



Upon completing this chapter, you will be able to perform the following tasks:

- Use the Cisco Unity features and functions to route calls and present subscriber options for voice message retrieval
- Use Cisco Personal Communications Assistant (Cisco PCA) to expand the already diverse features available in Cisco Unity
- Use Cisco Personal Assistant (PA) to provide speech-enabled access to Cisco Unity voice messages, corporate directories, conference calling features, and contact lists from any telephone

Using Your Cisco Unified Communications System

This chapter discusses the basics of the Cisco Unity system operation. The basis of the Cisco Unity system is, of course, managing calls. However, that is where its overall similarity with traditional voice-messaging systems ends. The manner in which the Cisco Unity system handles calls is of particular importance. Use of the Cisco Unity system Telephone User Interface (TUI) is discussed in this chapter as an additional introduction to the system.

The Cisco Unity system offers a diverse feature-set to its users. This diversity includes the capability to receive voice messages in a Microsoft Outlook or Lotus Notes e-mail client through the use of ViewMail for Outlook (VMO) or Domino Unified Communications Services (DUCS). Also of interest in this chapter is a discussion of Cisco PCA.

Cisco PA, not to be confused with Cisco PCA, allows a subscriber to customize the method by which calls are handled. Rule-sets are used in Cisco PA to specify how personal calls should be treated when certain conditions are met and these rule-sets can be configured through a web interface.

Using Cisco Unity

When you administer a Cisco Unity or PA system, you need to provide services directly to end users of the system. To accomplish this, you must thoroughly understand the array of available features and functions and how to properly deploy those features and functions. You also need to gain comprehensive knowledge of various modes and facets of system-to-user and user-to-system interaction. This first-hand knowledge of the technologies that are being used will help you to support the system.

Knowing the extent of the form and function of a Cisco Unity or PA installation is important because it helps you to reduce troubleshooting and the mean time to repair (MTTR) in an outage or other user-support situation.

To benefit fully from this section, it is recommended that you have the following prerequisite skills and knowledge. (If you need a quick review, see the designated chapter, where you can find more information on the topic.)

- Knowledge of how calls are handled in a Cisco Unity system (See Chapter 5, “Unified Communications System Customization”)
- Knowledge of the interaction between Cisco Unity and Microsoft Exchange/Active Directory and/or Lotus Domino (see Chapter 8, “Cisco Unified Communications System Software”)

Managing Calls

When an inbound call arrives, it is processed by a telephone system like Cisco CallManager. You can have a Cisco CallManager interact with the Cisco Unity system and pass along any pertinent information that can be provided. This may include caller ID, name of the caller, or other information. The information passed is dependent on Cisco CallManager and its configuration. Once the Cisco Unity system receives the call, numerous possibilities can be explored in handling the call.

Upon seeing that the call is not sourced from a configured Cisco Unity subscriber, the Standard Opening Greeting is played to the caller. In cases where a subscriber-to-subscriber call is being made, the caller simply hears the subscriber conversation as configured by the individual.

Understanding the TUI

When the Cisco Unity System receives a call from an outside caller, the caller hears the Cisco Unity conversation, a prerecorded set of instructions and options that is made available to callers and subscribers to meet the needs of each. The Cisco Unity conversation enables the caller to access the Cisco Unity Automated Attendant, conduct subscriber searches using directory assistance, use call-routing options, and play audiotext messages. Subscribers hear the subscriber conversation, which enables them to enroll as new subscribers, send or receive messages, record greetings, and change personal settings.

For subscribers, there are two types of conversations, the standard conversation and the optional conversation. The standard conversation is the default subscriber conversation. The optional conversation allows subscribers to hear message-retrieval menus that closely resemble traditional voice-messaging choices with which they may be familiar. The optional conversation needs to be activated to use it.

As a best practice, you should always configure an option to “0-out” during the personal greeting or while in the Auto Attendant to get a human operator. There are a number of options that can be configured using one-key dialing beyond the simple operator functionality.

If the caller does not make any selections on the keypad, they are automatically routed to the operator as if they had pressed 0 in the Auto Attendant. This also serves to aid any callers who are using pulse-dial telephones.

By choosing to use the Automated Attendant feature, the caller may enter a subscriber extension. The Cisco Unity system forwards the call according to the configuration of the subscriber Profile. Of course, if that subscriber does not answer, the call can be routed back to the Cisco Unity system, and then to appropriate call handlers for additional forwarding to voice mailboxes, cell phones, pagers, and any number of other configurable options.

