CHAPTER 20

# Messaging in Cisco Unity Connection 9.x

After you have implemented a call management plan and have determined conversation versions and options, you are ready to focus on how Cisco Unity Connection collects, handles, and stores messages. This chapter outlines the types of messages that are available in Connection, and discusses how Connection handles the recording, delivery, and storage of messages.

See the following sections:



For information on securing user messages, see the "Securing User Messages in Cisco Unity Connection 9.x" chapter of the *Security Guide for Cisco Unity Connection Release 9.x*, at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/security/guide/9xcucsecx.html.

# Types of Messages in Cisco Unity Connection 9.x

Cisco Unity Connection supports a number of different types of messages that can be used depending on the needs of the organization.

### Unidentified (Outside Caller) Voice Messages

Callers who are not Cisco Unity Connection users—and those who have not signed in to Connection—can reach user mailboxes to leave messages in a number of different ways, depending on the Connection configuration. A caller can call the main phone number for the Connection server and

spell by name or enter an extension to reach the user by using a directory handler, or can be directed to the user mailbox (or to a distribution list) through a call handler. Or, the caller can call the user extension and be forwarded to Connection when the user does not answer, and then leave a message.

Connection identifies the senders of these messages as unidentified callers. When an unidentified caller leaves a message, the From field of the message displays "UnityConnection@<servername>" in the Connection Web Inbox or in an email client or an RSS reader, if applicable. Depending on whether the Subject line has been customized, it displays the phone number of the caller if it is available.

Messages from outside callers can be forwarded to other users, but cannot be replied to. However, depending on their class of service, users can "live reply" to a message from an unidentified caller by calling the sender after message playback.

#### User to User Voice Messages

Users can call Cisco Unity Connection and sign in, then send a message to one or more other Connection users or to a distribution list. Connection identifies the sender of the message as a user; when the called user later listens to the message, Connection plays the recorded name of the user (or displays the username when the called user views the message in a Cisco web application such as the Connection Web Inbox or from an IMAP client).

Alternatively, a user can call the extension of another user and be forwarded to Connection when the called user does not answer, and then leave a message. In this case, if Identified User Messaging is enabled and supported by the phone system, and the user is calling from his or her primary extension or an alternate device, Connection recognizes that the calling extension is associated with a user and identifies that user as the sender of the message.

**Note** Cisco Unity Connection does not perform any caller authentication or verification when a message is left by a caller who is identified as a user via Identified User Messaging.

Identified User Messaging is enabled by default. You can disable it for all users by using the Disable Identified User Messaging Systemwide setting on the System Settings > Advanced > Conversations page.

Users can reply to or forward messages from other users. Depending on their class of service, users can also "live reply" to a message from another user by calling the sender after message playback.

#### Email Messages in Exchange

Cisco Unity Connection can access email messages that are stored in user mailboxes in Microsoft Exchange and then the messages can be played by using text to speech (TTS).

#### System Broadcast Messages

System broadcast messages are recorded announcements that are sent to everyone in an organization. System broadcast messages are played immediately after users sign in to Cisco Unity Connection by phone—even before they hear message counts for new and saved messages. Users must listen to each system broadcast message in its entirety before Connection allows them to hear new and saved messages or to change setup options. They cannot fast-forward or skip a system broadcast message.

**Note** By design, system broadcast messages do not trigger message waiting indicators (MWIs) on user phones. System broadcast messages also do not trigger message notifications for alternative devices, such as a pager or another phone.

See the "Setting Up Broadcast Messaging in Cisco Unity Connection 9.x" chapter for more information on setting up and using system broadcast messages.

### Text Notifications

Cisco Unity Connection can send message notifications in the form of text messages to email addresses, and also to text pagers and text-compatible mobile phones. When a message arrives that matches the criteria selected in the message notification settings, the Connection Messaging System sends a text message entered by you or the user, such as "Urgent message for Technical Support." Connection can also dial a phone number to alert the user of a new message and allow the user to enter credentials to sign in and listen to the message.

By default, if Connection sends a notification of a new message to a device (such as a mobile phone) and the device forwards the call back to Connection because the device did not answer, Connection rejects the forwarded message notification call. As a result, the user mailbox is not filled with forwarded message notification announcements. Because Connection rejects the forwarded message notification call, the call does not create a new message for the user and does not trigger a new message notification call.

See the "Notification Devices in Cisco Unity Connection 9.x" section in the "Setting Up Features and Functionality That Are Controlled by User Account Settings in Cisco Unity Connection 9.x" chapter of the *User Moves, Adds, and Changes Guide for Cisco Unity Connection Release 9.x* for more information on setting up various types of notifications. The guide is available at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/user_mac/guide/9xcucmacx.html.

### HTML Notifications

Cisco Unity Connection allows you to deliver the SMTP-based HTML notifications for a new voice message to the end users. These notifications can be sent via SMTP as an HTML format embedded in the email. The users get the flexibility to receive the HTML notifications that can include customized icons, header, and footer along with the link to access Cisco Unity Connection Mini Web Inbox. Connection Mini Web Inbox is a player that allows the user to play the notified messages over computer or mobile devices. The HTML notifications on the computer support both Web email clients (for example, Gmail) and desktop email clients (for example, Microsoft Outlook and IBM Lotus Notes). However, the HTML notifications on the mobile support only the Web email clients.

For more information on compatibility of Connection Mini Web Inbox with operating systems and browsers, refer to *Compatibility Matrix: Cisco Unity Connection and the Software on User Workstations* available at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/compatibility/matrix/cucclientmtx.html .

The content and format of the HTML notifications received via email can be customized through a notification template, custom variables, and custom graphics. Only the administrator has the rights to create and modify the notification templates, custom variables, and custom graphics. Cisco Unity Connection Administration and the Cisco Unity Connection Provisioning Interface (CUPI) APIs can be used to create, update, and delete the customized notification templates.

For more information on how to manage notification templates through Connection Administration, refer to the "Adding, Modifying, or Deleting a Notification Template in Cisco Unity Connection 9.x" chapter of the *User Moves, Adds, and Changes Guide for Cisco Unity Connection Release 9.x*, available at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/user_mac/guide/9xcucmacx.html.

For more information on how to manage notification templates using CUPI APIs, refer to the "HTML Notification Templates" section of the Cisco Unity Connection APIs.

To use the HTML notification templates, you must enable the HTML notification device and assign a notification template. Cisco Unity Connection Administration and the CUPI APIs are used to create, update, and delete an HTML notification device. The HTML notification devices can be managed for an individual user, or for multiple users by using the Bulk Edit utility in Cisco Unity Connection Administration.

For more information on how to manage notification devices through Connection Administration, refer to the "Notification Devices in Cisco Unity Connection 9.x" section in the "Setting Up Features and Functionality That Are Controlled by User Account Settings in Cisco Unity Connection 9.x" chapter of the *User Moves, Adds, and Changes Guide for Cisco Unity Connection Release 9.x* available at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/user_mac/guide/9xcucmacx.html.

The Connection users can also set up an HTML notification device and configure other settings through the Connection Messaging Assistant Web Tool of Cisco Personal Communications Assistant (PCA). The users also have a choice of using an outdial number to check the voice messages using the telephone record and playback functionality. This facilitates the users to provide their extension or mobile number that gets auto-populated in the Cisco Unity Connection Mini Web Inbox.

