



# Messages

## About Problems with Messages

Message problems fall into the following categories:

<b>Messages appear to be delayed</b>	Some subscriber errors or misconceptions can lead to the impression that Cisco Unity is delaying messages. See the <a href="#">“Messages Appear to Be Delayed” section on page 5-1.</a>
<b>Messages seem to disappear</b>	Some Exchange and Cisco Unity situations can affect message delivery. See the <a href="#">“Some Messages Seem to Disappear” section on page 5-3.</a>
<b>Outbound AMIS messages are not delivered</b>	See the <a href="#">“Troubleshooting Problems with Outbound AMIS Messages” section on page 5-6.</a>
<b>Inbound AMIS messages are not delivered</b>	See the <a href="#">“Troubleshooting Problems with Inbound AMIS Messages” section on page 5-9.</a>
<b>Messages to remote Cisco Unity servers are not delivered</b>	See the <a href="#">“Troubleshooting SMTP Networking Message Delivery Problems” section on page 5-17.</a>
<b>Messages are incomplete</b>	A setup problem may cause callers to be cut off when they try to leave a message. See the <a href="#">“Cisco Unity Stops Recording Before a Caller Has Finished Leaving a Message” section on page 5-19.</a>
<b>Messages include dial tone or reorder tone</b>	See the <a href="#">“Dial Tone or Reorder Tone Is Present at the End of a Message” section on page 5-21.</a>

Begin your troubleshooting by gathering information about the message problem. By discussing the problem with the subscriber, you can determine whether a problem is due to a misunderstanding of how Cisco Unity works. If you encounter a message problem that is not described in this section, contact the Cisco Technical Assistance Center (TAC).

## Messages Appear to Be Delayed

The following sections describe possible reasons that messages may appear to be delayed. Use the [“Task List for Troubleshooting Delay in Appearance of Messages”](#) to troubleshoot the possible causes.

**Task List for Troubleshooting Delay in Appearance of Messages**

1. Investigate whether the subscriber misunderstands how Cisco Unity delivers messages. See the “Subscriber Misunderstandings” section on page 5-2.
2. Check to see if the Exchange server is down or disconnected. See the “Cisco Unity Primary Exchange Server Is Down or Is Disconnected” section on page 5-3.
3. If the messages in question are AMIS messages, see the “AMIS Messages Are Unable to Be Delivered Promptly” section on page 5-3.

**Tip**

To confirm the arrival times of messages, generate a subscriber message activity report for the subscriber. For more information, refer to the “Subscriber Message Activity Report” section in the “Reports” chapter of the *Cisco Unity System Administration Guide*. The guide is available at [http://www.cisco.com/univercd/cc/td/doc/product/voice/c\\_unity/unity40/sag/sag403/ex/index.htm](http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/unity40/sag/sag403/ex/index.htm).

## Subscriber Misunderstandings

### **A Subscriber Who Is Using Optional Conversation 1 Misunderstands the Effect of Pressing the # Key Twice During Message Playback**

When a subscriber presses the # key twice while listening to a message, Cisco Unity saves the message as a new message and skips to the next message. Later, the subscriber checks messages again, hears the same message, and believes the message arrived after a delay.

Explain to the subscriber that pressing the # key twice while a message plays saves it as a new message. Refer subscribers to the end-user documentation available at [http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products\\_user\\_guide\\_list.html](http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_user_guide_list.html).

### **A Subscriber Who Is Using the Standard Conversation Misunderstands the Effect of Pressing the # Key Twice During Message Playback**

When a subscriber presses the # key twice while listening to a new message, Cisco Unity saves the message as a new message and skips to the next message. Later, the subscriber checks messages again, hears the same message, and believes the message arrived after a delay.

Explain to the subscriber that pressing the # key twice while a new message plays saves it as a new message. Refer subscribers to the end-user documentation available at [http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products\\_user\\_guide\\_list.html](http://www.cisco.com/en/US/products/sw/voicesw/ps2237/products_user_guide_list.html).

### **System Clock Time Is Incorrect**

When the system clock is slow or when a desk clock is fast, the subscriber may believe messages were delayed.

Confirm that the system clock on the Cisco Unity server is reporting the correct time.

### **Exchange Settings Were Updated**

When settings are changed for a subscriber in Exchange, the new values may not be reflected immediately in Cisco Unity.

Explain to the subscriber that the settings may take a few minutes to synchronize, causing a delay in receipt of messages.

## Cisco Unity Primary Exchange Server Is Down or Is Disconnected

Messages recorded while the primary Exchange server is down or disconnected are stored in the Unity Messaging Repository (UMR) until the server is brought back up. The delay experienced between the time a message is recorded and its delivery is dependent on the amount of time that the primary Exchange server was down or disconnected.