In situations where a caller does not know the direct subscriber extension, a search function can be executed to parse the directory of subscribers based on extension or name. When the caller finds a single match, the call is forwarded to the subscriber's voice mail or directly to the extension. The automatic forward feature on a single match is a configurable feature.

Optionally, you can present the caller with the chance to verify the subscriber name before the call is forwarded. In the case of multiple matches, the caller is presented with a choice of the matches to choose from before the call is forwarded. This is known as a Directory Handler and will be discussed in the "Setting Up Cisco Unity" section of Chapter 3, "Cisco Unified Communications General Setup."

In cases where a subscriber is dialing into the system, the TUI presents the same basic options; however, the subscriber is able to access personal settings and, of course, messages. The TUI settings available to the subscriber are as follows:

Greetings:

- Record a personal greeting
- Enable or disable greeting

Call Transfers:

- Transfer calls to an extension or send to the greeting
- Change extension

Message Notification:

- Enable or disable a notification device, and change its number

Message Playback:

- Select full or brief Cisco Unity conversation menus

Message Addressing:

- Switch between addressing to other subscribers by name or by extension (by pressing ##)*

Personal Settings:

- Record a name
- Specify fax delivery number
- Change directory listing status
- Change password

Private Lists:

- Add and delete members

Defining Subscribers

A Cisco Unity subscriber is simply defined as a person for whom a Cisco Unity account is created. This can include a number of available options, but at the most basic level, the subscriber is a voice-mail user.

When a call comes into the Cisco Unity system, the system verifies the calling and called number information. In doing so, it scans the Cisco Unity system directory, seeking a match based on the source extension of the call. If the system finds a match, it prompts the subscriber for the password. Essentially, the system recognizes that someone is attempting to retrieve messages or access the system for other available features. If the system does not find a match, it plays the Opening Greeting by default.

If a call is forwarded to the Cisco Unity system, Cisco Unity looks at the called party number received by Cisco CallManager or some other telephone system to search its directory for an extension match. If the Cisco Unity system finds a match, it plays the Standard Greeting of the called extension. If no match is found, the Opening Greeting is played, unless otherwise configured by the system administrator.

When a subscriber accesses the system for the first time and presses * and then enters their extension number, they are typically presented with a special first-time subscriber conversation that is meant to enroll them in the system. The system prompts the subscriber to record a voice name and a personal standard greeting. It then provides the opportunity to set a password.

When a subscriber is first created in the Cisco Unity system, their Microsoft Windows default password is set to 12345678 and the phone (voice mail) password is set to 12345; these defaults can be changed by using the appropriate subscriber template for creating additional subscribers.

Each subscriber must set their own personal password, as mandated by the subscriber template in effect at login. The administrator has the option of configuring the subscriber template to not require a password. The password is not stored in clear text anywhere in the system. If a subscriber forgets their password, an administrator can, using the Cisco Unity System Administrator, delete the existing password and assign a new, temporary password, which the user should change at first login. Otherwise, the only information available to the administrator

is that the subscriber box does indeed have a password set and when it was last changed. Passwords on subscriber mailboxes are optional, but are highly recommended.

The normal subscriber conversation proceeds through a series of four major actions each time a subscriber calls into the system. For each of the actions, subscribers may use full or brief menus for the actions after login. The choice of full or brief menu structure, once made, affects the entire subscriber mailbox. The subscriber can take the following actions:

- 1 Check new messages**—Upon receipt of a new voice message, the system lights the message waiting indicator (MWI) on the subscriber's phone. The messages are sorted in the mailbox in the configured order. The order can be changed by the subscriber. Depending on the choices made by the administrator when adding subscribers, Cisco Unity can tell how many new and saved messages are in the stack, who the sender is, how long the message is, and what number message this is in the total stack. The following list shows the standard conversation for the retrieval of messages when using a telephone:
 - a. Press 1 for new messages:
 - Press 1 for voice messages
 - Press 2 for e-mails
 - Press 3 for faxes
 - Press 4 for receipts
 - Press # for all messages
 - b. Press 3 and then 1 to review saved messages:
 - Press 1 for voice messages
 - Press 2 for e-mails
 - Press 3 for faxes
 - Press 4 for receipts
 - Press # for all messages
 - c. Here are the options during a message:
 - Press 1 to restart a message
 - Press 2 to save a message
 - Press 3 to delete a message
 - Press 4 to slow playback a message
 - Press 5 to change the volume of a message (available on some systems)
 - Press 6 to fast playback a message
 - Press 7 to rewind a message
 - Press 8 to pause/resume a message
 - Press 9 to fast-forward a message