The user can access the notified voice message by clicking the hyperlink given in the email for launching the Connection Mini Web Inbox. With Connection Mini Web Inbox, the user can play, reply, reply all, forward, or delete the voice messages using a phone or a computer. On mobile, the Connection Mini Web Inbox is supported via telephone record and playback (TRAP) connections on all native browsers for IPhone.

For more information on Cisco Unity Connection Mini Web Inbox, refer to the *Quick Start Guide for the Cisco Unity Connection Mini Web Inbox* available at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/quick_start/guide/b_9xcucqsgminiinbox.html.

**Note** To access the Connection Mini Web Inbox, you must be on the corporate network or connected via VPN to the corporate network. The email notification content including the MWI status, message status, and custom graphics, will be visible through the authentication and/or non-authentication mode when the user is on the corporate network or connected to it using the VPN.

To troubleshoot any issue while creating templates or launching the Connection Mini Web Inbox, refer to the "Troubleshooting the HTML Notifications in Cisco Unity Connection" chapter of the *Troubleshooting Guide for Cisco Unity Connection* available at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/troubleshooting/guide/9xcuctsgx.html.

### Receipts

Users can request a read receipt when sending a message. As soon as the recipient listens to the message, the receipt is sent to the message sender. New receipts turn on the message waiting indicator on the user phone and can trigger message notifications.

When a voice message cannot be delivered, if the sender is a user and is configured to accept receipts, Cisco Unity Connection alerts the sender with a nondelivery receipt (NDR). The NDR contains a copy of the original message, which the user can use to resend the message at a later time or to a different recipient.

### Interview Handler Messages

By using interview handlers in your call management plan, you can have Cisco Unity Connection collect information from callers by playing a series of questions that you have recorded, and then recording the answers offered by callers. For example, you might use an interview handler to take sales orders or to gather information for a product support line.

When all the answers have been recorded, they are forwarded as a single voice message, with beeps separating the answers, to the recipient (user or distribution list) that you designate in the interview handler configuration.

See the "Managing Interview Handlers in Cisco Unity Connection 9.x" chapter for more information.

### Dispatch Messages

You can use the dispatch message feature to send a message to a distribution list, with the message configured in such a way that only one user in the group needs to act on the message. When listening to a dispatch message, users are given the option to accept the message, postpone the message, or decline the message. When the message has been accepted by one of the members of the distribution list, the copies in the mailboxes of the remaining recipients are removed.

Dispatch messaging is useful in situations where a team is available to respond to issues, but only one member of the team needs to respond. For example, an IT department may want to set up a call handler to take messages from employees who need assistance, and then send the messages as dispatch messages to a distribution list comprised of IT department staff. All of the members of the distribution list receive a copy of each message. Team members can then decide whether to accept or decline a message.

See the "Dispatch Messages in Cisco Unity Connection 9.x" section on page 20-8 for details.

### Live Record Messages

Live record allows users to record conversations while they talk to callers. The recorded conversation is stored as a message in the user mailbox, and the user can review it later or redirect it to another user or group of users. Operators in your organization may find live record particularly useful.

Live record is supported only when Cisco Unity Connection is integrated with a Cisco Unified Communications Manager phone system.

See the "Configuring Live Record in Cisco Unity Connection 9.x" section on page 20-22 for information on configuring live record.

# Message Recording in Cisco Unity Connection 9.x

Typically, Cisco Unity Connection uses the same audio format (or codec) for recording a message that the playback device uses. For example, if users listen to messages primarily on a phone system extension, Connection should record messages in the same audio format that the phone system uses. If the users listen to messages on Personal Digital Assistants (PDAs), however, Connection should record messages in the audio format that the PDAs use (such as GSM 6.10).

You should consider the following when setting the audio format for recording messages:

- Setting the audio format for recordings affects all messages, greetings, and names systemwide for all users.
- Minimizing the number of different audio formats in use for recording and playing recorded messages, greetings, and names reduces transcoding between audio formats that Connection must perform, and reduces the effect on the performance of the Connection server.

- When a message, greeting, or name is recorded in a lower quality audio format and later transcoded to a higher quality audio format during playback, the sound quality is not improved. Usually, the sound quality of a recording suffers during transcoding, especially when the sampling rate is changed.

  For example, sound quality suffers when messages that are recorded in the G.729a audio format are played on devices that use the G.711 Mu-Law audio format. However, sound quality is preserved when messages that are recorded in the G.711 Mu-Law audio format are played on devices that use the same audio format.
- Changing the audio format for recordings affects only messages, greetings, and names that are recorded after the setting is changed. Existing messages, greetings, and names that were recorded in a different audio format are not affected by the new setting.

**To Change the Audio Format for Recording Messages**

**Step 1** In Cisco Unity Connection Administration, expand **System Settings**, then select **General Configuration**.

**Step 2** On the Edit General Configuration page, in the Recording Format list, select the applicable setting.

**Note** If the playback device uses a different audio format, Connection must transcode the messages, greetings, and names into the applicable audio format or the playback device is not able to play them.

**Step 3** Select **Save**.

# Configuring the Termination Warning Prompt for the End of Recording

By default, Cisco Unity Connection plays a termination warning prompt before reaching the maximum allowable message length while callers record their messages. (When a recording reaches the maximum allowable message length, the recording session is terminated.) By default, the warning plays 15 seconds before the end of a recording, provided that the recording is not restricted to less than 30 seconds in length. There are two settings that can be customized:

| | |
|---|---|
| **Minimum Recording Duration in Milliseconds for Termination Warning** | The maximum recording length, in milliseconds, before Connection monitors the recording length to determine whether to play the termination warning prompt. This setting prevents the warning from sounding for shorter recordings, for example for interview handlers that are configured to accept only brief responses. |
| **Recording Termination Warning Time in Milliseconds** | The number of milliseconds before reaching the maximum message length when the termination warning prompt is played. A setting of 0 disables the warning. |

For example, if the maximum message length is set for 300 seconds and the Recording Termination Warning Time in Milliseconds field is set for 10 seconds, the termination warning prompt is played after 290 seconds of recording—10 seconds before the recording limit is reached and the recording session is

terminated. If the Minimum Recording Duration in Milliseconds for Termination Warning field is set for 60 seconds, and a call handler is configured with a maximum message length of 30 seconds, callers who reach the call handler and record a message do not hear the warning.

#### To Configure the Termination Warning Prompt for the End of Recording

**Step 1** In Cisco Unity Connection Administration, expand **System Settings > Advanced**, then select **Telephony**.

**Step 2** On the Telephony Configuration page, in the Minimum Recording Duration in Milliseconds for Termination Warning field, enter the minimum length of recordings, in milliseconds, before Connection monitors the recording length to determine whether to play a termination warning prompt.

Note that recordings that are not allowed to exceed this length are not monitored by Connection to determine whether to play the warning.

**Step 3** In the Recording Termination Warning Time in Milliseconds field, enter the length of time, in milliseconds, before reaching the maximum allowed recording time at which Connection plays a termination warning prompt. When the warning is played during a recording session, Connection continues recording for the amount of time indicated in this field before terminating the recording session.

**Step 4** Select **Save**.

# Default Recipient Accounts in Cisco Unity Connection 9.x

The default Cisco Unity Connection configuration includes several accounts that play a role in message delivery or that receive messages when callers are routed to one of the default system call management objects.

