equivalent to the length of silence you want to insert.
3. Click **Waveform** > **Insert Silence**, or click .

Copying changes across MASs

Once you have made changes to the prompt file, you must copy the changes across all MASs in the voice mail domain.

To copy changes across MASs:

1. Locate an MAS in the voice mail domain.
2. Stop operation of the MAS.

   For the procedure to stop the MAS service, see Stopping and restarting the MAS service on page A-35.
3. Copy the modified prompt file to the MAS directory containing the prompt files.
4. Restart the MAS service.

   For the procedure to restart the MAS service, see Stopping and restarting the MAS service on page A-35.
5. Repeat Steps 1 through 4 for all other MASs in the voice mail domain.
6. Configure the prompts for the voice mail domain using the Voice Mail System Configuration application.

   For more information, see Configuring customized prompts on page 10-21.

Configuring customized prompts

You configure the customized prompts for a voice mail domain using the Voice Mail System Configuration application. Make sure you make a note of the prompt numbers before beginning the configuration. For the procedures, see one of the following:

- Configuring the Auto Attendant Main Menu prompt on page 10-22
- Configuring holiday prompts on page 10-23
- Configuring morning, afternoon, evening, and closed prompts on page 10-24
- Configuring the custom language selection greeting on page 10-25

For more information on setting up customized prompts, see Setting up customized prompts on page 10-11.

Configuring the Auto Attendant Main Menu prompt

To configure the Auto Attendant Main Menu prompt:

1. Start the Voice Mail System Configuration application.
2. In the Voice Mail System Configuration window, click the desired Voice Mail Domain.
3. Double-click **Auto Attendant**.

   The system displays the Auto Attendant - Voice Mail Domain dialog box.
4. Click the **Attendant Main Menu Editor** tab (if it is not already the active tab).
5. In the **Auto Attendant Main Menu Prompt** field, enter the prompt number.
6. Click **OK**.

Note: If you configure multiple languages, you cannot enter the Auto Attendant Main Menu prompt. Instead, you must configure the Main Menu prompt for each language in the **Language / Key Association** tab.

Configuring holiday prompts

To configure holiday prompts:

1. Start the Voice Mail System Configuration application.
2. In the **Voice Mail System Configuration** window, click the desired voice mail domain.
3. Double-click **Auto Attendant**.

   The system displays the **Auto Attendant - Voice Mail Domain** dialog box.
4. Click the **Holidays** tab.
5. Enter the prompt numbers and corresponding dates in the relevant fields.
6. Click **OK**.

Configuring morning, afternoon, evening, and closed prompts

To configure morning, afternoon, evening, and closed prompts:

1. Start the Voice Mail System Configuration application.
2. In the **Voice Mail System Configuration** window, click the desired voice mail domain.
3. Double-click **Auto Attendant**.

   The system displays the **Auto Attendant - Voice Mail Domain** dialog box.
4. Click the **Time of Day** tab.
5. Enter the prompt numbers in the relevant fields.
6. Click **OK**.

Configuring the custom language selection greeting

To configure the custom language selection greeting:

1. Start the Voice Mail System Configuration application.
2. In the **Voice Mail System Configuration** window, click the desired voice mail domain.
3. Double-click **Auto Attendant**.

   The system displays the **Auto Attendant - Voice Mail Domain** dialog box.
4. Click the **Language / Key Association** tab.
5. In the **Custom Language Selection Greeting** field, enter the appropriate prompt number.
6. Click **OK**.

Importing and exporting recordings

You can import WAV files created using other audio software, for example, Microsoft Sound Recorder or the Voice Recorder. You can also save a recording created in Visual Voice Editor as a WAV file for use with other audio applications. For the procedures, see one of the following:

- Importing a recording on page 10-27
- Exporting a recording on page 10-28

Importing a recording

To import a recording in Visual Voice Editor:

Before importing a WAV file, verify that you have saved it in the audio format that you are using.

1. Do one of the following:
   - To insert a new prompt, click **Edit** > **Insert**.
   - To replace a selected prompt with an imported recording, click **File** > **Import**.
2. Locate and select the WAV file you want to import, using the standard **Windows Open** dialog box.
3. Click **OK**.

Note: Importing a recording applies to the entire prompt only. If the **Waveform** view is active and a range is selected, the range is ignored.

Exporting a recording

To export a recording in Visual Voice Editor:

1. Click the prompt you want to save in WAV format.
2. Click **File** > **Export**.
3. Using the standard **Windows Save As** dialog box, enter a name for the file and select where you want to save it.
4. Click **OK**.

11

Caller Applications

This chapter describes caller applications—what they are, how to use them, and how to use Caller Applications Editor to create and deploy caller applications.

Section	Page
Introduction to caller applications	11-2
About the Caller Applications software	11-3
Creating caller applications (process overview)	11-4
Using the Caller Applications Editor	11-9
Administering caller applications	11-15
Creating a caller application node	11-16
Adding application (action) nodes to a caller application	11-20
Assigning actions	11-24
Administering prompts	11-33
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Analyzing caller applications	11-48

Introduction to caller applications

Modular Messaging Caller Applications software enables you to enhance and extend the telephone user interface (TUI) by creating additional menus and prompts. Caller applications allow you to extend or even replace the system Automated Attendant, depending on your organization's needs.

You can create caller applications to perform functions like the following:

- Automate call handling and route incoming calls directly to departments within your organization.
- Use them to create daily "bulletin board" announcements for your callers and subscribers.
- Create an automated fax attendant.
- Allow for greater flexibility and more options with respect to system and personal greetings.

Note: If you are familiar with or are migrating from an Intuity AUDIX environment, you should realize that, in the Modular Messaging environment, caller applications can be used to accomplish most of the same functions as "automated attendants" (including "nested automated attendants") in AUDIX. In fact, you will find that you can actually accomplish many of the same ends easier using caller applications.

Depending on how your system and your caller applications are set up, callers can reach these caller applications in any of the following ways, often without even realizing they are doing so:

- From the Automated Attendant:
  - — By entering an ID number that is associated with a caller application. In this case, the caller enters this ID number as a mailbox number (although the caller application itself does not require a mailbox for its existence).
  - — By pressing an Automated Attendant menu choice associated with a caller application.
- By calling a specified direct dial number (such as a pilot number) or telephone extension number.
- By transferring to a mailbox with an associated caller application.
- From another caller application.

For a more comprehensive discussion of how to create and use caller applications, including examples, see Appendix B, Examples of Caller Applications.

About the Caller Applications software

The Caller Applications software consists of two components, both of which are installed and added to the Avaya Modular Messaging menu during system installation:

- Caller Applications Editor
- Caller Applications Runtime

Caller Applications Editor

The Caller Applications Editor software consists of Microsoft Management Console (MMC) snap-ins and extensions. You can run this tool either strictly within the MAS environment or you can install and use it as a standalone development tool on another machine outside the voice mail domain. If you choose to use it as a standalone development tool on a machine other than an MAS, then you must have network connectivity to the MAS before you can deploy and use them. You must also be logged in as an MM System Administrator.

For more information about the Caller Applications Editor and how to use it, see Using the Caller Applications Editor on page 11-9.

Caller Applications Runtime

Caller Applications Runtime is an MAS subsystem that executes caller applications. Before the system can use caller applications, this software must be installed on all MASs in the voice mail domain.

Using the Caller Applications software

To use the Caller Applications software:

- Verify that the Caller Applications software is installed on every MAS in the voice mail domain.
- Use the Voice Mail System Configuration tool to verify that caller applications are enabled for the voice mail domain. For information on enabling caller applications for the voice mail domain, see Configuring TUI general properties on page 3-4.

Creating caller applications (process overview)

The recommended process of creating caller applications for use on your system is a six-step process:

1. Plan carefully!
2. Set up your targets.
3. Build the caller application(s).
4. Record and assign prompts.
5. Deploy the application.
6. Analyze the application.

Notes:

- This section gives a broad overview of the caller application process, to give you a general feel for the process flow. The rest of this chapter provides more detailed information about these six general steps.
- For examples of this process in action and for additional ideas on how you can use caller applications, see Appendix B, Examples of Caller Applications.

Plan carefully!

Absolutely nothing is more important than careful planning when designing and setting up caller applications for your system. The following are several techniques you can use to help plan your system's use of caller applications:

- List the desired behaviors for your system.

  Exactly what do you want your system to do and how you want it to behave? What do you want callers who reach your system to experience? What kinds of choices do you want to give them, and at what level? How many menu levels do you want to offer?

- Make a flow chart or diagram of the caller application(s).

  One of the best ways to plan your system's behavior is to visualize it by creating a flow chart or diagram. This enables you to trace the caller experience and all possible options. It also helps you determine where you will and will not need to record and use prompts. For examples of call flow charts, see Appendix B, Examples of Caller Applications.

- Plan your prompts.

Create a chart or spreadsheet to list and describe the prompts you think you will need.

Note: Only one prompt can be assigned to a given node. This means that, if you have a node in which you want to make several menu options available to callers, you must include the information for all those options in a single prompt to be assigned to that node.

You can always add to your list of prompts later if and as the caller application design changes, but it is good to try to list as many in advance of the actual execution of the plan as possible. Make sure you leave a place to assign an ID number to each prompt, either now or later.

Once you have planned your system's operation, the next step is to Set up your targets.

Set up your targets

If you know that one or more of your caller options will be redirecting the caller to an extension or mailbox within the system, it is especially important that you do this step. You cannot actually build this functionality into your caller application until you do.

For example, one of the options you may want to provide your callers is the option to talk with someone in the technical support department. You can set up your caller application to do this, but if you have not first set up the extension for your technical support department, you will not be able to provide that extension number when building the caller application.

If you know that your caller application will be redirecting the caller to another caller application, it is also a good idea to create the secondary caller application first. Again, you can create a node to redirect the caller, but until you have actually created (and deployed) the secondary caller application, you cannot actually implement the transfer in the primary caller application. It is a good idea to keep this in mind when designing a system that uses multiple caller applications.

Once you have set up all your targets, then you are ready to Build the caller application(s).

Build the caller application(s)

To build the actual caller application, you must use the Caller Applications Editor. The Caller Applications Editor is a GUI software tool provided as part of your Avaya Modular Messaging system. It is designed specifically to allow you to create and deploy your own caller applications.

You can use the Caller Applications Editor either directly on the MAS where you intend to use the caller application or as a standalone tool on a machine outside the voice mail domain. If you choose to develop your applications on a separate machine, you must remember to import the caller application (*.uma) file to the MAS before you can install and deploy it.

Caller applications are built around a “node” concept. That is, you start with a base caller application node that acts as the gateway into the caller application, and then (if required) add nodes under it to perform additional functions. These additional nodes are called application, or action, nodes.

A caller application can consist of many nodes at many levels or a single node. It may provide callers with many options at multiple levels, or it could play a simple greeting and automatically transfer the caller to an extension. It all depends on what you want or need the caller application to do, as determined by your design plan.

Note: What follows is a general description of the process to build a caller application using the Caller Applications Editor. It assumes that you have already planned your caller application design (see Plan carefully! on page 11-4) and created the necessary targets (see Set up your targets on page 11-5). For more specific information about how to use the Caller Applications Editor itself or to perform a specific step in the process, follow the appropriate links in the text.

To build the caller application:

1. Open the Caller Applications Editor.

   For the procedure, see Starting the Caller Applications Editor on page 11-9.

2. Create the caller application node and set the properties for the caller application.

   For the procedure, see Creating a caller application node on page 11-16.

3. Add the application action nodes required to enable the caller application to perform all the functions called for in your plan. Be sure to set all the appropriate properties for each action node. Remember too that you can assign only one prompt per node.

   For the procedure to add application action nodes and set their properties, see Adding application (action) nodes to a caller application on page 11-20.

   For more ideas on how to incorporate and use application action nodes see Appendix B, Examples of Caller Applications.

   Note: As you are adding nodes, and especially if you find yourself modifying your caller application, we recommend that you also remember to update your list of prompts as you go along.

4. Save the caller application.

   For the procedure, see Saving a caller application on page 11-39.

If you have not been saving your work as you go along, you should save your caller application before recording and assigning your prompts. Once you have saved the application, then you are ready to Record and assign prompts.

Record and assign prompts

If you have been keeping a list of all the prompts you will need for your caller application, it will be easy to record them (or have them recorded) and then assign them where they belong within the caller application.

There are two ways you can get prompts recorded and onto the MASs in your system. You can:

- Record them yourself (or have someone else within your organization record them)
- Have them professionally recorded by someone else.

In the first case, you can record the prompts directly onto the MAS, using either a telephone or a multimedia CD equipped with a microphone and speakers. For the procedures to record your own prompts, see Recording application prompts on page 11-35. This approach has the advantage of being easier, but the recording quality may suffer as a result.

For this reason, many organizations prefer to have their prompts professionally recorded and then import the prompts into the caller application. The Caller Application Editor makes this easy to do, because “wave” (*.wav) files can be dragged and dropped into the application. For the procedure to do this, see Importing prompts on page 11-37.

Whether you record your own prompts or have them recorded and import them, after they are on the MAS, you must still assign them to the appropriate nodes in your caller application. For the procedure to do this, see Assigning prompts to nodes on page 11-38.

Once you are done assigning all the prompts to the appropriate nodes in your caller application, save it again. At this point, you are done creating the caller application, but you must still Deploy the application in the voice mail domain to place it into service.

Deploy the application

Simply creating and saving a caller application does not automatically place it into service and make it available to callers. Once the caller application is finished, you must still deploy (install) it on the voice mail domain before it is considered “live” and available to callers.

In cases where the application is designed for callers to access it using a key press or combination of key presses, you must also create an association as part of the deployment process.

For more information about deploying caller applications and associations, including the procedures for them, see Caller application deployment on page 11-40.

Once the caller application has been deployed, technically it is finished. However, there is one more step in the process that you should not overlook, as it will help you discover and correct any design problems with your caller applications before your customers do. After deploying the application, you should Analyze the application, using the **Application analysis** tool, to discover and help troubleshoot any problems that may exist within your application.

Analyze the application

The Caller Applications Editor contains within it a tool, called the **Application analysis** tool, which can be very helpful in testing and locating errors within your deployed caller applications. When you use this tool, it analyzes all caller applications deployed within a selected voice mail domain and flags any errors it finds. This allows you to repair problems (hopefully!) before callers have a chance to encounter them. That is why we recommend strongly that you use this tool immediately after deploying any caller application.

For more information about the **Application analysis** tool, see Troubleshooting deployed caller applications on page 11-53.

Using the Caller Applications Editor

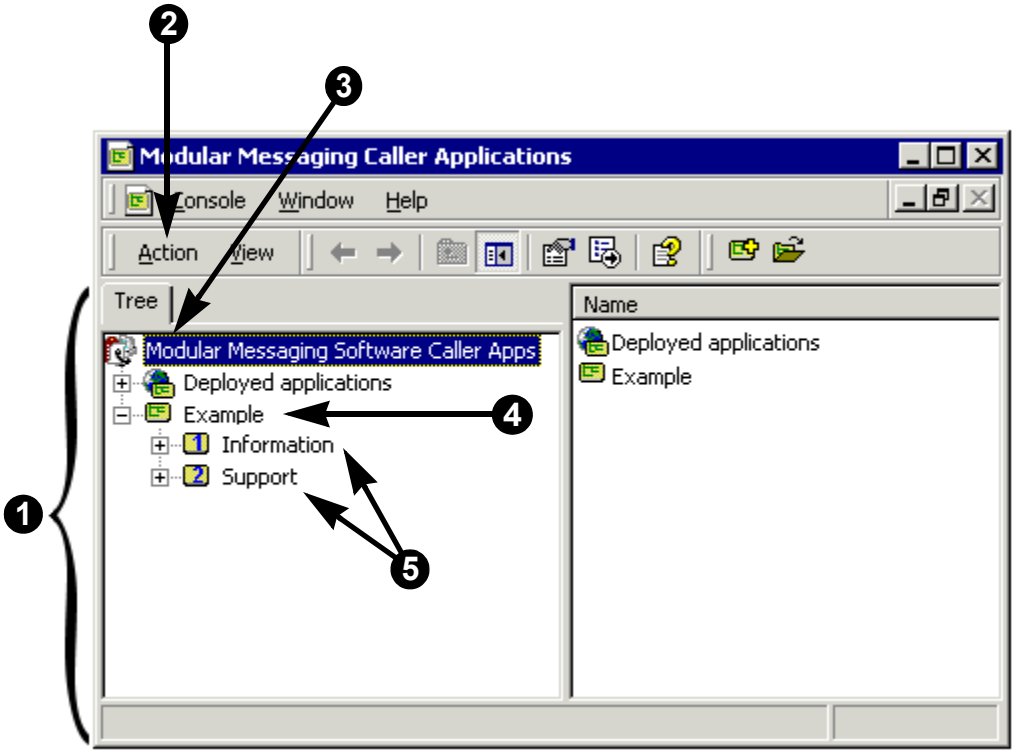
The Caller Applications Editor is the primary tool used to create and deploy (install) caller applications on your system.

Starting the Caller Applications Editor

To start the Caller Applications Editor, click **Start** > **Programs** > **Avaya Modular Messaging** > **Caller Applications**.

The systems displays the **Modular Messaging Caller Applications** window (see Figure 11-1).

Figure 11-1. Modular Messaging Caller Applications window



1 **Tree** pane
2 **Action** menu
3 **Modular Messaging Caller Apps** node
4 Caller application node
5 Application action nodes

Caller applications are represented in a hierarchical tree structure in the left (**Tree**) pane of the window. The system displays objects in this pane at the following levels:

- **Modular Messaging Caller Apps** level

  The top level of the tree is the **Modular Messaging Caller Apps** node. All caller applications form branches off this node.

  This is the level at which you can make settings that affect all caller applications you create (see Configuring preferences and general caller application properties on page 11-14).

- Caller application level

  Just beneath the **Modular Messaging Caller Apps** node are the nodes for the caller applications that you have created or opened. Each caller application has its own node.

- Application (action) node level

  Beneath the caller applications are the application action nodes, which typically represent the menu items and other caller options in a caller application. A caller application can have many action nodes. If submenus are required, it may have several levels of action nodes.

Understanding and using the Action menu

The **Action** menu is context-sensitive. That is, the contents of this menu vary according to the node level selected in Caller Application Editor.

You can reach this menu by either:

- Clicking a node to select it and then clicking the **Action** menu option.
- Right-clicking a node. This method accesses the **Action** menu as a pop-up menu.

The following tables list the **Action** menu options for each level:

Action menu options - Modular Messaging Caller Apps level

Action menu option	Action
Open Application	Displays the standard Windows **Open** dialog box listing all the caller applications that are available for editing.

Action menu options - Modular Messaging Caller Apps level

Action menu option	Action
New - Caller Application	Creates a new caller application node below the **Modular Messaging Caller Apps** node.
Properties	Displays the **Modular Messaging Software Caller Apps Properties** dialog box. Use this dialog box to set preferences for all caller applications you create (see Configuring preferences and general caller application properties on page 11-14).

Action menu items - Caller application level

Action menu option	Result
Save Application	Saves the caller application with the same application name and embedded ID, and also increments its revision number.
Save Application as	Saves the caller application with a new application name and embedded ID. On the next deployment, this caller application will be treated as a new application by the MASs in the voice mail domain.
Close Application	Closes the caller application. The system prompts you to save any changes made since the last save.
New - Application Node	Creates a new application action node below the selected caller application node.
Properties	Displays the **Properties** dialog box for the selected caller application. Use this dialog box to set properties that apply to the caller application (see Configuring the caller application properties on page 11-17).

Action menu items - Application action node level

Action menu option	Result
Change access key	Displays the **Change Key** dialog box, which allows you to change the key press the caller must use to access that application action node.
New - Application Node	Creates a new application action node below the currently selected application action node as a sub-level to it.

Action menu items - Application action node level

Action menu option	Result
Delete	Deletes the selected application action node. If the selected action node is referenced by other nodes, the system displays a dialog box with information on the referenced nodes.
Properties	Displays the **Properties** for the selected application action node. Use this dialog box to set properties that apply to the selected action node (see Configuring application (action) node properties on page 11-21).

Understanding the toolbar icons

The icons displayed in the Caller Applications Editor toolbar vary according whatever is selected in the **Tree** pane, both in which icons are displayed and whether icons are displayed as active or inactive. Many of these icons duplicate actions available from the **Action** menu.

The following icons are used in the Caller Applications Editor toolbar:

Icon	Action
	Moves back.
	Moves forward.
	Moves the display up one level (available only at caller application node level).
	
	Displays the **Properties** dialog box for the active level. At the **Modular Messaging Software Caller Apps** level, use this dialog box to set preferences for all caller applications you create (see Configuring preferences and general caller application properties on page 11-14). At the caller application level, use this dialog box to set properties that apply to the caller application (see Configuring the caller application properties on page 11-17). At the caller application node level, use this dialog box to set properties that apply to the selected action node (see Configuring application (action) node properties on page 11-21).
	
	

Icon	Action
	Accesses the online help for the Caller Applications Editor.
	Creates a new caller application (available only at the Modular Messaging Caller Apps node level).
	Creates a new application action node (available only at caller application node level)
	Opens an existing caller application (available only at the Modular Messaging Caller Apps node level)
	

Configuring preferences and general caller application properties

You must configure Caller Application Editor properties at the Modular Messaging Caller Apps level (that is, the **Modular Messaging Software Caller Apps** node must be selected). These properties signify your preferences and are applied to any caller applications you create.

To configure Caller Application Editor properties:

1. Click the **Modular Messaging Caller Apps** node.
2. From the **Action** menu, click **Properties**.

   The system displays **Modular Messaging Software Caller Apps Properties** dialog box, which has only one tab, the **General** tab.
3. Under **Media Setup**, click **Telephone** or **Multimedia**.
4. If you clicked:

   — **Multimedia**, skip ahead to Step 7.

   — **Telephone**, click **Configure** to set up telephone properties.

   The system displays the **Telephone Properties** dialog box.

   - In the **Extension number:** field, enter the number of the extension that will be used for recording and playing prompts.
   - In the **Message Application Server name:** field, enter the name of an MAS in the voice mail domain. If necessary, use the **Browse** button to locate the desired MAS.
5. Click **OK**.
6. (Only if you selected **Telephone** as the media type) Select the appropriate digital telephony type for your region. If you are in a country that uses a digital telephone network other than that used in the United States or Japan, select **International regions including Europe**.
7. To automatically display dialog boxes when you create a new application (action) node, select **Display properties when creating new application nodes**.

   We recommend selecting this option, as it helps to streamline and speed up the caller application building process.
8. To enable users to select the language for a caller application or add another language to the caller application, select **Allow Language Selection**.
9. Click **OK**.

Administering caller applications

This section provides information on how to administer caller applications on your system.

Note: You can configure your preferences for using the Caller Applications Editor and properties to be applied by default to caller applications you create. For more information, see Configuring preferences and general caller application properties on page 11-14.

Sub-topics include the procedures to:

- Create a caller application node and configure its properties.

  For more information, see Creating a caller application node on page 11-16.

- Add application (action) nodes to the caller application and configure their properties.

  For more information, see Adding application (action) nodes to a caller application on page 11-20.

- Administer prompts, including selecting prompt types and recording or importing prompt files.

  For more information, see Administering prompts on page 11-33.

- Save a caller application.

  For more information, see Saving a caller application on page 11-39.

- Open a caller application.

  For more information, see Opening a caller application on page 11-39.

Creating a caller application node

The first step in creating a caller application is to add the base caller application node. This is a top-level node, added just below the **Modular Messaging Caller Apps** node.

Typically, this base node is set up as a menu of options presented to the caller ("For product information, press 1. For technical support, press 2." Etc.), but it does not need to be. It can also be used to:

- Transfer the caller automatically to an extension or mailbox within the system.
- Go to another node or caller application within the system.
- Route calls according to the time of day at which the call is received.
- Allow callers to send a message without having to listen to the dialed party's greetings.
- Terminate the call.

There are two basic steps to create a caller application node:

- Adding the base caller application node
- Configuring the caller application properties

You may also want to add application (action) nodes as sub-nodes to provide other options or actions to the caller (see Adding application (action) nodes to a caller application on page 11-20).

Adding the base caller application node

To add a basic caller application node and create the caller application:

1. Start the Caller Applications Editor, if it is not already running.

   For the procedure to start the Caller Applications Editor, see Starting the Caller Applications Editor on page 11-9.

2. Click **Action** > **New** > **Caller application**, or click the **New** ( ) icon.

   The system displays the **New Caller Application** dialog box.

3. Complete the following fields:

   - **Application name** Enter the name of the caller application. The Editor displays this name in the list of deployed applications when the application is deployed.
   - **Application description** (Optional, but recommended) Enter a short description of the caller application. This description provides the text that the system displays with the application properties.

- **Language** Select the language to use for the caller application. The display lists all the languages installed with the system.

- **Design for VMD** (Optional) Select this if you want to specify the voice mail domain where the caller application will be deployed. When selected, voice mail domain-specific values, such as the mailbox length, will be applied to the caller application. This information is not a prerequisite for building a caller application but is useful if you are editing caller applications offline and cannot easily access voice mail domain information.

4. Click **OK**.

   The system displays the caller application as a node under Caller Apps.

Note: At this point, the system displays the caller application node icon in red (),signifying that it is not yet viable. Once you add one or more application (action) nodes underneath the base node or change the action type in the **Properties** dialog box, the system changes the display to signify that the caller application is viable ().

Configuring the caller application properties

To configure caller application properties:

1. Right-click the caller application node and select **Properties** from the pop-up menu.

2. In the **[*Caller Application*] Properties** dialog box, click the **General** tab.

3. On the **General** tab, complete the following fields:

   - **Name** Displays the current name of the caller application. You can change the name of the caller application if you want.

     The Caller Application Editor displays this name in the list of deployed applications when the application is deployed.

   - **Description** (Optional, but recommended) Displays the description, if any, you entered when creating the node. If you want, you can modify this short description of the caller application.

     This description provides the text that the system displays with the application properties and can be very useful, especially when designing large applications.

   - **Action type** Select from this menu the type of action you want to assign to the caller application node. **Menu** is the default action type. The choice you make here determines options that appear to the right of this menu. For more information, see Assigning actions on page 11-24.

- **[Action] options** These options are determined by the choice you make in the **Action type** menu. For more information, see Assigning actions on page 11-24.

- **Cancel destination node** Select a node for the call to transfer to if a caller presses the cancellation key (usually the * key) at this node. The default destination is the parent node.

4. Click the **Prompts** tab.

5. On the **Prompts** tab:

   - If you do not want to use a prompt with this node, then verify that the **Play entry prompt** check box is cleared and skip ahead to the next step.

   - If you want to use a prompt with this node, then select the **Play entry prompt** check box and complete the remaining fields (which become active when you select this option).

     For more information about these and the remaining prompt options, see Administering prompts on page 11-33.

6. Click the **Application** tab.

   Note: The settings you make in this tab apply to the entire caller application.

7. On the **Application** tab, complete the following fields:

   - **Operator options** These options allow you to determine where the call will be redirected if the caller presses the Operator key (**0**).

     — **Default operator** Select this to route the call to the default operator as defined for the voice mail domain.

     To use this option, you must ensure that you have configured a default receptionist mailbox number for the voice mail domain. For more information, see Configuring TUI receptionist properties on page 3-6.

     — **Custom operator** Select this to route the call to a custom operator defined for the caller application. Enter the extension number for the custom operator.

     This option might be used, for instance, in the case of an executive who does not want calls re-routed to the system operator, but rather to a personal executive assistant.

   - **Default cancel** Select a node for the call to transfer to if a caller presses the cancellation key (usually the * key) at this node. The default destination is the parent node.

- **Default cancel key** Select the key the caller must press to cancel any operation within the caller application.

  Typically, the star (*) key is used for this purpose, but you can, if you wish, change it to something else.

- **Languages in caller application** (Display only) This display lists all the languages used in the caller application.

- **Design for VMD** (Optional) Select this if you want to specify the voice mail domain where the caller application will be deployed. When selected, voice mail domain-specific values, such as the mailbox length, will be applied to the caller application. This information is not a prerequisite for building a caller application but is useful if you are editing caller applications offline and cannot easily access voice mail domain information.

8. Click **OK** or **Apply**.

Adding application (action) nodes to a caller application

An application, or action, node is always a child node of a caller application or another application node. Application nodes allow callers to interact with the system in a more complex fashion than a simple menu.

Application nodes can be used to accomplish a variety of actions. They can:

- Present a menu of options to the caller (“For Sales, press 1, for Technical Support, press 2, etc.”)
- Transfer the caller automatically to an extension or mailbox within the system.
- Go to another location, such as another node or caller application, within the system.
- Route calls according to the time of day at which the call is received.
- Allow callers to send a message without having to listen to the dialed party’s greetings.
- Terminate the call.

A caller application may have thousands of application action nodes. However, for reasons of usability, we recommend that you limit a caller application to three or four menu levels.

There are two basic steps to create a caller action node:

- Adding the application action node
- Configuring application (action) node properties

Adding the application action node

To add an application action node to a caller application:

1. In the **Tree** pane, click the node to which you want to attach the new application node (and under which it will appear in the tree).

   You can attach an action node either to a caller application node or to another application (action) node.

2. Click **Action** > **New** > **Application node**, or click the **New** ( ) icon.

The system displays the **Add Node** dialog box.

Note: This procedure assumes you have configured the system to automatically display dialog boxes when adding application nodes (see Configuring preferences and general caller application properties on page 11-14). If not, the system creates the node without allowing you to configure any properties at this point. If this is the case, the system displays the node's icon in the **Tree** pane as not viable (). To configure properties for the node in this case, see Configuring application (action) node properties.

3. In the **Add Node** dialog box, complete the following fields:

   - **Name** Enter a name for the node. The Caller Application Editor uses this name to identify the node in various node and application displays.

   - **Action type** Select from this menu the type of action you want to assign to the node. **Menu** is the default action type. The choice you make here determines other options available on the **General** tab of the node's **Properties** dialog box. For more information, see Assigning actions on page 11-24.

   - **Key press** Displays the touchtone key (also known as the access key) that callers must press to activate the action assigned to this action node.

     Note: You can change the access key at any time. For more information, see Changing the access key assigned to an application node on page 11-23.

   - **Description** (Optional, but recommended) Enter a short description of the caller application. This description provides the text that the system displays with the application properties and can be very useful, especially when designing large applications.

4. Click **OK**.

   The system displays the new application node () under the selected caller application or application action node.

Configuring application (action) node properties

To configure application (action) node properties:

1. Right-click the action node and select **Properties** from the pop-up menu.

2. In the **[*Application Node*] Properties** dialog box, click the **General** tab.

3. On the **General** tab, complete the following fields:

   - **Name** Enter the name of the caller application. The Caller Application Editor uses this name to identify the node in various node and application displays.

   - **Description** (Optional, but recommended) Enter a short description of the caller application. This description provides the text that the system displays with the application properties and can be very useful, especially when designing large applications.

   - **Action type** Select from this menu the type of action you want to assign to the caller application node. **Menu** is the default action type. The choice you make here determines other options available on this tab. For more information, see Assigning actions on page 11-24.

     Note: If you have assigned an invalid action to the application node, the application node icon indicates that the action is invalid (). You cannot save a caller application that contains invalid application nodes.

   - **[Action] options** The content of and options for this field are determined by the choice you make in the **Action type** menu. For more information, see Assigning actions on page 11-24.

   - **Cancel destination node** Select a node for the call to transfer to if a caller presses the cancellation key (usually the * key) at this node. The default destination is the parent node.

4. Click the **Prompts** tab.

5. On the **Prompts** tab:

   - If you do not want to use a prompt with this node, then verify that the **Play entry prompt** check box is cleared and skip ahead to the next step.

   - If you want to use a prompt with this node, then select the **Play entry prompt** check box and complete the remaining fields (which become active when you select this option).

     For more information about these and the remaining prompt options, see Administering prompts on page 11-33.

Changing the access key assigned to an application node

You can change the access key assigned to an application (action) node. The access key is the touchtone key that callers must press to access the application node.

To change an access key in Caller Application Editor:

1. Click the application node for which you want to change the access key.
2. Click **Action** > **Change access key**.

   The system displays the **Change Key** dialog box.
3. Select one of the following:

   - **Change access to this key to use** Changes the selected access key for a different access key. You can only select a key that has not already been used at this level.
   - **Swap access key with key** Swaps the selected access key with a another node's access key. You can only select a key that has already been used at this level.
4. Click **OK**.

Assigning actions

When you create a caller application or application (action) node, by default the system assigns it a **Menu** action type. If required, you can assign a different action type. For example, you can assign an action that transfers the caller to an operator or assign an action that terminates the call.

You assign actions to a node using the **General** tab of the **[*Caller Application*] Properties** or **[*Application Node*] Properties** dialog box.

For descriptions of the action types and their corresponding options, select from among the following:

- Menu actions
- Transfer actions
- Goto actions
- Conditional goto actions
- Send message actions
- Termination actions

Menu actions

All **Menu** action types present the caller with a menu . A menu usually plays a prompt and then provides the caller with a series of numbered choices. For example:

> "For Sales, press 1. For Technical Support, press 2." Etc.

When you select **Menu** from the **Action type** list, the **General** tab display automatically updates itself to present the following options:

- **Menu options**

  — **Menu only** This option presents callers with a list of single-digit keypress choices. The system considers only keys that are defined for the node as valid. The system plays an "invalid response" prompt to all other key presses.

  For example, suppose you have a menu with five choices on it, numbered from 1 through 5. You also want to use the 0 key for the operator, the **#** key to repeat the menu prompt, and the * key to cancel out. This means that, if the caller were to press any key 6 through 9, the system would respond that it is an invalid response and prompt the caller to try again.

  — **Menu with extension** Like the **Menu only** option, this option presents callers with a list of single-digit keypress choices. However, if the caller presses any key other than the keys defined for the node, the system attempts to locate it as an extension in the system and transfer the caller to that extension. Only if the system cannot find an extension with that number does it respond that the key press is an invalid response.

  So, to continue and expand on the previous example, suppose that all the extensions in your system consisted of five digits, always beginning with 7. If this option is selected, then, in addition to the system responses described above, if the caller enters a five-digit number beginning with 7, the system will try to locate that number as an extension on the system. If it finds the extension, it automatically transfers the caller to that extension. If it does not find the extension on the system, then it plays the "invalid response" prompt. In addition, the digits 6, 8, and 9 would also receive the "invalid response" prompt.

> **Note:** When this option is selected, the **#** key is automatically reserved for use by the Dial by Name feature. This means that callers can enter extensions, and they can also press **#** to access the Dial by Name feature. If you want to encourage your callers, therefore, to use the Dial by Name feature, we recommend that you include it in the prompt for the node.

— **Menu with mailbox** This option is very similar to the **Menu with extension** option, except that, instead of transferring the caller to an extension, this option looks for and transfers the caller to the appropriate mailbox.

Note: When this option is selected, the **#** key is automatically reserved for use by the Dial by Name feature. This means that callers can enter extensions, and they can also press **#** to access the Dial by Name feature. If you want to encourage your callers, therefore, to use the Dial by Name feature, we recommend that you include it in the prompt for the node.

— **Menu with caller application** This option is also very similar to the Menu with extension option. The difference in this case is that, instead of transferring the caller to an extension or a mailbox, the system looks for a caller application with an association ID that matches the five-digit number. If it finds such a caller application, it transfers the caller to that caller application. If not, it responds with the “invalid response” prompt.

- **Cancel destination node** This drop-down list allows you to select the node to which the caller application will go if the caller cancels the operation at this node. The default is the parent node, and in most cases, this is the recommended option.

Transfer actions

When a caller presses the associated key, the **Transfer** action transfers the caller to either the operator, a mailbox, or an extension number.

When you select **Transfer** from the **Action type** list, the **General** tab display automatically updates itself to present the following options:

- **Operator** This option transfers the caller to the operator.

  The operator can be either the default system operator or a personal (custom) operator. Caller application properties determine which operator is used here (see Configuring the caller application properties on page 11-17).

- **Mailbox** This option transfers the caller to a specified mailbox number. You must enter the mailbox number in the adjacent field.

- **Extension** This option transfers the caller to a specified extension number. You must enter the extension number in the adjacent field.

Goto actions

Goto actions route the caller directly to another application (action) node or caller application. This can be especially useful when you have a common action that you want to reuse in your system.

For example, you may want to give the caller the option at any point to transfer to the operator for assistance. But before transferring the call, you want to play the prompt: “Please wait while your call is transferred to the operator.” You can create this either as a node at the top level of your caller application, or even as a separate caller application. To redirect the caller to the operator, then, all you need to do is use a **Goto** action node anywhere you want that to be an option for the caller.

For an example of this use of the **Goto** action, see Appendix B, Examples of Caller Applications.

When you select **Goto** from the **Action type** list, the **General** tab display automatically updates itself to present the following options:

- **Node** This option routes the caller to another application node in the same caller application. You must select the application node from the drop-down list.
- **Caller application** This option routes the caller to another caller application. Select the caller application from the drop-down list of caller applications already deployed in the voice mail domain.

> **Note:** You can use the **Goto** action to direct the call *only* to caller applications that have been deployed on the system. Caller applications that have not been deployed do not appear on the drop-down list.

Conditional goto actions

Conditional goto actions route calls according to a schedule. For example, you may want calls that come into the system during business hours to be directed to a live receptionist. After business hours, however, you want calls directed to a special mailbox. You can use the **Conditional goto** action to accomplish this.

When you select **Conditional goto** from the **Action type** list, the **General** tab display automatically updates itself to present the following options:

Notes:

- The Conditional goto action cannot be used as the entry (top) level node in an application, because to use it, you must have nodes to which you can direct it, and you cannot attach sub-nodes to this action type.
- Each of the following nodes must be within the currently active caller application. This means that you must dedicate two nodes for this purpose, or create one node with two sub-nodes that you can use.

- **During hours node** Select the application node to which you want to route callers when the associated schedule is active.
- **After hours node** Select the application node to which you want to route callers when the associated schedule is not active.
- **Weekly schedule** Click this to display the schedule grid.

  Use the schedule grid to set the blocks of time when the schedule is active. For more information, see Tips for using the schedule grid on page 11-30.

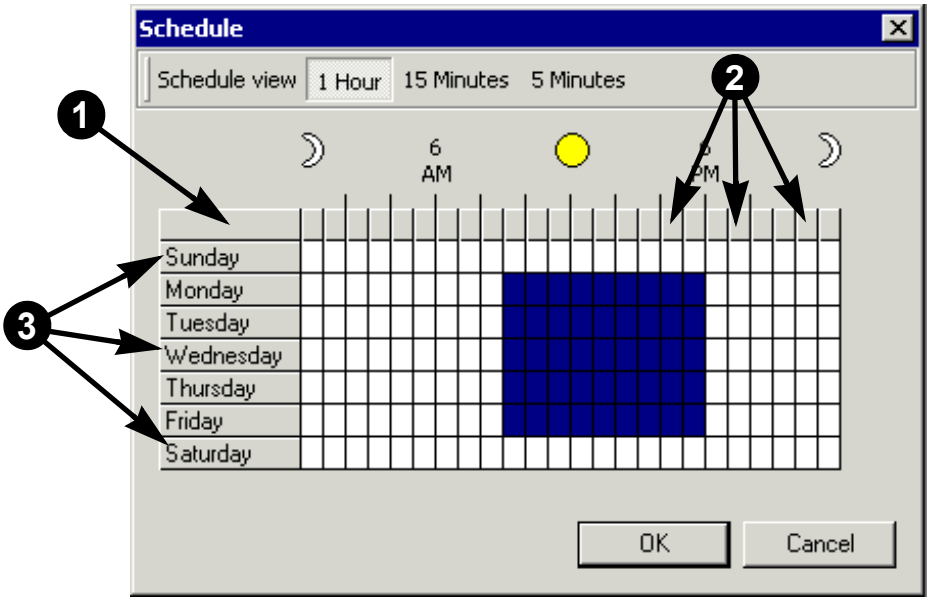
Tips for using the schedule grid

The schedule grid has the weekdays along the y-axis and the time of day along the x-axis. Cells on the grid represent a time interval, either 1 hour, 15 minutes, or 5 minutes, depending on the current selection.