- Press # to fast-forward to end a message
- Press # # to save a message as is

d. After-message options:

- Press 1 to replay a message
- Press 2 to save a message
- Press 3 to delete a message
- Press 4 to reply to a message
- Press 4 then 2 to reply to all a message
- Press 4 then 4 to call the subscriber (available on some systems)
- Press 5 to forward a message
- Press 6 to save a message as new
- Press 7 to rewind a message
- Press 8 to deliver an e-mail or fax to a fax machine (available on some systems)
- Press 9 to play the properties of a message
- Press # to save a message as is

- 2 Send a message**—Subscribers can quickly and easily send messages to other subscribers or distribution lists, such as all sales representatives. This can be done by entering extensions or by using the subscriber directory. Subscribers have the option to pause while recording a message or start over from the beginning of the message.

After addressing and recording a message, the subscriber has the following standard options:

- a. Press # to send a message now
- b. Press 1 for other message options
 - i. Press 1 to change the address
 - Press 1 to add a name
 - Press 2 to hear the current selected names
 - Press 3 to remove a name that was selected
 - ii. Press 2 to change a recording
 - Press 1 to hear a recording
 - Press 2 to save a recording
 - Press 3 to rerecord a recording
 - Press 4 to add to a recording
 - iii. Press 3 to set a message for special delivery

- Press 1 to set a message as urgent
 - Press 2 to flag a message for return receipt
 - Press 3 to set a message as private
 - Press 4 to set a message for future delivery
- iv. Press 4 to review a message
 - v. Press # to send a message

3 Review old messages—The options available here are the same as those listed under Step 1, “Check new messages.” Once a message has been heard in its entirety, it is changed in status to an old message. The old message is moved to the old-message stack and the MWIs are extinguished.

NOTE

The MWI is extinguished only if the last unheard message or new message is heard in its entirety. The system keeps old messages until a subscriber, or an administrator with sufficient authority, deletes them. Deleted messages are deleted by default; however, an administrator can configure deleted messages to be moved to a Deleted folder in case the messages need to be restored at a later time. This is done in the class of service (CoS) configuration on the Cisco Unity System Administrator. Subscribers can review any of their old messages on the system. During that review they may redirect a message to another subscriber.

4 Change setup options—Subscribers have the option to change setup options over the phone, including greetings, transfer and delivery options, and personal options, such as their password, recorded name, spelled name, and directory listing.

When you are logging in, you can press 4 to access the setup options. Here are then the options:

- a. Press 1 for greetings and call transfer settings
 - i. Press 1 to change greetings
 - Press 1 to record this greeting
 - Press 2 to turn on/off alternate greeting
 - Press 3 to edit other greetings
 - Press 4 to hear all greetings
 - ii. Press 2 Message options
 - Press 1 to switch between transferring calls to an extension or a phone number

- b. Press '2' Message settings
 - i. Press 1 to change the message notification
 - Press 1 for pager settings
 - Press 2 for Home phone settings
 - Press 3 for Work phone settings
 - Press 4 for Spare phone settings
 - ii. Press 2 to change fax delivery settings
 - Press 1 to keep the current number
 - Press 2 to enter a new number
 - iii. Press 3 to change the style of your menu
 - Press 1 to select either a full or brief menu
 - iv. Press 4 to edit your private lists
 - Press 1 to hear your list
 - Press 2 to change names on list
- c. Press 3 for your personal settings
 - i. Press 1 to change your password
 - ii. Press 2 to change your recorded name
 - iii. Press 3 to change your directory listing
 - Press 1 to change the listing status

In addition, at any time during the conversation (whether you are checking a message or setting up options), the subscriber can press 0 for help or * to cancel or move back one level in the menu structure.

Table 2-1 illustrates the configurable standard conversation options available in the Cisco Unity System Administrator. These options are found on the SA **Subscribers > Subscriber Template > Conversation** page.

Table 2-1 *Standard Conversation Options*

Field	Considerations
Menu Style	Choose one of these options: Full Menu —Subscribers hear comprehensive instructions; select for a new subscriber. Brief Menu —Subscribers hear abbreviated versions of the full menus; select for a more experienced subscriber.
Volume Level	Select the volume level at which the subscriber hears the Cisco Unity conversation. Subscribers can also adjust the volume temporarily from their phones.