### Operator

When a caller to Cisco Unity Connection dials the operator and no operator is available, the caller can leave a message, depending on the call transfer settings for the Operator call handler. By default, messages left in the Operator call handler are sent to the voice mailbox of the Operator user. We recommend that you assign someone to monitor this mailbox, or reconfigure the Operator call handler to send messages to a different user or to a distribution list.

During installation, the Operator account is assigned randomly-generated voicemail and web application passwords. To sign in to the account, you must change the passwords by using Cisco Unity Connection Administration.

### UndeliverableMessagesMailbox

By default, this mailbox is the only member of the Undeliverable Messages distribution list. We recommend that you assign someone to monitor this mailbox, or add a user to the Undeliverable Messages distribution list to monitor and reroute (as appropriate) any messages that are delivered to the list. If another user will monitor the distribution list, remove the UndeliverableMessagesMailbox account from the distribution list to prevent the mailbox from filling up with messages.

During installation, the UndeliverableMessagesMailbox account is assigned randomly-generated voicemail and web application passwords. To sign in to the account, you must change the passwords by using Cisco Unity Connection Administration.

#### Unity Connection Messaging System

This account acts as a surrogate sender for messages from unidentified callers. Thus, user messages from unidentified callers are identified as coming from the Unity Connection Messaging System mailbox (UnityConnection@<servername>).

The alias for this account is UnityConnection. This account can be viewed in Cisco Unity Connection Administration, but cannot be modified or deleted.

# Dispatch Messages in Cisco Unity Connection 9.x

You can use the dispatch message feature to send a message to a distribution list (from either a call handler or interview handler). The message is configured such that only one user in the group needs to act on the message. When listening to a dispatch message, users are given the option to accept, postpone, or decline the message.

Dispatch messages are handled as follows:

- If a user chooses to accept the message, all other copies of the message are removed from the mailboxes of the other members of the distribution list, regardless of whether the other users have listened to and postponed the message.
- If a user chooses to postpone the message, it remains as an unread message in the mailbox of that user and in the mailboxes of the other members of the distribution list.
- If the user chooses to decline the message, it is removed from the mailbox of that user, but copies of the message remain as unread in the mailboxes of the other members of the distribution list.
- If there is only one copy of the dispatch message remaining, and no user has yet chosen to accept the message, the final user whose mailbox it is in must accept it. That user is not given the option to decline the message.

Dispatch messaging is useful in situations where a team is available to respond to issues, but only one member of the team needs to respond. For example, an IT department may want to set up a call handler to take messages from employees who need assistance, and then send the messages as dispatch messages to a distribution list comprised of IT department staff. All of the members of the distribution list receive a copy of each message. Team members can then decide whether to accept or decline a message; declined messages are then picked up by other team members.

Do one of the following procedures to set up dispatch messaging:

- To Configure Dispatch Messaging for Messages Left for a Call Handler, page 20-8
- To Configure Dispatch Messaging for Messages Left for an Interview Handler, page 20-9

Also see the "Dispatch Messaging Limitations and Behavioral Notes" section on page 20-9.

#### To Configure Dispatch Messaging for Messages Left for a Call Handler

**Step 1** In Cisco Unity Connection Administration, expand **Call Management**, then select **System Call Handlers**.

**Step 2** On the Search Call Handlers page, in the System Call Handlers table, select the display name of the applicable call handler.

**Step 3** On the Edit Call Handler Basics page, on the Edit menu, select **Message Settings**.

**Step 4** On the Edit Message Settings page, under Message Recipient, select a distribution list as the recipient and check the **Mark for Dispatch Delivery** check box.

**Step 5** Select **Save**.

### To Configure Dispatch Messaging for Messages Left for an Interview Handler

**Step 1** In Cisco Unity Connection Administration, expand **Call Management**, then select **Interview Handlers**.

**Step 2** On the Search Interview Handlers page, in the Interview Handlers table, select the display name of the applicable interview handler.

**Step 3** On the Edit Interview Handler Basics page, under Recipient, select a distribution list as the recipient and check the **Mark for Dispatch Delivery** check box.

**Step 4** Select **Save**.

## Dispatch Messaging Limitations and Behavioral Notes

- Only voice messages can be flagged for dispatch. Email and fax messages cannot be flagged for dispatch.
- The handling of dispatch messages is supported only in the phone interface. If a user opens a dispatch message when using the Connection Web Inbox, Cisco Unified Personal Communicator, Cisco Mobile, Cisco Unified Messaging with IBM Lotus Sametime, an IMAP client, or an RSS client, the user is not forced to postpone, decline, or accept the message.Those clients treat dispatch messages as normal voice messages. It is important to make users aware that they must use the phone interface for dispatch messaging to be effective. When using clients other than the phone interface, the only indication that a message is marked for dispatch is when the subject line of the message has been configured to display special text. (For details on configuring subject line formats, see the "Message Subject Line Formats in Cisco Unity Connection 9.x" section on page 20-16.) We recommend that you configure subject line formats to indicate that a message is a dispatch message, as this helps to remind users that they need to access the messages by using the phone interface.
- When single inbox is configured, dispatch messages are not synchronized between Connection and Exchange.
- Dispatch messages are never transcribed, even when the recipients belong to a class of service for which the SpeechView feature is enabled.
- When using an IMAP client to play dispatch messages, it is not possible to delete or mark the messages as read. At first it may appear that a user can successfully delete or save a dispatch message, but the next time the IMAP client refreshes the message list, the dispatch message displays as a new message. This is true even if the user is using Microsoft Outlook or IBM Lotus Notes with ViewMail. The message is removed only if the user uses the phone interface to decline the message or if another user uses the phone interface to accept the message.
- If there is only one copy of a dispatch message left, it is possible for the user with that last copy to delete it when using the Connection Web Inbox or Cisco Unified Personal Communicator. It is important to make users aware that they must use the phone interface for dispatch messaging to be effective.
- During playback of a dispatch message, if a user presses the phone keypad key that is mapped to the "skip" or "delete" menu options, Connection interprets the "skip" key press as "postpone," and the "delete" key press as "decline."

- Dispatch messages are not sorted separately from normal voice messages. If you want users to hear their dispatch messages first, the call handler or interview handler that is configured to mark the message for dispatch delivery should also be configured to mark the message as urgent. By default, urgent messages are presented to users first.
- If a user declines a dispatch message, a copy of the dispatch message is not kept in the deleted items folder of that user.
- When a user accepts the message, that user is the only person who has a copy of the message in his or her mailbox.
- When a dispatch message is accepted by a user, the dispatch property is removed and it is treated as a normal voicemail message. If the user subsequently saves the message as new, the message is presented in the phone interface just like any other new message and is not announced to the user as a dispatch message. (Note that the subject line is not altered, so depending on the subject line format used, it may contain a string indicating that the message was originally flagged for dispatch. However, the subject line is not played in the phone interface.)
- It is not possible to forward a dispatch message. A user must first accept the message, which removes the dispatch property. Then the user can forward it as a normal voicemail message.
- When configuring message notification rules to include dispatch messages, make users aware that by the time users receive the notification and call in to retrieve the message, it may be gone from their mailboxes because another user has already accepted the message.
- Networked dispatch messages are not supported. Dispatch messaging is not supported across locations. Dispatch messages addressed to recipients at other locations within a site are delivered to remote users as regular messages. Dispatch messages addressed to remote site recipients are not delivered. We recommend that you configure dispatch messaging only when the message recipient is a system distribution list that does not include users on other networked locations.
- If Connection is configured as a cluster, it is possible for two different users to call into the different servers and accept the same dispatch message when more than one server has the Primary status (known as a “split brain” condition). After the split brain condition has been resolved, the user who last accepted the dispatch message becomes the final recipient and the message is removed from the mailbox of the other user.