## AMIS Messages Are Unable to Be Delivered Promptly

There are a number of reasons why AMIS messages may not be delivered promptly (or why they may be perceived as not being delivered promptly):

- Outbound AMIS messages can be restricted to use only certain voice messaging ports. If the ports designated to handle AMIS messages are busy with other calls, outbound AMIS messages can be delayed. The AMIS Out Traffic report shows AMIS outbound traffic and total transmission time used. If the total transmission time approaches the limit of the ports dedicated to AMIS deliveries, review the AMIS schedule and port assignments to determine if additional resources (time and/or ports) should be dedicated to AMIS message traffic.
- AMIS delivery of non-urgent messages can be restricted to occur only at scheduled delivery times. This may cause the recipient to believe message delivery was delayed.
- Some AMIS messages may be undeliverable. An undeliverable message is returned to the sender with a non-delivery receipt (NDR) status; the sender or the administrator can make corrections and resend the message. This may also appear to the recipient as a delayed delivery.

For more information, see the [“Troubleshooting Problems with Outbound AMIS Messages”](#) section on page 5-6.

## Some Messages Seem to Disappear

The following sections describe possible reasons that messages may not be delivered to the intended recipients. Use the [“Task List for Troubleshooting the Disappearance of Some Messages”](#) to troubleshoot the possible causes.

### Task List for Troubleshooting the Disappearance of Some Messages

1. Check to see if the Exchange server or network are down. See the [“Network or Home Exchange Server Is Down”](#) section on page 5-4.
2. Verify that the subscriber mailbox is not full. See the [“A Mailbox Is Full”](#) section on page 5-4.
3. Verify that subscribers who are assigned to the Unaddressed Messages distribution list have been forwarding messages to the intended recipients. See the [“Undeliverable Messages Have Not Been Forwarded to Recipients”](#) section on page 5-4.
4. Confirm that you or another administrator did not inadvertently delete a subscriber who was assigned to review the messages for Cisco Unity entities. See the [“Subscribers Assigned to Cisco Unity Entities Were Deleted and No Replacements Were Assigned”](#) section on page 5-5.
5. Certain messages may get stuck in the UAmis, UOmni, or Unity Messaging System mailboxes. See the [“Unity Messaging System, UAmis, or UOmni Mailboxes Have Been Moved Incorrectly in Exchange”](#) section on page 5-5.

## Network or Home Exchange Server Is Down

This applies only if there are multiple Exchange servers. Increasing the Max Open Retries value and decreasing the Open Interval value will increase the number of tries and decrease the wait time Exchange uses when it tries to deliver a message after the network or server comes back up.

Change these message transfer agent (MTA) site configuration values, if needed, in the Exchange Administrator.

## A Mailbox Is Full

By default, Cisco Unity does not check whether a subscriber mailbox has exceeded the Prohibit Send and Receive limit before allowing a caller to leave a message, although Cisco Unity does check before sending the message to the subscriber mailbox. If the subscriber mailbox is no longer allowed to receive messages, Cisco Unity handles the message in one of the two following ways:

- If the message was left by an unidentified caller—an outside caller or a caller from inside the organization calling from a phone that is not associated with a subscriber account (such as a conference room)—Cisco Unity sends the message to the Unaddressed Messages distribution list, which should be monitored by the Cisco Unity system administrator or another subscriber.
- If the message was left by another subscriber, Cisco Unity sends a non-delivery receipt (NDR) message to the subscriber who left the message.

Encourage the subscriber to dispose of messages promptly so that the Exchange mailbox does not fill up, and explain to subscribers on the Unaddressed Messages distribution list the importance of regularly checking for and forwarding undeliverable messages. (Note that if the mailbox(es) of the subscriber(s) who are assigned to check the Unaddressed Messages list exceed the Prohibit Send and Receive storage limit that is specified in Exchange, the messages sent to the Unaddressed Messages distribution list are lost. To avoid this problem, specify a generous value for the Prohibit Send and Receive storage limit for the mailbox of at least one subscriber who is a member of the Unaddressed Messages list.)

Cisco Unity can be set to check whether a subscriber mailbox is full when an outside caller tries to leave a message for the subscriber. To do so, refer to the “Message Handling” section in the “Default Accounts and Message Handling” chapter of the *Cisco Unity System Administration Guide*.

For more information on Exchange 5.5, Exchange 2000, and Exchange 2003 storage limits, refer to the “Setting a Maximum Size for Exchange Mailboxes” section in the “Configuring Exchange for Maintenance Tasks” chapter in the *Cisco Unity Maintenance Guide*, or refer to the Microsoft Exchange documentation. The *Cisco Unity Maintenance Guide* is available at [http://www.cisco.com/univercd/cc/td/doc/product/voice/c\\_unity/unity40/maint/maint403/ex/index.htm](http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/unity40/maint/maint403/ex/index.htm).