Table 2-1 *Standard Conversation Options (Continued)*

Field	Considerations
Language	<p>Select the language in which the subscriber conversation plays instructions to the subscriber.</p> <p>This setting also controls the language used for text-to-speech (TTS) e-mail.</p> <hr/> <p>NOTE To use TTS e-mail, your organization must have purchased TTS e-mail licenses and installed the appropriate TTS languages. TTS e-mail is controlled by COS.</p> <hr/>
Time Format	<p>Select the time format used for the message time stamps that subscribers hear when they listen to their messages over the phone:</p> <p>System Default—Subscribers hear message time stamps in the time format specified in the Use 24-Hour Time Format for Conversation and Schedules field on the System > Configuration > Settings page.</p> <p>12-Hour Clock—Subscribers hear 1:00 p.m. when listening to the time stamp for a message left at 1:00 p.m.</p> <p>24-Hour Clock—Subscribers hear 13:00 when listening to the time stamp for a message left at 1:00 p.m.</p> <p>Subscribers can set their own time format preferences in Unity with Cisco Cisco PCA.</p>
When Exiting the Conversation, Send Subscriber To	<p>Select the destination to which Cisco Unity sends the subscriber when exiting the conversation:</p> <p>Call Handler—Sends the call to the call handler that you select.</p> <p>Directory Handler—Sends the call to directory assistance.</p> <p>Greetings Administrator—Sends the call to a conversation for changing call handler greetings over the phone.</p> <p>Hang Up—Disconnects the call. Use carefully; unexpected hang-ups can appear rude to callers.</p> <p>Interview Handler—Sends the call to the interview handler that you select.</p> <p>Sign-In—Sends the call to the subscriber login conversation.</p> <p>Subscriber—Sends the call to the subscriber that you select.</p>

continues

Table 2-1 *Standard Conversation Options (Continued)*

Field	Considerations
Identify a Subscriber By	<p>Select how subscribers address messages to other subscribers. Subscribers can address messages over the phone by entering a subscriber's extension, first name, or last name. Addressing by name requires lettered keypads on subscriber phones.</p> <p>In the subscriber conversation, subscribers can switch between addressing by name and addressing by extension by pressing the # key twice. Note that when the Enable Spelled Name Search check box is unchecked on the System > Configuration > Settings page, subscribers can address messages over the phone only by entering subscriber extensions.</p>
Subscriber Recorded Name	<p>Check this check box to have Cisco Unity play the recorded name of the subscriber when the subscriber accesses Cisco Unity by phone.</p> <p>Uncheck the check box to have Cisco Unity go directly to the message count.</p>
Message Count Totals	<p>Check this check box to have Cisco Unity announce the total number of unopened messages. The number includes voice, e-mail, fax, and return receipt messages.</p>
Voice Message Count	<p>Check this check box to have Cisco Unity announce the number of voice messages that have not been heard.</p>
E-Mail Message Count	<p>Check this check box to have Cisco Unity announce the number of unopened e-mail messages.</p>
Fax Count	<p>Check this check box to have Cisco Unity announce the number of unopened fax messages.</p>
Saved Message Count	<p>Check this check box to have Cisco Unity announce the total number of messages that have been opened but not deleted. The number includes voice, e-mail, fax, and return receipt messages.</p>
Message Type menu	<p>Check this check box so that Cisco Unity plays the following menu when subscribers log on to Cisco Unity over the phone:</p> <p>Press 1 to hear voice messages</p> <p>Press 2 to hear e-mails</p> <p>Press 3 to hear faxes</p> <p>Press 4 to hear receipts</p> <p>Press # to hear all messages</p> <p>Note that although the e-mail and fax options are available in the Message Type menu, Cisco Unity plays e-mails and faxes only when the subscriber is assigned to a COS that has the TTS and FaxMail features enabled.</p> <p>Subscribers can also enable the Message Type menu by using Cisco PCA.</p>