# Message Delivery in Cisco Unity Connection 9.x

In most cases, Cisco Unity Connection delivers messages from callers by using a standard process—Connection signs in to the sender account (either the Unity Connection Messaging System account for unidentified caller messages, or the user voice mailbox), composes and addresses the message to the recipient or to the members of the recipient distribution list, and delivers the message.

See the following sections for detailed information on message delivery issues:

- How Cisco Unity Connection Handles Messages That Cannot Be Delivered, page 20-11
- How Cisco Unity Connection Handles Messages When System Components Are Unavailable, page 20-11
- How Cisco Unity Connection Handles Messages That Are Interrupted by Disconnected Calls, page 20-12
- How Cisco Unity Connection Handles Messages When Mailbox Quotas are Exceeded, page 20-13
- How Cisco Unity Connection Handles Messages When Maximum Mailbox Store Size Is Exceeded, page 20-13

# How Cisco Unity Connection Handles Messages That Cannot Be Delivered

Occasionally, messages cannot be delivered to the recipient that the caller intended to reach. The system behavior in this case depends on the type of sender and the reason that the message could not be delivered.

In general, if Cisco Unity Connection cannot deliver the message because of issues that are not likely to be resolved (for example, the caller was disconnected before addressing the message, or the recipient mailbox has been deleted), the message is sent to the Undeliverable Messages distribution list, and Connection sends a nondelivery receipt (NDR) to the sender.

Note that the sender does not receive a nondelivery receipt in the following cases:

- When the sender of the original message is an unidentified caller
- When the sender is a user, but the user account is configured not to accept NDRs
- While the mailstore of the user is offline (in this case, the NDR is delivered when the database becomes available)

However, if the original message is malformed, instead of sending the message to the Undeliverable Messages list, Connection places the message in the MTA bad mail folder (UmssMtaBadMail). This folder is automatically checked nightly by the Monitor Bad Mail Folders task, and if messages are found, an error is written to the application event log indicating troubleshooting steps.

# How Cisco Unity Connection Handles Messages When System Components Are Unavailable

During temporary outages, the system behavior depends on the nature of the outage.

### Message Delivery Components

If the components involved in message delivery on the Cisco Unity Connection server are unavailable (if the mailbox store is disabled because it is being backed up, for example), Connection queues any messages that are recorded by users or outside callers, and delivers them when the component becomes available.

When single inbox is configured, messages queued for delivery are not synchronized with Exchange mailboxes while components are unavailable. After the messages are delivered, they are also synchronized with Exchange mailboxes.

### Exchange Is Unavailable

If Connection is configured to allow users access to email messages in Exchange, and network or other conditions slow or prevent responses when Connection attempts to retrieve messages from Exchange, Connection announces to users that email is unavailable when they attempt to access email messages. The time period that Connection waits for a response from Exchange defaults to four seconds, and is configurable in Cisco Unity Connection Administration.

When single inbox is configured, Connection messages are not synchronized with Exchange, but users are not notified. When Exchange is available again, synchronization resumes.

Do the applicable procedure to change the length of the timeout:

- To Change the Timeout Period That Cisco Unity Connection Waits for a Response from Exchange
- To Change the Timeout Period That Cisco Unity Connection Waits for a Response from Exchange

**To Change the Timeout Period That Cisco Unity Connection Waits for a Response from Exchange**

**Step 1** In Cisco Unity Connection Administration, expand **System Settings > Advanced**, then select **Unified Messaging Services**.

**Step 2** On the Unified Messaging Services Configuration page, change the **TTS and Calendars: Time to Wait for a Response (In Seconds)** setting to the desired value. The setting default is 4 seconds.

**Step 3** Select **Save**.

The change takes effect immediately.

**To Change the Timeout Period That Cisco Unity Connection Waits for a Response from Exchange**

**Step 1** In Cisco Unity Connection Administration, expand **System Settings > Advanced**, then select **External Services**.

**Step 2** On the External Services Configuration page, change the **Maximum External Service Response Time (in Seconds)** setting to the desired value. The setting default is 4 seconds.

**Step 3** Select **Save**.

The change takes effect immediately.

# How Cisco Unity Connection Handles Messages That Are Interrupted by Disconnected Calls

You can change how Cisco Unity Connection handles messages that are interrupted by disconnected calls while users are in the process of sending, replying to, or forwarding messages. Calls can be intentionally or unintentionally disconnected—for example, when a user hangs up or when a mobile phone loses its charge or signal.

By default, Connection sends a message when the call is disconnected in the following circumstances:

| | |
|---|---|
| **When a user is replying to or sending a message** | As long as the message has at least one recipient and the recording is more than one second (1,000 milliseconds) in length. This means that Connection sends the message even though the user may not have finished recording or addressing the message. |
| **When a user is forwarding a message** | As long as the message has at least one recipient. This means that Connection sends the message even though the user may not have recorded an introduction or completely addressed the message. |

You can configure Connection to delete interrupted messages unless users have pressed the # key to send their messages. Thus, if a call is disconnected before a user has a chance to press #, Connection deletes the message rather than sending it. Note that the setting can be configured per user. For details, see the "Specifying Whether Messages Are Sent Upon Hang-Up" section in the "Setting Up Features and Functionality That Are Controlled by User Account Settings in Cisco Unity Connection 9.x" chapter of the *User Moves, Adds, and Changes Guide for Cisco Unity Connection Release 9.x*, at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/user_mac/guide/9xcucmacx.html.

# How Cisco Unity Connection Handles Messages When Mailbox Quotas are Exceeded

Message handling when send or send/receive quotas have been exceeded depends on whether the sender is an outside caller or a user.

### Quota Handling for Outside Caller Messages

By default, if an outside caller attempts to send a message to a user whose send/receive quota has been exceeded, Cisco Unity Connection allows the caller to record a message for the recipient. You can change this behavior by checking the Full Mailbox Check for Outside Caller Messages check box on the System Settings > Advanced > Conversation page.

If the recipient mailbox has not yet exceeded the send/receive quota at the time an outside caller records a message, but the quota is exceeded in the act of delivering the message, Connection delivers the message regardless of the quota or the setting of the Full Mailbox Check for Outside Caller Messages check box.

### Quota Handling for User-to-User Messages

If a user whose voice mailbox has exceeded the send quota signs in to Connection and attempts to send a message to another user, Connection indicates that the send quota has been exceeded, and does not allow the sender to record the message. If the user calls another user and is forwarded to a voice mailbox, the user is able to leave a message, but the message is sent as an outside caller message.

If a user attempts to send a message to another user whose mailbox has exceeded the send/receive quota, or if the quota is exceeded in the act of delivering the message, Connection sends a nondelivery receipt to the message sender.

Connection delivers read receipts and nondelivery receipts to users regardless of whether their quotas have been exceeded.