A cell can have one of two states, on (blue) or off (white). Clicking a cell toggles its state.

- To toggle the state of the first cell in the row and set all of the other cells in the row to the same state, click inside a row header.
- To toggle the state of the first cell in the column and set all of the other cells in the column to the same state, click inside a column header.
- To change the other cells to the same state as the first, click and hold inside a cell and drag the mouse cursor over other cells.
- To change all cells to the same state as the top left cell, click inside the top left cell.
- To show cells enabled for the full hour or as partially selected, use the **5 minutes**, **15 Minutes**, or **1 Hour** icons

Figure 11-2. Conditional goto Schedule Grid



1 Select all cells in the grid
2 Column headers
3 Row headers

Send message actions

The **Send message** action type allows callers to send a message to a subscriber without having to listen to the subscriber's greeting.

When you select **Send message** from the **Action type** list, the **General** tab display automatically updates itself to present the following options:

- **Mailbox** Enter the mailbox number to which the recorded message is to be sent. The mailbox must be in the voice mail domain in which the caller application is deployed.
- **Provided by runtime** Select this option to have the system automatically enter the mailbox number provided by the caller application's association or by the mailbox to which the caller application has been bound using the Subscriber Administration tool. If this option is selected, the **Mailbox** field is disabled.
- **Next node** This drop-down list allows you to select the node to which the caller will be routed after recording and sending the message.
- **Cancel destination node** This drop-down list allows you to select the node to which the caller application will go if the caller cancels the operation at this node. The default is the parent node, and in most cases, this is the recommended option.

Termination actions

The **Termination** action is used to terminate the current caller application and either disconnect the caller from the system or re-route the caller back to the system Automated Attendant.

When you select **Termination** from the **Action type** list, the **General** tab display automatically updates itself to present the following options:

- **Disconnect** Disconnects the caller from the system.
- **Automated attendant** Routes the caller to the system Automated Attendant.
- **Logon to mailbox** Routes the caller to the Automated Attendant, which then behaves as if the caller has pressed **#** to log in to the mailbox.

Administering prompts

You can configure each node in a caller application, whether a caller application node or an application (action) node, to either use a prompt or not use a prompt. If you use a prompt, you may use only one prompt per node. Any action to be taken by the node occurs after the prompt has played. Therefore, careful planning of prompts is required when designing caller applications.

The administration of prompts in a caller application is done from the **Prompt** tab of the applicable **Properties** dialog box.

To get to the Prompt tab of the Properties dialog box:

1. Click the node for which you want to administer a prompt.
2. Click **Action** > **Properties**.

   The system displays the **Properties** dialog box for the node.
3. Click the **Prompt** tab.

Configuring prompt properties

The process of configuring prompts consists largely of making a series of decisions about whether and how to use prompts.

To prompt or not to prompt?

The first option on the **Prompt** tab is whether to assign a prompt to the node or not:

- If you do not want to use a prompt with the node, clear the **Play entry prompt** check box. Performing this action de-activates all other options on this tab.
- If you want to use a prompt with the node, select the **Play entry prompt** check box. Performing this action activates the other options on this tab.

Application prompt or Announcement?

If you decide to assign a prompt to the node, the next decision is whether to make the prompt an **Application prompt** or an **Announcement**:

- **Application prompts** are embedded in the caller application and can only be changed by changing the application itself. For this reason, it is not a good idea to use application prompts for prompts that you know will need to be changed on a regular or frequent basis.

  If you want to create the prompt as an application prompt, you must create a prompt entry for it. See Creating prompt entries on page 11-34.
- **Announcements** are recorded from within a mailbox, and although they are called by the caller application, they are not embedded within it. These are somewhat harder to set up, but if you know you will need to change a

recording on a regular basis (such as a daily announcement or bulletin board type of arrangement), then this is likely the better choice.

Mailboxes can be set up to allow authorized individuals to record announcements using the TUI, and the system stores them in these mailboxes. You must set up this authorization in Subscriber Options.

You can use Caller Applications Editor to display a list of announcements available for use by an application, but you cannot edit the content of these prompts. For information about viewing the list of announcements, see Displaying a list of announcements on page 11-36.

Record your own or import professionally recorded prompts?

This choice applies almost exclusively to application prompts. You can, if you want, record your own prompts, using either a telephone or a multimedia PC to record them directly within the **Prompt** tab. For the procedures to do this, see Recording application prompts on page 11-35.

However, recording your own prompts can be hazardous. Microphones and telephones do not do a good job of filtering out unwanted background noise, or of producing high quality recordings. The internal recording device also does not allow you to edit your finished recording, for instance, to trim out unwanted silences at the beginnings or ends of your recordings.

Therefore, if quality is an issue for you, you may prefer to have your prompts professionally recorded, or at least record them using a digital audio recording software package. You can then import them into your caller application. For the procedures to do this, see Importing prompts on page 11-37.

Creating prompt entries

If you know you are planning to use a prompt for a given node, but you are not yet ready to record the prompt, you can create a prompt entry in the Prompt tab. Then later you can come back and record the prompt or import a prompt (*.wav) file. This can be a good way to keep track of the prompt recordings you will need for your caller application.

To create a prompt entry:

1. On the **Prompt** tab of any **Properties** dialog box, select the **Play entry prompt** check box.

   This activates all the other options on the **Prompt** tab.

2. Select **Application prompt**.

3. Click the **New** () icon.

   The system creates a list entry for the prompt and automatically assigns it an ID number.

4. Under **Comments**, enter a brief name or description for the prompt.

   This is especially important if you are not recording the prompt right away, as this will help you remember later what the prompt is to be.

Recording application prompts

You can record application prompts using either a telephone or a properly equipped multimedia PC. If you choose to use a PC, it must be equipped with a microphone and a set of speakers (or headphones).

You can set up the default audio recording device (telephone or multimedia PC) when you set up your general Caller Application Editor preferences (see Configuring preferences and general caller application properties on page 11-14).

To record application prompts:

1. On the **Prompt** tab of any **Properties** dialog box, select the **Play entry prompt** check box.

   This activates all the other options on the **Prompt** tab.

2. Select **Application prompt**.

3. Do one of the following:

   - To record a prompt that has already been created but not recorded, click to highlight the prompt entry in the prompt list. Then skip to Step 5.
   - To add a new prompt, click the **Add** () icon.

     The system creates a list entry for the prompt and automatically assigns it an ID number.

4. Under **Comments**, enter a brief name or description for the prompt.

   Note: To change the audio device for recording the prompt "on the fly," right-click the telephone or multimedia icon, and click **1 Multimedia** or **2 Telephone**.

5. Click the **Record** () icon.

   If you are using a multimedia PC with a microphone, you may begin recording immediately.

   If you are using a telephone to record the prompt, you must wait for the system to dial the telephone and the telephone to ring. When it does, pick up the handset and proceed to the next step.

6. Record the prompt.

Note: Be aware that the built-in recording device does not allow you to edit your recordings after you make them, for instance, to trim out any unwanted silence at the beginning or end of the recording. This is another reason you may want to have your prompts professionally recorded, or at least to record your prompts using a digital audio recording software package, and then import the finished recordings into your caller application. For more information on importing prompts, see Importing prompts on page 11-37.

7. Click **OK** or **Apply**.

Displaying a list of announcements

Although you cannot record or edit announcements in the Prompt tab, you can view a list of announcements that are available. You can then use this list to select the announcements you want to use in your caller applications.

To display a list of announcements:

1. On the **Prompt** tab of any **Properties** dialog box, select the **Play entry prompt** check box.

   This activates all the other options on the **Prompt** tab.

2. Click **Announcement**.

3. Enter a value for the mailbox number or set it to **<default>**.

   If the mailbox number is set to **<default>**, the system does not allocate the mailbox number until the caller application runs. The mailbox number is supplied by an association or by an administrator binding the caller application to a mailbox using the subscriber administration tool.

4. Click the **Add** () icon.

   The system displays an area for entering comments on the **Announcement** screen.

5. Under **Comments**, enter a comment, if desired.

6. Click **OK**.

   If there is no mailbox allocated to this application, the system displays the **Add a Mailbox Prompt** dialog box.

Importing prompts

The Caller Applications Editor makes it easy to import prompt recordings. This is useful when you have recorded your own prompts using a digital audio recording software package or you have had the prompts recorded professionally.

Recordings that you want to import must be in the form of 8 kHz, 8 bit, mono, G.711 PCM µ-law (mu-law) encoded *.wav files. Therefore, if you are having your prompts recorded professionally, make sure that whoever is doing them for you can save them to these specifications.

To import a prompt into a caller application:

1. On the **Prompt** tab of any **Properties** dialog box, select the **Play entry prompt** check box.

   This activates all the other options on the **Prompt** tab.

2. Click **Application prompt**.

3. Open a second (Windows Explorer) window and verify that your recording files are located in a directory accessible from the machine where you are developing your caller application, by displaying them in that window.

4. Click a prompt entry in the **Application prompts** list for which you want to import the recording.

5. Drag and drop the desired *.wav file into the recording device area of the **Prompt** tab.

6. Click **OK**.

Assigning prompts to nodes

It is possible to create a node that requires a prompt but not create the prompt, or even an entry for it at the time you create the node. When this is the case, you will need to go back later and assign a prompt to the node (possibly after creating it).

To assign a prompt to a node:

1. Right-click the node and select **Properties** from the pop-up menu.
2. Click the **Prompt** tab.
3. Select the **Play entry prompt** check box, if it is not already selected.
4. Select Application prompt, if it is not already selected.
5. Do one of the following:
   - Enter the number of the prompt to assign to the node in the field next to the **Application prompt** radio button.
   - Scroll down the list of application prompts, if necessary, to find the prompt you want, and then click it.
6. Click **OK**.

Saving a caller application

To save a caller application in Caller Application Editor:

1. In the **Tree** pane, click the caller application that you want to save.
2. Click **Action** > **Save Application**.
3. Enter a name, and path if required, for the caller application.
4. Click **OK**.

   The system saves the application as a *.uma file.

Opening a caller application

To open a caller application in Caller Application Editor:

1. In the **Tree** pane, click **Modular Messaging Software Caller Apps**.
2. Click **Action** > **Open Application**.
3. In the **Open** dialog box, click the caller application that you want to open.

   Caller applications end with the extension .uma. By default, caller applications are saved to the directory ***C:*\Program Files\Avaya Modular Messaging\Vserver\CallerApps**, where *C:*\ represents the root drive of the server.
4. Click **OK**.

   The system displays the **Open Caller Application** dialog box.
5. From the drop-down language list, select the language in which you want to edit the application.
6. (Optional, only if other languages are available) Select a different language using the **Add language** check box and **Edit content as language:** drop-down list.
7. (Optional) If you do not want the Caller Applications Editor to prompt you for language selection in the future, clear the **Always let me select the language I would like to edit** check box.

Note: Clearing this check box resets the default language selection value for all applications. If you later decide you again want to be able to select languages when opening applications, you must select the **Allow language selection when opening caller applications** option in the **Modular Messaging Software Caller Apps Properties** dialog box (see Configuring preferences and general caller application properties on page 11-14).

Caller application deployment

To fully deploy a caller application, you must:

- Deploy (distribute) the caller application across the voice mail domain.

  To use a caller application, it must be present on every MAS in the voice mail domain. Deployment distributes the caller application to all the MASs in a voice mail domain.

  Note: This release of Avaya Modular Messaging does not support deployment of caller applications using Terminal Services. Caller applications can be deployed by running the Caller Applications Editor on an MAS and using it locally, or by running it remotely and using dial-up networking or virtual private networking to connect to the Windows domain containing the voice mail domain for deployment.

  For the procedure, see Deploying caller applications across a voice mail domain on page 11-42.

- Create an association.

  Although not required in every case, in many cases you will need to create an association for the caller application, in order for callers to be able to access it.

  For more information, see Creating an association for the caller application on page 11-44.

In addition, you can perform the follow tasks related to caller application deployment:

- Use deployed caller applications in several ways using multiple associations.

  For more information, see Using deployed caller applications with multiple associations on page 11-46.

- Delete associations.

  For more information, see Deleting associations on page 11-47.

- Test the deployed application and analyze it for possible bugs.

  For more information, see Analyzing caller applications on page 11-48.

- Remove a deployed caller application from the voice mail domain.

  For more information, see Removing deployed caller applications from a voice mail domain on page 11-51.

- Re-deploy caller applications.

  For more information, see Re-deploying caller applications on page 11-52.

- Troubleshoot deployed caller applications.

  For more information, see Troubleshooting deployed caller applications on page 11-53.

Before you begin

Before deploying (or removing) a caller application or creating an application association, verify that:

- The person using Caller Applications Editor is logged in to the domain as a System Administrator.

  The System Administrator list is configured in Voice Mail System Configuration. For more information, see Configuring voice mail domain security on page 5-21.

- The Caller Applications software is installed on every MAS in the voice mail domain.

- Caller applications are enabled on all the MASs in the voice mail domain.

  For a deployed caller application to run, the caller application feature must be enabled for the voice mail domain using Voice Mail System Configuration. For more information, see Configuring TUI general properties on page 3-4.

- No other instances of Caller Applications Editor are deploying applications at the same time.

Deploying caller applications across a voice mail domain

Before callers can use a caller application, it must be present on every MAS in the voice mail domain. Deployment distributes the caller application to all the MASs in a voice mail domain.

If one or more MASs in the domain are not running during deployment, the caller application is transferred to the MASs that *are* running. In this case, according to the Caller Application Deployment Wizard, the deployment will fail. Although deployment fails, a subsequent attempt to deploy the same caller application skips the transfers already completed and transfers the caller application only to the remaining MASs.

Once a caller application has been deployed, a repeat deployment may appear to be successful, but no data is transferred since the MASs already have this version of the caller application.

Note: This release of Avaya Modular Messaging does not support deployment of caller applications using Terminal Services. You can deploy caller applications by running the Caller Applications Editor on an MAS and deploying your applications from there. Alternately, you can deploy applications by running the Caller Applications Editor remotely and deploy them using a dial-up network or virtual private network to connect to the Windows domain containing the voice mail domain on which you want to deploy the application.

When a new MAS is installed into a voice mail domain where caller applications are already deployed, or it moves from one domain to another, the system automatically transfers the caller applications deployed in the voice mail domain to the new MAS.

To deploy caller applications to a voice mail domain:

1. In the **Tree** pane, click the caller application.
2. Click **Action** > **All Tasks** > **Deploy caller application**.

   The system displays the **Caller Application Welcome Wizard**.
3. Click **Next**.

   The system displays the **Deployment Details** window.
4. If necessary, use the drop-down list to select the voice mail domain where the caller application is to be deployed.
5. Click **Next**.

   While the caller application is being deployed, the system displays the **Deployment in Progress** window (though on fast systems, you may never really see it). This window displays the progress of the deployment as it transfers the application to each MAS in turn.

When the deployment process is done, the system displays the **Completed the Caller Application Deployment Wizard** window.

6. Click **Finish**.

Creating an association for the caller application

Although not required in every case, in many cases you will need to create an association for the caller application, in order for callers to be able to access it.

About associations

Associations are the links between a deployed caller application and the information from the TUI used to access the caller application. Associations enable the system to launch a caller application if one or both of the following launch conditions are met:

- A caller enters an identifying number (ID number) when prompted by the Automated Attendant or another caller application. The ID number appears to the caller as a mailbox number.
- A caller dials a specified direct-dial number or extension number (the called number).

When you create an association, you must configure at least one of these launch conditions. If you configure both, meeting either condition will launch the caller application.

Any given association can launch only one specified caller application. To help identify the association, you assign a name to the association.

In this section, you will find information and procedures for the following:

- Create associations (see Creating associations on page 11-44).
- Assign ID numbers for each association (see Using ID numbers for associations on page 11-46).
- Re-use deployed caller applications for different situations (see Using deployed caller applications with multiple associations on page 11-46).
- Delete associations (see Deleting associations on page 11-47).

Creating associations

To create associations, you must use the Caller Applications Editor.

To create an association:

1. In the **Tree** pane, expand the **Deployed applications** node and appropriate voice mail domain node, until you can see the **Associations** “node.”
2. Click **Associations**.

   The system displays a list of existing associations for the voice mail domain in the right pane.

3. Click **Action** > **New** > **Association**.

   The system displays the **Add Association** dialog box.

4. Complete the following fields, as appropriate:

   - **Association name** Enter a name for the association.
   - **Caller application** Select the name of the caller application that will be launched when the conditions of the association are met.
   - **Association ID** Enter the sequence of digits that callers are prompted to enter (as a mailbox number) in the automated attendant or caller application. This is the number used to launch the caller application. If you do not configure this ID number, you must specify a **Called number**.

     Note: An ID number cannot be longer than the mailbox length specified in the voice mail domain. However, if the ID number has fewer digits than a mailbox number, the caller must enter [#] at the end of the association number to replace the missing digits or wait for a time-out period. For more information, see Using ID numbers for associations on page 11-46.

   - **Called number** Enter the direct dial number or extension number that callers must enter to launch the application. If you do not configure a **Called number**, you must configure an **Association ID** number.

     You must also configure the **Called number** on the switch. Do this in the same way as you would configure an extension number for a user. Set up this **Called number** to forward all calls to the pilot number. The **Called number** will then be the number that callers dial to access Avaya Modular Messaging and the caller application.

   - **Mailbox number** (Optional) Enter the number of the mailbox that:

     — Will supply announcements for the caller application if the **Announcement** field in the caller application is set to **<default>**.

     — Is to be used as the target location for messages sent using nodes of action type **Send message** where the mailbox number is specified as **Provided at runtime**.

5. Click **OK**.

Tip: In Voice Mail System Configuration - Automated Attendant Main Menu Editor tab, you can configure a menu option to transfer callers to a specified mailbox. You can use this setting to transfer callers to a caller application, by entering the association ID number in the Mailbox Number field. For more information, see Configuring Attendant Main Menu Editor properties on page 5-7.

Using ID numbers for associations

The numbers used to identify caller application associations (ID numbers) can be any length, from one digit up to the maximum number of digits used for mailbox numbers in the voice mail domain. This means that it is possible for you to create an association ID number that is identical to two other types of numbers in the voice mail domain:

- A valid mailbox number
- A single-digit Automated Attendant menu option

Therefore, care must be taken when assigning association ID numbers to a caller application. Consider the following:

Identical association ID and mailbox numbers

If an association ID number is identical to a valid mailbox number, when a caller enters that number, the association ID number is used and the associated caller application runs. This can be useful if you want to prevent caller access to a mailbox.

Note: In this scenario, though callers cannot leave messages, subscriber access to the mailbox is not affected.

Automated Attendant menu options

If you set up a single-digit association ID number that requires the same key press as an Automated Attendant menu option, the Automated Attendant menu option will always be used. This is because the association ID number is only recognized if it is followed by a time-out or terminated with a [#]. For this reason, we recommend that you do not use a single-digit number as the association ID number.

Using deployed caller applications with multiple associations

You can re-use a deployed caller application by specifying multiple associations, with different ID numbers, for the same caller application. This means that the deployed caller application is the same, but different mailbox numbers or Automated Attendant menu choices can be used to access it. For example, this might be useful, for example, if you wanted to launch multiple bulletin board type applications using different mailbox numbers.

For an example of this use of multiple associations, see the bulletin board example in Appendix B, Examples of Caller Applications.

Deleting associations

If you find you no longer want to use a particular association with a deployed caller application, you can delete the association without removing the caller application from the voice mail domain. This can allow you to create and use new associations without having to re-deploy the caller application.

To delete an association:

1. In the **Tree** pane, expand the **Deployed applications** node and appropriate voice mail domain node, until you can see the **Associations** node ().
2. Click **Associations**.

   The system displays a list of existing associations for the voice mail domain in the right pane.
3. In the right pane, select the association you want to delete.
4. Click **Action** > **Delete**.

   The system displays the **Delete Association** confirmation dialog box.
5. Click **Yes**.

Analyzing caller applications

After deploying a caller application across the voice mail domain, Avaya strongly recommends that you analyze the application using the Application analysis tool provided within the Caller Applications Editor. This tool allows you to test and debug your caller applications, which makes it easier for you to find any problems with the application before your callers do.

To analyze caller applications:

1. In the **Tree** pane, expand the **Deployed applications** node and appropriate voice mail domain node, until you can see the **Application analysis** node ().

   Note: You may need to refresh the voice mail domain node under **Deployed Applications** to be able to view and use the **Application analysis** tool. In any case, the **Application analysis** tool is not available until you deploy one or more applications, and it acts only on deployed applications. So, before attempting to use this tool, verify that you have deployed all caller applications you want to include in the analysis.

2. Double click the **Application analysis** node.

   The **Application analysis** tool analyzes all deployed caller applications in the voice mail domain. Depending on the number of applications deployed, this can take some time to complete.

   When the analysis has finished, the system lists all the deployed caller applications in the voice mail domain in the right pane. If an icon is green (), it indicates that there were no detected problems with the caller application If an icon is red (), it indicates a problem with the caller application.

3. To view the details of the analysis for a specific caller application, right-click the caller application in the right pane, and then click **Properties**.

Tip: If you want to copy this information to another application for further study and analysis, click **Copy to clipboard**.

4. Use the information in the **Results** tab to diagnose problems with the deployed caller application. The analysis information falls into five categories:

   - **Application deployment**

     Identifies MASs in a voice mail domain that are running different versions of the same caller application.

   - **Association references**

     Identifies associations to mailboxes that no longer exist within the voice mail domain.

   - **Mailbox references**

     Identifies references to mailboxes that no longer exist within the voice mail domain.

   - **References from application**

     Identifies non-existent caller applications to which the caller application is attempting to transfer.

   - **References to application**

     Lists the associations and mailboxes that refer to the caller application (“Front Door” mailboxes). This is useful for identifying caller applications that are not in use.

Note: If a caller application is used only by “Front Door” mailboxes, mailboxes used by the caller application are not identified unless you include “Front Door” applications in the analysis.

Application analysis and “Front door” applications

By default, when analyzing caller applications, the Caller Applications Editor excludes subscriber mailboxes that refer to caller applications (known as “Front door” applications.) This is because the task of analyzing all subscriber mailboxes that refer to caller applications can take a considerable amount of time. If you want to include “Front door” applications in the analysis, you can change the analysis setting before running the **Application analysis** tool.

To include “Front door” applications in the analysis:

1. In the **Tree** pane, right-click the **Application analysis** node.
2. Click **Properties**.
3. Select the **Include “Front Door” application analysis** check box.

4. Click **OK**.

Removing deployed caller applications from a voice mail domain

If you find you no longer need or use a deployed caller application, or you want to replace it with a different one, you can remove the caller application from the voice mail domain using the Caller Applications Editor.

Any callers using the caller application at the time of undeployment continue to interact with it for as long as they remain connected to the caller application.

Removing a deployed application:

- Deletes copies of the file from all MASs in the voice mail domain.
- Removes the entry from the list of deployed applications in the Caller Applications Editor.

To remove a deployed caller application from a voice mail domain:

1. In the **Tree** pane, expand the **Deployed applications** node until you can see the voice mail domain in which the caller application is deployed.
2. Click the voice mail domain icon ( ).

   In the right pane, the system displays a list of the caller applications deployed in the voice mail domain. Deployed caller applications are identified by the icon.
3. Right-click the caller application you want to remove, and select Delete from the pop-up menu.

   The system displays the **Caller Application Undeployment** confirmation box.
4. Click **Yes**.

   The system displays the **Caller Application Undeployment Wizard** window.
5. Click **Next**.

   The system displays a list of the associations that will be automatically removed. You can view information about an association by moving the mouse cursor over it.
6. Click **Next**.

   While the caller application is being deployed, the system displays the **Undeployment in Progress** window (though on fast systems, you may never really see it). This window displays the progress of the undeployment as it removes the application from each MAS in turn.

   When the undeployment process is done, the system displays the **Completed the Caller Application Undeployment Wizard** window.

7. Click **Finish**.

Note: When you have bound a caller application to a subscriber mailbox using the Subscriber Administration tool, if you remove the caller application and then re-deploy it, the caller application will remain bound to the mailbox.

Re-deploying caller applications

If you have made changes to a caller application, it can be deployed again. When re-deployment succeeds, new callers have access to the updated version of the caller application immediately. Any callers using the existing version of the caller application at the time it is re-deployed continue to interact with the old version as long as they remain connected to the caller application. Temporarily, therefore, more than one version of the caller application can be stored and running on an MAS.

Each caller application contains an embedded identifier and a revision number. The revision number is incremented each time that the caller application is saved.

Even if a caller application's *.uma file is renamed or copied by Windows Explorer, the application's embedded identifier does not change and the MAS treats it as the same application.

An MAS that is contacted by the Caller Applications Editor and asked to deploy an application checks to see if it already has a copy of the application deployed. If the MAS already has an application with the same embedded identifier and the same or a higher version number, it does not accept the re-deployment, regardless of the file name on the application.

If, however, you use the **Save as** option from Caller Applications Editor to rename an application, the new version of the *.uma file has a new embedded identifier and revision number; so the application is treated as a different application, and you can successfully deploy it.

Troubleshooting deployed caller applications

You can use the **Application analysis** tool to help diagnose problems with caller applications that do not work as expected or discover problems before callers experience them. For example, you can identify mailbox associations to mailboxes that no longer exist in the voice mail domain and identify MASs in a voice mail domain that are running different versions of the same caller application.

For more information about how to use this tool, see Analyzing caller applications on page 11-48.

12

Reports

This chapter describes how to use the Reporting Tool to help you monitor the voice mail system usage.

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Introduction to reports

You can use the Reporting Tool to generate reports for monitoring voice mail system usage, planning capacity, and tracking system security. Report information is taken from the transaction database and generated for the voice mail domain. Some reports can also generate voice-server-specific or user-specific information.

Once you have generated a report, you can zoom it on the screen or print it for easy reference. You can also export a report to different file formats or attach it to a message sent using a MAPI enabled e-mail system.

For the procedure to run the Reporting Tool, see Running the Reporting Tool on page 12-3.

You can generate the following reports:

- **Hourly Statistics**

  This report records information about the number of incoming and outgoing calls for each hour in a specified time period.

  For more information, see Generating an Hourly Statistics report on page 12-7.

- **Login Failures**

  This report records information about unsuccessful mailbox logins due to an incorrect password or invalid mailbox number being entered.

  For more information, see Generating a Login Failures report on page 12-9.

- **Octel Analog Networking Traffic**

  This report records information about messages sent to one or more destination Octel Analog Networking nodes from the voice mail domain.

  Note: Octel Analog Networking is available with Avaya Modular Messaging — Microsoft Exchange version only.

  For more information, see Generating an Octel Analog Networking Traffic report on page 12-11.

- **Port Statistics**

  This report records incoming and outgoing call information for each port configured in the voice mail domain.

  For more information, see Generating a Port Statistics report on page 12-13.

- **System Usage**

  This report records call and messaging statistics for the voice mail domain.

  For more information, see Generating a System Usage report on page 12-15.

- **User Mailbox Statistics**

  This report records information about telephone calls and messages received by each subscriber in the voice mail domain.

  For more information, see Generating a User Mailbox Statistics report on page 12-19.

- **Basic Metrics**

  This report records statistics on messaging activity in the voice mail domain.

  For more information, see Generating a Basic Metrics report on page 12-22.

Before you begin

Before you generate reports, you should ensure that:

- Transaction generation is enabled for the time period you want to report on (transaction generation is disabled by default). For more information, see Enabling transaction generation on page 12-4.
- Reporting Tool data source (TrxDB) references the transaction database on the tracing system machine. For more information, see Selecting a data source on page 12-5.
- The machine on which Reporting Tool is running has a configured printer.

Running the Reporting Tool

To run the Reporting Tool, click **Start** > **Programs** > **Avaya Modular Messaging** > **Reporting Tool**.

Enabling transaction generation

The system extracts report information from the transaction database. This means that transaction generation must be enabled for the voice mail domain and for the time period on which you want to report. By default, transaction generation is disabled.

The transaction database is part of the tracing system. For more information about the tracing system, see Chapter 5, “Voice Mail Domain Administration”.

To enable transaction generation:

1. Start Voice Mail System Configuration.
2. Click the voice mail domain.
3. Double-click **Tracing System**.
4. Click the **Transaction Generation** tab.
5. Click **Enable Transaction Generation**.
6. Click **OK**.

   By default, transactions are generated at midnight.

   For more information about configuring transaction generation for a voice mail domain, see Chapter 5, “Voice Mail Domain Administration”.

Selecting a data source

If Reporting Tool and the tracing system are not installed on the same machine, you need to select a system data source that references the transaction database on the tracing system machine.

To select a data source:

1. Click **File** > **Source**.

   The system displays the standard Windows **ODBC Data Source Administrator** dialog box.

2. Click the **System DSN** tab.

3. In **Data Source Name**, click **TrxDB**.

4. Click **Add**.

   The system displays the **Create New Data Source** dialog box.

5. Click **Microsoft Access Driver**.

6. Click **Finish**.

   The system displays the **ODBC Microsoft Access Setup** dialog box.

7. Click **Select**.

8. Locate and click the transaction database you want to use.

   This is the database that you installed as part of the system installation, for example, `C:\Program files\Tracing`.

9. In the **Select Database** dialog box, click **OK**.

10. In the **ODBC Microsoft Access Setup** dialog box, click **OK**.

11. In the **ODBC Data Source Administrator** dialog box, click **OK**.

Specifying options for report generation

You can specify whether you want a generated report to be displayed on the screen, sent to a printer, or both.

This section also describes how to cancel report generation, should this be necessary.

To specify options for report generation:

1. Click **File** > **Options**.

   The system displays the **Options** dialog box.

2. Do one of the following:

   - If you want to display the generated report on screen, click **Displayed on screen**.

   - If you want to send the generated report to a printer, click **Printed**. The system displays the standard Windows **Print** dialog box each time a report starts to generate, allowing you to select the print settings.

3. To save the option settings, click **OK**.

To cancel report generation:

Click **Cancel** in the dialog box that the system displays while a report is being generated.

Generating an Hourly Statistics report

The Hourly Statistics report records information about the number of incoming and outgoing calls for each hour in a specified time period. This information is useful for monitoring incoming and outgoing call patterns for the voice mail domain.

For a description of the contents of this report, see Hourly Statistics report contents on page 12-8.

To generate an Hourly Statistics report:

1. Click **Reports** > **Hourly Statistics**.

   The system displays the **Hourly Statistics** dialog box.

2. In the **From, Date** field, enter the first date for which report information is to be generated.

   This field defaults to the **To, Date** value of the previous report run. Use the pull-down calendar for easy selection.

3. In the **From, Time** field, enter the first hourly time for which report information is to be generated.

   This field defaults to the **To, Time** value of the previous report run.

4. In the **To, Date** field, enter the last date for which report information is to be generated. For easy selection, use the drop-down calendar list.

5. In the **To, Time** field, enter the last hourly time for which report information is to be generated.

6. To generate the report, click **OK**.

Note: Generating another report closes the currently displayed report. If you want to save the report, see Zooming in on reports on page 12-24.

Hourly Statistics report contents

The Hourly Statistics report provides the following information:

- **Date** Displays the date for which report information is generated.
- **Time Periods Starting** Displays the hourly time periods for which report information is generated.
- **Incoming Calls** Displays the number of incoming calls for each hourly time period.
- **Failed Outgoing Calls** Displays the number of failed outgoing calls for each hourly time period. For Octel Analog Networking traffic, this refers to failed dialing. For intercom paging, this refers to a busy or ring-no-answer extension. For calls placed on behalf of a client, this refers to a busy or ring-no-answer extension.

  Note: This count does *not* include calls placed on behalf of a client for the following:

  — Playing messages

  — Recording greetings

  — Recording names

  — Outcalling when the call goes to the called extension's mailbox coverage

- **Outgoing Calls** Displays the number of outgoing calls for each hourly time period.

Generating a Login Failures report

The Login Failures report records information about unsuccessful mailbox logins due to an incorrect password or incorrect mailbox number being entered. You specify the time period for which you want to generate this information. Use this report to help monitor voice mail system security for the voice mail domain.

For a description of the contents of this report, see Login Failures report contents on page 12-10.

To generate a Login Failures report:

1. Click **Reports** > **Login Failures**.

   The system displays the **Login Failures** dialog box.

2. In the **From, Date** field, enter the first date for which report information is to be generated.

   This field defaults to the **To, Date** value of the previous report run. Use the pull-down calendar for easy selection.

3. In the **From, Time** field, enter the first time for which report information is to be generated.

   This field defaults to the **To, Time** value of the previous report run.

4. In the **To, Date** field, enter the last date for which report information is to be generated. For easy selection, use the drop-down calendar list.

5. In the **To, Time** field, enter the last time for which report information is to be generated.

6. To generate the report, click **OK**.

Note: Generating another report closes the currently displayed report. If you want to save the report, see Zooming in on reports on page 12-24.

Login Failures report contents

The Login Failures report provides the following information:

Individual Mailboxes

- **Mailbox Number** The mailbox number for which an unsuccessful login is recorded.
- **Mailbox Name** The mailbox name for which an unsuccessful login is recorded.
- **Last Failed Login** The date and time of the last unsuccessful mailbox login due to an incorrect password being entered three consecutive times on the same call.
- **Total Failed Logins** The total number of unsuccessful mailbox logins due to an incorrect password being entered three consecutive times on the same call.

System-Wide

- **Number of Invalid Mailbox Numbers Entered** The total number of unsuccessful mailbox logins due to an invalid mailbox number being entered.

Generating an Octel Analog Networking Traffic report

Note: Octel Analog Networking is available with Avaya Modular Messaging — Microsoft Exchange version only.

The Octel Analog Networking Traffic report records information about messages sent and received through Octel Analog Networking gateway nodes in the voice mail domain. You define the time period for which you want to generate this information. Use this report to help monitor Octel Analog Networking activity for the voice mail domain.

For a description of the contents of this report, see Octel Analog Networking Traffic report contents on page 12-12.

To generate an Octel Analog Networking Traffic report:

1. Click **Report** > **Octel Analog Networking Traffic**.

   The system displays the **Octel Analog Networking Traffic** dialog box.

2. In the **From, Date** field, enter the first date for which report information is to be generated.

   This field defaults to the **To, Date** value of the previous report run. Use the pull-down calendar for easy selection.

3. In the **From, Time** field, enter the first time for which report information is to be generated.

   This field defaults to the **To, Time** value of the previous report run.

4. In the **To, Date** field, enter the last date for which report information is to be generated. For easy selection, use the drop-down calendar list.

5. In the **To, Time** field, enter the last time for which report information is to be generated.

6. Under **Octel Analog Networking Nodes**, select the node or nodes on which you want to report.

7. To generate the report, click **OK**.

Note: Generating another report closes the currently displayed report. If you want to save the report, see Zooming in on reports on page 12-24.

Octel Analog Networking Traffic report contents

The Octel Analog Networking Traffic report provides the following information about outgoing and received calls. The report only includes nodes for which Octel Analog Networking activity is recorded.

The first row displays information about outgoing calls. The second row displays information about calls received.

- **Octel Analog Networking Serial #** The serial number for the Octel Analog Networking node.
- **Calls Tried** The number of attempted Octel Analog Networking calls.
- **Calls Failed** The number of unsuccessful Octel Analog Networking calls due to failed dialing.
- **Messages Failed** The number of message delivery failures due to transmission problems.
- **Sent Business Hours** The number of messages successfully sent and received during business hours. Business hours are defined using the Time/Greeting (Telephone User Interface) tab in the Voice Mail System Configuration application.
- **Sent Non-Business Hours** The number of messages successfully sent/received during non-business hours. Non-business hours are defined using the Time/Greeting (Telephone User Interface) tab in the Voice Mail System Configuration application.
- **Octel Analog Networking Access Totals** Totals of the Octel Analog Networking traffic information for each column.

Generating a Port Statistics report

The Port Statistics report records incoming and outgoing call information for each port configured in the voice mail domain. You specify the time period, ports and MASs for which you want to generate this information. You can use this report for monitoring port usage.

For a description of the contents of this report, see Port Statistics report contents on page 12-14.

To generate a Port Statistics report:

1. Click **Reports** > **Port Statistics**.

   The system displays the **Port Statistics** dialog box.

2. Under **Server Selection,** select the MAS or MASs for which report information is to be generated.

   You can quickly select all servers in the database by selecting **All Servers**. Report generation is quicker when this option is selected.

3. Under **Port Numbers**, specify the port numbers for which report information is to be generated. To specify all ports, click **All Available**. To specify certain ports, click **Selection**, and enter the port numbers using a comma separator.

   You can enter a range of port numbers, for example, 1-8,16-24. No negative numbers or spaces are allowed in a range. The first number in a range must be less than the last number in a range.

4. In the **From, Date** field, enter the first date for which report information is to be generated.

   This field defaults to the **To, Date** value of the previous report run. Use the pull-down calendar for easy selection.

5. Enter the first time for which report information is to be generated in the **From, Time** field.

   This field defaults to the **To, Time** value of the previous report run.

6. In the **To, Date** field, enter the last date for which report information is to be generated. For easy selection, use the drop-down calendar list.

7. In the **To, Time** field, enter the last time for which report information is to be generated.

8. To generate the report, click **OK**.

Note: Generating another report closes the currently displayed report. If you want to save the report, see Zooming in on reports on page 12-24.

Port Statistics report contents

Note: The report only includes MASs for which port statistics are recorded.

The Port Statistics report provides the following information:

Individual Port Statistics

- **Server Name** The server for which port statistics are reported.
- **Port Number** The port for which incoming and outgoing call statistics are reported.
- **Incoming Calls** The number of incoming calls to the port.
- **Outgoing Calls** The number of outgoing calls from the port.
- **Time Busy (seconds)** The total time, in seconds, that the port was not idle.
- **Percentage** The percentage of time that the port was not idle.

All Ports Statistics

- **Total Number of Incoming Calls** The total number of incoming calls to all ports.
- **Total Number of Outgoing Calls** The total number of outgoing calls from all ports.
- **Time Port Availability Below Optimum** The total time during which many ports were too busy to make any more outgoing calls.
- **Time All Voice Ports Simultaneously Busy** The total time during which all ports were simultaneously busy. This field displays “0” if all incalling ports are busy while outcalling only ports are idle.

Generating a System Usage report

The System Usage report records call and messaging statistics for the voice mail domain. You specify the time period for which you want to generate this information. Use this report to help monitor usage of the system.

For a description of the contents of this report, see System Usage report contents on page 12-16.

To generate a System Usage report:

1. Click **Reports** > **System Usage**.

   The system displays the **System Usage** dialog box.

2. In the **From, Date** field, enter the first date for which report information is to be generated.

   This field defaults to the **To, Date** value of the previous report run. Use the pull-down calendar for easy selection.

3. In the **From, Time** field, enter the first time for which report information is to be generated.

   This field defaults to the **To, Time** value of the previous report run.

4. In the **To, Date** field, enter the last date for which report information is to be generated. Use the drop-down calendar list for easy selection.

5. In the **To, Time** field, enter the last time for which report information is to be generated.

6. To generate the report, click **OK**.

Note: Generating another report closes the currently displayed report. If you want to save the report, see Zooming in on reports on page 12-24.

System Usage report contents

Note: If you are using a nonintegrated MAS, you do not receive information on the calling party.