Table 2-1 *Standard Conversation Options (Continued)*

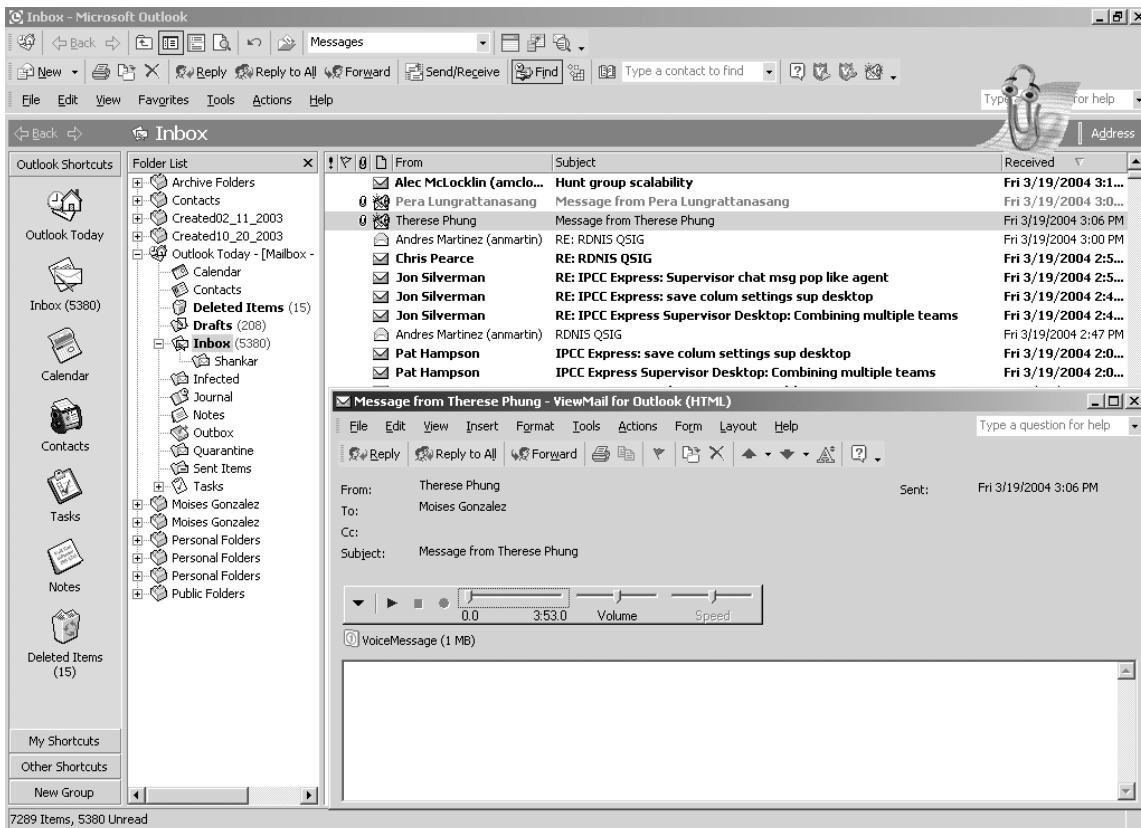
Field	Considerations
Sort by Message Type	Select a message type, and then click the Move Up and Move Down buttons to reorder the list of message types. Cisco Unity plays messages in the order that you specify here. Subscribers can also specify the order in which Cisco Unity plays new and saved messages by using Cisco PCA.
Then by	Click Newest First or Oldest First to specify the message order for new and saved messages.
Sender's Name	Check this check box to have Cisco Unity announce the name of the sender, if the message is from an identified subscriber.
Message Number	Check this check box to have Cisco Unity announce the sequential number of a message ("Message one is..."). Use with the Message Count Totals check box to help the subscriber keep track of the number of unheard messages.
Time the Message Was Sent	Check this check box to have Cisco Unity announce the date and time a message was sent, before playing the message.
Time the Message Was Sent	Check this check box to have Cisco Unity announce the date and time a message was sent, after playing the message.

Using ViewMail for Microsoft Outlook

VMO is a desktop subscriber interface for unified messaging installations. VMO is a licensed software package that works with the Cisco Unity system. VMO is simply another Outlook form that is installed on the subscriber's workstation from the Cisco Unity CD-ROM.

Figure 2-1 illustrates a voice-mail message opened using VMO.

Figure 2-1 VMO Interface



The VMO interface adds the capability to manipulate a voice mailbox from the subscriber messaging client. Normal tasks associated with voice mail and voice messages, including listening to, sending, replying to, or forwarding voice messages, can be performed from the client.

The Media Master control when using Microsoft Outlook supports the creation and editing of subscriber recordings via the multimedia devices on the workstation or the phone. The ViewMail for Outlook form can be used with Microsoft Outlook 98, Outlook 2000, and Outlook XP. As of this writing, ViewMail cannot be used with Microsoft Outlook Web Access because it does not support the use of Microsoft Outlook forms.

NOTE

The Cisco Unity system may require that subscribers enter their credentials when they use the phone as a playback or recording device in VMO, such as when subscriber computers are in a different domain than that of the Cisco Unity system.

The form presents the voice message to the user who is using the Media Master Control, an intuitive play/pause/record set of controls. In addition, the first control on the Media Master is the Options menu, where users set their playback and recording devices and can copy and paste voice messages onto their desktop, for example. The Media Master control when using MS Outlook is an eXtensible Markup Language (XML) control that is used in every place in the Cisco Unity system interface where sound needs to be played or recorded. It is the same in the SA, the Cisco Unity Assistant (CUA), and the Cisco Unity Inbox.