# How Cisco Unity Connection Handles Messages When Maximum Mailbox Store Size Is Exceeded

When you create a mailbox store, you specify a maximum size for the store, which is a sum of the sizes of all of the mailboxes in that store. If a mailbox store reaches 90 percent of the maximum size, Cisco Unity Connection logs a warning. If a mailbox store reaches 100 percent of the maximum size, Connection logs an error. (The warning and error messages can be viewed in the Real-Time Monitoring Tool.) However, Connection functionality is not affected. You can continue to add or move mailboxes to a mailbox store that has reached the maximum size, and Connection continues to take messages for users whose mailboxes are in a mailbox store that has reached the maximum size.

For more information on managing mailbox stores, see the "Managing Mailbox Stores in Cisco Unity Connection 9.x" chapter.

# Message Delivery and Sensitivity Options in Cisco Unity Connection 9.x

Message delivery and sensitivity options allows administrators and users to control when a message is delivered, who can access it, and whether it can be redistributed to others. In some cases, message sensitivity can also prevent users from saving a voice message to their hard drives or other locations outside the Cisco Unity Connection server.

Connection offers the following message delivery and sensitivity options for users and outside callers:

| | |
|---|---|
| **Urgent** | Urgent messages are delivered before normal messages.<br><br>Users who are signed in to their mailboxes can always mark a message urgent. When unidentified callers and users who have not explicitly signed in to their mailboxes leave messages for users or call handlers, they can mark the message urgent only if the user account or call handler is set up to allow them to do so on the Edit >Message Settings page. |
| **Private** | A private message can be sent to anyone, but the message cannot be forwarded by a recipient listening to it by using the following interfaces:<br><br>• Phone<br>• Connection Web Inbox<br>• Connection Messaging Inbox<br>• ViewMail for Outlook<br>• ViewMail for Notes<br><br>Recipients who listen to a private message via an IMAP client (including Microsoft Outlook when ViewMail for Outlook is not installed) can forward the message, and can save it as a .wav file. (See the "Message Security Options for IMAP Client Access in Cisco Unity Connection 9.x" section in the "Securing User Messages in Cisco Unity Connection 9.x" chapter of the *Security Guide for Cisco Unity Connection Release 9.x* to learn how to prevent this. The guide is available at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/security/guide/9xcucsecx.html.)<br><br>User-to-user messages can be marked private. Outside callers and users who have not explicitly signed in to their mailboxes cannot mark a message private. When outside callers and users who have not explicitly signed into their mailboxes leave messages for users or call handlers, they can mark the message private if the user account or call handler is set up to allow them to do so. |

| | |
|---|---|
| **Secure** | Only Connection users can receive a secure message. The message can be played and forwarded by using the following interfaces:<br>• Phone<br>• The Connection Web Inbox<br>• The Messaging Inbox<br>• Cisco Unity Connection ViewMail for Microsoft Outlook 8.5<br>The message can be played but not forwarded by using the following methods:<br>• Cisco Unity Connection ViewMail for Microsoft Outlook 8.0<br>• Cisco Unity Connection ViewMail for IBM Lotus Notes<br>The message cannot be accessed by using an IMAP client other than Microsoft Outlook with ViewMail or Lotus Notes with ViewMail.<br>The message cannot be saved locally as a WAV file.<br>User-to-user messages can be marked secure only when the user class of service settings allow it. Outside callers and users who are not explicitly signed in to their mailboxes cannot mark a message secure. Instead, the Mark Secure check box on the Edit > Message Settings page for a user account or call handler determines whether Connection automatically marks messages from outside callers secure, or delivers them with normal sensitivity. |
| **Future Delivery** | After addressing and recording a message by using the touchtone conversation or the voice-recognition conversation, a user can mark the message for future delivery so that Connection waits to send the message on the day and time that the user specifies. Once future delivery is set on the message, the user can cancel the future delivery as long as the user has not yet chosen the option to send the message.<br>In the event of an urgent need, administrators can cancel all pending messages that are set for future delivery by using the "delete cuc futuredelivery" CLI command. Note, however, that there is no administrative option to cancel any specific messages after they have been sent by the user. |

The "How Cisco Unity Connection 9.x Handles Messages That Are Marked Private or Secure" section in the "Securing User Messages in Cisco Unity Connection 9.x" chapter of the *Security Guide for Cisco Unity Connection Release 9.x* details how Connection handles private and secure messages. (The guide is available at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/security/guide/9xcucsecx.html.)

# Message Actions in Cisco Unity Connection 9.x

Cisco Unity Connection uses the message action settings for a user to determine how to handle the different types of messages that it receives for the user. The message action setting for a particular type of message (voice, email, fax, or delivery receipt) affects all messages of that type that are sent to or created on the Connection server from any client (for example, by using the phone interface, the Connection Messaging Assistant, or an IMAP client).

By default, Connection is configured to accept each type of message, an action that causes Connection to place the message in the user mailbox in the applicable Connection mailbox store.

You can use the relay action to instruct Connection to send all messages of a certain type to a different messaging system, such as a corporate email server, for storage and user access. (This is sometimes referred to as message forwarding.) If you choose this option, users are no longer able to access these types of messages from the Connection phone interface, from the Messaging Assistant, or from other clients such as Phone View or Cisco Unified Personal Communicator. (The exception is relaying email messages to an external message store to which Connection is configured to connect so that users can hear their emails read to them when they sign in to Connection by phone.) You configure one or more message actions to relay messages to a single SMTP relay address for the user, which you define on the Message Actions page for the user. (You can also configure Message Actions for user templates, or for multiple users at once in Bulk Edit mode; in these cases, you can use a combination of text and replaceable tokens to define a template for the SMTP address, from which Connection creates a relay address for each individual user.) Note that Connection relays messages through an SMTP smart host, and you must have the smart host configured on the Connection server before you can configure this action for a user or user template.

You can use the accept and relay action to instruct Connection to both deliver each message of a certain type to the user mailbox and forward a copy of the message to the relay address. (This is sometimes referred to as "accept and forward.") This option may be useful for users who regularly use a device that accesses a separate server for messages, such as a handheld wireless device, and want easy access to voice messages both on the alternative device and through the Connection user interfaces. If you choose this option, the user receives two copies of each message. The copies are stored in different message stores, and any actions the user takes on the relayed copy are not reflected on the copy stored in the Connection message store. Note that if the user does not regularly manage new messages in the Connection message store, the user mailbox may quickly exceed the mailbox quota because new messages are not subject to message aging policies.

**Note** The email address mentioned in the Accept and Relay option should not be the same with the email address mentioned in the SMTP Proxy Address of any other user.

You can use the reject action to instruct Connection to discard all messages of a particular type that a user receives and send a non-delivery receipt to the message sender.

# Message Subject Line Formats in Cisco Unity Connection 9.x

Message subject lines are visible when users view and listen to messages in the Cisco Unity Connection Web Inbox, Connection Messaging Inbox, an IMAP client, an RSS client, or any other visual client that displays the message subject. Subject lines are not presented to users when they listen to voice messages by phone.

You can configure both the wording and the information that is included in the subject line of voice messages, including localizing the subject line according to the language of the recipient.

The subject lines of the following message types can be defined:

- Outside Caller Messages—Messages from callers who are not Cisco Unity Connection users, and also from Connection users who send messages without first signing in to Connection or who have not been automatically identified as Connection users by the Identified User Messaging feature. This includes messages that are left for a system call handler.
- User to User Messages—Messages from callers who have either signed in to Connection, or have been automatically identified as Connection users because Identified User Messaging is enabled. This includes messages that are left from users for a system call handler.
- Interview Handler Messages—Messages that are left for interview handlers.