The System Usage report provides the following information:

General Call Information

- **Number of Incoming Calls** The total number of incoming calls received by the voice mail domain.
- **Number of Times Users Logged On** The total number of subscribers who successfully entered their mailbox number and password.
- **Number of Incoming Octel Analog Networking Calls** The total number of incoming Octel Analog Networking calls. This breaks down the Number of Incoming Calls.
- **Time All Ports Busy (seconds)** The total time, in seconds, during which all ports were simultaneously busy.
- **Time All Text-to-Speech Ports Busy (seconds)** The total time, in seconds, during which all text-to-speech ports were simultaneously busy.
- **Number of Successful Calls to Fax Gateway** The number of fax calls successfully passed from the MAS to the fax server.
- **Number of Failed Calls to Fax Gateway** The number of fax calls that failed to pass from the MAS to the fax server.

Callers Actions

- **Dialed Extension** The number of times callers to the voice mail domain requested the Automated Attendant to transfer them to an extension.
- **Defaulted to Assistance** The number of times callers were transferred to operator assistance by default, for example, callers using rotary telephones.
- **Dialed 0 for Assistance** The number of times callers to the voice mail domain pressed [0] for operator assistance.
- **Left a Message for a Subscriber** The number of times callers to the voice mail domain left a message for a subscriber.
- **Pressed # to Log On** The number of times callers to the voice mail domain pressed [#] to log on. This records the number of attempted logins.
- **Asked to Leave a Quick Message** The number of times callers were asked to leave a voice message using the Quick Message service, as set in the Automated Attendant. For information about configuring the Automated Attendant, see Chapter 5, “Voice Mail Domain Administration”.

Incoming Call Summary

Note: Some PBX integration devices do not provide sufficiently detailed reason codes. If this is the case, the System Usage report may not show the number expected in Due to Busy and Due to RNA.

- **Due to Busy** The number of calls handled by the voice mail domain because an extension was busy. This refers to calls placed directly to a busy extension using direct inward dialing (DID) and calls transferred to a busy extension by the voice mail system.
- **Due to RNA** The number of calls handled by the voice mail domain because an extension was not answered. This refers to calls placed directly to an unanswered extension using direct inward dialing (DID) and calls transferred to an unanswered extension by the voice mail system.
- **Direct Calls** The number of times that a subscriber dialed the access number of the voice mail system from that subscriber's own extension.
- **Diverted Calls** The number of times that calls to an extension were automatically forwarded to the voice mail domain.
- **Unknown Calls** The number of times that calls to an extension were automatically transferred to the voice mail domain but for none of the reasons given in the Incoming Call Summary section of the report.

Outgoing Calls Summary

- **Number of Calls Placed that Were Not Answered** The number of calls placed on behalf of a client that were transferred to an unanswered extension.
- **Number of Calls Placed to Busy Extensions** The number of calls placed on behalf of a client that were transferred to a busy extension.
- **Number of Calls that Got Connected** The number of calls successfully transferred to an extension on behalf of a client.
- **Total Number of Outgoing Calls Excluding Calls to Clients** The total number of calls that were due to Octel Analog Networking traffic and intercom paging.
- **Number of Failed Outgoing Calls Excluding Calls to Clients** The number of unsuccessful calls that were due to Octel Analog Networking traffic and intercom paging.
- **Number of Connected Outgoing Calls Excluding Calls to Clients** The number of successful calls that were due to Octel Analog Networking traffic and intercom paging.

Message Summary

- **Busy** The number of voice messages left because an extension was busy.
- **RNA** The number of voice messages left because of a ring no answer response.
- **Direct** The number of voice messages left when calling the system directly, when the Automated Attendant is disabled.
- **Octel Analog Networking** The number of messages from an Octel Analog Networking location.
- **Subscriber** The number of messages left from another subscriber.
- **Quick Message** The number of voice messages left using the Quick Message service, as set in the Automated Attendant. For information about configuring the Automated Attendant, see Chapter 5, “Voice Mail Domain Administration”.
- **Transfer to Mailbox** The number of calls transferred directly to the mailbox of a subscriber, as set in the Automated Attendant. For information about configuring the Automated Attendant, see Chapter 5, “Voice Mail Domain Administration”.

Generating a User Mailbox Statistics report

The User Mailbox Statistics report records information about calls made and messages left in each mailbox in the voice mail domain. This excludes messages sent to the mailbox by the Voice Form application. You specify the time period and mailbox for which you want to generate this information. Use this report to help monitor mailbox usage.

Note: Before you print a User Mailbox Statistics report, make sure the page orientation is set to landscape.

For a description of the contents of this report, see User Mailbox Statistics report contents on page 12-20.

To generate a User Mailbox Statistics report:

1. Click **Reports** > **User Mailbox Statistics**.

   The system displays the **User Mailbox Statistics** dialog box.

2. In the **To, Date** field, enter the first date for which report information is to be generated.

   This field defaults to the **To, Date** value of the previous report run. Use the drop -down calendar list for easy selection.

3. In the **From, Time** field, enter the first time for which report information is to be generated.

   This field defaults to the **To, Time** value of the previous report run.

4. In the **To, Date** field, enter the last date for which report information is to be generated. For easy selection, use the drop-down calendar list.

5. In the **To, Time** field, enter the last time for which report information is to be generated.

6. Under **Mailbox Numbers**, specify the mailbox numbers for which report information is to be generated. To specify all mailboxes, click **All Available**. To specify certain mailboxes, click **Selection** and enter the mailbox numbers using a comma separator.

   You can enter a range of mailbox numbers, for example, 1000-1050, 2000-2025. No negative numbers or spaces are allowed in a range. The first number in a range must be less than the last number in a range.

7. Under **Sort By**, specify how the report information is to be sorted, either by mailbox number or by user's name. The mailbox number information is sorted in ascending order. The user’s name is sorted in alphabetical order.

8. To generate the report, click **OK**.

Note: Generating another report closes the currently displayed report. If you want to save the report, see Zooming in on reports on page 12-24.

User Mailbox Statistics report contents

The User Mailbox Statistics report only includes mailboxes that have voice messaging activity during the specified time period.

Note: If you are using a nonintegrated MAS, you do not receive information on the calling party.

The User Mailbox Statistics report provides the following information to help you monitor mailbox usage:

- **Mbox #** The mailbox number for which report information is generated.
- **MailboxName** The mailbox name for which report information is generated.

Incoming Calls Xfered to Ext

- **Total** The total number of incoming calls to the extension associated with the mailbox.

Messages Left for User

- **Ext. Busy** The number of voice messages left in the mailbox because the extension was busy.
- **Direct** The number of voice messages left when calling the system directly, when the Automated Attendant is disabled.
- **Ext. RNA** The number of voice messages left in the mailbox because the extension was not picked up.
- **By Subscribers** The number of voice messages left by other subscribers.
- **Via QuickMsg** The number of voice messages left using the Quick Message service, as set in the Automated Attendant. For information about configuring the Automated Attendant, see Chapter 5, “Voice Mail Domain Administration”.
- **Via Xfer to MB** The number of calls transferred directly to the mailbox of a subscriber, as set in the Automated Attendant. For information about configuring the Automated Attendant, see Chapter 5, “Voice Mail Domain Administration”.

- **From Octel Analog Networking** The number of voice messages arriving from an Octel Analog Networking location.

Other

- **Logons** The total number of successful logons to the mailbox.
- **Abandoned** The number of calls disconnected after reaching an unavailable extension without leaving a voice message, calling another extension, or transferring to the operator.

Note: There is one case in which an abandoned call is counted as successful. This is when a caller is put through to an extension but just before the recipient of the call has had the time to answer the call, the caller hangs up.

Generating a Basic Metrics report

The Basic Metrics report records statistical information on activity in the voice mail domain. It includes general information on TUI usage and statistical information on subscriber TUI logons.

For a description of the contents of this report, see Basic Metrics report contents on page 12-22.

To generate a Basic Metrics report:

1. Click **Reports** > **Basic Metrics**.

   The system displays the **Basic Metrics** dialog box.

2. In the **From, Date** field, enter the first date for which report information is to be generated.

   This field defaults to the **To, Date** value of the previous report run. Use the drop-down calendar list for easy selection.

3. In the **From, Time** field, enter the first hourly time for which report information is to be generated.

   This field defaults to the **To, Time** value of the previous report run.

4. In the **To, Date** field, enter the last date for which report information is to be generated. For easy selection, use the drop-down calendar list.

5. In the **To, Time** field, enter the last hourly time for which report information is to be generated.

6. To generate the report, click **OK**.

Note: Generating another report closes the currently displayed report. If you want to save the report, see Zooming in on reports on page 12-24.

Basic Metrics report contents

The Basic Metrics report provides the following information:

General information

- **Total Incoming Calls** Displays the total number of incoming calls answered by the system.
- **Total UM Messages Processed** Displays the total number of voice messages submitted for delivery.

- **Total Subscriber Logon (TUI) Attempts** Displays the total number of times that subscribers attempted to log onto the TUI.

- **Total Subscriber Logon (TUI) Successes** Displays the total number of times that subscribers successfully logged onto the TUI.

Analysis

- **Percentage of Incoming Calls resulting in Messages** Displays the number of incoming calls answered, which resulted in the caller leaving a voice message, as a percentage of the total number of incoming calls answered. This percentage does not include Notify Me messages.

- **Subscriber Logons (TUI) as a percentage of Incoming Calls** Displays the number of times subscribers successfully logged onto the TUI, as a percentage of the total number of incoming calls answered by the system.

- **Subscriber Logons (TUI) as a percentage of Logon Attempts** Displays the number of times that subscribers successfully logged onto the TUI, as a percentage of the total number of times that subscribers attempted to log onto the TUI.

- **Percentage of Failed Logon Attempts** Displays the number of TUI logon attempts by subscribers that failed due to subscriber action or disconnection before the retry count was reached, as a percentage of the total number of times that subscribers attempted to log onto the TUI.

- **Percentage of Subscriber Logon Failures** Displays the number of TUI logon attempts by subscribers that failed due to the subscriber entering an invalid password or mailbox number, as a percentage of the total number of times that subscribers attempted to log onto the TUI.

Zooming in on reports

You can zoom in on the currently displayed report or zoom out to adjust the report magnification.

This section also describes how to move between the pages of a report.

To zoom in on an active report:

- Do one of the following:
  - Click **View** > **Zoom**.
  - Click the  icon.

To change the zoom level:

- Do one of the following:
  - Click **View** > **Zoom**.
  - Click the  icon.

To move between report pages

You can move between the pages of a report displayed on the screen so that you can view all of the report information.

- To display the next page, click  on the toolbar.
- To display the previous page, click  on the toolbar.

Exporting reports

You can export a report when you want to save the report information or work with it using alternative tools. The export facility supports a number of popular spreadsheet, word processor, and data interchange formats. You can also attach an exported report file to a message sent using a MAPI-enabled e-mail system. The message displays an icon to indicate a report is attached.

For more information, see Export formats supported on page 12-27.

To export an active report:

1. Click **File** > **Export**, or click the  icon.

   The system displays the Export dialog box.

2. In the **Format** field, click the export file format.

3. In the **Destination** field, select the export file destination, either disk file or Microsoft Mail MAPI.

4. To start the export process, click **OK**.

5. Do one of the following:

   - To use the Character Separated Values dialog box, continue with Steps 6 and 7.
   - To use the Number and Date Format dialog box, continue with Steps 8 and 9.
   - To use the Export File dialog box, continue with Step 10.
   - To use the Send Mail dialog box, continue with Steps 11 through 13.

6. In the **Separator** field of the Character Separated Values dialog box, enter the character to separate the field data.

7. In the **Quote** field of the Character Separated Values dialog box, enter double or single quotation marks to enclose alphanumeric field data.

8. In the Number and Date Format dialog box, click **Same number formats as in report** to export number formats as they appear in the report.

9. In the Number and Date Format dialog box, click **Same date formats as in report** to export date formats as they appear in the report.

10. In the Export File dialog box**,** select a file name and directory location for the report file using this standard Windows Export dialog box. If you need more information, see your Microsoft Windows documentation.

11. In the Send Mail dialog box, complete the **Address** and **Subject** fields in the standard way.

    You can search for and select a recipient by clicking **Address**. This opens the standard Windows Address Book. If you want to validate the address details, click **Check Names**.

12. In the **Message** field of the Send Mail dialog box, enter your message text.

13. In the Send Mail dialog box, click **Send** to send the message and attached report.

Export formats supported

The export facility supports the following formats:

Format	Description
Character Separated Values	Encloses alphanumeric field data in quotes and separates fields with the character of your choice.
Comma Separated Values	Encloses alphanumeric field data in quotes and separates fields with commas.
Crystal Reports (RPT)	Native Crystal Reports format.
Data Interchange Format (DIF)	Often used for the transfer of data between different spreadsheet programs.
Excel 2.1 (XLS), Excel 3.0 (XLS), Excel 4.0 (XLS), Excel 5.0 (XLS)	Microsoft Excel Spreadsheet.
Lotus 1-2-3 (WK1), Lotus 1-2-3 (WK3), Lotus 1-2-3 (WKS)	Lotus 1-2-3 Spreadsheet.
Record style (columns of values)	Table-like format.
Rich Text Format (RTF)	Standard RTF format.
Tab separated text	Saves the data in ASCII text format with all values separated by tabs.
Tab separated values	Presents data in tabular form. Encloses alphanumeric field data in quotes and separates fields with tabs.
Text	Saves the data in ASCII text format with all values separated by spaces. This style looks most like the printed page.
Word for Windows document	Standard Word for Windows format. **Note:** Click Outline view when viewing a report. Word does not display report headings in Normal view. You can print a report while using any view.

Printing reports

You can print a report displayed on the screen. You can print most of the reports using portrait or landscape orientation. The User Mailbox Statistics report, however, must be printed in landscape.

Note: You can specify whether you want a generated report to be sent to a printer automatically. For more information, see Specifying options for report generation on page 12-6.

To print a report:

1. Open the report you want to print.
2. Click **File** > **Print**, or click the **Print** icon.
3. In the standard Windows **Print** dialog box, specify the print settings, such as the orientation, that you want.

   If you need more information, click **Help** in the **Print** dialog box, or see your Microsoft Windows documentation.

13

Operation History Events

This chapter describes how to use the Operation History Viewer to view operation history events generated by the voice mail system.

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Introduction to viewing operation history events

An event is any significant occurrence in the voice mail system that is of interest to an administrator for diagnostic or reporting purposes. Events are generated by the various MAS components, for example, a Call Waiting state generated by the telephone user interface.

The tracing system includes the following storage areas:

- **Operation history database**

  A temporary storage area for events that are generated by the voice mail system. The database is purged periodically. The Operation History Viewer is used for viewing events in this database.

- **Transaction database**

  A more permanent storage area for voice mail system activity. The Reporting Tool is used for extracting information from this database. For more information on the Reporting Tool, see Chapter 12, “Reports”.

Before you begin

Ensure that operation history collection is enabled for the voice mail domain. For more information, see Enabling collection of operation history events on page 13-4.

Understanding session files

You create a session to restrict the number of events displayed by the Operation History Viewer to only those that meet your criteria. You can use Operation History Viewer to view:

- Live events as they are generated and added to the operation history database
- Historical events stored in the operation history database

You can create two types of session files:

- Session file (.ssn)

  You create a session file when you want to save only a session's properties. You can modify the properties to create different event viewing scenarios.

- Snapshot file (.snp)

  You create a snapshot file when you want to save a session's properties and the event data matching these properties. The system purges the

operation history database periodically. However, by creating a snapshot file, you can keep the event data for as long as you require.

Starting Operation History Viewer

To start the Operation History Viewer, click **Start** > **Programs** > **Avaya Modular Messaging** > **Operation History Viewer**.

If most menus and commands in Operation History Viewer are unavailable on starting, you may need to select a data source. For more information, see Selecting a data source on page 13-5.

Note: We recommend that you do not run multiple instances of Operation History Viewer at the same time to access the operation history database for a single voice mail domain. This has a detrimental effect on the performance of all Operation History Viewer applications that you are running.

Enabling collection of operation history events

Before you can view operation history events, you must enable operation history collection for the voice mail domain.

To enable collection of operation history events:

1. Start the Voice Mail System Configuration application.
2. Click the voice mail domain.
3. Double-click **Tracing System**.
4. Click the **Operation History Collection** tab.
5. Click **Enable Operation History Collection**.

   For more information on configuring operation history collection for the voice mail domain, see Chapter 8, “Messaging Application Server Configuration”.

Selecting a data source

If the Operation History Viewer is installed on the tracing system machine, a data source is created automatically. If not, you need to select a system data source before you can run the application.

To select a data source:

1. In the viewer window, click **File** > **Data Source**.

   The system displays the standard Windows **ODBC Data Source Administrator** dialog box.

2. Click the **System DSN** tab.

3. Click **Add**.

   The system displays the standard **Create New Data Source** dialog box.

4. Click **Microsoft Access Driver** and click **Finish**.

   The system displays the standard **ODBC Microsoft Access Setup** dialog box.

5. In the **Data Source Name** field, type **OperationHistory**

6. Click **Select**.

   The system displays the standard **Select Database** dialog box.

7. Locate and click the operation history database you want to use.

8. In the **Select Database** dialog box, click **OK**.

9. In the **ODBC Microsoft Access Setup** dialog box, click **OK**.

10. In the **ODBC Data Source Administrator** dialog box, click **OK**.

Creating sessions

You can create two types of session in Operation History Viewer:

- A live session

  For more information, see Creating live sessions on page 13-7.

- An historical session

  For more information, see Creating historical sessions on page 13-9.

Creating live sessions

You create a live session when you want to view events as they are fed to the operation history database. While viewing events in a live session, you can pause the live event feed.

To create a live session:

1. Start Operation History Viewer.
2. In the Viewer window, click **File** > **New**, or click the **New** icon .

   The system displays the **Session Properties** dialog box.
3. In the **Session Name** field, enter the name of the session, if required.
4. In the **Message Application Server** field, enter or click the MAS for which you want to display events. If you want to display events for all the MASs in the voice mail domain, click **All Servers**.
5. Click **Live Mode**.
6. Under **Select Types**, select the event severity type or types to display. You must select either **Error**, **Warning** or **Information**.
7. Under **Selection Activities**, select the event criteria to display. To quickly select all activities, select **All Activities**.

   If you select **All Activities**, any mailbox or port number values you enter are ignored.

   You can further restrict the display of mailbox and port activity events by entering a range of mailbox or port numbers in the **Value** field, using a comma separator. No negative numbers or spaces are allowed in a range. The first number in a range must be less than the last number in a range, for example, port numbers, **1-8,16-24**.
8. Click **OK**.

Note: To avoid slowing down the tracing server, Operation History Viewer displays the most recent events only. You can view older events in an historical session.

If you want to change the number of events displayed in a live session, please contact your Avaya Modular Messaging support representative.

Scrolling events in a live session

If you do not pause a live feed view when scrolling events in a live session, the viewer moves to the end of the event list each time a new event comes in.

Important: You must pause a live view before exporting events. For information on exporting events, see Exporting operation history events on page 13-18.

To scroll events in a live session:

1. Click **File** > **Pause**, or click the **Pause/Resume** icon .
2. Scroll through the events you want to view.
3. When you have finished scrolling, click **File** > **Resume**, or click the **Pause/Resume** icon .

   Live event feed is resumed without any loss of events generated during scrolling.

Notes:

- You can pause a live view for a maximum of 200 seconds. If you exceed this time, then you must restart the live view session.
- When you click **New**, **Open**, **Save**, **Save As**, **Session Properties**, or **Event Properties**, the application automatically pauses the event feed. Once the action is complete, the application resumes event feed without any loss of events generated during the action.

Creating historical sessions

Create an historical session when you want to view events already stored in the operation history database.

To create an historical session:

1. Start Operation History Viewer.
2. In the Viewer window, click **File** > **New**, or click the **New** icon .

   The system displays the **Session Properties** dialog box.
3. In the **Session Name** field, enter the name of the session, if required.
4. In the **Message Application Server** field, enter or click the MAS for which you want to display events. If you want to display events for all the MASs in the voice mail domain, click **All Servers**.
5. Do one of the following:

   - If you want to restrict the display of events by date and time, continue with Steps 6 through 10.
   - If you do not want to restrict the display of events by date and time, click Clear and continue with Steps 7 through 10.
6. In the **From** and **To** fields, under **Date and Time**, enter the first and last date and time for session creation.

   If you want to modify the session properties later to create different event viewing scenarios, we recommend that you select one of the relative date values in the **Date** field, for example, Today. This saves you from reentering an absolute date for each scenario you create.

Note: To retrieve the default times and dates, click **Default.** Note that the defaults are the application defaults unless you have set up your own. Setting up your own default dates is described in the section Setting new session defaults on page 13-20.

7. Under **Select Types**, select the event severity type or types to display. You must select at least one of Error, Warning or Information.
8. Under **Selection Activities**, select the event criteria to display by selecting the appropriate boxes. You can quickly select all activities by selecting **All Activities**.

   If you select **All Activities**, the application ignores any mailbox or port number values you enter.

   You can further restrict the display of mailbox and port activity events by entering a range of mailbox or port numbers in the Value field, using a comma separator. No negative numbers or spaces are allowed in a

range. The first number in a range must be less than the last number in a range, for example, port numbers, **1-8, 16-24**.

9. Under **Sort By**, select the type of value by which you want events to be sorted. **None** is selected by default.

   This means that events are sorted in the order in which they were entered in the database.

10. Click **OK**.

Viewing a session

The Operation History Viewer window lists the events matching the current session properties. The system displays event details in columns.

- For a list of columns, see Understanding event columns in the Viewer window on page 13-11.
- For information on how to change the column settings, see Changing column settings on page 13-12.
- For information on how to copy and paste event details to a word processing or other application, see Copying and pasting event details on page 13-13.

Understanding event columns in the Viewer window

The table below describes the event columns in the Operation History Viewer window.

Column	Description
Date	Date the event occurred
Time	Time the event occurred
Object	System component that generated the event, for example, the telephone user interface (TUI)
Event	Event identifier
Type	Severity of the event
Call-ID	Call identifier
Message Application Server	Name of the MAS on which the event occurred
Information	Description of the event
Port	Port identifier, if any, associated with the event
Mailbox	Mailbox identifier, if any, associated with the event
Directory Search Key	Directory search key identifying a user's mailbox on an e-mail server

Changing column settings

You can modify how event information in the system displays the Viewer window.

To change column settings:

1. Click **File** > **Options**.
2. Click the **Columns** tab.
3. Do one or more of the following:
   - To transfer columns between the Selected list and the Not Selected list, select one or more columns and use the **Move** icon or double-click. The direction of the arrow changes to point from the side that has one or more items selected.

     Note: To select all columns in the list to which the arrow of the **Move** icon is currently pointing, click **Select All**.

   - To move a selected column in the **Selected** list up one position, click the up arrow icon.
   - To move a selected column in the **Selected** list down one position, click the down arrow icon.

     Note: To reset the columns to the original application defaults, click **Reset**.

4. Click **OK**.

To Resize Columns

- Use the mouse to resize the columns. On starting, Operation History Viewer remembers the last resized position of each column.

Copying and pasting event details

You can copy event details displayed in the Operation History Viewer window to an alternate application. For example, you might want to copy event details to a Microsoft Word document.

To copy and paste event details:

1. In the **Event** window, highlight the events you want to copy.
2. Click **Edit** > **Copy**, or press **CRTL+C**.

   The information is copied to the Clipboard.
3. In the destination application, to paste the event details, click **Edit** > **Paste**, or press **CRTL+V**.

Note: You can also export operation history events to a text file or to a database file. For more information, see Exporting operation history events on page 13-18.

Saving sessions

Depending on how you want to work with a session, you can save it in one of the following file formats:

- Session file (.ssn)

  Create a session file when you want to save only a session's properties. You can modify the properties to create different event-viewing scenarios.

- Snapshot file (.snp)

  Create a snapshot file when you want to save a session's properties and the event data matching these properties. The system purges the operation history database periodically. However, creating a snapshot file means that you can keep the event data for as long as you require.

Note: When you save a live session, the application pauses the event feed. Once the save is complete, the application resumes the event feed without any loss of events generated during the save action.

To save a session:

1. Click **File** > **Save**, or click the **Save** icon.

   The system displays the **Session Save As** dialog box.

2. In the **File name** field, enter a file name.

3. In the **Save as type** field, select:

   - Session files (*.ssn)
   - Snapshot files (*.snp)
   - All files (*.*)

4. Select the location where you want to save the file.

5. Click **OK**.

Opening sessions

You can open a previously saved session file or snapshot file.

To open a session:

1. In the Viewer window, click **File** > **Open**, or click the **Open** icon.

   The system displays the **Open Session** dialog box.

2. In the **Files of Type** field, select the type of file you want to retrieve:

   - Session files (*.ssn)
   - Snapshot files (*.snp)
   - All files (*.*)

3. Locate the file using **Directories and Drives**.

4. Click **OK**.

Displaying or changing session properties

You can view a session's properties or change them, for example, if you want to populate the session with a different set of events.

To display or change session properties:

1. Click **File** > **Session Properties**, or click the **Properties** icon .

   The system displays the **Session Properties** dialog box.

2. Do one of the following:

   - If you want to view the session properties without changing them, click **Cancel** when you are finished viewing the properties in the **Session Properties** dialog box.

   - If you want to change the session properties, continue with Steps 3 and 4.

3. Make your changes in the **Session Properties** dialog box. If you need more information, click **Help** in the **Session Properties** dialog box.

4. Click **OK**.

   The system repopulates the current session with events matching the new session properties.

To change session selection activities:

You can change session selection activities using the **Selection** menu commands rather than having to display the **Session Properties** dialog box.

Source of events	Selection menu command
All voice mail system activities	All Activities.
Mailbox activity	Mailbox Activity. You can enter a range of mailbox numbers in the Values dialog box.
Port activity	Port Activity. You can enter a range of port numbers in the Values dialog box.
PBX Integration activity	PBX Integration Activity.
Octel Analog Networking activity	Octel Analog Networking Activity.

New events are then retrieved for the newly selected selection activities or values.

Displaying event properties

For detailed information on an event, you can view its properties. For example, you can view the time, date, and severity of an event.

To display event properties:

1. In the Operation History Viewer window, click the event.
2. Do one of the following:
   - Click **File** > **Event Properties**.
   - Click the **Properties** icon .
   - Double-click the event.

   The system displays the **Event Properties** dialog box.

The **Event Properties** dialog box shows the following information.

Property	Description
Event	Event identifier
Date and Time	Date and time the event occurred
Object	Name of the system component that generated the event
Message Application Server	MAS on which the object that generated the event resides
Type	Severity of the event
Port	Port number, if any, associated with the event
Mailbox	Mailbox number, if any, associated with the event
Message	Detailed description of the event

Exporting operation history events

You can export operation history events to view, query and search the data using alternate tools, for example, text editors and database querying tools. You can export the event data in two formats:

- Text file (.txt)

  Records in a text file, with field separators and text envelope characters. The text file contains event information for the currently selected columns only.

- Database file (.mdb)

  Open Database Connectivity (ODBC)-compliant database with the same columns as the operation history database.

Notes:

- You cannot export events in a snapshot file. When a snapshot file is loaded, the system disables the Export command.
- Before you can export events in a live session, you must pause the event feed. Once the export is complete, the system resumes the event feed automatically without any loss of events generated during the export.

To export operation history events:

1. Do one of the following:
   - If you are exporting events in a live session, continue with Steps 2 through 7.
   - If you are exporting events in an historical session, continue with Steps 3 through 7.
2. Click **File** > **Pause**, or click the **Pause/Resume** icon .
3. Click **File** > **Export**, or click the **Export** icon .

   The system displays the **Export Operation History Events** dialog box.
4. In the **File Name** field, enter a file name, or, if you want to overwrite an existing file, click that file.
5. In the **List Files of Type** field, select either ***.txt** format for a text file or ***.mdb** format for a database file.

If you are exporting a text file and want to specify characters to separate and surround text fields, click **Options** to open the **Text Export** tab. For more information, see “To set text export options” (below).

6. Select the location where you want to save the file in **Directories and Drives**.

7. Click **OK**.

To set text export options:

Note: You can specify characters to separate and surround text fields when exporting operation history events to a text file.

1. Click **File** > **Options**.

2. Click the **Text Export** tab.

3. Select the character you want the system to use to separate text fields. The options are comma, space, semicolon, or tab. Comma is the default.

4. Select the character you want the system to use to surround text fields. The options are single quotes, double quotes, or none. Double quotes is the default.

5. Click **OK**.

Setting new session defaults

You can set up your own default MAS and dates and times to use for a new session. You can also get Operation History Viewer to automatically open a new session using these defaults whenever you start the application.

To set new session defaults:

1. Click **File** > **Options**.
2. Click the **Events View** tab.
3. In the **Default MAS** field, enter or select the name of the default MAS to use. If you want to display events for all the MASs in the voice mail domain, click **All Servers**.
4. Under **Default Date and Time**, enter the first and last default date for session creation in the **From** and **To** fields.
5. Under **Default Date and Time**, enter the first and last default time for session creation in the **From** and **To** fields.
6. Click **OK**.

To open a new session with default options on start of application:

1. Click **File** > **Options**.
2. Click the **Events View** tab.
3. Click **Open new session with default options on start of application**.
4. Click **OK**.

   When Operation History Viewer starts, an untitled session opens displaying events that meet all the default values.

14

System Performance Monitoring

This chapter describes how to monitor the voice mail system.

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Introduction to monitoring

Monitoring the voice mail system involves checking the performance of the MASs. Proper monitoring can help you to find and fix problems before they have an impact on your organization.

You can use the following tools to monitor MAS performance:

- **Performance Monitor**

  You can make use of all the monitoring capabilities of this Windows tool to check the performance of a particular MAS. For more information, see Using Performance Monitor on page 14-3.

- **Port Monitor**

  This provides a graphical user interface for checking and changing the status of ports on an MAS. For more information, see Using Port Monitor on page 14-10.

Using Performance Monitor

You use Microsoft Performance Monitor to check the performance of a particular MAS. To monitor MAS objects in the MAS software, a number of counters were added to Performance Monitor.

You should be familiar with using Performance Monitor. For information about Performance Monitor, see your Microsoft Windows documentation.

Performance Monitor provides a large number of counters for monitoring the performance of MASs. You use each counter to monitor a different activity. For example, you can monitor inbound or outbound calls to the MAS or check the number of ports currently in use. For the procedure to do this, see Monitoring the performance of MASs on page 14-4.

You can use the counters to monitor the performance of six separate objects:

- **Modular Messaging Software Voice Port**

  Use these counters to monitor voice port activity.

- **Modular Messaging Software Service**

  These counters display internal information about the state of the system, for use by Avaya Modular Messaging administration tools.

- **Octel Analog Networking**

  Use these counters to monitor the current status of the Octel Analog Networking gateway.

  Note: Octel Analog Networking is available with Avaya Modular Messaging for Microsoft Exchange only.

- **Modular Messaging Software**

  Use these counters to monitor the current status of calls processed by MAS.

- **Modular Messaging Software Messaging System**

  Use these counters to monitor activity in the messaging subsystem.

- **Modular Messaging Software MWI**

  Use these counters to monitor message waiting indicator activity.

For tables listing the performance counters, see Modular Messaging Software performance counters on page 14-5.

Monitoring the performance of MASs

The following steps describe how to monitor the performance of an MAS in chart view (the default view). For information about using alert view, log file view, and report view, see your Windows 2000 Server or Windows 2000 documentation. For tables listing the performance counters, see Modular Messaging Software performance counters on page 14-5.

To monitor the performance of MASs:

1. If it is not already running, start Performance Monitor by clicking **Start** > **Programs** > **Administrative Tools** > **Performance**.
2. On the toolbar, click the **Plus** icon.

   The system displays the **Add Counters** dialog box.
3. In the **Select counter from this computer** field, click the MAS you want to monitor.
4. In the **Performance object** field, click the MAS object you want to monitor.
5. In the **Select counters from list** field, select the counter you require. The counters available depend on the object that you have chosen.
6. Click **Add**.
7. If you want to add another MAS to the chart, repeat Steps 3 through 6.

Modular Messaging Software performance counters

Modular Messaging Software Voice Port counters

Counter	Description
Inbound calls counter	The number of incoming calls to the port
Outbound calls counter	The number of outbound calls from the port
Port status	The current status of the port
Port status tIme	The time the port has been in its current state
Total calls counter	The total number of calls processed by the port

Modular Messaging Software Service counters

Counter	Description
State counter	The current status of the service object

Octel Analog Networking counters (Microsoft Exchange only)

Counter	Description
Inbound bytes awaiting delivery	Number of messages queued for delivery by the Exchange message transfer agent (MTA)
Outbound messages awaiting delivery	The number of messages queued for outbound delivery
Inbound connections established	The number of active inbound Octel Analog Networking connections
Outbound bytes awaiting delivery	The size of data in bytes queued for delivery by the gateway
Messages entering outbound messages queue	The number of messages placed in the MTS-OUT folder by the Exchange message transfer agent (MTA)
Total connections accepted	The total number of successful inbound connections
Total connections rejected	The total number of rejected inbound connections

Octel Analog Networking counters (Microsoft Exchange only)*(Continued)*

Counter	Description
Total failed connection attempts	The total number of failed outbound connection attempts
Messages entering outbound work queue	The number of messages placed in the gateway's internal queues
Outbound messages awaiting delivery	The number of messages queued for outbound delivery
Outbound connections established	The number of active outbound Octel Analog Networking connections
Total Octel Analog Networking messages delivered	The total number of messages received from Octel Analog Networking and delivered using Exchange
Total Octel Analog Networking messages generated	The total number of Octel Analog Networking messages for which transmission was attempted
Total messages transferred to Exchange	The total number of messages sent to Exchange, including report messages
Total NDRs to Exchange	The total number of non-delivery report messages sent to Exchange
Total NDRs to Octel Analog Networking	The total number of non-delivery report messages transmitted to peer Octel Analog Networking nodes
Total outbound connections	The total number of Octel Analog Networking connections

Modular Messaging Software counters

Counter	Description
% Delayed Calls	The percentage of calls today that have experienced a delay of more than 4 seconds
% Time offline	The percentage of time today that the MAS was offline
Active ports	The number of currently active ports
Active TUI sessions	The number of currently-active TUI sessions
All TUI Sessions Active	The number of times that all TUI sessions were active

Modular Messaging Software counters*(Continued)*

Counter	Description
Calls to non-Modular Messaging-Software-enabled users	The number of calls diverted to Modular Messaging Software for which there is no corresponding subscriber for the extension
Calls while offline	The number of calls received while server was offline
Failed TUI Password Validations	The number of invalid passwords entered today
Incoming calls	The number of active incoming calls
Integration data missing	The number of calls that were missing switch integration data
Integration Unknown	The number of calls that were missing the switch integration type
Logons aborted after delay	The number of aborted TUI logons today due to delays opening the subscriber mailbox
Logon failures (Offline)	The number of times subscribers could not complete a logon because a mail server was unavailable
Non-delivery messages	The number of non-delivery messages in the default mailbox
Number of message store Enabled Users	The number of users enabled for the message store
Outgoing calls	The number of active outgoing calls
Size of TUI port group	The number of channels in the TUI port group
Spooler queue length	The number of messages queued for delivery to the message server(s)
System Problems	The number of times any call has been terminated because the MAS could not contact a messaging server
Timeout obtaining greeting	The number of times a timeout occurred when trying to obtain a subscriber greeting
Total calls today	The total number of calls handled by Modular Messaging Software today
TUI average logon time	The average time (in milliseconds) taken for TUI logins

Modular Messaging Software counters*(Continued)*

Counter	Description
TUI average message delete time	The average time (in milliseconds) taken to complete deletion of TUI messages
TUI average message playback time	The average time (in milliseconds) taken for TUI message playback to start

Modular Messaging Software Messaging System counters

Counter	Description
Ping count	The number of times the Exchange server is pinged
Ping failed count	The number of times the Exchange server ping fails
Ping status	The HRESULT for the last ping
Session logon	The messaging session logon time in milliseconds
Session OpenMsgStore	The messaging session logon time in milliseconds
Store OpenEntry	The messaging store Open Entry time in milliseconds
Total ping time	The total messaging ping time in milliseconds

Modular Messaging Software MWI counters

Counter	Description
Total MWI Busy Failures	The number of times the MAS has failed to trigger subscribers' message waiting indicators due to a lack of resources, such as ports, trunks, or network availability
Total MWI Errors	The number of times the MAS has detected an error while trying to trigger subscribers' message waiting indicators

Modular Messaging Software MWI counters*(Continued)*

Counter	Description
Total MWI Set Attempts	The number of times the MAS has attempted to turn a subscriber's message waiting indicator on since call processing began
Total MWI Reset Attempts	The number of times the MAS has attempted to turn a subscriber's message waiting indicator off since call processing began

Using Port Monitor

Port Monitor provides a graphical user interface for checking the current status of ports on an MAS.

To run the Port Monitor application, click **Start** > **Programs** > **Avaya Modular Messaging** > **Port Monitor**.

See the following sections for information on using Port Monitor:

- Selecting an MAS for port state viewing on page 14-11
- Viewing port states on page 14-12
- Managing port states on page 14-14
- Disabling ports on page 14-15
- Enabling ports on page 14-16
- Disabling a port immediately on page 14-17

Selecting an MAS for port state viewing

You must select the MAS for which you want to view port states.

To select an MAS:

From the **Messaging Application Servers** dialog box, click the MAS in the list and then click **Select**. Alternatively, double-click the MAS.

Note: The dialog box lists the MASs in the voice mail domain associated with the computer running the Port Monitor application

To select an MAS in a different voice mail domain:

1. From the **Messaging Application Servers** dialog box, click **Other**.

   The system displays the **Select Home MAS** dialog box.

2. Enter the MAS in the **Home voice server name** field. Clicking **Browse** opens the standard **Select Computer** dialog box where you can select the MAS.

   Note: You must know the name of the message store in the domain.

3. Click **OK**.

To view the status of multiple MASs:

Start multiple copies of the Port Monitor application, selecting a different MAS from the Message Application Servers dialog box each time.

To select another MAS:

Once you have started Port Monitor, you can select a different MAS without quitting the application.

1. Do one of the following:

   - Click the **Select Another Server** icon .
   - From the **Options** menu, click **Select Another Server**.

   The system displays the **Message Application Servers** dialog box.

2. Select the MAS in the usual way (see above).

Viewing port states

The Port States window lists each port for the selected MAS and describes its current status. Each port can have one of the following states, represented by an icon:

- **Disabling**

  An administrator requested to disable a busy port, but the port has not yet been released by the call.

- **Disabled**

  The port is unavailable.

- **Busy**

  The port is in use by incoming or outgoing calls.

- **Idle**

  The port is available.

Additionally, the following states can appear simultaneously with one of the first three states:

- **Disconnected**

  The call has been disconnected, but the port is still off hook.

- **Offhook**

  The port has been taken off hook from the idle state.

- **Dialtone**

  Dialtone has been detected on this port for an outgoing call.

- **Connected**

  The call on this port is connected.

- **Call Failed**

  The outgoing call on this port failed.

- **In Transfer**

  The first stage of a transfer on this port is completed.

- **Transfer Failed**

  The transfer of the call on this port failed.

- **Waiting for Call**

  The port is waiting for an incoming ring.

- **Ringing In**

  The port is ringing with an incoming call.

- **Ringing Out**

  The outgoing call on this port is ringing the targeted line.

- **Dialing**

  The port is dialing an outgoing call.

- **Waiting for Call (Pending)**

  The port has been requested to go into the Wait For Ring state.

- **Bad port**

  The port is out of service.

- **Playing**

  Audio is playing.

- **Recording**

  Audio is being recorded.

Managing port states

If you detect any port usage problems, you can change the status of a port as appropriate. If you have system administrator privileges, you can:

- Disable a port

  Make the port unavailable for incoming or outgoing calls. If the port is busy, this is not done until it is released.