If the subscriber has not installed VMO, the voice messages are simply e-mailed as .wav file attachments. VMO also provides the capability to hear the messages through PC speakers. If the message was left by another subscriber, it is possible to reply to the message simply by clicking the VMO Reply button. The Media Master Control when using MS Outlook allows a message to be recorded and sent. The Cisco Unity system processes the message just as if it had been left via a telephone handset and activates the MWI of the destination subscriber. If a user uses the Outlook Web Client, the file appears as a .wav attachment. This is especially useful for traveling or remote users. As an added feature, the text of the message can be included in the e-mail along with the voice-message attachment.

Using DUCS for Lotus Notes

DUCS for Cisco Unity is a desktop interface that allows unified messaging features for an IBM Lotus Notes user. IBM Lotus has constructed a software suite of applications called Domino Unified Communications Services (DUCS). DUCS for Cisco Unity is an application that is included with the purchase of the DUCS software suite. E-mail and voice-mail capabilities are provided in one software application. The DUCS for Cisco Unity software is installed on the client workstation by the administrator or the end user.

The software is essentially a Lotus Notes Mail template built and supported by IBM Lotus and, as mentioned, obtained from IBM or an IBM reseller through the purchase of the DUCS software suite. Subscribers are able to listen to, send, reply to, or forward voice mails. The client software supports the capability for subscribers to record through their multimedia device or through their phone.

Customizing VMO

VMO interaction is customizable in a number of differing ways. These alterations can affect sounds played when message events occur, allow for auto-playback of messages (if the check box to play automatically is checked, which by default it is not), or allow messages to be saved to a messaging client. There is also a check box that allows the option to save only the message header in the Sent Items folder.

The sound that notifies the subscriber of new voice messages arriving in the Inbox can be customized by importing a custom .wav file. This enables the subscriber to add a more personal touch to the delivery of voice-mail messages to their desktop. However, this option is available only if the subscriber's computer has multimedia speakers.

Another setting that can be altered is the one dealing with message playback. Setting up the automatic voice message playback feature causes voice messages to begin playing as soon as they are opened. With automatic playback disabled, the Media Master control bar is used to play voice messages.

If your Outlook Inbox is set to save copies of sent messages in the Sent Items folder, a copy of each voice message that you send using VMO is also saved. Over time, this can cause hard disk constraint issues. Therefore, the option to disable the saving of sent messages has been provided in the VMO client.

At times, there will be deployments and installations to sites that are using lower bandwidth links. In these circumstances where throughput is limited, it is possible, though not the default action, to configure messages to download to the local workstation prior to playback.

Understanding Cisco PCA

Cisco PCA serves as a centralized point of access to subscriber web-based applications. The Cisco PCA portal includes the Cisco Unity Inbox (formerly known in Cisco Unity version 3.1 and earlier as the Visual Messaging Interface, or VMI) and the Cisco Unity Assistant (formerly known in versions of Cisco Unity 3.1 and earlier as Active Assistant, or AA). Cisco PCA is available to subscribers through a URL. Subscribers need not have any particular COS rights to access it, but they do need appropriate COS rights to the Cisco Unity Inbox and the CUA. Cisco PCA is automatically installed during the Cisco Unity system installation. This easy-to-use web interface gives subscribers desktop access to manage their voice-mail account.

To fully benefit from this section, it is recommended that you have the following prerequisite skills and knowledge (refer to Chapter 1, "Cisco Unified Communications System Fundamentals," for a quick review of either topic):

- Knowledge of Cisco Unity standard and optional features
- Knowledge of Cisco Personal Assistant standard and optional features

To access the interface, point the Microsoft Internet Explorer browser to `http://UnityServerName/ciscopca`.

NOTE

The address `http://UnityServerName/ciscopca` URL is case sensitive!

From this interface, subscribers can change their greetings, passwords, message notification devices, and schedules, create private lists, enable or disable call screening, and change their call transfer. The CUA is considered appropriate for “power” voice-mail users. Some administrators are uncomfortable allowing subscribers to change their greetings and program message notification for other devices. With some training, almost any subscriber will find that the CUA is a powerful tool to use to manage their voice-messaging account.

Understanding the Cisco Unity Assistant

The Cisco Unity Assistant (CUA) allows subscribers to access their voice-mail messages via Internet Explorer.