- Live Record Messages—Messages containing conversations that users recorded while they talked to callers.

**Note** Subject lines for call handler messages use the definition of outside caller messages or user to user messages, depending on whether the call handler message is from an outside caller or a user.

See the following sections for additional information:

- Subject Line Parameters, page 20-17
- Subject Line Format Examples, page 20-19
- Subject Line Format Configuration, page 20-19

# Subject Line Parameters

Table 20-1 describes the parameters that can be used to define message subject lines.

***Table 20-1 Parameters Used to Define Message Subject Lines***

| Parameter | Description |
|---|---|
| %CALLERID% | When the %CALLERID% parameter is used in a subject line format, it is automatically replaced with the ANI Caller ID of the sender of the message.<br><br>If the ANI Caller ID is not available, the text entered in the %CALLERID% (When Unknown) field is inserted into the subject line instead. |
| %CALLEDID% | When the %CALLEDID% parameter is used in a subject line format, it is automatically replaced with the ID of the number called by the sender of the message. If the Called ID is not available, the text entered in the %CALLEDID% (When Unknown) field is inserted into the subject line instead.<br><br>You might find this field useful in cases where more than one organization shares a single Cisco Unity Connection system, and there are multiple inbound numbers defined so that callers can be routed to different opening greetings. In this case it might be helpful if messages left in a general help voice mailbox include the number that the sender of the message used when calling the system. |

*Table 20-1 Parameters Used to Define Message Subject Lines (continued)*

| Parameter | Description |
|---|---|
| %NAME% | When the %NAME% parameter is used in the subject line format of an outside caller message, it is automatically replaced with the ANI Caller Name of the sender of the message. If the ANI Caller Name is not available, Cisco Unity Connection inserts the value specified in the %NAME% (When Unknown) field.<br><br>When the %NAME% parameter is used in the subject line format of a user to user message, it is automatically replaced with the display name of the sender of the message. If the display name is not available, Connection inserts the ANI Caller Name. If the ANI Caller Name is not available, Connection inserts the value specified in the %NAME% (When Unknown) field.<br><br>When the %NAME% parameter is used in the subject line format of an interview handler message, it is automatically replaced with the ANI Caller Name of the sender of the message. If the ANI Caller Name is not available, Connection inserts the display name of the interview handler. If the display name is not available, Connection inserts the value specified in the %NAME% (When Unknown) field.<br><br>When %NAME% is used in the Live Record Messages field, it is automatically replaced with the display name of the user who initiated the live record message. If the display name is not available, Connection inserts the ANI Caller Name. If the ANI Caller Name is not available, Connection inserts the value specified in the %NAME% (When Unknown) field. |
| %EXTENSION% | When the %EXTENSION% parameter is used in a subject line format, it is automatically replaced with the extension of the sender of the message, or for messages recorded by call handlers or interview handlers, with the extension of the handler.<br><br>If the extension is not available, the value entered in the %EXTENSION% (When Unknown) field is inserted into the subject line instead.<br><br>**Note** When %EXTENSION% is used in the Live Record Messages field, it is replaced with the extension of the user who initiated the live record message. |
| %U% | When the %U% parameter is used in a subject line format, it is automatically replaced with the text that you enter in the %U% field if the message is flagged as urgent. If the message is not urgent, this parameter is omitted. |
| %P% | When the %P% parameter is used in a subject line format, it is automatically replaced with the text that you enter in the %P% field if the message is flagged as private. If the message is not private, this parameter is omitted. |
| %S% | When the %S% parameter is used in a subject line format, it is automatically replaced with the text that you enter in the %S% field if the message is flagged as a secure message. If the message is not a secure message, this parameter is omitted. |
| %D% | When the %D% parameter is used in a subject line format, it is automatically replaced with the text that you enter in the %D% field if the message is flagged as a dispatch message. If the message is not a dispatch message, this parameter is omitted. |

# Subject Line Format Examples

*Table 20-2 Subject Line Format Examples*

| Type of Message | Subject Line Format | Message Details | Subject Line of the Message Received |
|---|---|---|---|
| Outside caller message | %U% %D% Voice message from %CALLERID% | An outside caller with the ANI Caller ID 2065551212 | "Voice message from 2065551212" |
| User to user message | %U% %P% %S% Message from %NAME% [%CALLERID%] | John Jones, at extension 4133—an urgent message | "Urgent Message from John Jones [4133]" |
| Interview handler message | Message from %NAME% [%CALLERID%] | "Sales Survey" interview handler, no ANI caller ID available | "Message from Sales Survey [Unknown caller ID]" |
| Live Record message | Live Record message from %CALLERID% | User recording of a phone call from a caller with the ANI caller ID 4085551212 | "Live Record message from 4085551212" |

# Subject Line Format Configuration

You should consider the following when defining subject line formats:

- You must include a % before and after the parameter.
- You can define a separate subject line format for each language that is installed on the system.
- When a subject line format is not defined for the preferred language of the user, the subject line format definition for the system default language is used instead.
- When a message is sent to a distribution list, the subject line format for the system default language is used for all recipients on the distribution list. This means that the subject line is not necessarily in the preferred language of each recipient.
- There is no parameter with which to indicate that a message is being sent to a distribution list.
- Subject line formats are applied to voice messages when the messages are saved to the database. Messages that are already in user mailboxes are not altered if the subject line format definitions are subsequently changed. Only voice messages that are recorded after the changes have been saved reflect the new subject line definition.

Do the following procedure to configure subject line formats.

### To Configure Subject Line Formats

**Step 1** In Cisco Unity Connection Administration, expand **System Settings > Subject Line Formats**.

**Step 2** On the Edit Subject Line Formats page, select the applicable language.

**Step 3** Enter text and parameters in the Subject Line Formats fields, as applicable. For descriptions of the available parameters, see Table 20-1.

**Step 4** Enter text in the Parameter Definitions fields, as applicable.

**Step 5** Select **Save**.

The information you enter affects the subject lines of any new voice messages. The subject line formats are not applied to messages that are already in user mailboxes.

**Step 6** Repeat Step 2 through Step 5 as needed for additional languages.

# Message Storage and Disk Capacity in Cisco Unity Connection 9.x

Cisco Unity Connection stores message content as files on the Connection server, and stores information about the messages in a database.

Depending on the number of Connection users, the number and duration of messages they receive, and the settings that you specify for the message aging policy and for quotas, it may be possible for the hard disk on which messages and greetings are stored to fill up. This would cause Connection to stop functioning. As the hard disk approaches maximum capacity, you may also encounter unexpected behavior.

On the Disk Capacity page (System Settings > Advanced > Disk Capacity in Cisco Unity Connection Administration), you can specify a maximum capacity for the hard disk on which messages and greetings are stored. When the hard disk fills to the specified percentage limit, neither Connection users nor outside callers are allowed to leave voice messages. Connection also logs an error, which can be viewed on the Tools > SysLog Viewer page in the Real-Time Monitoring Tool. Note that you can still send a broadcast message even when the hard disk exceeds the specified limit.

We recommend that you specify a value no greater than 95 percent. If you change the disk-capacity setting, use Cisco Unity Connection Serviceability to restart the Connection Message Transfer Agent service.

If the hard disk exceeds the value that you specify, instruct Connection users to immediately delete unneeded voice messages. In addition, to prevent a recurrence, you may want to reevaluate message-aging policy and mailbox quotas. For more information, see the "Controlling the Size of Mailboxes in Cisco Unity Connection 9.x" chapter.