  If the **Go off hook when port disabled** option in the Voice Mail System Configuration application (**General - PBXs** tab) is selected, the port is taken off hook when it is disabled.

- Enable a port

  Bring the port on hook and make it available for incoming or outgoing calls.

- Disable a port immediately

  Force the port to be disabled immediately, regardless of the activity currently taking place on that port.

Considerations

When using Port Monitor, keep the following considerations in mind:

- To use Port Monitor, you must have administrator privileges at a Windows 2000 level on the MAS, and you must be a member of the System Administrators access control list (ACL).

  For information on setting up voice mail domain privileges, see Configuring voice mail domain security on page 5-21.

- An administrator can also enable or disable a port using the General - Port page in the Voice Mail System Configuration application. Any changes made there are reflected in the Port Monitor application and vice versa.

- If two administrators attempt to change the status of a port on the same MAS at the same time, only one change takes effect, and automatically overrides the other attempt. To avoid this situation, we recommend that you allocate a single machine for changing port states.

Disabling ports

Disabling a port means that it cannot be used for outgoing calls, and incoming calls on that port are not answered. If the Go off hook when port disabled option in the Voice Mail System Configuration application (General - PBXs page) is selected, the port is taken off hook when it is disabled.

Before you can disable a port, it must be Idle. If the port is busy, it is disabled the next time it becomes idle.

To disable a port:

1. In the **Port States** window, select the port.

   You can select multiple ports by holding down the Shift key or Control (**Ctrl**) key and clicking on the ports you require.

2. Do one of the following:

   - Click the **Disable** icon .
   - From the **Change State** menu, click **Disable**.
   - Right-click the port and then, from the pop-up menu, click **Disable**.

Enabling ports

Enabling a port means bringing it back into service so that it is available for incoming or outgoing calls.

To enable a port:

1. In the **Port States** window, select the port.

   You can select multiple ports by holding down the Shift key or Control (**Ctrl**) key and clicking on the ports you require.

2. Do one of the following:

   - Click the **Enable** icon .
   - From the **Change State** menu, click **Enable**.
   - Right-click the port and then, from the pop-up menu, click **Enable**.

Disabling a port immediately

It may be necessary to force a port to become disabled at once, irrespective of its current status.

Important: Disabling a port immediately will instantly disconnect any users of the port.

To disable a port immediately:

1. In the **Port States** window, select the port.

   You can select multiple ports by holding down the **Shift** key or **Control** key and clicking on the ports you require.

2. Do one of the following:

   - Click the **Disable Immediately** icon .
   - From the **Change State** menu, click **Disable Immediately**.
   - Right-click the port and then, from the pop-up menu, click **Disable Immediately**.

Testing Dialogic lines

The Dialogic Line Test Application verifies that the voice ports are correctly configured and connected to the PBX. Your service technician uses this tool as part of testing the installation of your system. However, you may also use it as a troubleshooting tool. It tests analog, DSE, and QSIG ports.

Note: Stop the Messaging Application Server service before you use this tool.

Run the Dialogic Line Test Application from the Modular Messaging Software folder.

The system displays the Dialogic Analog-Line Test Application window.

The Status column tells you the status of the channel.

To test a port:

1. Click a port in the list.
2. Dial the number of the port from a telephone.

   The status of the port should change to **Receiving call**.
3. Hang up the telephone, and wait until the port changes to **Waiting for call**.
4. Click the port again.
5. Type a real telephone number into the **Dial Number** field, and click **Dial Number**.

   The status of the port should change to **Dialing number**. Other status changes may follow.

   If a channel has an error, it changes to a flashing red color. If a channel is in error or locked in a state inappropriately, you can reset the channel.

To correct a port problem:

Click the channel, then click **Reset**, or if multiple channels have problems, click **Reset All**.

The channel returns to the **Waiting for call** state. If not, you may need to reconfigure or replace the voice card.

To modify QSIG parameters if the card handles the QSIG protocol:

1. Click **Tools** > **Options**.

   The system displays the **QSIG Options** dialog box.

2. In the **Layer 1 Protocol** field, click **G.7.11 A-Law** or **G.7.11 u-Law**.

3. In the **Number Type** field, click **Unknown**, **International**, **National**, or **Local**.

4. In the **Number Plan** field, click **Unknown**, **ISDN/Telephony(E.164/E.163)**, or **Private**.

15

Subscriber Accounts for Microsoft Exchange

This chapter describes how to create Avaya Modular Messaging accounts for Microsoft Exchange.

Section	Page
Introduction to creating subscriber accounts	15-2
Creating subscriber accounts under Exchange 5.5 administration	15-3
Creating subscriber accounts under Exchange 2000/2003 administration	15-25

Introduction to creating subscriber accounts

Note: This chapter describes how to create subscriber accounts for Microsoft Exchange. If you are running Avaya Modular Messaging — IBM Lotus Domino version, see your IBM Lotus Domino documentation.

You can create subscriber accounts by enabling Avaya Modular Messaging users for voice mail. Depending on your configuration, you create subscriber accounts in one of the following two ways:

- If your MAS is peered with an Exchange 5.5 server, you create subscriber accounts in Microsoft Exchange Administrator.

  For more information, see Creating subscriber accounts under Exchange 5.5 administration on page 15-3.

- If your MAS is peered with an Exchange 2000/2003 server, you create subscriber accounts using Windows Active directory Users and Computers.

  For more information, see Creating subscriber accounts under Exchange 2000/2003 administration on page 15-25.

Note: To use Modular Messaging Voice Mail Administration in Windows Active Directory, you must be running an Avaya Modular Messaging 4.0 MAS or higher.

Administration rights

To create and edit Avaya Modular Messaging subscriber accounts under Exchange 5.5 administration, you must be a member of the Avaya Modular Messaging System Administrators ACL.

To create and edit Avaya Modular Messaging subscriber accounts under Exchange 2000/2003 administration, you must be a member of the Modular Messaging Subscriber Administrators ACL.

Avaya Modular Messaging administration rights are configured in the Security dialog boxes of Voice Mail System Configuration.

For more information, see Chapter 5, “Voice Mail Domain Administration”.

Creating subscriber accounts under Exchange 5.5 administration

This section covers the following topics:

- Overview of creating subscriber accounts for Exchange 5.5 on page 15-4
- Displaying the Modular Messaging property page on page 15-5
- Enabling the Modular Messaging property page on page 15-6
- Enabling Modular Messaging for a mailbox on page 15-7
- Setting the initial password on page 15-8
- Configuring Avaya Modular Messaging basic information on page 15-9
- Selecting a personal operator schedule on page 15-11
- Configuring Notify Me on page 15-11
- Specifying call information for notification messages on page 15-13
- Configuring advanced Avaya Modular Messaging information on page 15-14
- Recording Name prompts on page 15-18
- Enabling Modular Messaging for custom recipients on page 15-20
- Enabling Modular Messaging for a distribution list on page 15-21
- Moving subscribers to a different voice mail domain on page 15-22
- Editing subscribers in a different voice mail domain on page 15-23
- Creating voice-mail-only subscriber accounts on page 15-24

Overview of creating subscriber accounts for Exchange 5.5

You create an Avaya Modular Messaging subscriber account by enabling Modular Messaging for a Microsoft Exchange recipient. You can enable Modular Messaging for the following types of recipient:

- **Mailbox** A mail recipient on the Microsoft Exchange server
- **Custom recipient** A mail recipient not on the Microsoft Exchange server, such as an Octel Analog Networking user on a remote system
- **Distribution list** A group of mail recipients

For more information on mail recipients, see your Microsoft Exchange documentation.

You enable Modular Messaging for a recipient on the Avaya Modular Messaging property page. This property page was added to the Microsoft Exchange Administrator recipients dialog box specifically for creating subscriber accounts.



CAUTION:

When using Microsoft Exchange Administrator to modify Modular Messaging details for a subscriber, properties may be lost if both the following conditions apply:

- Subscribers change their Modular Messaging properties using Subscriber Options shortly before or after the administrator's modification.
- The MAS connected to the client machine running Subscriber Options has a peer Exchange server that is not the same as the Exchange server running Microsoft Exchange Administrator.

Displaying the Modular Messaging property page

When Avaya Modular Messaging is installed, the Modular Messaging property page is added to every recipient within the Microsoft Exchange Recipients container. This section describes how you display the Modular Messaging property page.

Important: If the recipient is in a Recipients subcontainer or a container outside Recipients, you must enable the Modular Messaging property page. For more information, see Enabling the Modular Messaging property page on page 15-6.

To display the Modular Messaging property page:

1. Start Microsoft Exchange Server Administrator.
2. In the directory hierarchy, click **Recipients**.
3. From the list on the right side of the window, select the recipient you want to work with.
4. Select the Modular Messaging property page.

To display the Modular Messaging property page when creating a new Exchange recipient:

1. Create the Microsoft Exchange recipient using the Microsoft Exchange Administrator application.

   See your Microsoft Exchange documentation if you need more information about creating recipients.
2. Complete the recipient details.
3. Click **OK**.
4. From the **Recipients** container, select the recipient with which you want to work.
5. Click **File** > **Properties**.
6. Select the Modular Messaging property page.

Enabling the Modular Messaging property page

If the recipient is in a Recipients subcontainer or a container outside Recipients, you must enable the Modular Messaging property page.

To enable the Modular Messaging property page:

1. On the Windows desktop, click or highlight the Microsoft Exchange Administrator icon.
2. Right-click to display the **Shortcut** menu, and click **Properties**.
3. Select the **Shortcut** property page.
4. In the **Target** line, append the parameter /r, for example, `c:\exchsrvr\bin\admin.exe /r`
5. Run the Microsoft Exchange Administrator program.
6. In the directory hierarchy, select the container.
7. Click **File** > **Raw Properties**.

   The system displays the **Sub-container** dialog box.
8. In the **List attributes of type** field, click **All**.
9. In the **Object attributes** field, click **Extension-Name-Inherited**.
10. In the **Edit value** field, type: **gnvuaext**
11. Click **Add**.
12. Click **OK**.

    The **Sub-container** property page is enabled for all recipients in the container.

Enabling Modular Messaging for a mailbox

You can enable Modular Messaging for a mailbox on the Microsoft Exchange server.

To enable Modular Messaging for a mailbox:

1. Display the Modular Messaging property page as described in Displaying the Modular Messaging property page on page 15-5.

2. Select **Enable Modular Messaging**.

   This check box is cleared by default.

3. If the system displays a pop-up dialog box containing the mailbox password, follow the steps described in Setting the initial password on page 15-8.

4. Configure basic Avaya Modular Messaging information.

   For more information, see Configuring Avaya Modular Messaging basic information on page 15-9.

5. If required, configure advanced Avaya Modular Messaging information for the mailbox.

   For more information, see Configuring advanced Avaya Modular Messaging information on page 15-14.

6. If required, record the Name prompt.

   For more information, see Recording Name prompts on page 15-18. In the Aria TUI, if no name is recorded and Educator is turned on, the system prompts subscribers to record their names the next time they open their mailboxes.

Note: The administrator's recording of a subscriber's Name prompt should be considered a temporary measure because callers prefer to hear the subscriber's own voice.

Setting the initial password

If you have configured the **Initial Password for New Mailboxes** setting in Voice Mail System Configuration to **Default** or **Random**, you must set the initial password. The **Initial Password for New Mailboxes** setting can be found on the **Telephone User Interface - Subscriber** tab. For more information, see Chapter 5, "Voice Mail Domain Administration".

Note: If the **Initial Password for New Mailboxes** setting is configured as **None**, the following procedure does not apply.

To set the initial password:

1. Enable Modular Messaging for the mailbox as described in Enabling Modular Messaging for a mailbox on page 15-7.

   The system displays a dialog box showing the initial password.

2. Write down the password or copy the screen using **Print Screen**.

3. Click **OK**.

Note: If you need to reset the password, you must enter a new one in the **Numeric password** field.

Configuring Avaya Modular Messaging basic information

Avaya Modular Messaging basic information includes voice mail user defaults, such as mailbox number, extension number, and numeric address.

To configure basic Avaya Modular Messaging information:

Complete the following fields on the Modular Messaging property page, as required.

- **Voice mail domain** Displays the voice mail domain you are currently administering. To change the voice mail domain, see Moving subscribers to a different voice mail domain on page 15-22.

  Note: Local mailbox numbers cannot begin with 0 (zero). This is because 0 has special functionality in the TUI.

- **Extension number** Enter the subscriber's telephone extension number. The default is blank.

  You can also click **Options** to enter one or more secondary extensions. A secondary extension allows a subscriber to handle calls from different types of callers in different ways. For example, the subscriber may have a publicized number for outside callers that has different greetings than the greetings recorded for the number used by inside callers. See Configuring a secondary extension on page 15-30.

- **Mailbox number** Enter the subscriber's mailbox number. The default is blank. We recommend that you make a subscriber's mailbox number the same as that subscriber's extension number. For guidance on setting up a mailbox numbering scheme, see the *Avaya Modular Messaging Concepts and Planning Guide*.

- **Numeric address** Enter the subscriber's numeric address. A numeric address uniquely identifies a subscriber in the organization. For example, a numeric address may be an employee telephone number or social security number. The length of a numeric address must not be the same as the length of a mailbox number. The default is blank.

  If you are using Octel Analog Networking, the numeric address length must not exceed 10 digits. For guidance on setting up a numeric addressing scheme, see the *Avaya Modular Messaging Concepts and Planning Guide.*

- **Numeric password** Enter the password for the subscriber.

  Notes:

  - If you enter a password that is shorter than the value set in the **Minimum Password Length** field (**Telephone User Interface - Voice Mail Domain** dialog box, **Subscriber** tab), then the subscriber is forced to change the password during initial login. For more information, see Configuring subscriber properties on page 3-12.

  - If the **Minimum Password Length** setting is configured as zero (0) in the Voice Mail System Configuration application, a blank password is valid. However, for security reasons, Avaya does not recommend doing this.

- **Personal operator** Enter the mailbox number of the subscriber's designated personal operator. When callers request operator assistance during the times that the personal operator mailbox is active, the system transfers them to the extension associated with this mailbox. If this field is left blank, the system transfers callers to the default receptionist mailbox number. The default is blank.

  The times that the personal operator mailbox is active are determined by the currently selected personal operator schedule. For more information, see Selecting a personal operator schedule on page 15-11.

Selecting a personal operator schedule

The times during which the personal operator mailbox is active are determined by the personal operator schedule. If callers request operator assistance during these times, they are transferred to the personal operator mailbox. If callers request operator assistance while the personal operator mailbox is inactive, they are transferred to the system operator.

You set up personal operator schedules in the Voice Mail System Configuration, **Attendant Schedules** dialog box. For more information, see Configuring attendant schedules on page 3-18.

To select a schedule for personal operator:

1. On the **Modular Messaging** property page, click **Personal operator**.

   The system displays the **Personal operator** dialog box.

2. In the **Schedule** field, click the schedule that you want to use for transferring calls to the subscriber's designated personal operator.

3. Click **OK**.

Configuring Notify Me

With Notify Me, subscribers can use a pager, a short messaging service (SMS)-enabled digital telephone, or other device to alert them of calls to their Avaya Modular Messaging inbox. When they receive a call, Avaya Modular Messaging sends an e-mail message to a third party e-mail address. A system monitoring this e-mail address determines the actual means of notification, which is dependent on the service provider. The system might, for example, send a message to the subscriber’s numeric pager, alphanumeric pager, or SMS-enabled digital telephone.

You can enable subscribers to be notified of calls by setting the following options:

- **Automatic notification**

  Allows subscribers to be notified of new voice messages left by callers. Subscribers can select to be notified of all voice messages or only of voice messages marked as urgent.

- **Caller requested notification**

  Prompts the caller to request that the subscriber is notified of their call by sending a message to the subscriber’s notification device. When enabled, callers hear the following prompt:

  “To have <*subscriber’s name*> notified, press 9 now.”

  With this option, subscribers can be notified of calls even if the automatic notification option is disabled or the caller does not leave a message.

Subscribers can override notification settings using Subscriber Options.

Notes:

- Be aware that if both notification options are enabled, subscribers may receive two notifications for the same voice message.
- With some notification devices, the number of characters that can be sent in a message may be restricted.

To configure call notifications:

1. On the Modular Messaging property page, click **Notify Me**.

   The system displays the **Notify Me** dialog box.

2. Complete the following fields, as required:

   - **Allow Notify Me** Select if you want to enable notifications for the subscriber. If you clear this check box, all the fields in the **Allow Notify Me** dialog box are disabled. This check box is cleared by default.
   - **Send automatic notifications** Select if you want notification to be sent automatically to the subscriber when a caller leaves a voice message in their inbox.
   - **Notify for** Select the type of messages for which you want to enable automatic notification. You can select:
     - **All telephone messages** The subscriber is notified of all new voice messages left by a caller. This is the default.
     - **Urgent telephone messages** The subscriber is only notified of urgent voice messages left by a caller.
   - **Message content** This box displays the type of information that the subscriber receives in an automatic call notification, such as the caller's telephone number, the date, and message length. To specify the type of information received, select keywords from the Message information drop-down list, or type in the keywords directly.

     The default is "A voice message of <*Priority*> priority was left from <*CallerPhoneNumber*> at <*Time*> on <*Date*> of <*Length*> length."

     For example, "A voice message of urgent priority was left from 4083243000 at 16:01 on 22 January of 2 minutes length."

     For information on specifying the type of information to be received in a notification message, see Specifying call information for notification messages on page 15-13.

- **Allow caller to request notification** Select to enable callers to request that the subscriber is notified of their call. This check box is cleared by default

3. Click **OK**.

Specifying call information for notification messages

The following table describes the type of call information that subscribers can receive in a notification message.

Keyword	Information
%CallerPhoneNumber%	In the notification message, the system displays the caller's caller ID or the telephone number entered. If the caller does not have caller ID and has not entered a telephone number, the system displays **Unknown Number**.
%CallerName%	If the caller is an internal caller, the system displays the name of the caller. If the caller is an external caller, the system displays **Unknown Caller**.
%Date%	The system displays the date that the notification message was sent.
%Time%	The system displays the time that the notification message was sent.
%Length%	The system displays the length of the notification message. **Note:** You cannot select this keyword when using caller requested notification.
%Priority%	The system displays the priority of the notification message, for example urgent. **Note:** You cannot select this keyword when using caller requested notification.

Configuring advanced Avaya Modular Messaging information

Configure advanced Avaya Modular Messaging information in the **Advanced Voice Mail User Properties** dialog box.

To configure advanced Avaya Modular Messaging information:

1. On the **Modular Messaging** property page, click **Advanced**.

   The system displays the **Advanced Voice Mail User Properties** dialog box.

2. Complete the following fields, as required:

   - **Class of service** Select the class of service that you want to assign to the mailbox. If one or more classes of service exist, the class of service number 1 is used by default when you create a new subscriber account.

     The **Class of service** field is unavailable if no name has been configured for the specified class of service. Configure classes of service using the Voice Mail System Configuration application (**Telephone User Interface - Class of service** dialog box).

     Note: For Exchanger servers, the Class of Service definition and this assignment field are where you assign subscribers to either the Aria TUI or the AUDIX TUI (Aria is the default).

     For more information, see Chapter 5, “Voice Mail Domain Administration”.

   - **Educator state** (Aria TUI only) This field indicates to what extent the subscriber has personalized the mailbox. The default on creating a new subscriber is New uninitialized mailbox.

     The Educator states are as follows:

     — New uninitialized mailbox

     — Password changed from default

     — Please Hold prompt recorded

     — Name recorded

     — Optional greeting 1 recorded

     — Optional greeting 2 recorded

     — Personal greeting recorded

- **Preferred prompt language** Select the language required by the subscriber for voicing mailbox prompts. By default, this is the primary language for the voice mail domain, configured in Voice Mail System Configuration. If no languages are installed, English is used by default.

- **Caller application** Select the caller application associated with this subscriber mailbox, if applicable.

- **Reset** (Aria TUI only) Click to reset the Educator state to New uninitialized mailbox. This activates the Educator the next time subscribers access their mailboxes and forces them to change their passwords.

- **Allow call handling** Select to allow subscribers to use Subscriber Options to turn on the call handling feature. This permits subscribers to control what happens to calls that are transferred to their extensions by the Automated Attendant, when they cannot answer or the line is busy. Call handling also enables subscribers to block calls transferred by the Automated Attendant. This check box is selected by default.

Note: Call handling does not apply if direct inward dialing (DID) is being used.

- **Allow call screening** Select to allow subscribers to use Subscriber Options to turn on the call screening feature. This permits subscribers to choose between accepting, transferring, or rejecting a call announced by the Automated Attendant. This check box is selected by default.

- **Allow intercom paging** Select to allow the subscriber to use the Subscriber Options to turn on the intercom paging feature. This permits callers to page subscribers in the building if they do not answer their extensions. This check box is selected by default.

- **Allow prompt editing** Select to allow subscribers to edit personalized prompts and greetings, except the extended absence greeting, using Subscriber Options, Educator (Aria TUI only), and personal configuration in the TUI. This check box is selected by default.

Note: Subscribers are always allowed to edit the Name prompt, regardless of this setting.

- **Allow extended absence greeting** Select to allow subscribers to use Subscriber Options to record an extended absence greeting. This is played to callers when a subscriber is away for an extended

amount of time, for example, summer vacation. This check box is cleared by default.

- **Allow Call Me** Select to allow the subscriber to use the Call Me feature. With Call Me, the subscriber can be called at a designated number each time they receive a message that meets certain criteria. The subscriber is then invited to log onto Avaya Modular Messaging. When selected, subscribers can set up their own Call Me rules in Subscriber Options. This check box is cleared by default.

  This option is available only if Call Me is enabled for the voice mail domain.

- **Allow Find Me** Select to allow the subscriber to use the Find Me feature. With Find Me, unanswered calls can be re-directed to a list of telephone numbers specified by the subscriber. When this option is selected, subscribers can set up their own Find Me rules in Subscriber Options. This check box is cleared by default.

Note: Find Me is only available with digital telephony.

- **Allow Message Waiting Indicator** Select to allow the subscriber to use the message waiting indicator (MWI) feature. With MWI, a light displays on the subscriber's telephone when a message arrives that meets certain criteria. When selected, subscribers can set up an MWI rule in Subscriber Options. This check box is cleared by default

  This option is available only if MWI is enabled for the voice mail domain.

- **Allow subscriber to edit announcements** Select to allow the subscriber to record and edit announcements for use in caller applications. If this option is enabled, subscribers can record announcements using the TUI Personal Configuration. This check box is cleared by default.

- **Delete messages on TUI exit** Select to permanently remove messages from the subscriber's Deleted Items folder when exiting a TUI session. The system only removes messages placed in the Deleted Items folder during the session. Messages already in the Deleted Items folder at the start of the TUI session remain in the Deleted Items folder. This check box is cleared by default.

- **Save Sent Items copy from TUI** Select to save a copy of each voice message sent during a TUI session in the Sent Items folder. This check box is selected by default.

- **Default fax print telephone number** The default fax print telephone number is the subscriber's default telephone number for printing fax

messages. This field is available only if fax is enabled for the voice mail domain.

Enter the fax telephone number to which the fax server forwards fax messages. If your fax servers support canonical addressing and canonical addressing has been enabled in Voice Mail System Configuration, enter the area code, country code, and fax extension in the appropriate fields, for example:

+1 (408) 784 3000

If canonical addressing is not supported or is disabled, the system displays only one field. Enter the fax number in this field, including the area code and country code if required.

For information on configuring canonical addressing for fax numbers, see Chapter 5, “Voice Mail Domain Administration”.

Note: You must set up a Fax Routing Address in Microsoft Exchange for each subscriber who is fax-enabled. This is an e-mail address that enables Avaya Modular Messaging to transfer a fax call and supply details of the mailbox to which the fax is to be delivered. For information on setting up e-mail addresses in Microsoft Exchange, see your Microsoft Exchange Administrator documentation.

- **Name** Use the Voice Player to record the recipient’s Name prompt, if necessary. To do this, the Avaya Modular Messaging client must be installed on the computer running the Microsoft Exchange Administrator program.

  Clicking **Options** opens the **Voice Player Setup** tab, where you can configure the Voice Player to work over the telephone or use local multimedia.

  Clicking **Clear** clears the Name prompt. This might be useful, for example, if the prompt is distorted or the mailbox owner has changed.

  For more information, see Recording Name prompts on page 15-18.

3. Click **OK**.

Recording Name prompts

Use the Voice Player to record the subscriber's Name prompt. If you do not record the Name prompt, the system uses the display name of the subscriber in the Exchange directory.

You can record the Name prompt using local multimedia or a telephone. The current audio device is indicated on the Voice Player by the telephone icon:



or multimedia icon:

.

Note: To record the name, the Avaya Modular Messaging client must be installed on the computer running the Microsoft Exchange Administrator program.

To record a Name prompt:

1. In the Voice Player ensure that the correct audio device is selected. For more information, see Setting up the audio device on page 15-19.

   Note: To quickly change the audio device for recording names, right-click the telephone or multimedia icon, and click **1 Multimedia**, or **2 Telephone**.

2. Click **Record**  on the Voice Player.

3. Record your prompt, as follows:

   - If using local multimedia, begin speaking into the microphone.
   - If using the telephone, pick up the receiver when the telephone rings, and record the prompt after the tone.

4. When you are finished, click Stop  on the Voice Player.

   You can use the playback controls to listen to your recording.

5. To accept the recording, click **OK**.

Note: You can clear the Name prompt, for example, if it is distorted or the mailbox owner has changed. To do this, click **Clear** and re-record the prompt.

Setting up the audio device

You can record the Name prompt using local multimedia or a telephone. The current audio device is indicated on the Voice Player by the telephone icon  or multimedia icon .

To set up telephone recording:

1. In the **Voice Mail User Properties** tab, click **Options**.

   The system displays the **Media Setup** dialog box.

2. In the **When composing voice messages** field, click **Telephone**.

3. Click **Configure**.

   The system displays the **Telephone Properties** dialog box.

4. In the **Extension number** field, enter your extension or telephone number.

5. In the **Voice server name** field, enter name of the MAS.

6. Click **OK**.

   The Voice Player displays the telephone icon .

To set up multimedia recording:

1. In the **Voice Mail User Properties** tab, click **Options**.

   The system displays the **Media Setup** dialog box.

2. In the **When composing voice messages** field, click **Multimedia**.

3. Click **OK**.

   The Voice Player displays the multimedia icon .

Enabling Modular Messaging for custom recipients

You enable Modular Messaging for a custom recipient by assigning a numeric address and recording a Name prompt for the custom recipient. For more information on custom recipients, see your Microsoft Exchange documentation.

To enable Modular Messaging for a custom recipient:

1. Start the Microsoft Exchange Server Administrator application.
2. In the **Recipients** container, click the custom recipient you want to enable for Modular Messaging.
3. Display the **Modular Messaging** property page as described in Displaying the Modular Messaging property page on page 15-5.
4. Select the **Enable Modular Messaging** check box. This check box is cleared by default
5. In the **Numeric Address** field, enter the number that uniquely identifies the custom recipient in your organization. The default is blank.

   For guidance on setting up a numeric addressing scheme, see the *Avaya Modular Messaging Concepts and Planning Guide*.
6. Record the Name prompt.

   For more information, see Recording Name prompts on page 15-18.

Enabling Modular Messaging for a distribution list

You can assign a numeric address and record a Name prompt for a distribution list. For more information on distribution lists, see your Microsoft Exchange documentation.

To enable Modular Messaging for a distribution list:

1. Start the Microsoft Exchange Administrator application.
2. In the Recipients container, select the distribution list you want to enable for Modular Messaging.
3. Display the Modular Messaging property page as described in Displaying the Modular Messaging property page on page 15-5.
4. Select the **Enable Modular Messaging** check box. This check box is cleared by default.
5. In the **Numeric Address** field, enter the number that uniquely identifies the distribution list in your organization. The default is blank.

   For guidance on setting up a numeric addressing scheme, see the *Avaya Modular Messaging Concepts and Planning Guide*.
6. Record the Name prompt.

   For the procedure, see Recording Name prompts on page 15-18.

Moving subscribers to a different voice mail domain

If necessary, you can move a subscriber to a different voice mail domain.

To move a subscriber to a different voice mail domain

1. Display the **Modular Messaging** property page for the subscriber. For more information, see Displaying the Modular Messaging property page on page 15-5.

2. In the **Voice mail domain** field, select the voice mail domain to which you want to move the subscriber.

   The system displays a message telling you that you must connect to the MAS in the chosen domain.

3. Click **OK**.

   The system displays the **Select Voice Server** dialog box.

4. In the **Home voice server name** field, enter the name of the MAS to connect to in the new Avaya Modular Messaging domain.

   To display the standard **Select Computer** dialog box where you can select the MAS, click **Browse**.

5. Click **OK**.

   The system updates the **Voice server** field on the **Modular Messaging** property page to show the home server to which you are now connected.

Editing subscribers in a different voice mail domain

To edit voice mail information for a subscriber, you must be connected to an MAS in the same voice mail domain as the subscriber. The steps below describe how to change the current home server so that you can edit the subscriber details.

To edit a subscriber in a different voice mail domain:

1. Display the **Modular Messaging** property page for the subscriber whose voice mail information you want to edit. For more information, see Displaying the Modular Messaging property page on page 15-5.

   The system displays the **Voice Mail Configuration** dialog box.

2. Do one of the following:

   - Select **Connect to a different voice server**.
   - If you do not want to connect to a different MAS, do one of the following:
     - Continue connecting to the current MAS, to keep the current MAS connection. After clicking **OK**, the system displays the **Modular Messaging** property page with all fields shown as unavailable. You cannot edit any information.
     - Do not connect to any MAS, to break the connection with an MAS. After clicking **OK**, the system displays the **Modular Messaging** property page with empty fields.
     - Cancel, to break the connection with any MAS. After clicking **OK**, the system displays the **Modular Messaging** property page with empty fields.

3. Click **OK**.

   The system displays the **Select Voice Server** dialog box.

4. In the **Home voice server name** field, enter an MAS.

   To open the standard **Select Computer** dialog box where you can select an MAS, click **Browse**.

5. Click **OK**.

   The system updates the **Voice server** field on the Modular Messaging property page with the home server to which you are now connected.

Creating voice-mail-only subscriber accounts

If required, you can set up an Avaya Modular Messaging subscriber to be a voice-mail-only user. To do this, you voice enable the mailbox as usual and then set up Microsoft Exchange rules or Microsoft Outlook rules to reject all messages except Avaya Modular Messaging messages as they arrive in the mailbox.

To create a voice-mail-only subscriber account:

1. Create the Microsoft Exchange mailbox using the Microsoft Exchange Administrator application.

2. Enable Modular Messaging and enter Avaya Modular Messaging information for the mailbox.

   For more information, see Enabling Modular Messaging for a mailbox on page 15-7 and Configuring Avaya Modular Messaging basic information on page 15-9.

3. Open the Inbox for the voice-mail-only subscriber.

   Note: This may require setting up a user profile. See your Microsoft Exchange documentation, for more information.

4. Set up rules to reject all messages except Avaya Modular Messaging messages as they arrive in the mailbox.

   For information on setting up Inbox rules, see your Microsoft Exchange or Microsoft Outlook documentation.

Creating subscriber accounts under Exchange 2000/2003 administration

This section covers the following topics:

- Overview of creating subscriber accounts under Exchange 2000/2003 on page 15-26
- Displaying the Modular Messaging property page on page 15-27
- Enabling Modular Messaging for mail-enabled users on page 15-28
- Configuring a secondary extension on page 15-30
- Configuring advanced Avaya Modular Messaging information on page 15-31
- Creating subscriber accounts for contacts and groups on page 15-35
- Creating voice-mail-only subscriber accounts on page 15-36
- Updating accounts for multiple subscribers on page 15-36

Overview of creating subscriber accounts under Exchange 2000/2003

You create an Avaya Modular Messaging subscriber account by enabling Modular Messaging for an object in the Active Directory. You can enable Modular Messaging for the following object types:

- **Mail-enabled user object** A user who can receive e-mail in Exchange
- **Contact object** An Active Directory object capable of receiving e-mail, such as an Octel Analog Networking user on a remote system
- **Group object** A group of users

You enable Modular Messaging using the **Modular Messaging** property page on the user object. The **Modular Messaging** property page is added to every mail-enabled user object in Active Directory when Avaya Modular Messaging is installed.

For more information on Active Directory, see your Microsoft documentation.

CAUTION:

When modifying Avaya Modular Messaging details for a subscriber, properties may be lost if subscribers change their Avaya Modular Messaging properties using Subscriber Options shortly before or after the administrator's modification.

Displaying the Modular Messaging property page

When Avaya Modular Messaging is installed, the Avaya **Modular Messaging** property page is added to every mail-enabled user object in Active Directory. This section describes how you display the Modular Messaging property page.

To display the Modular Messaging property page

1. Start Active Directory Users and Computers.
2. In the console tree, select the container that includes the mail-enabled user object that you want to administer.
3. From the list on the right side of the window, select the mail-enabled user object.
4. Select the **Modular Messaging** property page.

Enabling Modular Messaging for mail-enabled users

A user that has been enabled for Modular Messaging can use Avaya Modular Messaging to send and receive messages.

To enable Modular Messaging for a mail-enabled user:

1. Display the **Modular Messaging** property page.

   See Displaying the Modular Messaging property page on page 15-27.

2. Complete the following fields on the **Modular Messaging** property page, as required:

   - **Enable Modular Messaging** Select to enable Avaya Modular Messaging. This check box is cleared by default.

   - **Voice mail domain** Select the voice mail domain to which you want the subscriber to belong. By default, the **Voice mail domain** field displays the voice mail domain you are currently administering.

     For information on moving the subscriber to another voice mail domain, see Moving subscribers to a different voice mail domain on page 15-22.

   - **Extension number** Enter the subscriber's telephone extension number. By default, this is the last few digits in the user object's telephone number, as configured in the **General** tab. The actual number of digits in the extension number is configured in the voice mail domain using Voice Mail System Configuration.

     You can also click **Options** to enter a secondary extension. A secondary extension allows a subscriber to handle calls from different types of callers in different ways. For example, the subscriber may have a publicized number for outside callers that has different greetings than the greetings recorded for the number used by inside callers. See Configuring a secondary extension on page 15-30.

   - **Mailbox Number** Enter the subscriber's mailbox number. Avaya recommends that you make a subscriber's mailbox number the same as that subscriber's extension number. By default, this is the last few digits in the user object's telephone number, as configured in the **General** tab. The actual number of digits in the extension number is configured in the voice mail domain using Voice Mail System Configuration. For guidance on setting up a mailbox numbering scheme, see the *Avaya Modular Messaging Concepts and Planning Guide*.

     Note: Local mailbox numbers cannot begin with 0 (zero). This is because 0 has special functionality in the TUI.

- **Numeric address** Enter the subscriber's numeric address. A numeric address uniquely identifies a subscriber in the organization. For example, a numeric address may be an employee telephone number or social security number. The length of a numeric address must not be the same as the length of a mailbox number. The default is blank.

  If you are using Octel Analog Networking, the numeric address length must not exceed 10 digits. For guidance on setting up a numeric addressing scheme, see the *Avaya Modular Messaging Concepts and Planning Guide*.

- **TUI password** Enter the password for the subscriber. If the initial TUI password has been set to **Default** or **Random**, enter the TUI password given in the message information box in the lower part of the dialog box.

  The initial TUI password is set in Voice Mail System Configuration, in the **Telephone User Interface - Voice Mail Domain** dialog box, **Subscriber** tab, the **Initial Password for Mailboxes** field.

  For more information, see Configuring subscriber properties on page 3-12.

  Notes:

  - If you enter a password that is shorter than the value set in the **Minimum Password Length** field (**Telephone User Interface - Voice Mail Domain** dialog box, **Subscriber** tab), then the subscriber is forced to change the password during initial login. For more information, see Configuring subscriber properties on page 3-12.

  - If the **Minimum Password Length** setting is configured as zero (0) in the Voice Mail System Configuration application, a blank password is valid. However, for security reasons, Avaya does not recommend doing this.

3. Configure advanced Avaya Modular Messaging information for the mailbox, if required. For more information, see Configuring advanced Avaya Modular Messaging information on page 15-14.

4. Click **User Options** to open Subscriber Options for the subscriber, if required. Subscriber Options displays property pages for subscriber configuration of call answering, the TUI, and desktop user interface options. You can change these settings if required.

5. Click **OK**.

Configuring a secondary extension

You set up a secondary extension for a subscriber using the the **Extension Number Options** dialog box. This secondary extension might be an alternative number used by outside callers or a number used by callers who call for a specific type of service. In any case, a secondary extension may offer specialized greetings or call handling by the subscriber that differ from greetings or call handling of the subscriber's primary extension. This call handling could also be performed by a caller application developed specifically for the subscriber.

Note: You should already have a caller application developed before assigning its extension to a subscriber.

To configure a secondary extension for caller applications:

1. On the **Modular Messaging** property page, click **Extension Number Options**.

   The system displays the **Extension Number Options** dialog box.

2. To add a secondary extension, click the **Add** icon .

   A new line appears in the **Subscriber extensions** dialog box.

3. Complete the following fields on the **Extension Number Options** tab, as required:

   - **Extension number** Enter the secondary extension for the subscriber.

   - **Caller application** If desired, select a caller application from the list to assign to the subscriber's secondary extension. The caller application may or may not already have its own extension already assigned to it.

Configuring advanced Avaya Modular Messaging information

You configure advanced Avaya Modular Messaging information in the Advanced Properties dialog box.

To configure advanced Avaya Modular Messaging information:

1. On the **Modular Messaging** property page, click **Advanced**.

   The system displays the **Advanced Properties** dialog box.

2. Complete the following fields as required:

   - **Personal operator**

     — **Mailbox number** Enter the mailbox number of the subscriber's designated personal operator. When callers request operator assistance during the times that the personal operator mailbox is active, the system transfers them to the extension associated with this mailbox. If this field is left blank, the system transfers callers to the default receptionist mailbox number. The default is blank.

     The times during which the personal operator mailbox is active are determined by the personal operator schedule. If callers request operator assistance while the personal operator mailbox is inactive, the system transfers calls to the system operator.

     — **Schedule** Select the schedule that you want to use for transferring calls to the subscriber's designated personal operator. You set up personal operator schedules in the Voice Mail System Configuration, **Attendant Schedules** dialog box.

     Note: To view the currently selected personal operator schedule, click **View**.

   - **Class of service** Select the class of service that you want to assign to the mailbox. If one or more classes of service exist, the first defined class of service number is used by default when you create a new subscriber account.

     The **Class of service** field is unavailable if you have not configured a name for the specified class of service. You configure classes of service using the Voice Mail System Configuration application (**Telephone User Interface - Class of service** dialog box). For more information, see Configuring class of service properties on page 3-16.

   - **Caller application** Select the caller application associated with this subscriber mailbox, if applicable.

- **Tutorial at start of next subscriber session** Select if you want a tutorial on how to use the TUI to run the next time the subscriber logs into the TUI. This check box is selected by default. If the subscriber has already completed the tutorial, the check box is cleared.

3. Under **Capabilities**, select and clear the following options as required:

- **Caller assistant**

  — **Allow call handling** Select to allow subscribers to use Subscriber Options to override call handling settings. This permits subscribers to control what happens to calls that are transferred to their extensions by the Automated Attendant, when they cannot answer or the line is busy. Call handling also enables subscribers to block calls transferred by the Automated Attendant. This check box is selected by default.

  Note: Call handling does not apply if direct inward dialing (DID) is being used.

  — **Allow call screening** Select to allow subscribers to use Subscriber Options to turn on the call screening feature. This permits subscribers to choose between accepting, transferring, or rejecting a call announced by the Automated Attendant. This check box is selected by default.