By using the CUA, a subscriber can change a number of options, including the following:

Greetings:

- Record a personal greeting
- Enable or disable a greeting
- Switch between the system prompt and personal greeting

Call Transfers:

- Transfer calls to an extension or send to the greeting
- Change extension

Call Holding and Screening:

- Select the action that Cisco Unity performs for unidentified callers when the subscriber phone is busy, including placing the caller on hold, prompting the caller to hold or leave a message, and sending the caller directly to the greeting
- Select the action that Cisco Unity performs when the subscriber answers calls from unidentified callers, including telling the subscriber who the call is for, announcing that Cisco Unity is transferring the call, prompting the subscriber to accept or refuse a call, and prompting the caller to say their name

Message Notification:

- Enable or disable a notification device, and change its number
- Specify dialing options
- Select the types of messages and message urgency for which Cisco Unity calls a device
- Set up a notification schedule, and specify what happens when a device does not answer, is busy, or fails

Message Playback:

- Select full or brief Cisco Unity conversation menus
- Select the action that Cisco Unity performs when the subscriber calls Cisco Unity, including greeting the subscriber by name and announcing the number of new messages by type
- Select the action that Cisco Unity performs when messages are played, including announcing the name and number of the sender who left a message, whether the time stamp is played before or after the message, and the volume level at which messages are played

Message Addressing:

- Switch between addressing messages to other subscribers by name, or by extension
- Specify the order in which to address messages by name (last name followed by first name, or vice versa)

Caller Options:

- Allow callers to edit messages
- Allow callers to mark messages urgent

Personal Settings:

- Record a name
- Specify a fax delivery number
- Change directory listing status
- Change password
- Select the language used for the subscriber phone conversation

Private Lists:

- Enter a display name
- Record a name
- Add and delete members

Understanding Cisco PA Call Flow

When a Cisco PA-enabled subscriber number receives an outside call from the Public Switched Telephone Network (PSTN), PA retrieves subscriber information from the Lightweight Directory Access Protocol (LDAP) directory. Cisco PA works only in conjunction with a Cisco CallManager system. Subscribers can configure individual rules for calls that are destined for their own phone number(s). If rules have been configured, those rules are executed to route the call as specified. Calls can also be set up with the “follow me” feature where no rules lookup occurs and all calls are immediately sent to an alternate location or device. Rules-based call routing can be handled according to caller ID, date and time of day, or the user’s meeting status based on the user’s calendar.

Cisco PA has the capability to forward and screen incoming calls according to subscriber-configured rules set up in the PA web interface. The PA administrator should provide end users the URL for the PA server. Upon initial use of the PA web interface, a welcome screen is presented. On this page, the default language is configured. This specifies the language in which system prompts are heard. Subsequent visits result in the presentation of the Rule-Sets page to configure call-forwarding preferences.

The web interface offers numerous features. However, the focus at this time is on two of the more important features, Destinations and Callers, which are accessible through links at the top of the web interface page. Figure 2-2 shows the Cisco PA web interface, particularly the Rule-Sets page.

Clicking the Destinations link allows the user to define the desired destination of calls made, by name and number. The Callers link allows the user to define entries in their personal address book. These links serve to direct calls to a specific PA user. Once defined, Rule-Sets can be put in place to actually initiate the call forwarding to the desired PA user.

Figure 2-2 Cisco PA Administration Rule-Sets Page

The screenshot shows the Cisco Personal Assistant Administration interface. At the top, there's a navigation bar with links like Destinations, Callers, Rules, Preferences, Proxy, Tools, Help, and Session. The main heading is 'Cisco Personal Assistant Administration' with the tagline 'For Cisco IP Telephony Solutions'. A user is logged in as 'pa user1'. The 'Rule Sets' section features a message: 'Rule Set 'Sample WorkDay' is currently active.' Below this is a form for 'Rule Set Name' and an 'Add Rule Set' button. A table lists existing rule sets:

Rule Set Name	Active Period	Delete
<input type="checkbox"/> Sample WorkDay	01 Jan 2004-01 Jan 2005, 01 Jan 2004-01 Jan 2005, Mon, Tue, Wed, Thu, Fri	<input type="button" value="Add Rule"/>
Rules		
<input type="checkbox"/> If the caller is one of ["Anne Weston*"], direct the call to destination "sample cellular phone" and do not screen the call.		<input type="button" value="Up"/> <input type="button" value="Down"/>
<input type="checkbox"/> If the caller belongs to group "Sample Project Team" AND if the call arrives between 08:00 and 17:00, direct the call to destination group "Sample Group" and screen the call.		<input type="button" value="Up"/> <input type="button" value="Down"/>
<input type="checkbox"/> Sample Follow Me	Sat	
<input type="checkbox"/> Sample Vacation	Sun	

At the bottom, a note states: 'To apply your Rule Sets to incoming calls, you need to [Activate Rule Sets](#).'