**Note** For ways to prevent users from saving messages as WAV files to their hard drives or other locations outside of the Connection server, see the "Securing User Messages in Cisco Unity Connection 9.x" chapter of the *Security Guide for Cisco Unity Connection Release 9.x*, at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/security/guide/9xcucsecx.html.

# Deleting Messages in Cisco Unity Connection 9.x

In Cisco Unity Connection, there are multiple methods that users can use to delete messages. In addition, there are configuration settings that system administrators can use to manage the deletion of messages to meet the disk capacity needs and security needs of an organization. See the following sections:

- Soft Deletes and Hard Deletes, page 20-21
- Deleting Messages by Way of Message Aging Policies, page 20-21
- Message File Shredding for Secure Deletes, page 20-22

# Soft Deletes and Hard Deletes

In Cisco Unity Connection, messages can be either “soft” or “hard” deleted. Depending on how you choose to set the Delete Messages Without Saving to Deleted Items Folder class of service setting, user actions to delete messages will result in the messages being moved to a deleted items folder (“soft” deletes), or being permanently deleted (“hard” deletes).

When messages are soft deleted, for example when a user deletes a message after listening to the message by phone, or deletes it in the Connection Web Inbox or Messaging Inbox, the message is marked as deleted in the Connection database, and is moved to the Deleted Items folder. As long as the message is still in the Deleted Items folder, it is still recoverable by the user. The user can listen to deleted voice messages; retrieve the deleted messages to reply to them or forward them; restore them to the Inbox; or delete them permanently by hard deleting them.

When the Delete Messages Without Saving to Deleted Items Folder check box is checked to enable it, all user deletes will be hard deletes.

When the Delete Messages Without Saving to Deleted Items Folder setting is not enabled, the user needs to use one of the following methods to hard delete a message:

- The user signs in to Connection by phone. From the Main menu, the user selects the option to Review Old Messages, then selects Deleted Messages, and then follows the prompts to permanently delete individual messages or all old messages.
- To hard delete a message in the Web Inbox or Messaging Inbox, the user clears the deleted items folder.
- To hard delete a message in an IMAP client application, the user expunges deleted messages.

For more information about the Delete Messages Without Saving to Deleted Items Folder class of service setting, see the “Deleted Message Access in Cisco Unity Connection 9.x” section in the “Setting Up Features and Functionality That Are Controlled by Class of Service in Cisco Unity Connection 9.x” chapter of the *User Moves, Adds, and Changes Guide for Cisco Unity Connection Release 9.x*, at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/user_mac/guide/9xcucmacx.html.

**Note** Make sure that the “Hard” delete option is enabled to delete files permanently from the system. If the "Hard" delete option is not enabled, the files that you delete are moved to the deleted items folder. The files are not deleted from the deleted items folder until they are explicitly deleted, or deleted through aging rules.

# Deleting Messages by Way of Message Aging Policies

To permanently delete messages without any action required from the users who received them, you can configure message aging policies. For example, you can configure a message aging policy to automatically move read messages to the deleted items folder a specified number of days after they are read, and configure another message aging policy to permanently delete messages that are in a deleted items folder a specified number of days after they are moved to the folder. (Note that the default voicemail user template is assigned to a default system message aging policy that automatically cleans up the Deleted Items folder after 15 days.) For detailed information on configuring message aging policies, see the “Managing Message Aging Policies in Cisco Unity Connection 9.x” section on page 24-3.

## Message File Shredding for Secure Deletes

The Message File Shredding Level setting on the Advanced Settings > Messaging Configuration page in Cisco Unity Connection Administration is a systemwide setting that ensures copies of messages are securely deleted, by shredding the messages the specified number of times when they are deleted. The shredding is done by way of a standard Linux shred tool: the actual bits that make up the message are overwritten with random bits of data the specified number of times. Note that messages are shredded only when they have been hard deleted.

Cisco Unity Connection uses RAID technology to provide disk redundancy on the server. The RAID technology covers all the disk faults by working from a healthy disk until the faulty disk is rebuilt. As the RAID technology hides the disk errors from the operating system and performs optimizations, the shredding might not work properly in some potential scenarios. The following are some of the instances where shredding does not work properly:

- Disk mirroring during normal operation: Based on the RAID hardware, the RAID technology optimizes the mirroring and waits for the data to be finalized before committing it to the mirror drive. As per the RAID 1 specification, the **Write** command must be sent to all the disks. However, some manufacturers do not follow the RAID 1 specification and the **Write** command is not sent to all the disks. For example, if shred performs 25 overwrites on some data on disk 1, it is not necessary that all the overwrites are performed on disk 2 also. In such cases, the RAID controller might wait for the completion of writes on disk 1, and then it mirrors over the final data on disk 2.
- Disk mirroring during a disk rebuild: If disk 1 gets corrupted, it can be rebuilt with the information stored on disk 2. In such case, the areas shredded on disk 2 will only be recovered instead of the data shredded on disk 1.

For detailed information on secure deletes, see the "Shredding Message Files for Secure Delete in Cisco Unity Connection 9.x" section in the "Securing User Messages in Cisco Unity Connection 9.x" chapter of the *Security Guide for Cisco Unity Connection Release 9.x*, at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/security/guide/9xcucsecx.html.

# Message Access in Cisco Unity Connection 9.x

Connection users can always access their new and saved voice messages by phone by using a touchtone or voice-recognition conversation. You specify whether users can access their deleted messages.

Depending on their class of service settings, users may also gain access to voice messages from other applications, such as the Cisco Unity Connection Web Inbox, Connection Messaging Inbox, the Cisco Personal Communicator, or an RSS reader. When set up to do so, users can access Connection voice messages from an IMAP client, Cisco Unified Messaging with IBM Lotus Sametime, or an RSS reader.

Finally, depending on their external service or unified messaging service accounts, users may access email messages in an external message store by phone.

# Configuring Live Record in Cisco Unity Connection 9.x

Live record allows users to record conversations while they talk to callers. The recorded conversation is stored as a message in the user mailbox, and the user can review it later or redirect it to another user or group of users. Operators in your organization may find live record particularly useful.

Live record is supported only for Cisco Unified Communications Manager integrations.

While there is no class of service or user account setting required to enable the feature, note that the maximum duration of a live record message is controlled by the maximum message length for the class of service of the user. In addition, live record does not work for users who have full mailboxes. When a user who has a full mailbox tries to record a call, the feature seems to work normally, but the recorded conversation is not stored as a message in the user mailbox.

Do the following procedures in the order given.

#### To Add a Live Record Pilot Number to Cisco Unified Communications Manager

**Step 1** In Cisco Unified CM Administration, on the Call Routing menu, select **Directory Number**.

**Step 2** On the Find and List Directory Numbers page, select **Add New**.

**Step 3** On the Directory Number Configuration page, in the Directory Number field, enter the directory number of the live record pilot number. For example, enter "5110."

**Step 4** In the Route Partition field, select the partition that contains all voicemail port directory numbers.

**Step 5** In the Description field, enter **Live Record** or another description.

**Step 6** In the Voice Mail Profile field, accept the default of **None**.

**Step 7** In the Calling Search Space field, select the calling search space that includes the partition that you selected in Step 4.