  — **Allow intercom paging** Select to allow the subscriber to use Subscriber Options to turn on the intercom paging feature. This permits callers to page subscribers in the building if they do not answer their extensions. This check box is selected by default.

  — **Allow subscriber to edit announcements** Select to allow the subscriber to record and edit announcements for use in caller applications. If this option is enabled, subscribers can record announcements using the TUI Personal Configuration. This check box is cleared by default.

  — **Allow Notify Me** Select to allow the subscriber to receive call notifications. With Notify Me, subscribers can use a pager, SMS-enabled digital telephone, or other device to alert them of calls to their Avaya Modular Messaging inbox. This check box is cleared by default.

  — **Allow Find Me** Select to allow the subscriber to use the Find Me feature. With Find Me, the system can redirect unanswered calls to a list of telephone numbers specified by the subscriber. When this option is selected, subscribers can set up their own Find Me rules in Subscriber Options. This check box is cleared by default.

  Note: Find Me is available only with digital telephony.

- **Greetings**

  — **Allow subscriber to edit greetings** Select to allow subscribers to edit personalized greetings, except the extended absence greeting, using Subscriber Options, the Avaya Modular Messaging tutorial, and personal configuration in the telephone user interface. This check box is selected by default.

  Note: Subscribers are always allowed to edit their Name prompts, regardless of this setting.

  — **Allow extended absence greeting** Select to allow subscribers to use Subscriber Options to record an extended absence greeting. The system plays this to callers when a subscriber is away for an extended amount of time, for example, a vacation. This check box is selected by default.

- **Message assistant**

  — **Allow Call Me** Select to allow the subscriber to use the Call Me feature. With Call Me, the system can call the subscriber at a designated number each time that subscriber receives a message that meets certain criteria. The system then invites the subscriber is to log onto Avaya Modular Messaging. When selected, subscribers can set up their own Call Me rules in Subscriber Options. This check box is cleared by default.

  This option is available only if Call Me is enabled for the voice mail domain.

  — **Allow Message Waiting Indicator** Select to allow the subscriber to use the message waiting indicator feature. With message waiting indicator, a light displays on the subscriber's telephone when a message arrives that meets certain criteria. When selected, subscribers can set up a message waiting indicator rule in Subscriber Options. This check box is cleared by default.

  This option is available only if MWI is enabled for the voice mail domain.

4. Click **OK**.

Creating subscriber accounts for contacts and groups

Create a subscriber account for a contact or a group by assigning a numeric address to the contact or group object.

For more information on contacts and groups, see your Microsoft documentation.

To create a subscriber account for a contact or group:

1. Start Active Directory Users and Computers.
2. In the console tree, select the container that includes the contact object or group object that you want to administer.
3. From the list on the right side of the window, select the contact object or group object.
4. Select the Modular Messaging property page.
5. In the **Numeric Address** field, enter the number that uniquely identifies the contact or group in your organization. The default is blank.

   For guidance on setting up a numeric addressing scheme, see the *Avaya Modular Messaging Concepts and Planning Guide*.
6. Click **OK**.

Creating voice-mail-only subscriber accounts

If required, you can set up an Avaya Modular Messaging subscriber to be a voice-mail-only user. To do this, you create the subscriber account as usual and then set up Microsoft Exchange rules or Microsoft Outlook rules to reject all messages except Avaya Modular Messaging messages as they arrive in the mailbox.

To create a voice mail only subscriber account:

1. Create a mail-enabled user object.
2. Enable Modular Messaging and enter Avaya Modular Messaging information for the mail-enabled user.

   For more information, see To display the Modular Messaging property page when creating a new Exchange recipient: on page 15-5.
3. Open the Inbox for the voice-mail-only subscriber.

   Note: This may require setting up a user profile. For more information, see your Microsoft Exchange documentation.
4. Set up rules to reject all messages except Avaya Modular Messaging Voice Form messages (message class:IPM.OCTEL.VOICE), as they arrive in the mailbox.

   For information on setting up inbox rules, see your Microsoft Exchange or Microsoft Outlook documentation.

Updating accounts for multiple subscribers

Using the Avaya Modular Messaging All Tasks Wizard you can update settings for multiple users in the Microsoft Exchange 2000/2003 Active Directory. In a single operation, you can update settings for multiple users by performing one of the following tasks:

- Disable access to Avaya Modular Messaging
- Change permissions to Avaya Modular Messaging features
- Reset TUI passwords

The All Tasks Wizard is available from a shortcut menu in the Active Directory Users and Computers MMC snap-in.

16

Octel Analog Networking Gateway Administration

This chapter describes how to administer an Octel Analog Networking gateway so that Avaya Modular Messaging subscribers can exchange voice messages with other Octel Analog Networking-enabled voice mail systems.

Section	Page
Introduction to Octel Analog Networking gateway administration	16-2
Administering Octel Analog Networking under Exchange 5.5 administration	16-4
Administering Octel Analog Networking under Exchange 2000/2003 administration	16-24

Introduction to Octel Analog Networking gateway administration

Note: Octel Analog Networking is available with Avaya Modular Messaging — Microsoft Exchange version only.

To enable Avaya Modular Messaging subscribers to exchange voice messages with other Octel Analog Networking-enabled voice mail systems, administer an Octel Analog Networking gateway.

Depending on your configuration, you can administer an Octel Analog Networking gateway in one of the following two ways:

- If all MASs running Octel Analog Networking in a voice mail domain use an Exchange 5.5 peer server, you administer Octel Analog Networking in Exchange Administrator 5.5.

  See Administering Octel Analog Networking under Exchange 5.5 administration on page 16-4.

- If all MASs running Octel Analog Networking in a voice mail domain use an Exchange 2000/2003 peer server, you administer Octel Analog Networking in the Exchange System Manager.

  See Administering Octel Analog Networking under Exchange 2000/2003 administration on page 16-24.

Important: To run Octel Analog Networking Administration, all MASs running Octel Analog Networking in a voice mail domain must use the same version of the peer Exchange server, either Exchange 2000/2003 or Exchange 5.5.

Before you begin

Before you begin to administer an Octel Analog Networking node, do the following:

1. Collect the following configuration details from the administrator of the remote Octel Analog Networking node:

   - Length of mailbox numbers on the remote Octel Analog Networking node.
   - Access telephone numbers for the remote Octel Analog Networking node. If you are specifying an OcteLink node, you also need the number of the Intuity Interchange hub.
   - Serial number for the remote Octel Analog Networking node.

2. Make a note of the serial number for the Octel Analog Networking system on Avaya Modular Messaging. The serial number is a line item on the Octel Analog Networking certificate included with the Avaya Modular Messaging shipment.

3. Restrict which ports are to be used for incoming and outgoing Octel Analog Networking calls. Do this by setting up the following two Octel Analog Networking port groups:

   - The port group for incoming Octel Analog Networking calls to the MAS. This *must* be called, **Octel Analog Networking Incoming**.

   - The port group for outgoing Octel Analog Networking calls to the MAS. This *must* be called, **Octel Analog Networking Outgoing**.

   For information on creating port groups, see Chapter 8, “Configuring port groups”.

   Note: If you do not set up Octel Analog Networking port groups, the ports in the Telephone User Interface port group are used by default.

Administering Octel Analog Networking under Exchange 5.5 administration

This section covers the following topics:

- Overview of Octel Analog Networking under Exchange 5.5 administration on page 16-5
- Starting Octel Analog Networking gateway administration on page 16-6
- Configuring Octel Analog Networking gateway properties on page 16-7
- Setting up telephone prefixes on page 16-8
- Setting up message dispatch schedules on page 16-10
- Configuring remote Octel Analog Networking nodes on page 16-13
- Setting up addresses for Octel Analog Networking recipients under Exchange 5.5 on page 16-22

Overview of Octel Analog Networking under Exchange 5.5 administration

Using an Octel Analog Networking gateway, Avaya Modular Messaging subscribers can exchange voice messages with any other Octel Analog Networking-enabled voice mail system.

When Octel Analog Networking was administered under Exchange 5.5, four tabs were added to the Microsoft Exchange Administrator application specifically for configuring an Octel Analog Networking gateway for a voice mail domain.

The Octel Analog Networking tabs are as follows:

- **Domain** tab

  Use to configure Octel Analog Networking properties for a voice mail domain.

- **Nodes** tab

  Use to set up the communication between Avaya Modular Messaging and other Octel Analog Networking-enabled voice mail systems, known as remote Octel Analog Networking nodes.

- **Schedules** tab

  Use to set up message dispatch schedules. The dispatch schedule determines what time of day messages are sent from the MAS to mailboxes on the remote Octel Analog Networking node.

- **Phone Prefixes** tab

  Use to establish the dialing code required by the PBX to access a remote Octel Analog Networking node.

All other tabs discussed in this chapter are non-Octel Analog Networking tabs and are not required for Octel Analog Networking administration. For information about these tabs, see your Microsoft Exchange Server Administrator documentation.

Familiarity with Exchange Server Administration is assumed throughout this section.

Starting Octel Analog Networking gateway administration

You install Octel Analog Networking gateway software with the Avaya Modular Messaging MAS. When the MAS starts up, the system creates a single Octel Analog Networking gateway object in the Configuration/Connections site container in the Microsoft Exchange directory. The system creates one Octel Analog Networking gateway per voice mail domain.

To start Octel Analog Networking gateway administration:

1. Run Microsoft Exchange Administrator from the Microsoft Exchange folder.

2. Click the Exchange site containing the Octel Analog Networking gateway you want to administer.

3. Click **Configuration**.

4. Click the Octel Analog Networking gateway object for the voice mail domain you want to administer.

Configuring Octel Analog Networking gateway properties

You must configure Octel Analog Networking gateway properties for the voice mail domain you are administering. The properties apply to all MASs in the domain.

To configure Octel Analog Networking gateway properties:

1. Start Octel Analog Networking gateway administration.

   For more information, see Starting Octel Analog Networking gateway administration on page 16-6.

2. Click the **Domain** tab.

3. In the **Serial number of this node** field, enter the unique serial number of the Octel Analog Networking system.

   The serial number is a line item on the Octel Analog Networking certificate included with the Avaya Modular Messaging shipment.

4. In the **Allow outgoing messages from this computer only** field, click the MAS that sends voice messages.

   Only one MAS in a voice mail domain can send voice messages through the Octel Analog Networking gateway. This MAS is marked with the  icon. All other MASs are marked with the  icon to indicate that they cannot be used to send messages using Octel Analog Networking.

   Note: All MASs can receive Octel Analog Networking messages.

5. In the **Hours before returning a non-delivery report** field, enter the number of hours the MAS continues to try to send messages to the remote Octel Analog Networking node before returning a non-delivery report.

   The default is 0. We recommend that you enter a minimum value of 4.

6. Click **OK** or **Apply**.

Note: If the MAS stops before returning a non-delivery report for a message that could not be delivered, the report is not returned until the MAS restarts and the number of hours specified in the **Hours before returning a non-delivery report** field elapses.

Setting up telephone prefixes

Before configuring a remote Octel Analog Networking node, you need to set up telephone prefixes. The telephone prefix is the dialing code required by the PBX to access a remote Octel Analog Networking node, for example, 91, where 9 is the code for external calls and 1 is required to dial long distance. You may also need to include the international dialing code, for example 9011, if your Octel Analog Networking node is located in the United States and the remote Octel Analog Networking node is located outside the United States.

Phone prefixes are maintained separately from the telephone number used to call the node, known as the access telephone number. This makes it easy to change a telephone prefix without having to modify the details of every node that uses it. You can enter the access telephone number on the Nodes tab. For more information, see Configuring access telephone numbers on page 16-18.

To create a telephone prefix:

1. Start Octel Analog Networking Gateway Administration.

   For more information, see Starting Octel Analog Networking gateway administration on page 16-6.

2. Click the **Phone Prefixes** tab.

3. Click **Create**.

   The system displays the **Create Phone Prefix** dialog box.

4. In the **Name** field, enter a textual description of the telephone prefix, for example, the name of the city or country.

5. In the **Number** field, enter the telephone prefix number. Include the international dialing code if required.

   Note: You may need to specify a code for an outside line, for example, 91, where 9 is the code for external calls. Do not use dashes (–) to separate digits. You may be required to enter a comma between digits to represent a pause in dialing, for example, 9,1.

6. Click **OK**.

To modify a telephone prefix:

1. From the telephone prefix list on the **Phone Prefixes** tab, select the prefix you want to modify.

2. Click **Modify**.

   The system displays the **Modify Phone Prefix** dialog box.

3. Change the telephone prefix details as necessary.

4. Click **OK**.

Note: To delete a telephone prefix, select the telephone prefix that you want to delete from the telephone prefix list in the **Phone Prefixes** tab and click **Delete**. The system prompts you to confirm the deletion.

Setting up message dispatch schedules

Before configuring a remote Octel Analog Networking node, you must set up message dispatch schedules. The message dispatch schedule determines when the sending server places calls to the remote Octel Analog Networking node and transmits messages addressed to mailboxes on that node. Your organization may want to dispatch some messages, such as those with low importance, at times when call charges are lowest.

A message dispatch schedule is associated with a remote Octel Analog Networking node when you configure the node. For more information, see Configuring remote Octel Analog Networking nodes on page 16-13.

To create a schedule:

1. Start Octel Analog Networking Gateway Administration.

   For more information, see Starting Octel Analog Networking gateway administration on page 16-6.

2. Click the **Schedules** tab.

3. Click **Create**.

   The system displays the **Create Schedule** dialog box.

4. In the **New schedule name** field, enter a name for the schedule.

5. Click **OK**.

6. In the **Importance** field on the **Schedules** tab, select the priority for which you want to set up message dispatch frequency.

7. In the **Active** field, select the frequency with which messages are to be dispatched for the selected importance. You can select from the following options:

Option	Description
Never	Never send messages.
Always	Send messages at any time.
Selected times	Restrict message transmission to specific times. Select a time or block of time in the schedule grid to assign specific connection times. For more information, see Using the Schedule Grid on page 16-11.

8. Repeat Steps 6 and 7 for each importance.

9. Click **OK** or **Apply**.

Note: To delete a schedule that is not being used, select the schedule in the **Name** field on the **Schedule** tab and click **Delete**. The system prompts you to confirm the deletion. You cannot delete the default schedule.

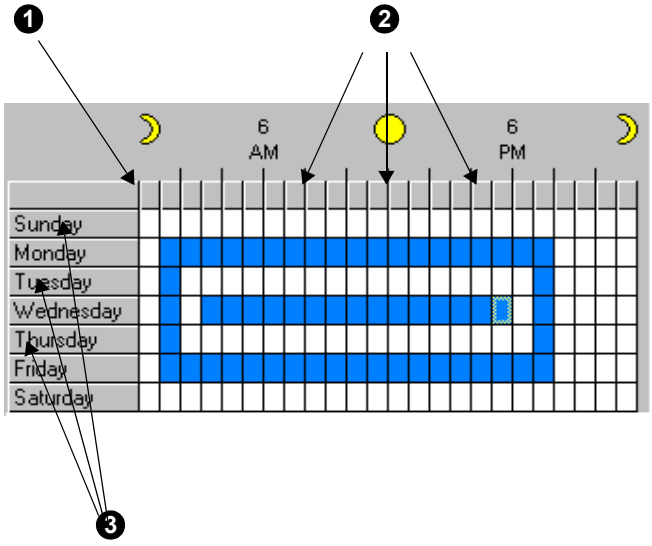
Using the Schedule Grid

Use the schedule grid to set a time or block of time for the node connection. The grid has the weekdays along the y-axis and the time of day along the x-axis. Cells on the grid represent a time interval, either 1 hour or 15 minutes depending on the current selection under **View detail**.

A cell can have one of two states, on (blue) or off (white). Clicking on a cell toggles its state. In Figure 16-3 each cell represents a quarter of an hour. If you select **15 Minute** under View detail, the system displays a scroll bar, which you can use to view all the cells, below the grid.

Use Figure 16-3 and the tips on page 16-11 to familiarize yourself with how the grid works.

Figure 16-3. Schedule Grid



1 Select all cells in the grid
2 Column headers
3 Row headers

Tips for using the schedule grid

- To toggle the state of the first cell in the row and set all of the other cells in the row to the same state, click inside a row header.
- To toggle the state of the first cell in the column and set all of the other cells in the column to the same state, click inside a column header.

- To change the other cells to the same state as the first, click and drag from one cell over other the other desired cells.
- To change all cells to the same state as the top left cell, click inside the top left cell.
- To show cells not enabled for the full hour as partially selected, change the view from **15 Minute** back to **1 Hour**.

Configuring remote Octel Analog Networking nodes

Configuring a remote Octel Analog Networking node involves setting up the communication between the Avaya Modular Messaging system and the remote Octel Analog Networking node.

Note: Avaya Modular Messaging treats Intuity Interchange as a special case of Octel Analog Networking. Administering an Intuity Interchange node is exactly the same as administering an Octel Analog Networking node.

To configure a remote Octel Analog Networking node:

1. Start Octel Analog Networking gateway administration.

   For more information, see Starting Octel Analog Networking gateway administration on page 16-6.

2. Click the **Nodes** tab.

3. Click **Create**.

   The system displays the **Create Node** dialog box.

4. In the **Name** field, enter a description of the remote Octel Analog Networking node.

5. In the **Serial number** field, enter the unique serial number for the remote Octel Analog Networking node.

6. Click **OK**.

7. Configure basic Octel Analog Networking information for the remote Octel Analog Networking node.

   For more information, see Configuring basic information for remote Octel Analog Networking nodes on page 16-15.

8. Configure an addressing scheme for the node.

   For more information, see Configuring an addressing scheme on page 16-16.

9. Set up access telephone numbers for the remote Octel Analog Networking node.

   For more information, see Configuring access telephone numbers on page 16-18.

10. If required, configure advanced Octel Analog Networking information for the remote Octel Analog Networking node.

For more information, see Configuring advanced information for remote Octel Analog Networking nodes on page 16-20.

11. Click **OK** or **Apply**.

Note: To delete node details, click the node that you want to delete from the node list and click **Delete**. The system prompts you to confirm the deletion.

Configuring basic information for remote Octel Analog Networking nodes

Basic information includes the node name, serial number, and node usage details.

To configure basic information for a remote Octel Analog Networking node, complete the following fields on the Nodes tab:

- **Name** Displays a description of the remote Octel Analog Networking node. You enter the node name using the Create Node dialog box.
- **Serial number** Displays the unique serial number for the remote Octel Analog Networking node. You enter the serial number using the Create Node dialog box.
- **Schedule name** Select the message dispatch schedule for the remote Octel Analog Networking node. The default schedule is initially set to never send messages, whatever their importance. You cannot delete or rename the default schedule, but you can change the message dispatch frequency. This is necessary if you want to use the default schedule. For more information, see Setting up message dispatch schedules on page 16-10.
- **Active** Select to activate the remote Octel Analog Networking node. You may want to deactivate a node if you know that the remote voice mail system is temporarily going out of service. This check box is cleared by default.
- **Allow messages from this node** Select to enable your local Octel Analog Networking node to receive messages from the remote Octel Analog Networking node. Do not select if this feature is not required. This check box is selected by default.
- **Allow messages to this node** Select to enable your local Octel Analog Networking node to send messages to the remote Octel Analog Networking node. This check box is available only if you have created one or more access telephone numbers. For more information, see Configuring access telephone numbers on page 16-18.
- **Addressing** Opens the Addressing Scheme Details dialog box where you can set up an addressing scheme for node prefixes. For more information, see Configuring an addressing scheme on page 16-16.
- **Phone numbers** Opens the Access Phone Number Details dialog box where you can set up telephone numbers for calling the remote Octel Analog Networking node. For more information, see Configuring access telephone numbers on page 16-18.

Configuring an addressing scheme

You configure an addressing scheme by setting up a prefix or multiple prefixes for a remote Octel Analog Networking node. You may need to set up multiple prefixes if mailboxes on the remote Octel Analog Networking node are split between multiple MASs. Setting up multiple prefixes enables you to address Octel Analog Networking messages in different ways to different MASs at the same remote Octel Analog Networking node.

To configure an addressing scheme:

1. On the Nodes tab, click **Addressing**.

   The system displays the **Addressing Scheme Details** dialog box.

2. Click **Create**.

   The system displays the **Create Addressing Scheme** dialog box.

3. In the **Prefix** field, enter a prefix for the remote Octel Analog Networking node.

   A prefix is a number used to specify a remote Octel Analog Networking node when addressing messages.

4. In the **Additional digits** field, enter the number of digits that the subscriber must enter in addition to the prefix to form a complete Octel Analog Networking address.

   As an Octel Analog Networking address consists of the prefix followed by the mailbox number, additional digits are normally the same as the mailbox length (that is, the number of digits in the mailbox number). For example,

   1234 (prefix) + 6002 (mailbox number)
   = 12346002 (Octel Analog Networking address)

   In this example, the additional number of digits is 4, because 4 digits (6002) must be added to the prefix to form an Octel Analog Networking address.

   In some cases, however, the prefix includes some digits of the mailbox number, for example:

   1234 (prefix) + 4002 (mailbox number)
   *= 123**4**002 (Octel Analog Networking address)*

   In this example, enter **3** in Additional Digits (for the digits 002), because the **4** overlaps.

   See the *Avaya Modular Messaging Concepts and Planning Guide* for more information on Octel Analog Networking addressing schemes.

5. In the **Mailbox Length** field, enter the number of digits in mailboxes as configured on the remote system.

6. Click **OK**.

7. Repeat Steps 2 through 6 for each prefix in the addressing scheme.

Notes:

- To delete a prefix, click the prefix that you want to delete from the list and click **Delete**. The system prompts you to confirm the deletion.

- To modify a prefix, click the prefix that you want to modify from the list, and click **Modify**. The system displays the **Modify Addressing Scheme Details** dialog box. Change the details as necessary, and click **OK**.

Configuring access telephone numbers

An access telephone number is the number that the MAS must dial to send messages to the remote Octel Analog Networking node. You should create multiple access telephone numbers for each node in case of connection failures. The access telephone number is the telephone prefix followed by a telephone number.

The access telephone numbers are listed in the **Access Phone Number Details** dialog box. The first number in the list is the first one that the sending server dials when trying to establish a connection. If the connection fails, it tries the second number, and so on. If connection attempts continue to fail, the system sends a non-delivery report after the time specified in **Hours before returning a non-delivery report**, on the **Domain** tab. For more information, see Configuring Octel Analog Networking gateway properties on page 16-7.

To create an access telephone number:

1. On the Nodes tab, click **Phone numbers**.

   The system displays the **Access Phone Number Details** dialog box.

2. Click **Create**.

   The system displays the **Create Access Phone Number** dialog box.

3. In the **Phone prefix** field, select the telephone prefix from the drop-down list.

   The telephone prefix is the dialing code required by the PBX to access a remote Octel Analog Networking node. You enter telephone prefixes in the Phone Prefixes tab. For more information, see To create a telephone prefix: on page 16-8.

4. In the **Number** field**,** enter the telephone number for calling the remote Octel Analog Networking node.

   Keep in mind that the first number you set up is the first number that the MAS dials when trying to connect to the node. If you are configuring an Intuity Interchange node, enter the telephone number of the Intuity Interchange hub.

   Note: Do not use dashes (–) to separate digits.

5. Click **OK**.

6. Repeat Steps 3 through 5 for each access telephone number you want to associate with the node.

Notes:

- To delete access number details, click the access number that you want to delete from the list and click **Delete**. The system prompts you to confirm the deletion.
- To modify access number details, click the access number that you want to modify from the list, and click **Modify**. The system displays the **Modify Access Phone Number** dialog box. Change the access telephone number details as necessary, and click **OK**.

Configuring advanced information for remote Octel Analog Networking nodes

You can configure advanced information for a remote Octel Analog Networking node. This includes setting limits on Octel Analog Networking connection attempts and usage.

To configure advanced information for a remote Octel Analog Networking node

1. On the **Nodes** tab, click **Advanced**.

   The system displays the **Advanced Node Details** dialog box.

2. To allow the remote Octel Analog Networking node to transmit messages back to the Octel Analog Networking gateway during the same call after the Octel Analog Networking gateway completes transmitting messages, select **Allow turnaround**.

   If selected, messages from the remote node may reach Avaya Modular Messaging subscribers sooner. However, be aware that the Avaya Modular Messaging site incurs the transmission charges.

   This check box is cleared by default.

   Note: If you are setting up an Octel 200/300 node, ensure that the **Allow turnaround** check box is cleared.

3. In the **Maximum connection attempts** field, enter the number of attempts at delivering a message to the remote Octel Analog Networking node before a non-delivery report is returned to the sender.

   A delivery attempt is recorded when a successful connection is made with the remote node, but the message cannot be delivered.

   For information on the **Hours before returning a non-delivery report setting** field, see Configuring Octel Analog Networking gateway properties on page 16-7.

4. In the **Maximum number of sessions** field, enter the maximum number of simultaneous outbound Octel Analog Networking sessions that can be open between the Octel Analog Networking gateway and the remote Octel Analog Networking node.

   An Octel Analog Networking session is defined as a telephone call over which the exchange of voice messages and administrative data (for example, spoken names) take place. This setting applies to outbound Octel Analog Networking sessions only. Any number of inbound sessions may be open simultaneously.

5. In the **Maximum duration (minutes)** field, enter the maximum length of time, including turnaround time, that any one Octel Analog Networking session may be open.

You may want to limit the duration to control transmission charges.

Note: If the maximum duration limit is reached and a message transmission is in progress, the gateway does not drop the session. Instead, the gateway completes the message but does not send any additional messages.

6. Click **OK**.

Setting up addresses for Octel Analog Networking recipients under Exchange 5.5

Octel Analog Networking recipients with mailboxes on another Octel Analog Networking-compatible voice mail system can be added to the Microsoft Exchange directory in one of the following ways:

- By creating an Octel Analog Networking custom recipient in the Exchange directory. (For the procedure, see Setting up Custom as Octel Analog Networking recipients on page 16-22.)
- By modifying an existing directory object, such as a custom recipient or mailbox, to include a Modular Messaging Alternate Voice Mail Address (AVMA). (For the procedure, see Setting up Modular Messaging AVMA addresses on page 16-23.)

For more information on addressing messages to Octel Analog Networking recipients, see the *Modular Messaging Concepts and Planning Guide.*

Setting up Custom as Octel Analog Networking recipients

Each Octel Analog Networking custom recipient requires a separate Exchange directory entry for the recipient addresses. This means that the recipient may have two directory entries, one for the e-mail mailbox, and the second for the voice mailbox. To distinguish between the two, we recommend that you add the suffix "*via voice mail*" to the voice mail directory entry.

Subscribers can address Octel Analog Networking addresses to custom recipients using Dial By Name and receive spoken name confirmation.

To set up Octel Analog Networking recipients as custom recipients:

1. Start Exchange Administrator from the Microsoft Exchange folder.
2. Click **File** > **New Custom Recipient**.

   The system displays the **New E-mail Address** dialog box.
3. From the list of address types, click **Octel Analog Networking Address**.
4. Click **OK**.

   The system displays the **New Octel Analog Networking Address Properties** dialog box.
5. In the **Display Name** field, enter the recipient's display name.
6. In the **Address** field, enter the recipient's Octel Analog Networking address.

   The address includes both the prefix and mailbox number, without a separator. The address must conform to addressing scheme rules. For

more information on addressing schemes, see the *Avaya Modular Messaging Concepts and Planning Guide*.

7. Click **OK** or **Apply**.

8. In the **Properties** dialog box, **General** tab, **Display Name** field, re-enter the display name.

9. Click **OK**.

Setting up Modular Messaging AVMA addresses

You can use Modular Messaging Alternate Voice Mail Address (AVMA) addressing for Exchange users who do not have Avaya Modular Messaging and for users of other e-mail systems, such as cc:Mail, who have a custom recipient in the Exchange directory. AVMA addressing eliminates the need for two Exchange directory entries for a single user, one for the e-mail mailbox and one for the voice mailbox, when addressing messages to Octel Analog Networking recipients from the telephone.

To set up an AVMA address:

1. Start Exchange Administrator from the Microsoft Exchange folder.

2. Open the user's mailbox, and click the **E-mail Addresses** tab.

3. Click **New**.

   The system displays the **New E-mail Address** dialog box.

4. From the list of address types, click **UM Alternate VoiceMail Address**.

   The system displays the **New UM Alternate VoiceMail Address Properties** dialog box.

5. In the **Display Name** field, enter the recipient's display name.

6. In the **Address** field, enter the recipient's Octel Analog Networking address. The address includes both the prefix and mailbox number, without a separator.

   The address must conform to addressing scheme rules. For more information on addressing schemes, see the *Avaya Modular Messaging Concepts and Planning Guide*.

7. To return to the **E-mail Addresses** dialog box, click **OK**.

8. Click **OK**.

Administering Octel Analog Networking under Exchange 2000/2003 administration

This section covers the following topics:

- Overview of Octel Analog Networking under Exchange 2000/2003 administration on page 16-25
- Starting Octel Analog Networking gateway administration on page 16-26
- Configuring the local Octel Analog Networking node on page 16-27
- Setting up dialing strings on page 16-28
- Setting up message dispatch schedules on page 16-29
- Setting up delivery rules on page 16-31
- Configuring remote Octel Analog Networking nodes on page 16-33
- Setting up addresses for Octel Analog Networking recipients under Exchange 2000/2003 on page 16-41

Overview of Octel Analog Networking under Exchange 2000/2003 administration

Under Exchange 2000/2003, Octel Analog Networking Administration displays five tabs specifically for configuring an Octel Analog Networking gateway for a voice mail domain.

The Octel Analog Networking tabs are as follows:

- **Local Node** tab

  Use to configure Octel Analog Networking properties for a voice mail domain.

- **Dialing String** tab

  Use to establish the dialing string required by the PBX to access a remote Octel Analog Networking node. The dialing string is the telephone code required for calling long distance.

- **Schedules** tab

  Use to set up message dispatch schedules. Message dispatch schedules determine what time of day messages are sent from the MAS to mailboxes on the remote Octel Analog Networking node.

- **Delivery Rules** tab

  Use to set up rules for message delivery to a remote Octel Analog Networking node. Using delivery rules, you can assign different schedules to messages of high, low, or normal importance.

- **Remote Nodes** tab

  Use to set up the communication between Avaya Modular Messaging and other Octel Analog Networking-enabled voice mail systems, known as remote Octel Analog Networking nodes.

Starting Octel Analog Networking gateway administration

You install Octel Analog Networking gateway software with each Avaya Modular Messaging MAS. You must then enable Octel Analog Networking in Voice Mail System Configuration.

For more information, see Configuring Octel Analog Networking on page 5-31.

To start Octel Analog Networking gateway administration:

1. Start Microsoft Exchange System Manager.
2. In the console tree, click **Connectors**.
3. Under **Connectors**, right-click the Octel Analog Networking gateway object that you want to administer, and click **Properties**.

   The system displays the Octel Analog Networking Administration for the selected Octel Analog Networking gateway object.

Configuring the local Octel Analog Networking node

To enable your local Octel Analog Networking node to send and receive messages through the Octel Analog Networking gateway, you must configure properties for the local node. The properties apply to all MASs in the domain.

To configure local Octel Analog Networking node properties:

1. Start Octel Analog Networking gateway administration.

   For more information, see Starting Octel Analog Networking gateway administration on page 16-6.

2. Click the **Local Node** tab.

3. Configure the following fields:

   - **Serial number** Enter the unique serial number of the Octel Analog Networking system. The serial number is a line item on the Octel Analog Networking certificate included with the Avaya Modular Messaging shipment.

   - **Hours before returning a non-delivery report** Enter the number of hours for which the MAS continues to try to send messages to the remote Octel Analog Networking node before returning a non-delivery report. The default is 4. We recommend that you enter a minimum value of 4.

   - **Maximum TTS conversion length (mins)** Enter the length of time, in minutes, that is allowed for a text message that has been converted to voice using text-to-speech conversion. If this time is exceeded, the system sends a non-delivery report.

   - **Sending Server** Select the MAS that sends voice messages. To locate the MAS in the voice mail domain, click **Browse**.

   Only one MAS in a voice mail domain can send voice messages through the Octel Analog Networking gateway. This MAS is marked with the  icon. All other MASs are marked with the  icon to indicate that they cannot be used to send messages using Octel Analog Networking.

   Note: All MASs can receive Octel Analog Networking messages.

4. Click **OK** or **Apply**.

Note: If the MAS stops before returning a non-delivery report for a message that could not be delivered, the report is not returned until the MAS restarts and the number of hours specified in the **Hours before returning a non-delivery report** field elapses.

Setting up dialing strings

Before you configure remote Octel Analog Networking nodes, you must set up dialing strings. A dialing string is the code required by the PBX to access a remote Octel Analog Networking node, for example, 91, where 9 is the code for external calls and 1 is required to dial long distance. You may also need to include the international dialing string, for example 9011, if your Octel Analog Networking node is located in the United States and the remote Octel Analog Networking node is located outside the United States.

The system maintains dialing strings separately from the telephone number used to call the node, known as the access number. This makes it easy to change a dialing string without having to modify the details of every node that uses it. You enter the access number on the **Remote Nodes** tab. For more information, see Configuring access telephone numbers on page 16-18.

To create a dialing string:

1. Start Octel Analog Networking gateway administration.

   For more information, see Starting Octel Analog Networking gateway administration on page 16-26.

2. Click the **Dialing Strings** tab.

3. Click the **Add** icon .

   The system inserts an empty line in the list of existing dialing strings.

4. In the new line, under **Name**, enter a textual description of the dialing string, for example, the name of the city or country.

5. Under **String**, enter the dialing string. Include the international dialing code if required.

   Note: You may need to specify a code for an outside line, for example, 91, where 9 is the code for external calls. Do not use dashes (–) to separate digits. You may be required to enter a comma between digits to represent a pause in dialing, for example, 9,1.

6. Click **OK** or **Apply**.

Notes:

- To modify a dialing string, click the dialing string that you want to modify, type over the details, and then click **OK** or **Apply**.
- To delete a dialing string, click the dialing string that you want to delete, and click **Delete** or the **Delete** icon . The system prompts you to confirm the deletion.

Setting up message dispatch schedules

Before you configure a remote Octel Analog Networking node, you must set up message dispatch schedules. A message dispatch schedule determines the times that the local server places calls to the remote Octel Analog Networking node and transmits messages addressed to mailboxes on that node.

You can set up multiple schedules for sending messages from different locations at different times of the day. For example, your organization may want to dispatch some messages, such as those with low importance, at times when call charges are lowest.

Once you have set up your message dispatch schedules, you must set up delivery rules. Delivery rules allow you to assign schedules to messages of different importance. For more information on delivery rules, see Setting up delivery rules on page 16-31.

To create a schedule:

1. Start Octel Analog Networking gateway administration.

   For more information, see Starting Octel Analog Networking gateway administration on page 16-26.

2. Click the **Schedules** tab.

3. Click the **Add** icon .

   The system inserts an empty line in the list of existing schedule names.

4. In the empty line, type a name for the schedule.

5. To set the schedule time, use the schedule grid.

   For more information, see Using the schedule grid on page 16-29.

6. Click **OK** or **Apply**.

Note: To delete a schedule that is not being used, set the schedule in the **Schedule Name** field and click **Delete** or the **Delete** icon . The system prompts you to confirm the deletion. You cannot delete the default schedule.

Using the schedule grid

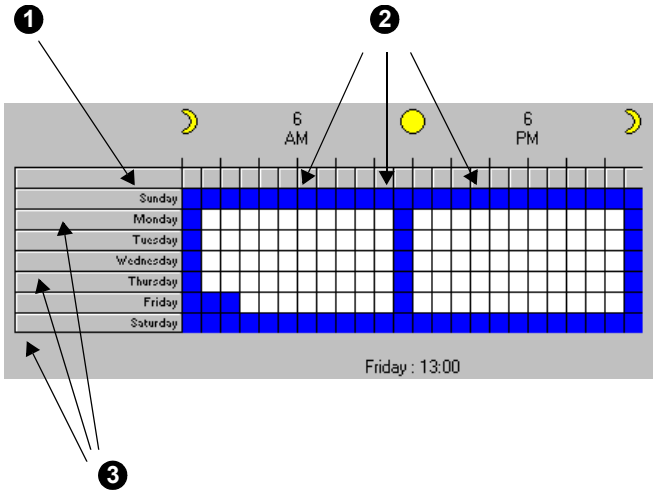
Use the schedule grid to set a time or block of time for the node connection. The grid has the weekdays along the y-axis and the time of day along the x-axis. Cells on the grid represent a time interval, either 1 hour or 15 minutes depending on the current selection under **View detail**.

A cell can have one of two states, on (blue) or off (white). Clicking on a cell toggles its state. In Figure 16-3 each cell represents a quarter of an hour. If you select **15 Minute**

under View detail, the system displays a scroll bar, which you can use to view all the cells, below the grid.

Use Figure 16-4 and the tips on page 16-11 to familiarize yourself with how the grid works.

Figure 16-4. Schedule grid



1. Select all cells in the grid
2. Column headers
3. Row headers

Tips for using the schedule grid

- To toggle the state of the first cell in the row and set all of the other cells in the row to the same state, click inside a row header.
- To toggle the state of the first cell in the column and set all of the other cells in the column to the same state, click inside a column header.
- To change the other cells to the same state as the first, click and drag from one cell over other the other desired cells.
- To change all cells to the same state as the top left cell, click the top left cell.
- To show cells not enabled for the full hour as partially selected, change the view from **15 Minute** back to **1 Hour**.

Setting up delivery rules

Delivery rules allow you to assign different message dispatch schedules to messages of different importance. For example, if your organization wants to dispatch messages of low importance to a remote node at times when call charges are lowest, you can set up a delivery rule that assigns a schedule for cheap rate call times to a low importance priority. For each delivery rule you can assign different schedules to messages of high importance, low importance and normal importance.

Note: You must create delivery rules before configuring a remote Octel Analog Networking node.

To create a delivery rule:

1. Start Octel Analog Networking gateway administration.

   For more information, see Starting Octel Analog Networking gateway administration on page 16-26.

2. Click the **Delivery Rules** tab.

3. Click the **Add** icon .

   The system inserts an empty line in the list of existing rule names in the **Rule name** field.

4. In the **Rule name** field, type the rule name directly in the new line.

5. Under **Message delivery**, click the importance to which you want to assign a schedule.

   You can select **Low**, **Normal**, or **High**.

   The system displays a drop-down list of existing schedules.

6. From the drop-down list, select the schedule which you want assign to the selected priority.

   For example, you may want to assign a schedule of cheap rate call times to messages of low importance. For information on creating schedules, see Setting up message dispatch schedules on page 16-10.

   If required, you can assign the schedules **Never** and **Always** to a message importance. If you select **Never**, messages of the selected priority will not be sent at any time. If you select **Always**, messages of the selected importance will be sent at any time.

   The system displays the selected schedule in the lower part of the tab display. The schedule is read-only.

7. Repeat Steps 5 and 6 for each importance.

8. Click **OK** or **Apply**.

Note: To delete a delivery rule that is not being used, select the delivery rule in the **Rule name** field and click **Delete** or the **Delete** icon . The system prompts you to confirm the deletion.

Configuring remote Octel Analog Networking nodes

Configuring a remote Octel Analog Networking node involves setting up the communication between the Avaya Modular Messaging system and the remote Octel Analog Networking node. You configure a remote node by entering the following information in the Remote Node Properties dialog box:

- Basic information. See Configuring basic information for a remote node on page 16-34.
- Access telephone numbers. See Configuring access telephone numbers on page 16-35.
- Addressing scheme. See Configuring an addressing scheme on page 16-37.
- Advanced information. See Configuring advanced information for a remote Octel Analog Networking node on page 16-38.