Understanding Cisco PA Speech Recognition

Cisco contains options to support speech-recognition capabilities. This allows a subscriber to use voice dialing when calling individuals listed in the corporate directory or a personal address book, set up conference calling, activate or deactivate Rule-Sets, or use their voice-mail account.

When calling into PA, the subscriber is prompted to enter a PIN. This PIN is established in the Cisco CallManager (CCM) system. PA may not always prompt for the PIN. The deciding factors of whether or not the subscriber is prompted for the PIN depends on the source of the

calling number and the function PA is attempting to execute. The PA must recognize the calling number. Otherwise, the PIN is required by the system to permit the subscriber to use any PA functions. Also, any time rules are altered or executed, the Follow Me feature is enabled or disabled or other call-forwarding functions are altered, the PIN will be required by the system.

Once logged in, the subscriber hears all prompts in their configured language. If no language was configured, PA uses the default language established by the system administrator. Speech-enabled directory dialing allows calls to be placed through PA by speaking a subscriber's name or phone number aloud.

Using PA-Driven Voice Mail

Cisco PA's voice-recognition features allow the subscriber to access Cisco Unity voice-mail messages through spoken commands. PA also interprets touch-tone commands. When the subscriber dials into PA for voice-mail access, PA first plays a welcome message and prompts for the desired action. The subscriber simply speaks the desired command, such as "Check messages". The system prompts the subscriber for the PIN. The PIN used for PA and the subscriber password to access Cisco Unity are not the same. They are stored in different locations, one in PA or CCM, the other in Cisco Unity. If PA cannot verify the entered PIN, the subscriber is transferred to the Cisco Unity voice-mail system and prompted to enter the password established with it.

While listening to messages, the subscriber may use voice commands to complete tasks, such as list or read messages, skip messages, delete messages, and call back the sender of a message (if listed in the corporate directory). The voice-mail session is ended by the voice command "Good bye."

Chapter Summary

In this chapter, you learned about the Cisco Unity features and functions to route calls. Specifically, you learned how to do the following:

- Determine the means by which calls are handled for individual subscribers.
- Use tools to aide in the delivery, sending, and manipulation of messages such as VMO and PA to further complement the user-friendliness of the system overall.
- Use speech-recognition capabilities to allow subscribers to speak commands to place calls to contacts in the corporate directory or personal address book.
- Configure call handling for individual subscribers, including forwarding of calls, handling of messages, and other traditional voice-messaging capabilities
- Use the Cisco PA web interface to create and activate Rule-Sets for the subscriber based on time of day, date, location, and other pertinent variables

For additional information on the preceding topics, refer to these resources:

- “White Paper: Client Access in a Voice Messaging-Only Deployment (Cisco Unity Version 4.0).” This white paper is available on Cisco.com. Select **Products and Services > Voice and Telephony > Cisco Unity > Product Literature > White Papers**.
- *Cisco Unity User Guide*. This is available for both Microsoft Exchange and Lotus Domino installations; make sure that you choose the correct version. Go to Cisco.com and select **Products and Services > Voice and Telephony > Cisco Unity > Technical Documentation > User Guides** to choose the appropriate guide.

Chapter Review Questions

Use this section to test yourself on how well you learned the concepts discussed in this chapter. You can find the answers to the review questions for this chapter in Appendix A.

- 1 Explain briefly the process that occurs when a Cisco Unity subscriber logs in to the system for the first time.
- 2 List four typical voice-mail subscriber options when using the TUI.
- 3 List at least two items that can be customized in the VMO settings.
- 4 When a user is prompted for a PIN by Cisco PA, what is the result when the PIN cannot be verified due to an incorrect entry?
- 5 Which interface allows a subscriber to configure Rule-Sets to enable call forwarding based on personal preferences for PA?
- 6 Each subscriber must set a password as mandated by the subscriber template in effect at login. If a subscriber loses or forgets the password set, what course of action should be taken?
- 7 Describe the circumstance that will cause the MWI on the subscriber phone to be turned off.
- 8 To configure call hold and screening features, which utility, discussed in this chapter, should be used?
- 9 For Cisco PA to be fully used by a subscriber, it must be able to retrieve subscriber information from an LDAP directory. Under what circumstance does this feature properly function?
- 10 Cisco PA’s voice-recognition capabilities allow voice message access using voice commands. List at least two tasks that are possible using voice commands.