**Step 8** In the Forward All field, under Destination, enter the voicemail pilot number for the Cisco Unity Connection voice messaging ports.

**Step 9** In the Forward All field, under Calling Search Space, select the calling search space that includes the partition that you selected in Step 4.

**Step 10** Select **Save**.

The following procedure is optional. It configures Cisco Unified CM so that all parties in a conference call are disconnected when the initiator hangs up. Otherwise, Cisco Unity Connection remains connected until the last party on the call hangs up.

#### To Configure Cisco Unified Communications Manager Conference Settings (Optional)

**Step 1** In Cisco Unified CM Administration, on the System menu, select **Service Parameters**.

**Step 2** On the Service Parameters Configuration page, in the Server field, select the name of the Cisco Unified CM server.

**Step 3** In the Service list, select **Cisco CallManager**. The list of parameters appears.

**Step 4** Under Clusterwide Parameters (Feature - Conference), in the Drop Ad Hoc Conference field, select **When Conference Controller Leaves**.

**Step 5** Select **Save**.

#### To Create a Call Routing Rule for Live Record in Cisco Unity Connection

**Step 1** In Cisco Unity Connection Administration, expand Call Management, then select **Call Routing > Forwarded Routing Rules**.

**Step 2** On the Forwarded Routing Rules page, select **Add New**.

**Step 3** On the New Forwarded Routing Rule page, in the Description field, enter **Live Record** or another descriptive name and select **Save**.

**Step 4** On the Edit Forwarded Routing Rule page, in the Status field, select **Active**.

**Step 5** Under Send Call To, select **Conversation**.

**Step 6** In the Conversation list, select **Start Live Record**.

**Step 7** Select **Save**.

**Step 8** Under Routing Rule Condition, select **Add New**.

**Step 9** On the New Forwarded Routing Rule Condition page, select **Forwarding Station**.

**Step 10** To the right of the Forwarding Station option, select **Equals** and enter the live record pilot number that you created in the "To Add a Live Record Pilot Number to Cisco Unified Communications Manager" procedure on page 20-23. For example, enter "5110."

**Step 11** Select **Save**.

The following procedure is optional. It adjusts the interval between beeps while Cisco Unity Connection is recording a phone conversation.

### To Adjust the Live Record Beep Interval (Optional)

**Step 1** In Cisco Unity Connection Administration, expand **System Settings**, then select **Advanced > Telephony**.

**Step 2** On the Telephony Configuration page, in the Live Record Beep Interval in Milliseconds field, enter the interval (in milliseconds) between beeps when a phone conversation is being recorded by using the live record feature.

If the setting is blank, the interval is 15,000 milliseconds. If the setting is 0, the beep is disabled.

**Step 3** Select **Save**.

### To Test Live Record

**Step 1** From a user phone, dial an extension.

**Step 2** After the dialed extension is answered, on the user phone, press the **Confrn** softkey to start a conference call.

**Step 3** Dial the live record pilot number that you created in the "To Add a Live Record Pilot Number to Cisco Unified Communications Manager" procedure on page 20-23. For example, dial "5110."

**Step 4** To join the Connection live recorder with the conference call, press the **Confrn** softkey.

**Step 5** After recording the phone conversation, hang up the user phone.

**Step 6** On the user phone, sign in to the voice mailbox for the user.

**Step 7** Listen to the recorded phone conversation.

# Configuring Access to RSS Feeds of Voice Messages in Cisco Unity Connection 9.x

As an alternative to checking messages by phone or using the Cisco Unity Connection Web Inbox, Connection Messaging Inbox, or an IMAP client, users can retrieve voice messages by using an RSS reader. In order to use the RSS Feed feature, users must be assigned to a class of service that is configured to allow them to use the Messaging Inbox and RSS Feeds, and the Connection Inbox RSS Feed service must be turned on and started. Do the following procedure.

**Note** RSS feeds support both the IPv4 and IPv6 addresses. However, the IPv6 address works only when Connection platform is configured in Dual (IPv4/IPv6) mode. For more information on Configuring IPv6 settings, see Adding or Changing the IPv6 Addresses of Cisco Unity Connection chapter of *Reconfiguration and Upgrade Guide for Cisco Unity Connection* guide at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/upgrade/guide/9xcucrug051.html.

### To Confirm That the Inbox RSS Feed Service Is Turned On and Started

**Step 1** In Cisco Unity Connection Serviceability, select **Tools > Service Management**.

**Step 2** In the Optional Services section, confirm that the Connection Inbox RSS Feed service is turned on and started.

See the following sections for additional details on configuring access to RSS Feeds:

- Allowing Insecure Connections to RSS Feeds, page 20-25
- Configuring an RSS Reader to View Voice Messages, page 20-26
- RSS Feed Limitations and Behavioral Notes, page 20-26

## Allowing Insecure Connections to RSS Feeds

By default, Cisco Unity Connection only supports secure connections to the RSS feed, using SSL. Some RSS readers, such as Apple iTunes, do not support secure connections.

If you want to allow users to be able to use RSS readers that do not support secure connections, do the following procedure.

### To Allow Insecure RSS Connections

**Step 1** In Cisco Unity Connection Administration, expand **System Settings > Advanced > RSS**.

**Step 2** On the RSS Configuration page, check the **Allow Insecure RSS Connections** check box.

Note that when you use an RSS reader that does not support secure connections, if this check box is checked, the username and password are transmitted unencrypted over the network.

**Step 3** Select **Save**.

# Configuring an RSS Reader to View Voice Messages

Users can configure an RSS reader to view voice messages. For instructions on how to set up the RSS reader, refer to the documentation for your reader.

Note these general guidelines:

- Use the following URL in the RSS Reader:
  - https://<Connection server name>/cisco-unity-rss/rss.do

**Note** The Connection server name can be either the Hostname, IPv4 address, or IPv6 address of the Connection server. However, the IPv6 address works only when Connection platform is configured in Dual (IPv4/IPv6) mode. For more information on Configuring IPv6 settings, see Adding or Changing the IPv6 Addresses of Cisco Unity Connection chapter of *Reconfiguration and Upgrade Guide for Cisco Unity Connection* guide at http://www.cisco.com/en/US/docs/voice_ip_comm/connection/9x/upgrade/guide/9xcucrug051.html.

- When users connect to the RSS feed, they are required to provide the following:
  - User Name—Enter the user alias.
  - Password—Enter the Cisco PCA password of the user (also known as the web-application password).

# RSS Feed Limitations and Behavioral Notes

- Only the 20 most recent unread messages are presented in the RSS feed.
- If the message is secure or private, a decoy message plays instead of the actual message. The decoy message indicates that the message is secure or private and that the user must retrieve the message by calling in by phone.
- Broadcast messages are not included in the RSS feed.
- Messages cannot be deleted. Messages can only be marked read.
- Marking a message read removes it from the RSS feed.
- US English is the only language supported at this time.
- Dispatch messages cannot be accepted, declined or postponed. Dispatch messages cannot be marked as read. A dispatch message remains in the RSS feed until it is handled via another interface or accepted by another recipient.
- Some RSS readers, such as Apple iTunes, do not allow the description of the message to contain hyperlinks. For those readers, the feed does not offer the option to mark the message as read.
- For messages with multiple parts (for example a forwarded message with an introduction), not all parts of the message can be played. Only the first part (for example, the introduction) is played and the subject line indicates that there are more attachments. Users must retrieve the remaining message parts by calling in by phone.