Before you can configure a remote Octel Analog Networking node, you must obtain some configuration details from the administrator of the remote Octel Analog Networking node. For more information, see Before you begin on page 16-2.

Note: Avaya Modular Messaging treats Intuity Interchange as a special case of Octel Analog Networking. Administering an Intuity Interchange node is exactly the same as administering an Octel Analog Networking node.

To display the Remote Node Properties dialog box:

1. Start Octel Analog Networking gateway administration.

   For more information, see Starting Octel Analog Networking gateway administration on page 16-26.

2. Click the **Remote nodes** tab.

   Note: The system presents information about remote nodes using a collapsible tree structure. You can quickly modify existing information for a remote node property by right-clicking on the appropriate branch and clicking the option you require from a shortcut menu.

   ---

3. Do one of the following:

   - If you want to add a new node, click the **Add** icon .
   - If you are configuring information for an existing remote node, right-click the node name in the **Remote Nodes** tab, and then click **Properties** from the shortcut menu.

   The system displays the **Remote Node Properties** dialog box.

Configuring basic information for a remote node

Basic information includes the remote node name and serial number.

To configure basic information for a remote node:

1. Display the **Remote Node Properties** dialog box.
2. Configure the following fields:
   - **Name** Enter then name you want to identify the remote Octel Analog Networking node.
   - **Serial Number** Enter the unique serial number for the remote Octel Analog Networking node.
   - **Delivery rule** Select the delivery rule to be used for sending messages from this node. For information on setting up delivery rules see Setting up delivery rules on page 16-31.
   - **Allow messages to be sent to this remote node** Select this if you want to enable your local Octel Analog Networking node to send messages to this remote Octel Analog Networking node. This check box is cleared by default.
   - **Allow messages to be received from this remote node** Select this if you want to enable your local node to receive messages from this remote Octel Analog Networking node. This check box is cleared by default.
3. Click **OK** or **Apply**.

Notes:

- To delete a remote node, click the remote node that you want to delete in the **Remote Nodes** tab and click the **Delete** icon . The system prompts you to confirm the deletion.
- To modify remote node details, right-click the remote node that you want to modify in the **Remote Nodes** tab and click **Properties** from the shortcut menu. Edit the information in the **Remote Node Properties** dialog box as required, and click **OK**.

Configuring access telephone numbers

An access telephone number is the number that the MAS must dial to send messages to the remote Octel Analog Networking node. You should create multiple access telephone numbers for each remote node in case of connection failures. The access telephone number is the dialing string followed by a telephone number.

Access telephone numbers are listed in the Access telephone numbers box. The first number in the list is the first one that the sending server dials when trying to establish a connection. If the connection fails, it tries the second number, and so on. If connection attempts continue to fail, the system sends a non-delivery report after the time specified in Hours before returning a non-delivery report, on the Local node tab.

To create an access telephone number:

1. Display the **Remote Node Properties** dialog box.
2. Click the **Add** icon next to **Access telephone numbers**.

   The system inserts an empty line at the end of the list of existing access telephone numbers and displays the **Dialing String** drop-down list.
3. From the **Dialing string** drop-down list, select the dialing string you require.

   The dialing string is the code required by the PBX to access a remote Octel Analog Networking node. You create dialing strings in the **Dialing String** tab. For more information, see Setting up dialing strings on page 16-28.
4. Under **Number,** enter the telephone number for calling the remote Octel Analog Networking node.

   Keep in mind that the first number you set up is the first number that the MAS dials when trying to connect to the node. If you are configuring an Intuity Interchange node, enter the telephone number of the Intuity Interchange hub.

   Note: Do not use dashes (–) to separate digits.
5. Click **OK**.

6. Repeat Steps 2 through 5 for each access telephone number you want to associate with this remote node.

Notes:

- To delete access telephone number details, select the access number that you want to delete from the list in the **Remote Node Properties** dialog box, and click the **Delete** icon . The system prompts you to confirm your deletion.
- To modify access telephone number details, select the access number that you want to modify from the list in the **Remote Node Properties** dialog box, and edit the information directly.

Configuring an addressing scheme

You configure an addressing scheme by setting up a prefix or multiple prefixes for a remote Octel Analog Networking node. You may need to set up multiple prefixes if mailboxes on the remote Octel Analog Networking node are split between multiple MASs. Setting up multiple prefixes enables you to address Octel Analog Networking messages to different servers at the same site.

To configure an addressing scheme:

1. Display the **Remote Node Properties** dialog box.
2. Click the **Add** icon next to **Addressing scheme**.

   The system displays the **Addressing Scheme** dialog box.
3. In the **Prefix** field, enter a prefix for the remote Octel Analog Networking node.

   A prefix is a number used to specify a remote Octel Analog Networking node when addressing messages.
4. In the **Additional digits** field, enter the number of digits that the subscriber must enter in addition to the prefix to form a complete Octel Analog Networking address.

   As an Octel Analog Networking address consists of the prefix followed by the mailbox number, additional digits are normally the same as the mailbox length (that is, the number of digits in the mailbox number). For example,

   1234 (prefix) + 6002 (mailbox number)
   = 12346002 (Octel Analog Networking address)

   In this example, the additional number of digits is 4, because 4 digits (6002) must be added to the prefix to form an Octel Analog Networking address.

   In some cases, however, the prefix includes some digits of the mailbox number, for example:

   1234 (prefix) + 4002 (mailbox number)
   *= 123**4**002 (Octel Analog Networking address)*

   In this example, enter **3** in Additional Digits (for the digits 002), because the 4 overlaps.

   For more information on Octel Analog Networking addressing schemes, see the *Avaya Modular Messaging Concepts and Planning Guide*.
5. In the **Mailbox Length** field, enter the number of digits in mailboxes as configured on the remote system.
6. Click **OK**.

7. Repeat Steps 2 through 6 for each prefix in the addressing scheme.

Notes:

- To delete an addressing scheme, select the addressing scheme that you want to delete from the list in the **Remote Node Properties** dialog box, and click **Delete** or the **Delete** icon . The system prompts you to confirm your deletion.
- To modify a prefix, double-click the prefix that you want to modify, edit the information in the **Addressing Scheme** dialog box, and click **OK**.

Configuring advanced information for a remote Octel Analog Networking node

You can configure advanced information for a remote Octel Analog Networking node. This includes setting limits on Octel Analog Networking connection attempts and usage.

To configure advanced information for a remote Octel Analog Networking node:

1. Display the **Remote Node Properties** dialog box.
2. Click **Advanced**.

   The system displays the **Advanced Remote Node Details** dialog box.
3. Configure the following fields:

   - **Allow turnaround** Click to allow the remote Octel Analog Networking node to transmit messages back to the Octel Analog Networking gateway during the same call, after the Modular Messaging Octel Analog Networking gateway completes transmitting messages.

     If selected, messages from the remote node may reach Avaya Modular Messaging subscribers sooner. However, be aware that the Avaya Modular Messaging site incurs the transmission charges. This check box is cleared by default.

     Note: If you are setting up an Octel 200/300 node, ensure that the **Allow turnaround** check box is cleared.

   - **Accept private messages** Select to allow the Octel Analog Networking gateway to accept messages marked as private. This check box is selected by default.
   - **Accept auto-copied messages** Select to allow the Octel Analog Networking gateway to accept messages from senders with a reply

address that does not match their Octel Analog Networking addressing scheme. This check box is cleared by default.

- **Play spoken name before playback** Select if you want the sender's spoken name to be played to the recipient before the message content is played. This check box is selected by default.

- **Maximum outbound call duration** Enter the maximum length of time, including turnaround time, that any one Octel Analog Networking session may be open. You may want to limit the duration to control transmission charges. The range is 5 minutes to 12 hours, and the default is 120 minutes.

  Note: If the maximum duration limit is reached and there is a message transmission in progress, the session is not dropped. Instead, the gateway completes the message but does not send any additional messages.

- **Maximum number of outbound sessions** Enter the maximum number of simultaneous outbound Octel Analog Networking sessions that can be open between the Octel Analog Networking gateway and the remote Octel Analog Networking node.

  An Octel Analog Networking session is defined as a telephone call over which the exchange of voice messages and administrative data (for example, spoken names) take place. The default is the number of ports defined in the Octel Analog Networking Outgoing port group. If no ports have been defined, the default is 1.

  Note: This setting applies to outbound Octel Analog Networking sessions only. Any number of inbound sessions may be open simultaneously. Enter the maximum number of concurrent outbound calls allowed.

- **Maximum number of connection attempts** Enter the maximum number of attempts at delivering a message to the remote Octel Analog Networking node before the system returns a non-delivery report to the sender.

  A delivery attempt is recorded when a successful connection is made with the remote node, but the message cannot be delivered.

- **Maximum session queue length** Enter a value to determine the number of outbound sessions.

  When this value is exceeded, Octel Analog Networking opens a new session, if available. For example, if this value is set to 10, and there are 30 messages in a queue, Octel Analog Networking will open 3

sessions. If there is only one session, this value is ignored. The range is 1 to 99, and the default is 10.

- **Delay before first DTMF** Enter the length of time, in seconds, that the outbound call waits before sending the first DTMF tone after it connects. The range is 1 to 99, and the default is 15.

4. Click **OK**.

Setting up addresses for Octel Analog Networking recipients under Exchange 2000/2003

Octel Analog Networking recipients with mailboxes on another Octel Analog Networking-compatible voice mail system can be added to the Microsoft Exchange directory in one of the following ways:

- By creating an Octel Analog Networking custom recipient in the Exchange directory. (For the procedure, see Setting up Octel Analog Networking custom recipients on page 16-41.)
- By modifying an existing directory object, such as a custom recipient or mailbox, to include a Modular Messaging Alternate Voice Mail Address (AVMA). (For the procedure, see Setting up Modular Messaging AVMA addresses on page 16-42.)

For more information on addressing messages to Octel Analog Networking recipients, see the *Avaya Modular Messaging Concepts and Planning Guide.*

Setting up Octel Analog Networking custom recipients

Octel Analog Networking custom recipients require a separate Exchange directory entry for their recipient address. This means that they may have two directory entries, one for the e-mail mailbox, and one for the voice mailbox. To distinguish between the two, We recommend that you add to the display name of the custom recipient the words "*via voice mail*".

Subscribers can address messages to Octel Analog Networking custom recipients using Dial By Name and receive spoken name confirmation.

To set up Octel Analog Networking custom recipients:

1. Start Active Directory Users and Computers.
2. In the console tree, right-click **Users**.
3. Click **New** > **Contact**.

   The system displays the **New Object - Contact** dialog box.
4. Complete the fields in the **New Object - Contact** dialog box.
5. Click **Next**.
6. Click **Modify**.

   The system displays the **New E-mail Address** dialog box.
7. From the list of address types, click **Custom address**.
8. Click **OK**.

   The system displays the **Other Address Properties** dialog box.

9. In the **E-mail address** field, enter the recipient's Octel Analog Networking address.

   The address includes both the prefix and mailbox number, without a separator. The address must conform to addressing scheme rules. For more information on addressing schemes, see the *Avaya Modular Messaging Concepts and Planning Guide*.

10. In the **E-mail type** field, enter **Octel Analog Networking**.

11. Click **OK** or **Apply**.

Setting up Modular Messaging AVMA addresses

Modular Messaging Alternate Voice Mail Addressing (AVMA) addressing eliminates the need to have two Exchange directory entries for a single user, one for the subscriber's e-mail mailbox and the second for that subscriber's voice mailbox, when addressing messages to Octel Analog Networking recipients from the telephone. You can use AVMA addressing for Exchange users who do not have Avaya Modular Messaging, and for users of other e-mail systems, such as cc: mail, who are mail-enabled.

To set up an AVMA address:

1. Start Active Directory Users and Computers.

2. In the console tree, click **Users**.

3. In the right pane, double-click the user for which you want to create an AVMA address.

   The system displays properties for the user.

4. Click the **E-Mail address** tab.

5. Click **New**.

   The system displays the **New E-mail Address** dialog box.

6. From the list of address types, click **Custom address**.

7. Click **OK**.

   The system displays the **Other Address Properties** dialog box.

8. In the **E-mail address** field, enter the recipient's Octel Analog Networking address.

   The address includes both the prefix and mailbox number, without a separator. The address must conform to addressing scheme rules. For more information on addressing schemes, see the *Avaya Modular Messaging Concepts and Planning Guide*.

9. In the **E-mail type** field, type **UMAVA**.

10. Click **OK** or **Apply**.

17

Event, Error, and Alarm Logs

This chapter describes how to display and view event, error, and alarm logs on the MAS.

Section	Page
Overview of event, error, and alarm logs on the MAS	17-2
Displaying the MAS event and error logs	17-3
Displaying the MAS alarm logs	17-5

Overview of event, error, and alarm logs on the MAS

The Avaya S3420 Messaging Application Server provides logs and notifications for events, errors, and alarms similar to those available on the Avaya S3400 family of message store servers.

The alarm subsystem provides mechanisms for sending alarm notifications to support personnel in a timely manner. These notifications can be sent using the Avaya Initialization and Administration System (INADS) and through the use of SNMP traps. Administration for these notifications is covered in Configuring serviceability on page 5-38 and Configuring MAS serviceability on page 8-18.

Each MAS also provides a set of event, error, and alarm logs, accessible to support personnel for analysis. You can access the following logs using a set of command line interface tools:

- The **event log** contains events and errors generally of interest only to technical services and development personnel.
- The **administrator log** contains events and errors that will likely be of interest to system administrators. For more information, see Displaying the MAS event and error logs on page 17-3.
- The **active alarms log** contains information about alarms that are currently active on the system and is one of your primary lines of attack when problems occur. For more information, see Displaying the MAS alarm logs on page 17-5.
- The **resolved alarms log** contains a history of and information about alarms that have been raised and then resolved on the system. This log can be useful in analyzing problems and trends in the system. For more information, see Displaying the MAS alarm logs on page 17-5.

For more information about the alarms and events displayed in these logs, see Appendix A, MAS Alarms.

Displaying the MAS event and error logs

The Avaya 3420 Messaging Application Server provides two system logs related specifically to events and errors. The **event log** contains events and errors generally of interest only to technical services and development personnel. The **administrator log** contains events and errors that will likely be of more interest to system administrators.

To display an event and error log on the MAS:

1. On the desktop taskbar, click **Start**.
2. From the **Start** menu, click **Run**.

   The system displays the **Run** dialog box.
3. In the **Open** field, type **command** or **cmd**.
4. Click **OK**.

   The system displays the **MS-DOS Prompt** window.
5. At the DOS prompt, enter one of the following commands, depending on the event and error log you want to view:

   - To view the administrator log, enter **displog -l admin**
   - To view the events log, enter **displog -l maint**

   When using these commands, it is often helpful to limit the number of entries the system displays by only requesting the entries for a certain period of time. Otherwise, you may have to sift through hundreds or even thousands of entries to find the ones that you are interested in.

   To do this, you can modify the displog command to retrieve records for designated days or times, for example:

   — If you wanted to view the events log for today from 3:00 p.m. to the current time, you would enter: **displog -l maint -d15:00**

   — If you wanted to view the administrator log for all of today, starting from midnight, you would enter: **displog -l admin -d*mm/dd/yy***

   where *mm*/*dd*/*yy* is today's date.

   — If you wanted to view the events log for all events starting from a certain day at 8:00 a.m. to the present, you would enter: **displog -l maint -d"*mm/dd/yy* 08:00"**

   where *mm*/*dd*/*yy* is the starting date for the records you want to view.

For more information about the alarms and events displayed in these logs, see Appendix A, MAS Alarms.

Displaying the MAS alarm logs

The Avaya 3420 Messaging Application Server provides two system logs related specifically to alarms. The **active alarms log** contains information about alarms that are currently active on the system and is one of your primary lines of attack when problems occur. The **resolved alarms log** contains a history of and information about alarms that have been raised and then resolved on the system. This log can be useful in analyzing problems and trends in the system.

To display an alarm log on the MAS

1. On the desktop taskbar, click **Start**.
2. From the **Start** menu, click **Run**.

   The system displays the **Run** dialog box.
3. In the **Open** field, type **command** or **cmd**.
4. Click **OK**.

   The system displays the MS-DOS Prompt window.
5. At the DOS prompt, enter one of the following commands, depending on the alarm log you want to view:

   - To view active alarms, enter **displog -l act**
   - To view resolved alarms, enter **displog -l res**

   When using these commands, it is often helpful to limit the number of entries the system displays by only requesting the entries for a certain period of time. Otherwise, you may have to sift through hundreds or even thousands of entries to find the ones that you are interested in.

   To do this, you can modify the displog command to retrieve records for designated days or times, for example:

   — If you wanted to view the resolved alarms log for today from 3:00 p.m. to the current time, you would enter: **displog -l res -d15:00**

   — If you wanted to view the resolved alarms log for all of today, starting from midnight, you would enter: **displog -l res -d*mm/dd/yy***

   where *mm*/*dd*/*yy* is today's date.

— If you wanted to view the resolved alarms log for all events starting from a certain day at 8:00 a.m. to the present, you would enter:
displog -l res -d"*mm/dd/yy* 08:00"

where *mm*/*dd*/*yy* is the starting date for the records you want to view.

Note: These time limiters are not generally useful for the active alarms log, but you can use them if you so wish.

For more information about the alarms and events displayed in these logs, see Appendix A, MAS Alarms.

A

Appendix A: MAS Alarms

An alarm indicates a hardware, software, or environmental problem that could affect system operation.

The system displays MAS alarms in the MAS alarm logs. For information about how to access these alarm logs, see Displaying the MAS alarm logs on page 17-5.

How to find information about a specific alarm

The alarm descriptions and resolution procedures in this section are organized by the alarm application identifier (ID), which is the two-letter code used to identify the application or subsystem for which an alarm is being generated.

For example, the application ID for the MT ABS_PROC 1 alarm is MT. If you want to find information about the MT ABS_PROC 1 alarm, see the MT (Maintenance) Alarms information.

MAS alarm information is organized as follows:

- CM (Call Me) alarms on page A-2
- MM (Mailbox Monitor) alarms on page A-3
- MT (Maintenance) alarms on page A-4
- MW (Message Waiting Indicator) alarms on page A-12
- TS (tracing server) alarms on page A-13
- VB (Avaya Voice Browser) alarms on page A-14
- VS (Voice server, MAS-specific) alarms on page A-17

CM (Call Me) alarms

The following alarm is generated by the Call Me service on the affected MAS:

- CM CALLME 1

CM CALLME 1

Level:
Minor

Description:
This alarm indicates that there is a problem with the Call Me service.

The system generates this alarm whenever the “CallMe Failures” KPI (event ID 120) is incremented more than five times at an average rate faster than once every five minutes.

Repair Procedure:
If there is no new alarm generated within a 15-minute period, then the system considers the alarm resolved and generates a resolved-alarm event.

If the system does not resolve the alarm automatically within a period of a few hours, contact your Modular Messaging service or technical support representative for assistance.

MM (Mailbox Monitor) alarms

The following alarms are generated by the Mailbox Monitor application and indicate a problem with the Mailbox Monitor on the affected MAS:

- MM IMAPI 1
- MM PERF 17
- MM PERF 18

MM IMAPI 1

Level:
Major

Description:
This alarm indicates that the Mailbox Monitor application failed to access the Message Store Server (MSS) using IMAPI.

Repair Procedure:
Need info

MM PERF 17

Level:
Minor

Description:
This alarm indicates that the counter (in virtual bytes) for the Mailbox Monitor server process is greater than 1.6 GB. This means that the Mailbox Monitor process has exceeded the recommended virtual memory usage.

Repair Procedure:
Need info

MM PERF 18

Level:
Major

Description:
This alarm indicates that the counter (in virtual bytes) for the Mailbox Monitor server process is greater than 1.8 GB. This means that the Mailbox Monitor process has exceeded the recommended virtual memory usage.

Repair Procedure:
Need info

MT (Maintenance) alarms

The following alarms are generated by the MT application and indicate a problem with the maintenance system on the affected MAS:

- MT ABS_PROC 1
- MT ABS_PROC 2
- MT ABS_PROC 3
- MT ABS_PROC 4
- MT ABS_PROC 5
- MT ABS_PROC 6
- MT ABS_PROC 7
- MT ALARM_ORIG 0
- MT ALARM_ORIG 1
- MT PERF 6
- MT PERF 10
- MT PERF 19

MT ABS_PROC 1

Level:
Major

Description:
This alarm indicates that the MM Messaging Application Server service is not running.

Repair Procedure:
When the MM Messaging Application Server service restarts successfully, then the system considers the alarm resolved and generates a resolved-alarm event.

If you see this alarm, you can do the following:

1. Start the services Monitor application by doing one of the following:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
2. In the **Tree** pane, select **Services (Local)**.
3. In the services list pane, locate the service **MM Messaging Application Server**, and verify that:
   - The **Status** column entry reads **Started**.

     If the Status column does not indicate that the service is started, you can try to start it manually by double-clicking the service entry and then clicking **Start**.
   - The **Startup Type** column reads **Automatic**.

If the system display does not meet these conditions, or if the system does not resolve the alarm automatically within a period of a few minutes, contact your Modular Messaging service or technical support representative for assistance.

MT ABS_PROC 2

Level:
Warning

Description:
This alarm indicates that the MM Tracing Server service is not running.

Repair Procedure:
When the MM Tracing Server service restarts successfully, then the system considers the alarm resolved and generates a resolved-alarm event.

If you see this alarm, you can do the following:

1. Start the services Monitor application by doing one of the following:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
2. In the **Tree** pane, select **Services (Local)**.
3. In the services list pane, locate the service **MM Tracing Server**, and verify that:
   - The **Status** column entry reads **Started**.

     If the Status column does not indicate that the service is started, you can try to start it manually by double-clicking the service entry and then clicking **Start**.
   - The **Startup Type** column reads **Automatic**.

If the system display does not meet these conditions, or if the system does not resolve the alarm automatically within a period of a few minutes, contact your Modular Messaging service or technical support representative for assistance.

MT ABS_PROC 3

Level:
Minor

Description:
This alarm indicates that the MM Messaging Waiting Indicator Server service is not running.

Repair Procedure:
When the MM Message Waiting Indicator Server service restarts successfully, then the system considers the alarm resolved and generates a resolved-alarm event.

If you see this alarm, you can do the following:

1. Start the services Monitor application by doing one of the following:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
2. In the **Tree** pane, select **Services (Local)**.
3. In the services list pane, locate the service **MM Message Waiting Indicator Server**, and verify that:
   - The **Status** column entry reads **Started**.

     If the Status column does not indicate that the service is started, you can try to start it manually by double-clicking the service entry and then clicking **Start**.
   - The **Startup Type** column reads **Automatic**.

If the system display does not meet these conditions, or if the system does not resolve the alarm automatically within a period of a few minutes, contact your Modular Messaging service or technical support representative for assistance.

MT ABS_PROC 4

Level:
Minor

Description:
This alarm indicates that the MM Mailbox Monitor Server service is not running.

Repair Procedure:
When the MM Mailbox Monitor Server service restarts successfully, then the system considers the alarm resolved and generates a resolved-alarm event.

If you see this alarm, you can do the following:

1. Start the services Monitor application by doing one of the following:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
2. In the **Tree** pane, select **Services (Local)**.
3. In the services list pane, locate the service **MM Mailbox Monitor Server**, and verify that:
   - The **Status** column entry reads **Started**.

     If the Status column does not indicate that the service is started, you can try to start it manually by double-clicking the service entry and then clicking **Start**.

- The **Startup Type** column reads **Automatic**.

If the system display does not meet these conditions, or if the system does not resolve the alarm automatically within a period of a few minutes, contact your Modular Messaging service or technical support representative for assistance.

MT ABS_PROC 5

Level:
Minor

Description:
This alarm indicates that the MM Call Me Server service is not running.

Repair Procedure:
When the MM Call Me Server service restarts successfully, then the system considers the alarm resolved and generates a resolved-alarm event.

If you see this alarm, you can do the following:

1. Start the services Monitor application by doing one of the following:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
2. In the **Tree** pane, select **Services (Local)**.
3. In the services list pane, locate the service **MM Call Me Server**, and verify that:
   - The **Status** column entry reads **Started**.

     If the **Status** column does not indicate that the service is started, you can try to start it manually by double-clicking the service entry and then clicking **Start**.
   - The **Startup Type** column reads **Automatic**.

If the system display does not meet these conditions, or if the system does not resolve the alarm automatically within a period of a few minutes, contact your Modular Messaging service or technical support representative for assistance.

MT ABS_PROC 6

Level:
Minor

Description:
This alarm indicates that the MMEventLogMonitor service is not running.

Repair Procedure:

When the MMEventLogMonitor service restarts successfully, then the system considers the alarm resolved and generates a resolved-alarm event.

If you see this alarm, you can do the following:

1. Start the services Monitor application by doing one of the following:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
2. In the **Tree** pane, select **Services (Local)**.
3. In the services list pane, locate the service **MMEventLogMonitor**, and verify that:
   - The **Status** column entry reads **Started**.

     If the Status column does not indicate that the service is started, you can try to start it manually by double-clicking the service entry and then clicking **Start**.
   - The **Startup Type** column reads **Automatic**.

If the system display does not meet these conditions, or if the system does not resolve the alarm automatically within a period of a few minutes, contact your Modular Messaging service or technical support representative for assistance.

MT ABS_PROC 7

Level:

Minor

Description:

This alarm indicates that the MM Performance Counter Monitor service is not running.

Repair Procedure:

When the MM Performance Counter Monitor service restarts successfully, then the system considers the alarm resolved and generates a resolved-alarm event.

If you see this alarm, you can do the following:

1. Start the services Monitor application by doing one of the following:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
2. In the **Tree** pane, select **Services (Local)**.
3. In the services list pane, locate the service **MM Performance Counter Monitor**, and verify that:

- The **Status** column entry reads **Started**.

  If the Status column does not indicate that the service is started, you can try to start it manually by double-clicking the service entry and then clicking **Start**.

- The **Startup Type** column reads **Automatic**.

If the system display does not meet these conditions, or if the system does not resolve the alarm automatically within a period of a few minutes, contact your Modular Messaging service or technical support representative for assistance.

MT ALARM_ORIG 0

Level:
Minor

Description:
This alarm indicates that there was an event or module identified in the alarming service that is not defined in the alarming service's rules file.

Repair Procedure:
When this alarm is generated, if you have a valid service contract, the system automatically sends a notification to Avaya technical services. No further action is required on your part.

If you do not have a valid service contract, then you should contact your Modular Messaging service or technical support representative for assistance.

MT ALARM_ORIG 1

Level:
Warning

Description:
This alarm indicates that the system has been trying unsuccessfully to send alarm notifications for an extended period of time. When trying to send alarm notifications, if the first attempt is unsuccessful, then the system tries again at five-minute intervals. If still unsuccessful after 16 tries, then the system stops trying and generates this warning alarm.

Repair Procedure:
The recommended repair action for this alarm depends on which method you are using to send alarm notifications:

- If you are using INADS:

  1. Verify that your modem is connected, powered up, and running properly.
  2. Verify that your system is properly configured for INADS.

  For information about INADS configuration, see Configuring MAS serviceability on page 8-18.

- If you are using SNMP:

  1. Verify that your MAS can communicate with your SNMP network management station.

  2. Verify that your system is properly configured for SNMP notifications.

     For information about SNMP configuration, see Serviceability - Voice Mail Domain dialog box, SNMP properties on page 5-41.

If you have completed these steps and the problem still exists, then run the **testaom** command in a Command Prompt window. This command provides more detailed diagnostic information, which may help you resolve the problem.

Once you have resolved the problem, to clear this warning alarm from the system and verify that the problem no longer exists, run the **testaom** command again.

If you have tried all this, and the problem still exists, then you should contact your Modular Messaging service or technical support representative for assistance.

MT PERF 6

Level:
Warning

Description:
This warning alarm indicates that the CPU of the MAS has run at greater than 90% of its capacity more than four times within an hour.

Repair Procedure:
Once this alarm has been raised, the system continues monitoring. If the occupancy rate subsequently falls below 70% and remains there for at least an hour, then the problem is considered resolved and the system automatically generates a resolved-alarm event.

If the system does not automatically resolve this alarm, you can open the Windows Task Manager and see what processes are putting significant demands on the CPU. If the processes are unrelated to Modular Messaging and you can safely stop them, then do so. If the processes are related to Modular Messaging, then it may indicate a more serious problem requiring in-depth attention. If that is the case, contact your Modular Messaging service or technical support representative for assistance.

MT PERF 10

Level:
Major

Description:
This alarm indicates that the MAS disk space is 90% or more full.

Repair Procedure:

Once this alarm has been raised, the system continues monitoring. If the disk space usage subsequently falls below 90%, then the problem is considered resolved and the system automatically generates a resolved-alarm event.

If you see this alarm, you can check your system for excessively large files. The log files can become excessively large if not managed properly, and you may need to reconfigure your system to limit the size of these files. For the procedure to do this, see the installation guide for your system.

Also, if you have other files which seem to be consuming a large amount of space, see if you can eliminate or compress them.

MT PERF 19

Level:

Major

Description:

This alarm indicates that the available disk space on the MAS is less than 250 MB. When this happens, the system runs a maintenance procedure (MP) that stops the voice server.

Repair Procedure:

Need info

MW (Message Waiting Indicator) alarms

The following alarms are generated by the Message Waiting Indicator (MWI) application and indicate a problem with the MWI server process on the affected MAS:

- MW PERF 15
- MW PERF 17

MW PERF 15

Level:
Minor

Description:
This alarm indicates that the counter (in virtual bytes) for the MWI server process is greater than 1.6 GB. This means that the MWI server process has exceeded the recommended virtual memory usage.

Repair Procedure:
Need info

MW PERF 16

Level:
Major

Description:
This alarm indicates that the counter (in virtual bytes) for the MWI server process is greater than 1.8 GB. This means that the MWI server process has exceeded the recommended virtual memory usage.

Repair Procedure:
Need info

TS (tracing server) alarms

The following alarms are generated by the tracing server application and indicate a problem with the tracing server application on the affected MAS:

- TS PERF 13
- TS PERF 14

MW PERF 13

Level:
Minor

Description:
This alarm indicates that the counter (in virtual bytes) for the tracing server process is greater than 1.6 GB. This means that the tracing server process has exceeded the recommended virtual memory usage.

Repair Procedure:
Need info

MW PERF 14

Level:
Major

Description:
This alarm indicates that the counter (in virtual bytes) for the tracing server process is greater than 1.8 GB. This means that the tracing server process has exceeded the recommended virtual memory usage.

Repair Procedure:
Need info

VB (Avaya Voice Browser) alarms

The following alarms are generated by the Avaya Voice Browser application and indicate a problem with the Avaya Voice Browser application on the affected MAS:

- VB VB1
- VB VB 1a
- VB VB 202
- VB VB 203
- VB VB 204
- VB VB 205
- VB VB 209
- VB VB 210
- VB VB 212
- VB VB 999

VB VB 1

Level:
Minor

Description:
This alarm indicates that the Avaya Voice Browser application was unable to initialize.

Repair Procedure:
Need info

VB VB 1a

Level:
Major

Description:
This alarm indicates that the Avaya Voice Browser application is restarting.

Repair Procedure:
Need info

VB VB 202

Level:
Major

Description:
This alarm indicates that the Avaya Voice Browser application is out of memory.

Repair Procedure:
Need info

VB VB 203

Level:
Minor

Description:
This alarm indicates that the Avaya Voice Browser application received **###???###** a bad Universal Resource Identifier (URI) fetch.

Repair Procedure:
Need info

VB VB 204

Level:
Minor

Description:
This alarm indicates that the Avaya Voice Browser application cannot read **###what?###** from the Universal Resource Identifier (URI).

Repair Procedure:
Need info

VB VB 205

Level:
Minor

Description:
This alarm indicates that the Avaya Voice Browser application cannot parse the content from the Universal Resource Identifier (URI).

Repair Procedure:
Need info

VB VB 209

Level:
Minor

Description:
This alarm indicates that the Avaya Voice Browser application caught a fatal exception. **### What does this mean? Detail needed! ###**

Repair Procedure:
Need info

VB VB 210

Level:
Minor

Description:
This alarm indicates that the Avaya Voice Browser application surpassed the maximum allowed loop iterations. **### What does this mean? Detail needed! ###**

Repair Procedure:
Need info

VB VB 212

Level:
Minor

Description:
This alarm indicates that the Avaya Voice Browser application caught a JavaScriptError exception. **### What does this mean? Detail needed! ###**

Repair Procedure:
Need info

VB VB 999

Level:
Minor

Description:
This alarm indicates that the Avaya Voice Browser application experienced an internal voice browser error. **### What does this mean? Detail needed! ###**

Repair Procedure:
Need info

VS (Voice server, MAS-specific) alarms

The following alarms are generated by the VS application and indicate a problem specific to the affected MAS:

- VS COM 1
- VS COM 2
- VS DOMEX 1
- VS EXCEPTION 1
- VS EXCEPTION 2
- VS EXCEPTION 3
- VS FEDB 1
- VS FEDB 2
- VS FEDB 3
- VS MAILBOX 1
- VS MSS 1
- VS MWI 1
- VS Octel Analog Networking 1
- VS OPHIST 1
- VSPERF 1
- VSPERF 2
- VSPERF 3
- VS PERF 4
- VS PERF 11
- VS PERF 12
- VS PORT 0
- VS PORT 1
- VS PORT 2
- VS PORT 3
- VS PORT 4
- VS PORT 5
- VS RHETORIX 1
- VS SERVICE 6
- VS SPOOL 1
- VS SWLINK 1
- VS VOICE 1
- VS VOICE 2
- VS VOICE 3
- VS VOICE 4

VS COM 1

Level:
Major

Description:
This alarm is raised when Voice Server Framework is unable to load the COM Configuration Manager. This problem typically occurs during boot-up. It means that the MAS software is not running correctly.

Repair Procedure:
When this alarm is raised, the MAS automatically reboots (forcibly, not gracefully) to correct the problem. This alarm typically occurs during initial boot-up, and the automatic reboot usually resolves the problem.

If after rebooting, the problem still exists, the system raises the alarm again, but the system does not automatically reboot again within 30 minutes. For more details about what is going on, you can check the event log (see Displaying the MAS event and error logs on page 17-3).

If this happens, contact your Modular Messaging service or technical support representative *immediately*, as this alarm indicates that you have no messaging server functions.

VS COM 2

Level:
Major

Description:

This alarm indicates that the system has failed to initialize the COM Security module for the affected MAS. When this alarm is raised, the system runs an application that automatically and immediately busies all ports, thus effectively stopping all communications on the MAS and rendering it non-functional.

Repair Procedure:

This problem requires a manual fix by qualified technical support personnel. If you see this alarm, contact your Modular Messaging service or technical support representative *immediately*, as this alarm indicates that your MAS is not allowing any communications at all.

Once the manual fix has been applied, the repair procedure requires a reboot of the system, which should clear and resolve this alarm.

VS DOMEX 1

Level:

Warning

Description:

This alarm indicates that the affected MAS cannot communicate with one or more Microsoft Exchange or IBM Lotus Domino back-end servers.

Repair Procedure:

If you see this alarm, attempt to locate the cause of the problem and resolve it by doing the following:

1. Verify that the affected Exchange/Domino servers are running properly (using your Exchange/Domino system documentation as necessary).
2. If they are running, verify that the connections between the MAS and the Exchange/Domino servers are good by running ping commands.
3. If the servers are able to communicate, use the services Monitor application (Monitor.msc) to check that the Modular Messaging services are configured and running properly on the MAS, by doing one of the following:

   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.

   For more information about the configuration of Modular Messaging services, see the installation guide for your system.

If none of these steps identifies and resolves the cause of the problem and the alarm persists, then you should contact your Modular Messaging service or technical support representative for assistance.

VS EXCEPTION 1

Level:
Major

Description:
This alarm indicates that the MM Messaging Application Server service has terminated the thread that caused the error.

The system generates this alarm whenever the MM Messaging Application Server service generates more than ten exceptions with no specific handling code at an average rate faster than one every five minutes. When this alarm is generated, the system attempts to restart the MM Messaging Application Server service.

Repair Procedure:
If the MM Messaging Application Server service restarts successfully, then the system considers the alarm resolved and generates a resolved-alarm event.

If you see this alarm, you can do the following:

1. Start the services Monitor application by doing one of the following:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
2. In the **Tree** pane, select **Services (Local)**.
3. In the services list pane, locate the service **MM Messaging Application Server**, and verify that:
   - The **Status** column entry reads **Started**.
   - The **Startup Type** column reads **Automatic**.
4. Manually (stop and) restart the MM Messaging Application Server service:

For the procedures to stop and restart the MAS service, see Stopping and restarting the MAS service on page A-35.

If the system does not resolve the alarm automatically within a period of a few minutes and manually stopping and restarting it also does not resolve the alarm, then contact your Modular Messaging service or technical support representative for assistance.

VS EXCEPTION 2

Level:
Warning

Description:
This alarm indicates that the MM Messaging Application Server service has caught and handled an exception. The sytem disconnected the caller or subscriber.

Repair Procedure:

If the MM Messaging Application Server service restarts successfully, then the system considers the alarm resolved and generates a resolved-alarm event. **### Is this true for this alarm? ###**

VS EXCEPTION 3

Level:

Major

Description:

This alarm indicates that the MM Messaging Application Server service has caught and handled an exception. The sytem disconnected the caller or subscriber. The system also ran a maintenance procedure (MP **### to do what???###**).

Repair Procedure:

If the MM Messaging Application Server service restarts successfully, then the system considers the alarm resolved and generates a resolved-alarm event. **### Is this true for this alarm? ###**

VS FEDB 1

Level:

Minor

Description:

This alarm indicates that the system had trouble reading a registry key in HKEY_LOCAL_MACHINE, or that the registry key is errant.

Repair Procedure:

Although there is no repair procedure for this alarm, you can identify the registry key that caused the problem by checking the Event Viewer Application log:

1. Start the services Monitor application by doing one of the following:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
2. In the **Tree** pane, select **Event Viewer (Local)**, expanding the tree if necessary.
3. Double-click **Application**.

   The system displays the Application log.
4. Locate the most recent entry for a 1436 event.

If subsequent attempts to read the errant registry key succeed, then the system considers the alarm resolved and generates a resolved-alarm event. If the system does not resolve the alarm automatically within a period of a few minutes, contact

your Modular Messaging service or technical support representative for assistance.

VS FEDB 2

Level:
Minor

Description:
This alarm indicates that the system failed to synchronize with the front end database (FEDB).

Repair Procedure:
Although there is no repair procedure for this alarm, you can locate and view more detailed information about the failure by checking the Event Viewer Application log:

1. Start the services Monitor application by doing one of the following:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
2. In the **Tree** pane, select **Event Viewer (Local)**, expanding the tree if necessary.
3. Double-click **Application**.

   The system displays the Application log.
4. Locate the most recent entry for a 1447 event.

If subsequent attempts to synchronize with the FEDB succeed, then the system considers the alarm resolved and generates a resolved-alarm event. If the system does not resolve the alarm automatically within a period of a few minutes, contact your Modular Messaging service or technical support representative for assistance.

VS FEDB 3

Level:
Minor

Description:
This alarm indicates that a full synchronization of the front end database (FEDB) **###with what?###** has started. While a full synchronization is in progress, all ports are disabled. When the synchronization has completed, the system again enables all ports.

Repair Procedure:
Need info

VS MAILBOX 1

Level:
Major

Description:
This alarm indicates that the system failed to create the Monitor Mailbox. When this alarm is raised, the system runs an application that automatically and immediately busies all ports, thus effectively stopping all communications on the MAS and rendering it non-functional.

Repair Procedure:
This problem requires a manual fix by qualified technical support personnel. If you see this alarm, contact your Modular Messaging service or technical support representative *immediately*, as this alarm indicates that your MAS is not allowing any communications at all.

Once the manual fix has been applied, the repair procedure requires a reboot of the system, which should clear and resolve this alarm

VS MSS 1

Level:
Major

Description:
This alarm indicates that the affected MAS cannot communicate with the Avaya S3400-family Message Store Server (MSS back-end server). This can be caused, among other things, by taking the MSS offline for scheduled maintenance or updates.

Notes:

- If you have a multiple-MAS system, each MAS that is in communication with the affected MSS should generate this alarm.
- If you have a planned outage on the MSS (for a software update, for example), Avaya recommends that you manually disable MAS alarming for each MAS until the MSS is back online. For details about manually disabling MAS alarming, see Serviceability - Voice Mail Domain dialog box, General properties on page 5-39.

Repair Procedure:

If you see this alarm, attempt to locate the cause of the problem and resolve it by doing the following:

1. Verify that the affected MSS is running properly and is not in offline mode.

   For information on how to check your MSS for proper operation, see the MSS documentation for your system.

2. If the MSS is running, verify that the connections between the MAS and the MSS are good by running ping commands for both public and private IP addresses.

3. If the servers are able to communicate, use the services Monitor application (Monitor.msc) to check that the Modular Messaging services are configured and running properly on the MAS, by doing one of the following:

   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.

   For more information about the configuration of Modular Messaging services, see the installation guide for your system.

If none of these steps identifies and resolves the cause of the problem and the alarm persists, then you should contact your Modular Messaging service or technical support representative for assistance.

VS MWI 1

Level:

Minor

Description:

This alarm indicates that there is a problem with the Message Waiting Indicator service.

The system generates this alarm whenever the MWI Failures KPI (event ID 1434) is incremented more than five times at an average rate faster than once every five minutes.

Repair Procedure:

The system is designed to restart the service whenever there is a failure. If it does so, and there is no new alarm generated within a 15-minute period, then the system considers the alarm resolved and generates a resolved-alarm event.

Although there is no repair procedure for this alarm, you can locate and view more detailed information about the failure by checking the Event Viewer Application log:

1. Start the services Monitor application by doing one of the following:

   - Double-click the **Monitor.msc** icon on your desktop.

- Click **Start** > **Programs** > **Administrative Tools** > **Services**.

2. In the **Tree** pane, select **Event Viewer (Local)**, expanding the tree if necessary.
3. Double-click **Application**.

   The system displays the Application log.

4. Locate the most recent entry for a 1434 event.

If the system does not resolve the alarm automatically within a period of a few hours, contact your Modular Messaging service or technical support representative for assistance.

VS OCTELNET 1

Level:
Minor

Description:
This alarm indicates that:

- The system cannot start or restart the OctelAN service.
- The system cannot find a valid telephone number for an Octel Analog Networking destination node.

Repair Procedure:
Although there is no repair procedure for this alarm, you can locate and view more detailed information about the failure by checking the Event Viewer Application log:

1. Start the services Monitor application by doing one of the following:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
2. In the **Tree** pane, select **Event Viewer (Local)**, expanding the tree if necessary.
3. Double-click **Application**.

   The system displays the Application log.

4. Locate the most recent entry for a 1393 or 1394 event.

If subsequent attempts to start the OctelAN service succeed, then the system considers the alarm resolved and generates a resolved-alarm event. If the system does not resolve the alarm automatically within a period of a few minutes, contact your Modular Messaging service or technical support representative for assistance.

VS OPHIST 1

Level:
Warning or Minor

Description:
If a warning, it indicates that the Operation History Buffer is more than 40% full.

If a minor alarm, it indicates that the Operation History Buffer is more than 80% full.

Repair Procedure:
Clear out space in the Operation History Buffer.

If the indication persists or recurs frequently, then you should contact your Modular Messaging service or technical support representative for assistance.

VS PERF 1

Level:
Warning

Description:
This alarm indicates that too many callers are experiencing delays while interacting with the system. An internal monitor checks the system every 15 minutes, and if three of these checks within an hour indicate that more than 1% of calls have experienced delays, the system generates this warning.

Repair Procedure:
There is no repair procedure for this warning. This alarm could be generated simply as a result of heavier than normal system traffic. Once the system indicates that fewer than 1% of calls are experiencing delays again, then the problem is considered resolved and the system automatically generates a resolved-alarm event.

If you are seeing an excessive number of these warnings or they are not resolved within a reasonable amount of time, then you should contact your Modular Messaging service or technical support representative for assistance.

VS PERF 2

Level:
Warning

Description:
The system generates this alarm when an excessive number of logon attempts are being aborted because of system delays. If more than five logon attempts are aborted at an average rate of more than one every five minutes, then the system generates this warning alarm.

Repair Procedure:

There is no repair procedure for this warning. Once this alarm has been raised, if the system then detects no new aborted logon attempts for 15 minutes, then the problem is considered resolved and the system automatically generates a resolved-alarm event.

If you are seeing an excessive number of these warnings or they are not resolved within a reasonable amount of time, then you should contact your Modular Messaging service or technical support representative for assistance.

VS PERF 3

Level:

Warning

Description:

This warning alarm indicates that the spool queue length is greater than or equal to 200. This means that the message spooler has 200 or more messages waiting to be delivered.

Repair Procedure:

There is no repair procedure for this warning. This condition can be caused simply by an excessive amount of message traffic during heavy traffic periods.

Once this alarm has been raised, if the system then detects that the spool queue length drops below 150, then the problem is considered resolved and the system automatically generates a resolved-alarm event.

If you are seeing an excessive number of these warnings or they are not resolved within a reasonable amount of time, then you should contact your Modular Messaging service or technical support representative for assistance.

VS PERF 4

Level:

Warning

Description:

This warning alarm indicates that the demand for active TUI ports exceeds the number of ports for which you are licensed.

This alarm may indicate that one or more ports is stuck. A stuck port is one that:

- Is not available to take or make calls
- Has been in its current Busy state for a period of time longer than the maximum allowable message time

To view and manage port status for the system, use the Port Monitor tool (see Using Port Monitor on page 14-10).

Repair Procedure:

When the system detects a stuck port, it automatically attempts to disable and re-enable the port. If it successfully does so, then the problem is considered resolved and the system automatically generates a resolved-alarm event.

If the system is not able to successfully disable and re-enable the stuck port, you can attempt to do so manually. For details on how to do this, see Managing port states on page 14-14.

As soon as a port becomes available, then the problem is considered resolved and the system automatically generates a resolved-alarm event.

If you are seeing these warnings on a regular basis, and there appears to be no problem with ports being stuck, it may indicate a need to increase the number of ports in your system.

If you are consistently having problems with stuck ports, or these alarms are not resolved within a reasonable amount of time, then you should contact your Modular Messaging service or technical support representative for assistance.

Messaging service or technical support representative for assistance.

VS PERF 11

Level:

Minor

Description:

This alarm indicates that the counter (in virtual bytes) for the voice server process is greater than 1.6 GB. This means that the voice server process has exceeded the recommended virtual memory usage.

Repair Procedure:

Need info

VS PERF 12

Level:

Major

Description:

This alarm indicates that the counter (in virtual bytes) for the voice server process is greater than 1.8 GB. This means that the voice server process has exceeded the recommended virtual memory usage.

Repair Procedure:

Need info

VS PORT 0

Level:
Minor

Description:
This alarm indicates that port maintenance is required on the indicated channel. The system generates this alarm whenever a port has been idle for **### How long? ###**.

Repair Procedure:
There is no recovery/repair procedure for this alarm. When the system generates this alarm, a maintenance procedure (MP) is run to disable and re-enable the affected port. Therefore, this alarm is considered self-correcting.

To find more detailed information about what caused this alarm to be generated, you can check the Windows event log. For the procedure to check the Windows event log, see Displaying the MAS event and error logs on page 17-3.

VS PORT 1

Level:
Major

Description:
This alarm indicates that the system was not able to start or restart one or more telephony board drivers. When this alarm is raised, the system runs an application that automatically and immediately busies all ports, thus effectively stopping all communications on the MAS and rendering it non-functional.

Repair Procedure:
This problem requires a manual fix by qualified technical support personnel. If you see this alarm, contact your Modular Messaging service or technical support representative *immediately*, as this alarm indicates that your MAS is not allowing any communications at all.

Once the manual fix has been applied, the repair procedure requires a reboot of the system, which should clear and resolve this alarm

VS PORT 2

Level:
Minor

Description:
This alarm indicates that the MAS could not read the port configuration for inbound ports successfully. This may mean that the inbound ports are either not configured properly or that the port configuration information for the system has been corrupted.

Repair Procedure:
Verify that the inbound ports are properly configured for your system (see the installation guide for your system).

If subsequent attempts to read the configuration for inbound ports succeed, then the system considers the alarm resolved and generates a resolved-alarm event.

If reconfiguring the inbound ports does not correct the problem, or if subsequent attempts by the system to read the inbound port configuration fail, then you should contact your Modular Messaging service or technical support representative for assistance.

VS PORT 3

Level:
Major

Description:
This alarm indicates that more than two thirds of the ports in the system are stuck. A stuck port is one that:

- Is not available to take or make calls
- Has been in its current Busy state for a period of time longer than the maximum allowable message time

To view and manage the status of ports on the system, use the Port Monitor tool (see Using Port Monitor on page 14-10).

Repair Procedure:
When the system detects stuck ports, it automatically attempts to disable and re-enable them. If it successfully does so with the stuck ports in this situation, and the number of stuck ports falls below one third of the total number, then the problem is considered resolved and the system automatically generates a resolved-alarm event.

If the system is not able to successfully disable and re-enable the stuck ports, you can attempt to do so manually. For details on how to do this, see Managing port states on page 14-14.

If the system cannot successfully reset the stuck ports, you have tried manually disabling and re-enabling the stuck ports, and the problem is still not resolved, then contact your Modular Messaging service or technical support representative for assistance.

VS PORT 4

Level:
Warning

Description:
This alarm indicates that a channel port has been disabled.

Repair Procedure:
There is no repair procedure for this alarm.

To find more detailed information about what caused the port to become disabled, you can check the Windows event log. For the procedure to check the Windows event log, see Displaying the MAS event and error logs on page 17-3.

VS PORT 5

Level:
Minor

Description:
This alarm indicates that a port has failed. This may result from a problem in the system, or it may occur because the system has been manually taken out of service.

Repair Procedure:
The system is designed to automatically re-enable ports, if possible, when they fail. If the system does not enable the port automatically, you can attempt to enable it manually. For the procedure, see Enabling ports on page 14-16.

To find more detailed information about what caused the port to fail, you can check the Windows event log. For the procedure to check the Windows event log, see Displaying the MAS event and error logs on page 17-3.

If manual attempts to re-enable the port still do not resolve the problem, or you are seeing a great number of these warnings, it may indicate a more serious problem within the system. Contact your Modular Messaging service or technical support representative for assistance.

VS RHETORIX 1

Level:
Minor

Description:
This alarm indicates that the Rhetorix drivers have not started.

You can locate and view more detailed information about this failure by checking the Event Viewer Application log:

1. Start the services Monitor application by doing one of the following:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
2. In the **Tree** pane, select **Event Viewer (Local)**, expanding the tree if necessary.
3. Double-click **Application**.

   The system displays the Application log.
4. Locate the most recent entry for a 1099 event.

Repair Procedure:

When this alarm is raised, the system responds by attempting to stop and restart the Rhetorix drivers. If successful, then the system considers the alarm resolved and generates a resolved-alarm event.

If the system cannot successfully stop and restart the Rhetorix drivers, you can try performing a manual shutdown and reboot of the system.

If this still does not resolve the problem, contact your Modular Messaging service or technical support representative for assistance.

VS SERVICE 6

Level:

Major

Description:

This alarm indicates that a Modular Messaging service has stopped repeatedly for some reason, or it has failed to restart. When the service first fails unintentionally, the system attempts to restart it automatically. This alarm is raised only after one such system automatic restart of the indicated service has failed again within a 30 minute period.

Repair Procedure:

When this alarm is raised, you can locate and view more detailed information about the failure by checking the Event Viewer Application log:

1. Start the services Monitor application by doing one of the following:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
2. In the **Tree** pane, select **Event Viewer (Local)**, expanding the tree if necessary.
3. Double-click **Application**.

   The system displays the Application log.
4. Locate the most recent entry for a 1242 event.

If the system does not resolve the alarm automatically within a period of a few minutes, contact your Modular Messaging service or technical support representative for assistance.

VS SPOOL 1

Level:

Minor

Description:

This alarm indicates that the system is unable to access the message spool directory.

Repair Procedure:

There is no repair procedure for this alarm. Once the alarm has been raised, if the system is then able to access the message spool directory, then the problem is considered resolved and the system automatically generates a resolved-alarm event.

When this alarm is raised, you can locate and view more detailed information about the failure by checking the Event Viewer Application log:

1. Start the services Monitor application by doing one of the following:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
2. In the **Tree** pane, select **Event Viewer (Local)**, expanding the tree if necessary.
3. Double-click **Application**.

   The system displays the Application log.
4. Locate the most recent entry for a 1527 or (unintentional) 1014 event.

Note: A manual service shutdown currently results in a 1014 event being generated.

If the system does not resolve the alarm automatically within a period of a few minutes, contact your Modular Messaging service or technical support representative for assistance.

VS SWLINK 1

Level:

Minor

Description:

This alarm indicates that the system cannot verify that a switch link is operational.

Repair Procedure:

Verify that the switch link is operational. When it is, then the problem is considered resolved and the system automatically generates a resolved-alarm event.

If the system does not resolve the alarm automatically within a period of a few minutes, or you are seeing a great number of these warnings on your system, contact your Modular Messaging service or technical support representative for assistance.

VS VOICE 1

Level:
Minor

Description:
This alarm indicates that the MM Messaging Application Server service has stopped repeatedly for some reason, or it has failed to restart. When the service first fails unintentionally, the system attempts to restart it automatically. This alarm is raised only after one such system automatic restart of the indicated service has failed within a 30 minute period.

This alarm is related to the MT ABS_PROC 1 alarm.

Repair Procedure:
When this alarm is raised, you can locate and view more detailed information about the failure by checking the Event Viewer Application log:

1. Start the services Monitor application by doing one of the following:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
2. In the **Tree** pane, select **Event Viewer (Local)**, expanding the tree if necessary.
3. Double-click **Application**.

   The system displays the Application log.
4. Locate the most recent entry for a 1242 event.

If the system does not resolve the alarm automatically within a period of a few minutes, contact your Modular Messaging service or technical support representative for assistance.

VS VOICE 2

Level:
Minor

Description:
This alarm indicates that the primary and/or secondary server names for remote integration are invalid.

Repair Procedure:
Verify that the system has the correct primary and secondary server names configured for remote integration.

Once the primary and secondary remote server names are recognized as being valid, then the problem is considered resolved and the system automatically generates a resolved-alarm event.

If the remote server names are configured properly and the alarm persists, contact your Modular Messaging service or technical support representative for assistance.

VS VOICE 3

Level:
Major

Description:
This alarm indicates that the Avaya Modular Messaging product license either is invalid or has expired.

Repair Procedure:
Contact your Modular Messaging service or technical support representative for a new product license.

VS VOICE 4

Level:
Minor

Description:
This alarm indicates that the Avaya Modular Messaging product license does not refer to the existing platform.

Repair Procedure:
Contact your Modular Messaging service or technical support representative for assistance.

Stopping and restarting the MAS service

This section provides the procedures for stopping and restarting the MM Messaging Application Server (MAS) service.

Note: We recommend that you perform these operations during a scheduled down time of the system and voice mail domain, if at all possible.

To stop operation of the MAS service:

1. Start the services Monitor application in one of the following ways:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
   - Click **Start** > **Settings** > **Control Panel** > **Administrative Tools** > **Services**.
2. From the list in the Services dialog box, click **MM Messaging Application Server**
3. Click **Stop**.

   After a short interval, the MAS service stops.

To restart the MAS, start Services in one of the following ways:

1. Start the services Monitor application in one of the following ways:
   - Double-click the **Monitor.msc** icon on your desktop.
   - Click **Start** > **Programs** > **Administrative Tools** > **Services**.
   - Click **Start** > **Settings** > **Control Panel** > **Administrative Tools** > **Services**.
2. From the list in the Services dialog box, click **MM Messaging Application Server**.
3. Click **Start**.

   After a short interval, the MAS service starts. A 1241 event confirms that the service has started.

B

Appendix B: Examples of Caller Applications

This appendix provides examples of caller applications, including ideas on how to use them effectively, how to design and create them, and how to deploy them.

Section	Page
A word to AUDIX users	B-2
The caller application creation process	B-4
Examples of caller applications	B-5

A word to AUDIX users

Those who are coming from and familiar with an Intuity AUDIX environment should be aware that there are some fundamental differences between the way that AUDIX and the way that Modular Messaging handle call flows.

Automated attendants versus caller applications

In the AUDIX environment, caller interaction is controlled mostly through the use of “automated attendants,” and particularly “nested automated attendants.” Modular Messaging achieves the same kind of functionality—and often much more easily!—with the use of caller applications.

In the Modular Messaging environment, the term “automated attendant” is reserved strictly for the system Automated Attendant and has a much narrower use. The Automated Attendant in Modular Messaging is, generally speaking, a top-level menu that acts as a gateway into the system. Though the system Automated Attendant can be used in an even stricter sense to provide only one route into the system—such as a simple call transfer—, that is not the way it is designed to be used. In a case like this, a caller application would be much easier and more efficient to use.

Therefore, if you want to use multiple levels of menus and a wider range of caller options in Modular Messaging, you must use caller applications (which, again, are roughly analogous to nested automated attendants).

“Bottom-Up” versus “Top-Down”

System designers in the AUDIX environment are advised to plan their systems carefully, then start at the deepest level of menus (the “bottom”) and work their way up from there.

Although in real world practice there is some parallel in Modular Messaging (for instance, we also strongly recommend careful planning), Modular Messaging makes it much easier and often more practical to design and build from the top levels and work your way down. This aspect of Modular Messaging design also makes it somewhat easier to add on to your caller applications later, should you find the need.

A brief comparison of AUDIX versus Modular Messaging functionality

Although the end result is the same in many cases, AUDIX and Modular Messaging sometimes take different approaches to get there. The following is a brief summary of how AUDIX and Modular Messaging handle various functions or tasks, summarizing both the similarities and the differences:

Note: This is by no means an exhaustive list of the differences and similarities, but merely a representative sampling.

Intuity AUDIX	Modular Messaging
Uses “automated attendants” and “nested automated attendants”.	Uses caller applications and application nodes.
Must create the “main automated attendant” as the starting point.	May use the system (built-in) Automated Attendant or bypass it in favor of a caller application as the starting point.
Automated attendants are always treated as subscriber mailboxes. Automated attendants require no special treatment after being created, other than a special mailbox property designating them as automated attendants.	Caller applications may use ID numbers similar to subscriber mailbox numbers, but are not required to do so, and they are not necessarily treated as subscriber mailboxes. Also, caller applications must be deployed on the system after being created.
Automated attendants may have up to 10 options, corresponding with the touchtone keys 0 through 9.	Caller applications may have up to 11 menu options, corresponding with all touchtone keys, including the * and # keys (minus the key assigned for cancellation operations).
You may administer the automated attendant as an extension on the switch or solely in the AUDIX system (as an internal extension only).	You may administer caller application ID numbers on the switch or solely in the Modular Messaging system (as an internal extension only).
Requires *** 8** for transfers.	Offers built-in transfer capability.
Allows up to 4 special (“holiday”) schedules to be defined and in use at one time.	Allows up to 18 special (“holiday”) schedules to be defined and in use at one time.
Multi-lingual options may be configured using system-wide and subscriber-specific settings or an automated attendant.	Multi-lingual options may be configured using either the system Automated Attendant, subscriber-specific settings, or a caller application.
Allows call routing based on a time-of-day schedule.	Allows call routing based on a time-of-day schedule.
Prompts are created as “mailbox greetings” (thus offering little quality control over recordings).	Prompts created either as recorded (*.wav) files embedded in caller application or as “mailbox greeting” (announcements).

The caller application creation process

The following is a brief overview of the basic process you should use to create and deploy caller applications. For a more thorough presentation and discussion of this process, see Creating caller applications (process overview) in Chapter 11.

The recommended process of creating caller applications for use on your system is a six-step process:

1. Plan carefully!
2. Set up your targets.
3. Build the caller application(s).
4. Record and assign prompts.
5. Deploy the application.
6. Analyze the application.

This basic process is illustrated in the first caller application example that follows. For the remaining examples, only the process of building the caller application (Step 3) and other significant considerations will be presented.

Examples of caller applications

To help you get a better feel for the caller application design and deployment process, we offer the following examples of some typical kinds of caller applications and their use:

- Example 1: Alternative “Auto Attendant” Main Menu
- Example 2: Call transfer using Dial By Name
- Example 3: Automated fax attendant
- Example 4: Shared extension
- Example 5: Non-resident subscribers
- Example 6: Bulletin boards and daily announcements

Example 1: Alternative “Auto Attendant” Main Menu

This example has been created to illustrate how you can use a caller application as an alternative to the system Automated Attendant. This caller application is designed to be the caller’s first contact with the system.

The scenario

XYZ Company has operations throughout North America, including Mexico and French-speaking areas of Canada. For this reason, they want their callers to have the option to continue in either Spanish or French. However, they also want to:

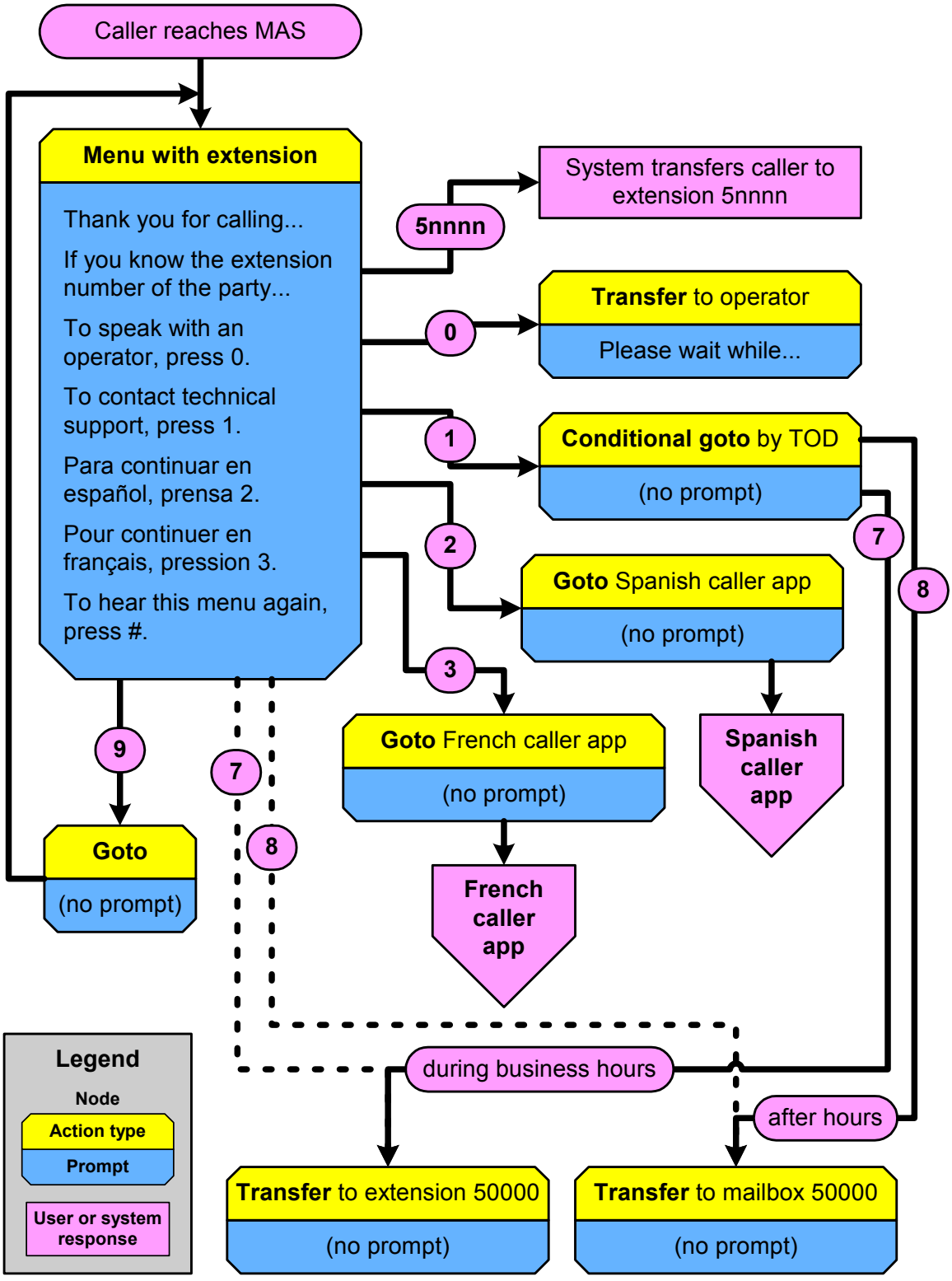
- Allow callers to reach the intended party’s extension at any time by entering the subscriber’s extension.
- Use a custom prompt before the transfer if a caller chooses to transfer to the operator.
- Allow callers to reach the Technical Support department, with the call being automatically directed either to the Help Desk live extension (during business hours) or to the Tech Support voice mailbox (after business hours).
- Give callers the option to hear the menu again, using the **9** key.

Since the system Automated Attendant does not perform any of these options, and since they are not concerned about using the call blocking, call screening, and intercom paging features, XYZ has decided to disable the system Automated Attendant and use a custom one instead, in the form of a caller application.

Planning the application

After discussing their business needs, XYZ Company devised the following caller application diagram.

Figure B-5.


Caller reaches MAS
Menu with extension
Thank you for calling...
If you know the extension number of the party...
To speak with an operator, press 0.
To contact technical support, press 1.
Para continuar en español, prensa 2.
Pour continuer en français, pression 3.
To hear this menu again, press #.
5nnnn
System transfers caller to extension 5nnnn
0
Transfer to operator
Please wait while...
1
Conditional goto by TOD
(no prompt)
2
Goto Spanish caller app
(no prompt)
3
Goto French caller app
(no prompt)
9
Goto
(no prompt)
7
8
Spanish caller app
French caller app
during business hours
after hours
Transfer to extension 50000
(no prompt)
Transfer to mailbox 50000
(no prompt)
Legend
Node
Action type
Prompt
User or system response

Notes: With respect to this call flow, note the following:

- The yellow areas (boldface) indicate what type of action is assigned to the node. The blue areas indicate what the prompt is to say (if anything). The pink areas indicate some action or response taken by either the caller or the MAS.
- The caller application base node is of action type **Menu with extension**. This allows callers to dial a subscriber's extension number, which on XYZ Company's system must have **5** as the first digit.
- The **Conditional goto** node routes the caller to the Tech Support Help Desk or voice mailbox, depending on what time the call comes in. To accomplish this, though, you must reserve two other key presses, in this case the **7** and the **8**. These keys were chosen so as to minimize the likelihood of a caller pressing the wrong key and getting one of these options by mistake.
- The caller can reach the Technical Support help desk or voice mailbox directly by pressing **7** or **8**, respectively, but you do not want to include that as an option in the main menu prompt. This is indicated by the dotted lines.
- The multi-language options (**2** and **3**) both exit this caller application to access other caller applications. XYZ Company planned these applications during the planning phase, but they are not shown here.
- Key presses of **4**, **6**, other multi-digit key press combinations that are not valid extensions or mailboxes will result in an "invalid response" prompt from the system.

Setting up the targets

Before building the application, you must set up the following targets:

- System operator phone number (see Configuring TUI receptionist properties on page 3-6)
- Technical Support Help Desk extension number 50000
- Technical Support voice mailbox number 50000
- (Recommended, but not required) The Spanish language caller application

- (Recommended, but not required) The French language caller application

Building the application

The following table presents a step-by-step method for building the caller application. It assumes that you have already started the Caller Applications Editor. The **Action(s)** column gives a description of the step in the process, and the **Location of procedure(s)** column provides a link to the detailed procedure in the documentation that tells how to perform the step.

Step	Action(s)	Location of procedure(s)
1	Create the caller application base node. Name it **Main Menu**. Provide a brief description and select the language.	Adding the base caller application node on page 11-16
2	Modify the caller application base node properties: ▪ Select **Menu with extension** as the action type. ▪ Select **Play entry prompt** and then select **Application prompt**. ▪ Add a prompt and enter "Welcome and Main Menu" under **Comments**. **Note:** You will not actually record the prompt at this point, you are merely creating a placeholder for it. ▪ Verify that the application is set to use the **Default operator**, **<Parent node>** as the **Default cancel** setting, and the ***** key as the **Default cancel key**.	Configuring the caller application properties on page 11-17
3	Add an application (action) node to the base node. This node will transfer the caller to the operator. ▪ Name it **Transfer to operator**. ▪ Select **Transfer** as the action type. ▪ Select **0** for the **Key press**. ▪ Enter a brief description for it.	Adding the application action node on page 11-20

Step	Action(s)	Location of procedure(s)
4	Modify the application (action) node properties: ▪ On the **General** tab, verify that **Operator** is selected. ▪ Select **Play entry prompt** and then select **Application prompt**. ▪ Add a prompt and enter "Please wait while I transfer you to the operator" under **Comments**. **Note:** You will not actually record the prompt at this point, you are merely creating a placeholder for it.	Configuring application (action) node properties on page 11-21
5	Add another application (action) node to the base node. This node will be used by the **Conditional goto** node to transfer the caller to the Technical Support Help Desk during business hours. ▪ Name the node **Transfer to Tech Support desk**. ▪ Select **Transfer** as the action type. ▪ Select **7** for the **Key press**. ▪ Provide a brief description.	Adding the application action node on page 11-20
6	Modify the application (action) node properties: ▪ On the **General** tab, verify that **Extension** is selected and set **50000** as the extension number. ▪ You do not need a prompt for this node, so verify that the **Play entry prompt** check box is cleared (**Prompt** tab).	Configuring application (action) node properties on page 11-21

Step	Action(s)	Location of procedure(s)
7	Add another application (action) node to the base node. This node will be used by the **Conditional goto** node to transfer the caller to the Technical Support voice mailbox after business hours. ▪ Name the node **Transfer to Tech Support MB**. ▪ Select **Transfer** as the action type. ▪ Select **8** for the **Key press**. ▪ Provide a brief description.	Adding the application action node on page 11-20
8	Modify the application (action) node properties: ▪ On the **General** tab, verify that **Mailbox** is selected and set **50000** as the mailbox number. ▪ You do not need a prompt for this node, so verify that the **Play entry prompt** check box is cleared (**Prompt** tab).	Configuring application (action) node properties on page 11-21
9	Add another application (action) node to the base node. This is the node that will actually transfer the caller to the appropriate Technical Support extension (during business hours) or voice mailbox (after business hours. ▪ Name the node **Contact Technical Support**. ▪ Select **Conditional goto** as the action type. ▪ Select **1** for the **Key press**. ▪ Provide a brief description.	Adding the application action node on page 11-20

Step	Action(s)	Location of procedure(s)
10	Modify the application (action) node properties: ▪ On the **General** tab, select node **7** as the **During hours node**. ▪ Select **8** as the **After hours node**. ▪ Because XYZ Company wants the help desk available only during regular business hours, click **Weekly schedule...** and set the schedule grid to be active Monday through Friday from 8:00 a.m. to 6:00 p.m. You do not need a prompt for this node, so verify that the **Play entry prompt** check box is cleared (**Prompt** tab).	Configuring application (action) node properties on page 11-21 Tips for using the schedule grid on page 11-30
11	Add another application (action) node to the base node. This node will exit this caller application and transfer the caller to the Spanish language caller application. ▪ Name the node **Continue in Spanish**. ▪ Select **Goto** as the action type. ▪ Select **2** for the **Key press**. ▪ Provide a brief description.	Adding the application action node on page 11-20
12	Modify the application (action) node properties: ▪ On the **General** tab, verify that **Caller application** is selected. ▪ If you have created and deployed the Spanish caller application, you can select that caller application from the drop-down list. Otherwise, you will have to create and deploy the Spanish caller application before you can complete this node. ▪ You do not need a prompt for this node, so verify that the **Play entry prompt** check box is cleared (**Prompt** tab).	Configuring application (action) node properties on page 11-21

Step	Action(s)	Location of procedure(s)
13	Add another application (action) node to the base node. This node will exit this caller application and transfer the caller to the Spanish language caller application. ▪ Name the node **Continue in French**. ▪ Select **Goto** as the action type. ▪ Select **3** for the **Key press**. ▪ Provide a brief description.	Adding the application action node on page 11-20
14	Modify the application (action) node properties: ▪ On the **General** tab, verify that **Caller application** is selected. ▪ If you have created and deployed the French caller application, you can select that caller application from the drop-down list. Otherwise, you will have to create and deploy the French caller application before you can complete this node. ▪ You do not need a prompt for this node, so verify that the **Play entry prompt** check box is cleared (**Prompt** tab).	Configuring application (action) node properties on page 11-21
15	Add another application (action) node to the base node. This is the final node in this application, and its job is simply to redirect the caller back through this menu. ▪ Name the node **Repeat this menu**. ▪ Select **Goto** as the action type. ▪ Select **9** for the **Key press**. ▪ Provide a brief description.	Adding the application action node on page 11-20

Step	Action(s)	Location of procedure(s)
16	Modify the application (action) node properties: ▪ On the **General** tab, verify that **Node** is selected. ▪ From the drop-down box, select the caller application node for this caller application, **Main Menu**. ▪ You do not need a prompt for this node, so verify that the **Play entry prompt** check box is cleared (**Prompt** tab).	Configuring application (action) node properties on page 11-21
17	Save the application, if you have not already done so.	Saving a caller application on page 11-39

At this point, you are almost done with the caller application. If you have not already created and deployed the Spanish and French caller applications, you will still need to do that and make sure that they are called by the appropriate nodes in this application. You will also need to record the prompts.

Recording and assigning the prompts

Although XYZ Company has decided to have their prompts recorded professionally, you can record the prompts for test purposes. This caller application requires only two prompts, but the **Main Menu** prompt, especially, must be carefully scripted, so as to provide the options in the correct order and form. We recommend that you write out all prompts before recording them, as this helps ensure that the prompts say exactly what you want them to say.

XYZ Company created the following script for the **Main Menu** prompt (numbered 1 in the application):

> “Thank you for calling XYZ Company. We value your business, so please listen carefully to the following options.
>
> “If you know the extension number of the party you are trying to reach, please enter it at any time.
>
> “To speak to an operator, you can press 0 at any time.
>
> “To reach Technical Support, please press 1.
>
> “Para continuar en español, prensa 2.
>
> “Pour continuer en français, pression 3.
>
> “To hear this menu again, press 9.”

Note: It is possible that you might want to present the options in a different order, but that is something you should decide during the planning phase. We recommend that you present the options in numerical order, and that this idea be central in your planning.

For the Transfer to Operator prompt, they created the following script:

> "Please wait while I transfer you to the operator."

While waiting for the prompts to be recorded by a professional studio, you can make your own temporary recordings. For the procedure to record your own prompts, see Recording application prompts on page 11-35. Once recorded, these prompts become part of the application.

After recording the prompts, (prompt 1 and 2, respectively) verify that you have the correct prompt assigned to the appropriate node.

Later on, when the professionally recorded *.wav files have been received, you can replace the existing prompt recordings with the new ones. For the procedure to do this, see Importing prompts on page 11-37.

Deploying the application

After saving the application again, you are ready to deploy the application. For the procedure to do this, see Deploying caller applications across a voice mail domain on page 11-42.

Analyzing the application

Immediately after deploying the application across the voice mail domain, we recommend that you analyze the application, which tests it for integrity and flags any errors it finds. This is a valuable tool for debugging your caller applications. For the procedure to analyze the application, see Analyzing caller applications on page 11-48.

Example 2: Call transfer using Dial By Name

This example has been created to illustrate how you can use a caller application to allow callers to take advantage of the Dial by Name feature. This feature allows callers to “spell” the name of the party they are trying to reach, and the system automatically looks up and tries to match the number entered with a subscriber on the system.

Considerations

Normally, it is not necessary to use a caller application to access the Dial by Name feature. In most cases, the system Automated Attendant can access Dial by Name directly by assigning any numeric key press to **Directory**.

However, in cases where you do not want to use the system Automated Attendant, you can still access the Dial by Name feature using caller applications.

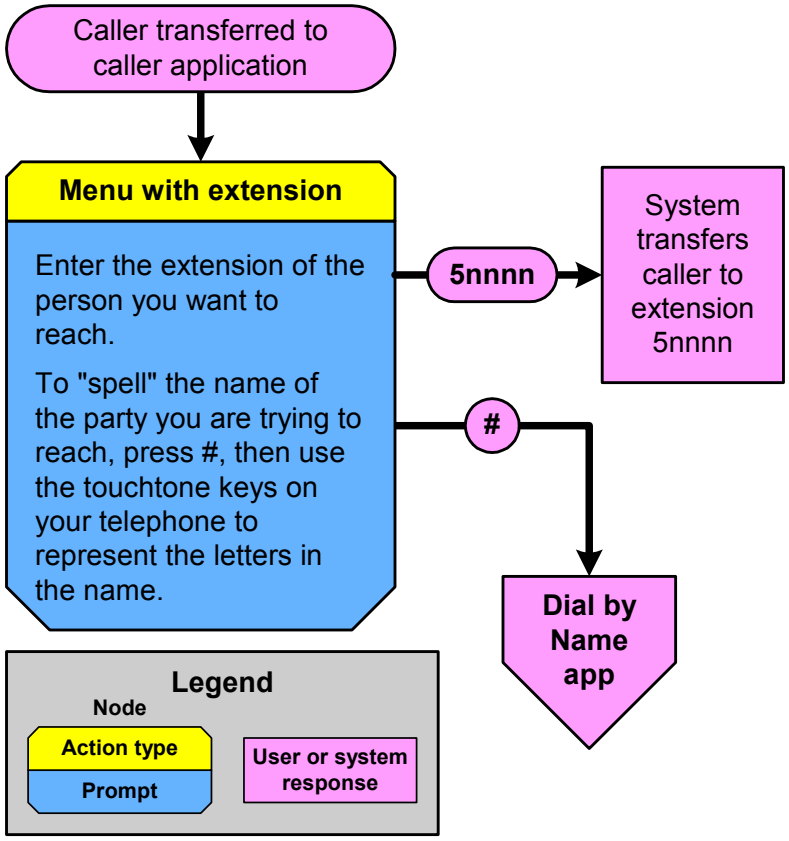
The key is to use a **Menu with extension** or **Menu with mailbox** action type (see Menu actions on page 11-25). In both these action types, the **#** key is reserved for the Dial by Name application.

This means that all you really have to do to make use of the Dial by Name feature with a caller application is create an application node with one of these two action types. You do not need to create a separate caller application to use Dial by Name.

The caller application design

The following is a possible call flow for this caller application. Note that this does not necessarily need to be an entire application by itself. In fact, it will more likely be used to best effect by simply creating an application node within an application (for instance, it could be used as an additional option in Example 1: Alternative “Auto Attendant” Main Menu). This example is intended primarily to illustrate how to set up the node.

Figure B-6.



Building the application

The following table presents a step-by-step method for building this caller application. It assumes that you have already started the Caller Applications Editor. The **Action(s)** column gives a description of the step in the process, and the **Location of procedure(s)** column provides a link to the detailed procedure in the documentation that tells how to perform the step.

Step	Action(s)	Location of procedure(s)
1	Create the caller application base node. Name it **Transfer by Name**. Provide a brief description and select the language.	Adding the base caller application node on page 11-16

Step	Action(s)	Location of procedure(s)
2	Modify the caller application base node properties: ▪ Select **Menu with extension** as the action type. ▪ Select **Play entry prompt** and then select **Application prompt**. ▪ Add a prompt and enter "Transfer to Dial by Name" under **Comments**. **Note:** You will not actually record the prompt at this point, you are merely creating a placeholder for it. ▪ Verify that the application is set to use the **Default operator**, **<Parent node>** as the **Default cancel** setting, and the ***** key as the **Default cancel key**.	Configuring the caller application properties on page 11-17
3	Save the application, if you have not already done so.	Saving a caller application on page 11-39

Note: Because you are using the **Menu with extension** action type, the **#** key is automatically reserved for the Dial by Name feature (as it is with the **Menu with mailbox** action type). This means that it is not available for other options.

Example 3: Automated fax attendant

This example has been created to illustrate how you can use a caller application to act as an auto attendant for relaying faxes to a subscriber's fax-enabled extension.

Considerations

The advantage of this arrangement is that you can provide fax delivery for your subscribers without paying for additional Direct Inward Dialing (DID) lines or personal trunks for fax extensions. The disadvantage is that incoming calls cannot be automatically dialed, because the caller must enter touch tones to select from the caller application menu and then press the start key on the fax machine to begin transmitting the fax.

Essentially, when you set up an automated fax attendant, you are simply transferring the caller to a fax-enabled mailbox (which is set up using the Subscriber Admin page). To send the fax, the caller needs to know only the pilot number of the Avaya Modular Messaging system and the fax-enabled mailbox number. Upon reaching the caller application (or application node) that will transfer them to the fax-enabled mailbox, callers hear a prompt instructing them to press the extension number and then press the start button on their fax machines after they hear the mailbox greeting to start or the fax tone (if no greeting is being used in the mailbox).

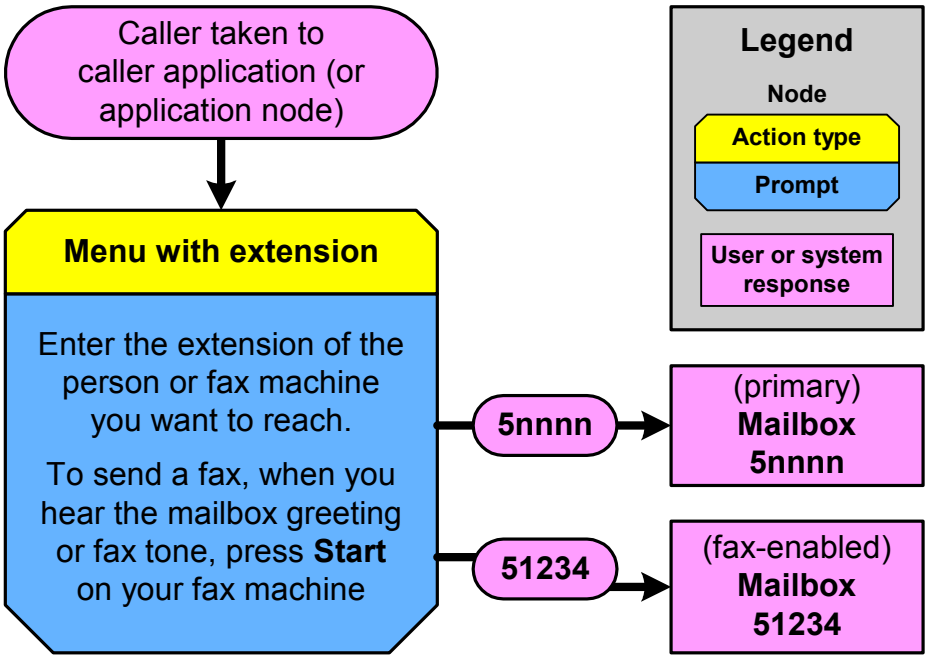
The subscriber must provide fax senders the system number to call (in this case, it might be xx3-7001) and the subscriber's fax-enabled mailbox number (in this case, 51234).

Important: Setting up fax-enabled mailboxes with numbers that begin with trunk dial access codes could contribute to toll fraud. Always assign extensions that do not allow access to any outside lines.

The caller application design

The following is a possible call flow for this caller application. Note that this need not necessarily be an entire application by itself. In fact, it will more likely be used to best effect by simply creating an application node within an application (for instance, it could be used as an additional option in Example 1: Alternative "Auto Attendant" Main Menu). Also, the prompt does not need to be contained within the caller application; it could just as easily be created within the fax-enabled mailbox, as a greeting. (If the target mailbox is dedicated for fax only, then it might be better to place the instruction prompt within the mailbox. However, if the mailbox is also used for voice mail—as it will in most cases—then it might be better to place the instruction prompt within the caller application, as planned here.)

Figure B-7.



Building the application

The following table presents a step-by-step method for building the caller application. It assumes that you have already started the Caller Applications Editor and that you are creating this as a separate caller application, though it could be easily modified to treat as an application node within a caller application. The **Action(s)** column gives a description of the step in the process, and the **Location of procedure(s)** column provides a link to the detailed procedure in the documentation that tells how to perform the step.

Step	Action(s)	Location of procedure(s)
1	Create the caller application base node. Name it **Auto fax attendant**. Provide a brief description and select the language.	Adding the base caller application node on page 11-16

Step	Action(s)	Location of procedure(s)
2	Modify the caller application base node properties: ▪ Select **Menu with extension** as the action type. ▪ Select **Play entry prompt** and then select **Application prompt**. ▪ Add a prompt and enter "Enter extension or fax machine number" under **Comments**. **Note:** You will not actually record the prompt at this point, you are merely creating a placeholder for it. ▪ Verify that the application is set to use the **Default operator**, **<Parent node>** as the **Default cancel** setting, and the ***** key as the **Default cancel key**.	Configuring the caller application properties on page 11-17
3	Save the application, if you have not already done so.	Saving a caller application on page 11-39

Example 4: Shared extension

It is possible for several subscribers share a single telephone extension, using a caller application to set it up. An extension set up this way might, for instance, allow a caller to speak with a particular individual subscriber or leave a message that is available to anyone on the shared extension.

The following example has been created to illustrate how to set up a shared extension using a caller application. In this example, four individuals work in the sales department of a company. When the caller reaches the system by dialing the shared extension number, the system offers a menu to speak with any of the individuals or to leave a message in the group voice mailbox.

This sample application also allows the caller to reach a receptionist who works for the entire sales department, and to hear the menu again.

Considerations

In this example, only the caller application ID number (**4350**) is administered as an extension at the switch. Nonresident subscriber extensions—that is, extensions that are not administered at the switch—are used for each of the sharing subscribers. The caller application can transfer callers directly to these extensions or to the group mailbox, which is accessible to each of the shared extension subscribers.

In this case, if the individual subscriber is not available to answer the call, the system automatically transfers the caller to the individual's voice mailbox.

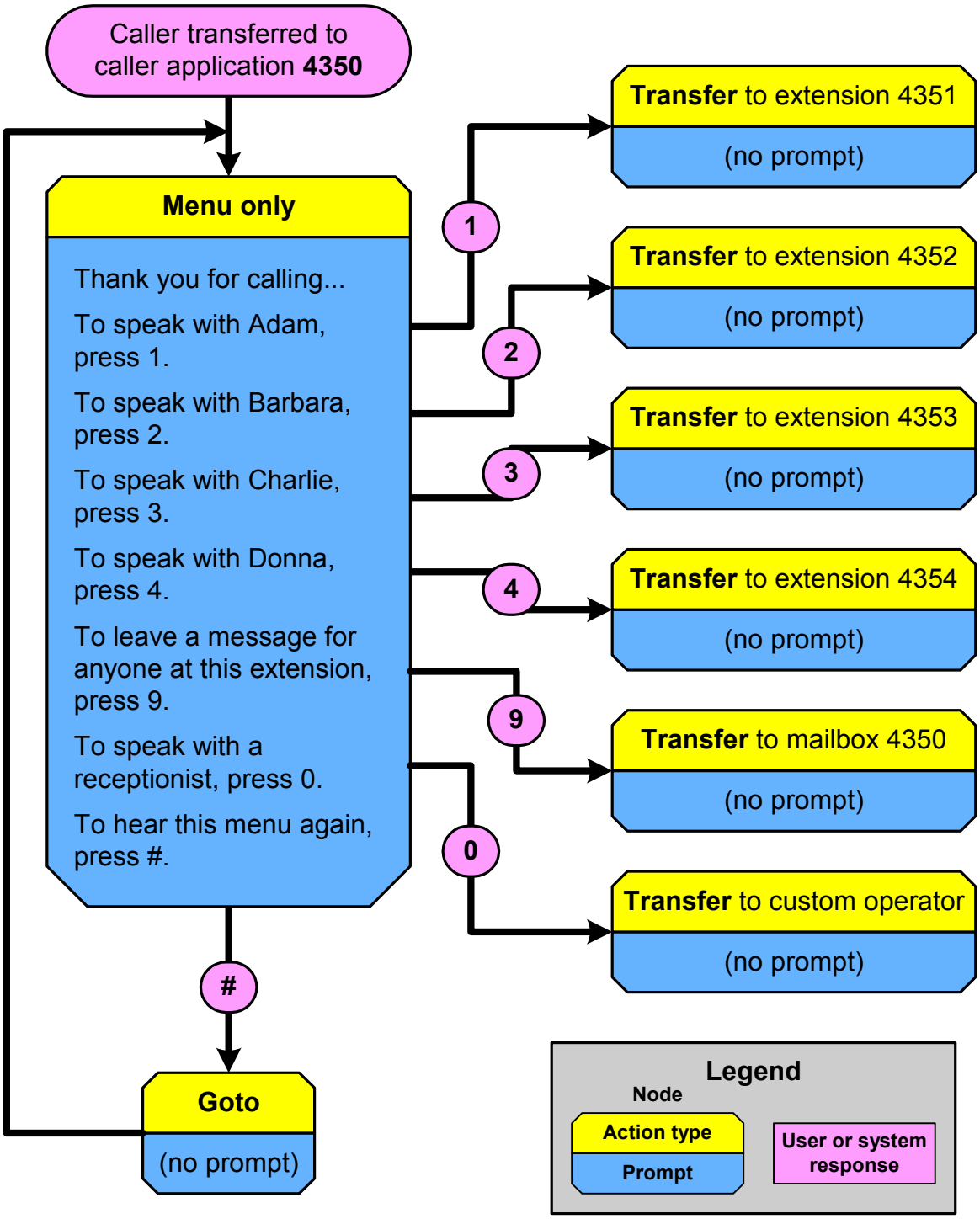
After creating and deploying this caller application, you must remember to create an association with an ID number of **4350** for this application. This caller application ID number then overrides the extension 4350 when the caller reaches the system (so that you could still use the extension number of 4350 for the group's receptionist).

What happens with MWI in this case? Or is this not a good example of a shared extension? (It *is* a little different from the AUDIX example...)

The caller application design

The following is a possible call flow for a shared extension.

Figure B-8.


Caller transferred to caller application **4350**
Menu only
Thank you for calling...
To speak with Adam, press 1.
To speak with Barbara, press 2.
To speak with Charlie, press 3.
To speak with Donna, press 4.
To leave a message for anyone at this extension, press 9.
To speak with a receptionist, press 0.
To hear this menu again, press #.
1
2
3
4
9
0
#
Transfer to extension 4351
(no prompt)
Transfer to extension 4352
(no prompt)
Transfer to extension 4353
(no prompt)
Transfer to extension 4354
(no prompt)
Transfer to mailbox 4350
(no prompt)
Transfer to custom operator
(no prompt)
Goto
(no prompt)
Legend
Node
Action type
Prompt
User or system response

Building the application

The following table presents a step-by-step method for building the caller application. It assumes that you have already started the Caller Applications Editor. The **Action(s)** column gives a description of the step in the process, and the **Location of procedure(s)** column provides a link to the detailed procedure in the documentation that tells how to perform the step.

Step	Action(s)	Location of procedure(s)
1	Create the caller application base node. Name it **Shared extension**. Provide a brief description and select the language.	Adding the base caller application node on page 11-16
2	Modify the caller application base node properties: ▪ Select **Menu only** as the action type. ▪ Select **Play entry prompt** and then select **Application prompt**. ▪ Add a prompt and enter "Shared extension menu" under **Comments**. **Note:** You will not actually record the prompt at this point, you are merely creating a placeholder for it. ▪ Set the application to use the **Custom operator**, **4350** as the **Custom operator** number, **<Parent node>** as the **Default cancel** setting, and the ***** key as the **Default cancel key**.	Configuring the caller application properties on page 11-17
3	Add four application (action) nodes to the base node. These nodes will all be **Transfer** nodes used to transfer the caller to the desired sales person. ▪ Name the nodes **Transfer to Adam**, **Transfer to Barbara**, etc. ▪ Select **Transfer** as the action type. ▪ Select **1**, **2**, **3**, and **4** for the **Key press**es. ▪ Provide brief descriptions.	Adding the application action node on page 11-20

Step	Action(s)	Location of procedure(s)
4	Modify the application (action) nodes' properties: ▪ On the **General** tab, verify that **Extension** is selected and set **4351**, **4352**, **4353**, and **4354** as the extension numbers. ▪ You do not need a prompts for these nodes, so verify that the **Play entry prompt** check boxes are cleared (**Prompt** tab).	Configuring application (action) node properties on page 11-21
5	Add another application (action) node to the base node. This node will allow the caller to leave a message in the common (group) mailbox. ▪ Name the node **Leave message**. ▪ Select **Transfer** as the action type. ▪ On the **General** tab, verify that **Mailbox** is selected and set **4350** as the mailbox number. ▪ Select **9** for the **Key press**. ▪ Provide a brief description.	Adding the application action node on page 11-20
6	Modify the application (action) node properties: ▪ On the **General** tab, verify that **Node** is selected. ▪ From the drop-down box, select the caller application node for this caller application, **Main Menu**. ▪ You do not need a prompt for this node, so verify that the **Play entry prompt** check box is cleared (**Prompt** tab).	Configuring application (action) node properties on page 11-21

Step	Action(s)	Location of procedure(s)
7	Add another application (action) node to the base node. This node will allow the caller to reach the sales department's receptionist. ▪ Name the node **Transfer to receptionist**. ▪ Select **Transfer** as the action type. ▪ Select **0** for the **Key press**. ▪ Provide a brief description.	Adding the application action node on page 11-20
8	Modify the application (action) node properties: ▪ On the **General** tab, verify that **Operator** is selected. ▪ You do not need a prompt for this node, so verify that the **Play entry prompt** check box is cleared (**Prompt** tab).	Configuring application (action) node properties on page 11-21
9	Save the application, if you have not already done so.	Saving a caller application on page 11-39

Example 5: Non-resident subscribers

Non-resident subscribers are Modular Messaging subscribers who do not have an extension administered on a switch that is served by the Modular Messaging system. An example of a non-resident subscriber might be a sales representative who needs to receive messages from clients, but who does not have a “live” extension on the system. To accommodate this type of subscriber, a caller application (or node) can be set up to move callers directly to the non-resident subscriber’s mailbox. In this case, the caller needs to know only the number of the non-resident caller application ID (in this case, 73003) and the non-resident subscriber’s mailbox (in this case, 4222).

Considerations

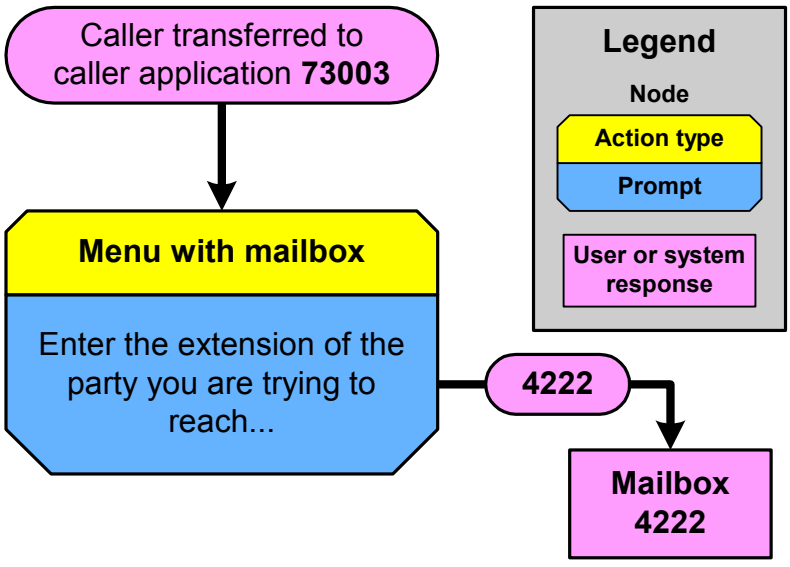
After creating and deploying this caller application, you must remember to create an association with an ID number of **73003** for this application.

Important: Setting up nonresident subscribers with numbers that begin with trunk dial access codes could contribute to toll fraud. Always assign extensions that do not allow access to any outside lines.

The caller application design

The following is a possible call flow for this caller application. Note that this need not necessarily be an entire application by itself; it can be used as a node of a larger application (for instance, it could be used as an additional option in Example 1: Alternative “Auto Attendant” Main Menu).

Figure B-9.



Building the application

The following table presents a step-by-step method for building the caller application. It assumes that you have already started the Caller Applications Editor. The **Action(s)** column gives a description of the step in the process, and the **Location of procedure(s)** column provides a link to the detailed procedure in the documentation that tells how to perform the step.

Step	Action(s)	Location of procedure(s)
1	Create the caller application base node. Name it **Non-resident subscribers**. Provide a brief description and select the language.	Adding the base caller application node on page 11-16
2	Modify the caller application base node properties: ▪ Select **Menu with mailbox** as the action type. ▪ Select **Play entry prompt** and then select **Application prompt**. ▪ Add a prompt and enter "Enter mailbox number" under **Comments**. **Note:** You will not actually record the prompt at this point, you are merely creating a placeholder for it. ▪ Verify that the application is set to use the **Default operator**, **<Parent node>** as the **Default cancel** setting, and the ***** key as the **Default cancel key**.	Configuring the caller application properties on page 11-17
3	Save the application, if you have not already done so.	Saving a caller application on page 11-39

Example 6: Bulletin boards and daily announcements

For situations in which you need to make daily or frequent announcements to all the callers or subscribers who reach the system, it is more efficient to set it up so that the announcements are created and recorded within a special mailbox, rather than embedding the prompt into the caller application.

For these “bulletin board” or daily announcement types of mailboxes, you can create a special single-node caller application that will play the announcement and then automatically transfer the caller or subscriber to the main menu, for instance.

Considerations

When used in this way, the mailbox that the caller application accesses must be enabled for announcements (see Subscriber Options). You must also remember to create and enable this mailbox before creating the caller application.

Then, instead of using an **Application prompt** for the caller application prompt, you assign an **Announcement** prompt to the base caller application node.

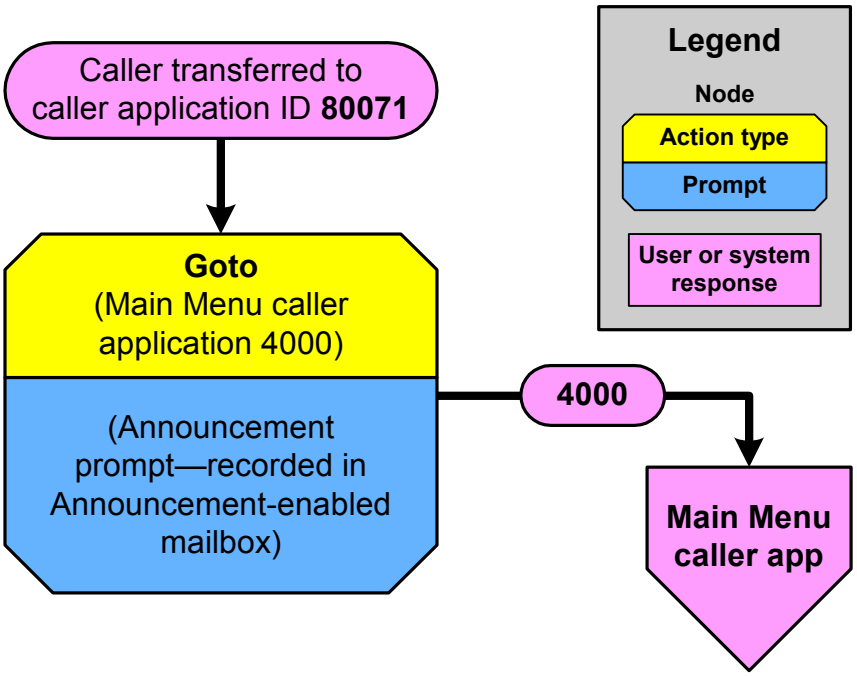
You will also need to create and deploy the Main Menu caller application with an association ID of 4000 before building this caller application.

After creating and deploying this caller application, you must remember to create an association with an ID number of **80071** for this application.

The caller application design

The following call flow is an example of how you can set up an announcement-enabled mailbox to be used as a daily announcement or bulletin board mailbox. When callers access this caller application by dialing xx8-0071, they hear the announcement recorded in the announcement-enabled mailbox and then are immediately transferred to the Main Menu caller application, which has an association ID of 4000.

Figure B-10.



Building the application

The following table presents a step-by-step method for building the caller application. It assumes that you have already started the Caller Applications Editor. The **Action(s)** column gives a description of the step in the process, and the **Location of procedure(s)** column provides a link to the detailed procedure in the documentation that tells how to perform the step.

Step	Action(s)	Location of procedure(s)
1	Create the caller application base node. Name it **Bulletin board**. Provide a brief description and select the language.	Adding the base caller application node on page 11-16

Step	Action(s)	Location of procedure(s)
2	Modify the caller application base node properties: ▪ Select **Goto** as the action type. ▪ Select **Caller application** and, from the drop-down menu select the Main Menu caller application, **4000**. ▪ Select **Play entry prompt** and then select **Announcement**. ▪ In the drop-down list, select **<default>**. **Note:** You cannot record Announcement prompts. You can only view a list of the available Announcements, if any. ▪ Verify that the application is set to use the **Default operator**, **<Parent node>** as the **Default cancel** setting, and the ***** key as the **Default cancel key**.	Configuring the caller application properties on page 11-17 Displaying a list of announcements on page 11-36
3	Save the application, if you have not already done so.	Saving a caller application on page 11-39

C

Appendix C: Glossary

.UMA file

A file that contains a caller application. By default, the file type in which the Caller Applications Editor will choose to save applications is .UMA. Although the user can select any legal name type for the application, the internal format will always be the same.

.WAV

A file extension used for Windows multimedia format audio data.

access control list

A list of people in a voice mail domain who have access to Modular Messaging software applications and tools.

access number

The number you dial to get into your Modular Messaging software system.

AccuCall+

A utility for Microsoft Windows that allows you to build and edit tone tables.

Adaptive Differential Pulse Code Modulation (ADPCM)

A speech encoding method that produces a digital signal with a lower bit rate than standard pulse code modulation (PCM). ADPCM calculates the difference between two consecutive speech samples in standard PCM-coded telecom voice signals. The ADPCM encoding rate is 32 kilobit per second.

Alternate Voice Mail Address (AVMA)

A method of addressing for users who do not have Modular Messaging software, and for users of e-mail systems such as cc:Mail, who have a custom recipient in the Exchange directory. AVMA addressing eliminates the need for two Exchange directory entries for a single user—one for the subscriber's e-mail mailbox and the second for that subscriber's voice

mailbox, when addressing messages to Octel Analog Networking recipients from the telephone.

Automated Attendant

A service that greets callers and instructs them how to proceed. Using the Automated Attendant, you can also use other call handling features such as intercom paging and call screening. When enabled, callers are transferred to the subscriber's extension. When disabled, callers are transferred directly to the subscriber's mailbox where they can leave a message.

automatic notification

If Notify Me is set to Automatic notification, you can determine whether you should be notified if callers have left a message in your mailbox or if callers have left urgent messages only.

average hold time (AHT)

The sum of the lengths of all telephone calls (in minutes or seconds) during the busiest hour of the day divided by the number of calls.

AVMA

See Alternate Voice Mail Address (AVMA).

busy hour

A method used to calculate the number of ports required when sizing a system. It represents the busiest hour of the day, when the volume of calls generated by internal subscribers and external callers reaches its peak.

call handling

A feature that allows Modular Messaging software to screen or block calls and to specify what greetings are played when an extension is busy or not answered.

call information packet

A string of DTMF digits sent by the PBX to the MAS in inband integration. The call information packet contains information on the type of call received (known as the "call packet type"), the called party ID, the calling party ID, and the trunk ID.

call management

A component of the messaging application server that provides an interface between the voice cards and Modular Messaging software telephony applications.

Call Me

A feature that allows subscribers to be called at a designated telephone number, or telephone list, each time they receive a message that meets specified criteria. The subscriber is then invited to log onto Modular Messaging software in order to review the message. Subscribers can set up Call Me rules in Subscriber Options.

call packet type

A string of DTMF digits that form a code for the type of call received during inband integration, such as a direct call, a forwarded call, or a diverted call. Also known as a reason code.

call screening

A call answering option that requires callers to announce themselves before a subscriber answers the call. If a call is screened and the subscriber is not available to answer it, the caller has the choice of leaving a message, or being forwarded to a different extension or to the operator.

caller requested notification

If Notify Me is set to caller-requested notification, callers are asked if they wish to have you notified that they called.

canonical addressing

A method of addressing that specifies the full location, including country code and area code, in the following order:

+CountryCode [(AreaCode)] SubscriberNumber

For example, +1 (408) 345 800

carried traffic

The total busy hour traffic that was offered to the group of ports minus the blocked calls.

Centum Call Second (CCS)

A unit of measurement for call time. The formula for a CCS is the number of calls per hour multiplied by their average duration in seconds, all multiplied by 100. A CCS is 1/36th of an Erlang.

class of service (COS)

A category used to determine a subscriber's access to system options and features. The administrator assigns a class of service to each subscriber.

deleted items folder

A folder in your e-mail application that stores items that you have deleted. You can retrieve an item from the deleted items folder. You can set your e-mail application to delete items in this folder permanently when you quit the e-mail client.

Dial by Name

A method of addressing by which a caller spells the recipient's name on the telephone keypad when using the telephone user interface.

dialing string

A dialing code required by the PBX to access a destination Octel Analog Networking node.

DID

See direct inward dialing (DID).

Digital Meridian Integration Device (DMID)

A device that provides integration with Nortel switches, such as the Meridian M-1. The DMID physically sits between the PBX and the messaging application server and appears as one or two digital telephones to the PBX, depending on the number of analog ports required. Analog line circuits for the voice path appear on the digital set of the DMID. When a call is received on the DMID, it simultaneously rings at the analog port. The DMID interprets the call display information and

transmits it to the messaging application server, which answers the caller with the appropriate personal greeting.

direct inward dialing (DID)
A feature that allows callers to dial inside an organization to reach a telephone extension directly without going through a receptionist.

distribution list
A name assigned to a group of recipients. When you address a message to a distribution list, each recipient in the list receives the message.

DMID
See Digital Meridian Integration Device (DMID).

dual tone multi-frequency (DTMF)
A combination of two tones that uniquely identify each button on a telephone keypad.

envelope information
Information that shows who sent a message, the date and time sent, and message length.

Erlang
A unit of measurement for call time. One Erlang is equivalent to 60 call minutes or 36 Centum Call Seconds (CCS).

event
A significant occurrence in a voice mail system, which may be of interest to an administrator for diagnostic or reporting purposes.

extended absence greeting
A greeting that advises callers that you are away from the office for an extended period of time (such as a vacation) and that you may be checking messages infrequently.

fax routing address
An e-mail address consisting of a string of digits that uniquely identify the subscriber to the fax server.

Find Me
A feature that enables your mailbox to re-direct unanswered calls to a list of telephone numbers. Calls are directed to each telephone number in the list, unless you answer. If you do not answer at any telephone number in the list, callers are asked if they would like to leave a message.

firmware file
A file containing instructions that are permanently loaded into memory.

forest
A collection of one or more Windows 2000 domains that share a common schema, configuration, and global catalog and are linked with two-way transitive trusts.

forward
A command that is used to forward a copy of a message. You can include your comments in the message by attaching a voice message.

Global System for Mobile Communications (GSM)
An audio encoding format with an encoding rate of approximately 13 kilobits per second. This is a format for storing sound files. Files encoded in this format can be opened using Modular Messaging Voice Recorder or Microsoft Sound Recorder.

grade of service (GOS)
The probability, expressed as a percentage of callers who call during the busy hour, that an incoming call is blocked (the caller hears a busy signal) because all ports are in use.

greetings
A pre-recorded message that callers hear when your extension is busy or not answered, or you are away from the office.

GSM
See Global System for Mobile Communications (GSM).

home messaging application server
Any machine in the voice mail domain from which you administer a Modular Messaging software configuration.

hunt group
A group of telephone lines where the incoming calls are distributed according to a priority scheme.

in-band signaling
A method of connecting the messaging application server to the PBX as if it were a series of single-line telephones or a series of trunks in a hunt group. The term “in-band” is used because all of the call identification information is passed from the PBX to the messaging application server using DTMF signals on the same line as the voice connection.

inbox
The folder in which a subscriber normally receives new mail.

intercom paging
A method of automatically paging subscribers if they are do not answer their telephones. If a subscriber does not respond to the page, the caller is transferred to the subscriber’s mailbox.

Integrated Services Digital Network (ISDN)
A set of standards for transmission of simultaneous voice, data and video information over fewer channels than would otherwise be needed, through the use of out-of-band signaling.

IP telephony
The use of networks running Internet Protocol (IP) to send and receive messages, such as voice data.

IVM
A format for storing sound in files used for Modular Messaging voice messages.

local mailbox number
A method of addressing voice messages through the telephone user interface to recipients in a voice mail domain.

mailbox
A delivery location for incoming voice mail, e-mail, and fax messages.

message confirmation
A notice confirming that a message was delivered to a recipient.

message waiting indicator (MWI)
A method of alerting subscribers when messages meeting specified criteria arrive in their mailbox. Subscribers are alerted either by a lamp indicator on their telephone, or an audible tone (stutter dial-tone) when they pick up the receiver. The indicator is cleared when the message is opened in Outlook or saved or deleted using the TUI. Subscribers can set up rules for using MWI in Subscriber Options. For example, they may choose to be notified only when they receive urgent voice messages.

Microsoft Exchange site
A group of Microsoft Exchange servers, where one or more servers on a high-bandwidth, permanent LAN work together to provide messaging and other services to a set of users. Within an Exchange site, users can share information and can be managed as a collection. A Microsoft Exchange site can be mapped to the Microsoft Windows domain topology that has already been established. It can also span multiple trusted Microsoft Windows domains that may already exist.

Microsoft Management Console (MMC)
A common console framework for Microsoft management applications. MMC does not provide any management functionality, but forms a common environment for modular management components called snap-ins.

Modular Messaging access number
The number you dial to get into your Modular Messaging software system.

Modular Messaging Subscriber Administration
An administration tool that allows administrators to enable subscribers, groups, or contacts to use Modular Messaging software. This tool adds a property page to Exchange mailbox properties in Windows Active Directory

Modular Messaging Voice Form
An application that provides access to voice messages within a Microsoft Exchange environment. Through voice forms, subscribers can perform standard voice mail functions such as listening to, replying to, or forwarding voice messages, or composing new voice messages using their desktop PCs or telephones.

Modular Messaging Voice Recorder
An application with which you can record voice comments and embed them into another OLE2 or ActiveX application like Microsoft Word, Microsoft Excel, or Lotus 1-2-3. Modular Messaging Voice Recorder works independently from your e-mail application and Modular Messaging Voice Form. You can use it to send voice messages.

multimedia
A PC has multimedia capabilities if it has a sound card, microphone, and speakers or headphones.

multi-part message
A message that consists of several parts. Every time you forward a voice message or reply to a voice message including the original, a new part is added to the original message.

MWI
See message waiting indicator (MWI).

Name prompt
A personalized prompt that states a subscriber's name when that subscriber's extension is busy or unanswered and he or she has not recorded a personal greeting.

Notify Me
A feature that allows subscribers to use a pager, SMS-enabled digital telephone, or other device to alert them of calls to their Modular Messaging software inbox.

numeric address
A string of digits that uniquely identifies a recipient or a distribution list across the organization. A numeric address is used by the telephone user interface as a means of addressing a message.

Octel Analog Networking
A networking application that allows users on one Avaya system to exchange messages with users on other Avaya systems. Octel Analog Networking uses the public or private telephone network for message transport.

Octel Analog Networking custom recipient
An Octel Analog Networking recipient who has a mailbox on a remote node.

Octel Analog Networking gateway
An Octel Analog Networking gateway that enables Modular Messaging subscribers to exchange voice messages with any other Octel Analog Networking-enabled voice mail system, either at the same site or at remote sites.

Octel Analog Networking gateway administration
An administration tool for administering an Octel Analog Networking gateway in the Microsoft Exchange System Manager under Exchange 2000/2003 administration.

Octel Analog Networking gateway administration extension
An administration tool that adds administration capabilities for an Octel Analog Networking gateway to Microsoft Exchange 5.5 Server Administrator.

offered traffic
The total traffic offered to a group of ports during the busy hour, including calls that are blocked.

operation history database
A temporary storage area for events generated by Modular Messaging software. The Operation History Viewer is used for viewing events in this database.

Operation History Viewer
A diagnostic tool that displays events generated by Modular Messaging software activity and logged in the operation history database. By creating a “session,” administrators can restrict the number of events to only those that meet their criteria. They can view live events as they are added to the operation history database, or view historical events.

operator
The person to whom callers are transferred when they request to speak with an operator, exceed the maximum number of errors permitted on the system, or call from a rotary telephone. Individual mailboxes may have an operator that is different from the designated system operator, for example, a personal assistant.

optional greeting
A personalized answering system for greeting callers if a subscriber’s extension is busy or unanswered, or if incoming calls are blocked.

password
Subscribers must enter their passwords to gain access to Modular Messaging software through the telephone user interface. Subscribers can change their passwords using the TUI or Modular Messaging software.

PBX
See private branch exchange (PBX).

PBX integration
A method that establishes communication between the PBX and the voice mail system. The PBX supplies information such as who is calling on internal calls and the extension that the caller is trying to reach.

PC client applications
A group of applications that enable subscribers and administrators to access Modular Messaging software from their desktop PCs. PC client applications include Modular Messaging Voice Form, Modular Messaging Voice Recorder, and Modular Messaging Options.

PC user interface
An interface through which subscribers can access the Modular Messaging software system from their PC.

peer e-mail server
The mail server that acts as host e-mail server for a Modular Messaging software messaging application server.

peer Exchange server
A Microsoft Exchange server that acts as host e-mail server for a Modular Messaging software MAS.

personal greeting
A personalized prompt that greets callers when they are transferred to a subscriber's mailbox if the extension is busy or not answered.

playback controls
CD-type controls with which you can play, pause, forward, and rewind messages.

Please Hold prompt
A personalized prompt that informs callers of the extension they selected when they are transferred to an extension.

port group
A group of ports allocated to a specific application, such as the PC client, the telephone user interface, or Octel Analog Networking. Port groups are configured using the Voice Mail System Configuration application.

Port Monitor
A diagnostic tool that provides a graphical user interface for checking and changing the status of ports on a particular messaging application server.

prefix
A label used to specify a destination Octel Analog Networking node when addressing messages.

private branch exchange (PBX)
A telephone exchange local to a particular organization that uses, rather than provides, telephone services. Also known as a switch.

private messages
Messages marked private. You can only send private messages using Modular Messaging Voice Form. You cannot send private messages through the telephone user interface. However, you can reply to and forward private messages through the TUI.

prompt
A spoken greeting or instruction that directs callers whose calls have come through the Automated Attendant.

properties
See envelope information.

QSIG
A protocol for ISDN-based inter-PBX signaling based on the European Q.931, Q.9212, and DPNSS protocols.

read receipt
Notification indicating the date and time a message that you sent was opened by the recipients.

reason code
See call packet type.

replying
Use to reply to a message. Normally, the original message is not included in your reply.

Reporting Tool
A tool for generating reports for monitoring voice mail system usage, planning capacity, and tracking security. Once a report is generated, it can be viewed on screen or printed for easy reference. It can also be exported to many popular file formats or attached to a message sent using a MAPI-enabled e-mail system.

sent items folder
A folder in the subscriber's e-mail application that normally stores a copy of each message sent.

set emulation
A digital protocol used to connect digital telephones to switches in order to emulate digital telephone sets.

Simplified Message Desk Interface (SMDI)
A protocol for sending PBX integration data, that does not require a caller to reenter the telephone number if the extension is busy or not answered.

spoken name
A personalized prompt that states your name when, for example, your extension is busy or unanswered and you haven't recorded a personal greeting.

subscriber
A user whose profile is enabled for voice messaging. A subscriber can use both the telephone user interface and the graphical user interface of Subscriber Options.

Subscriber Options
An application that allows subscribers to configure their mailboxes using their PCs. Subscribers can record all personal greetings and prompts, personalize their call handling options, and select whether to use multimedia or the telephone for recording and playing back voice messages.

switch
See private branch exchange (PBX).

telephone user interface (TUI)
An interface through which callers and subscribers can access the Modular Messaging software system using the telephone. The TUI is also an automated attendant and voice messaging system that controls call handling. It greets incoming callers and instructs them on how to proceed.

telephony interface
An interface that enables communication between the voice boards and Modular Messaging software. Depending on the voice boards that you are using, you can configure Analog or Aculab T-1 telephony interface types.

text-to-speech (TTS)
The conversion of text into speech (speech synthesis). Using TTS, Modular Messaging software subscribers can listen to their e-mail messages over the telephone.

tone file

A file that enables the application to recognize the tones generated by a PBX.

tracing server

A separate server that records operational information about activity in the voice mail domain.

tracing system

A system that captures information related to the operation of the MAS, for both diagnostic and reporting purposes. The tracing system maintains connections with all messaging application servers in the voice mail domain and receives notification of events from each of them. These events are written to two storage areas: the Operation History and the transaction databases. An administrator can generate reports summarizing voice mail activity using the Reporting Tool.

transaction database

A storage area where information about voice messaging events in the voice mail domain is written. It is a permanent database containing summary information that is used by the Reporting Tool.

TTS

See text-to-speech (TTS).

TUI

See telephone user interface (TUI).

tutorial

Modular Messaging software's setup tutorial that guides you through personalizing your mailbox. You only hear it the first time you dial into your mailbox.

unified mailbox

A Modular Messaging software subscriber mailbox where all voice, fax, telephone answering messages, e-mail, and data messages (including documents and forms) are stored. Messages can be viewed, listened to, or retrieved using the telephone or PC.

Visual Voice Editor

An administration tool that allows the recording of customized prompts used by Modular Messaging software. The tool allows recording using multimedia or the telephone user interface. When modifying a prompt, the user is presented with a graphical rendering of the sound, which allows precise editing of the audio data.

voice mail domain

A group of Modular Messaging software messaging application servers that share a common set of properties. All subscribers who are provided with telephone answering by these messaging application servers are said to "belong" to the same voice mail domain.

voice mail enabling

When a new user profile is created on the mail server, it does not include any voice mail information. An administrator can "voice-enable" the mailbox, using the Voice Mail User Administration extension added by

Modular Messaging software to the standard Microsoft Exchange Server Administrator application.

Voice Mail System Configuration

An administration tool used to configure the attributes of a voice mail domain or a group of messaging application servers.

Voice Mail User Administration Extension

An administration tool that adds voice mail administration capabilities to Microsoft Exchange 5.5 Server Administrator. An administrator can enable mailboxes for voice mail and maintain voice mail information for each Modular Messaging subscriber.

Voice Player

A component of the Modular Messaging Voice Form used for playing back and recording voice messages.

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