You can also review the *White Paper: Understanding How Exchange 2000 Storage Limits Work with Cisco Unity, Version 3.x and Later*, available at [http://www.cisco.com/univercd/cc/td/doc/product/voice/c\\_unity/whitpapr/e2kstore.htm](http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/whitpapr/e2kstore.htm).

## Undeliverable Messages Have Not Been Forwarded to Recipients

Messages returned to the Unity Messaging System mailbox are forwarded automatically to subscribers whose names appear on the Unaddressed Messages public distribution list. The messages then must be forwarded to the intended recipients. Explain to subscribers on the Unaddressed Messages public distribution list the importance of regularly checking for and forwarding undeliverable messages.

Note that if the mailbox(es) of the subscriber(s) who are assigned to check the Unaddressed Messages list exceed the Prohibit Send and Receive storage limit that is specified in Exchange, the messages sent to the Unaddressed Messages distribution list are lost. To avoid this problem, specify a generous value for the Prohibit Send and Receive storage limit for the mailbox of at least one subscriber who is a member of the Unaddressed Messages list and encourage the subscriber to dispose of messages promptly so that the Exchange mailbox does not fill up.

## Subscribers Assigned to Cisco Unity Entities Were Deleted and No Replacements Were Assigned

When you delete a subscriber who was assigned to review the messages sent to any of the following Cisco Unity entities, make sure that you assign another subscriber or a public distribution list to replace the deleted subscriber; otherwise, messages may be “lost.”

- Unaddressed Messages distribution list
- System Event Messages distribution list (by default the Example Administrator is the only member of this distribution list)
- Operator call handler (by default the Example Administrator is the only member of this distribution list)
- Opening Greeting call handler
- Goodbye call handler
- Example Interview call handler

To identify call handlers that are associated with improperly deleted accounts, run the Unresolved References report. Then you can fix any “stranded” call handlers that you find by running the DbWalker utility. Refer to the “Reports” chapter of the *Cisco Unity System Administration Guide* for more information. The *Cisco Unity System Administration Guide* is available at [http://www.cisco.com/univercd/cc/td/doc/product/voice/c\\_unity/unity40/sag/sag403/ex/index.htm](http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/unity40/sag/sag403/ex/index.htm).

## Unity Messaging System, UAmis, or UOmni Mailboxes Have Been Moved Incorrectly in Exchange

The Unity Messaging System, UAmis, and UOmni mailboxes are special Exchange mailboxes with specific functions. Each requires special care if you move them in Exchange. If you recently moved a group of subscriber mailboxes, you may have inadvertently moved the Unity Messaging System, UAmis, or UOmni mailboxes at the same time if you notice that:

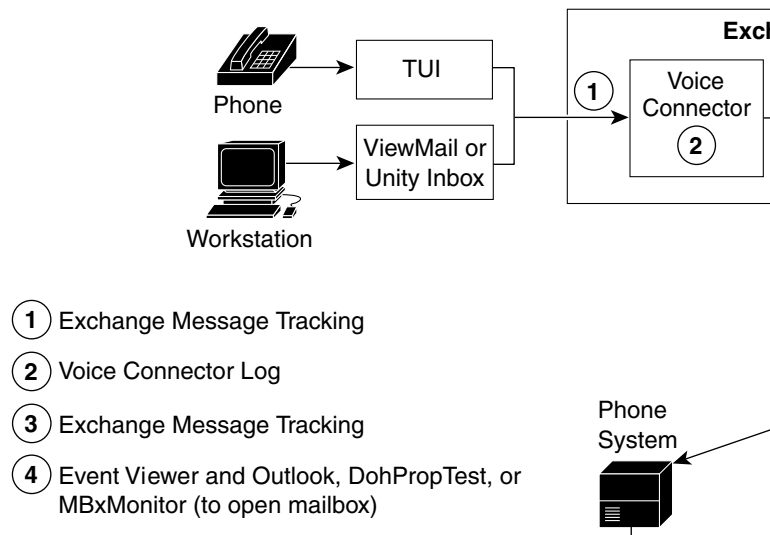
- Messages from unidentified callers—outside callers or callers from inside the organization who are calling from a phone that is not associated with a subscriber account, such as a conference room—are stuck in the Unity Messaging Repository (UMR).
- Messages are stuck in the UAmis mailbox.
- Messages are stuck in the UOmni mailbox.

Refer to the “Moving the Unity Messaging System, UAmis, and UOmni Exchange Mailboxes” section in the “Cisco Unity Data and Log Files” chapter of the *Cisco Unity Maintenance Guide*, available at [http://www.cisco.com/univercd/cc/td/doc/product/voice/c\\_unity/unity40/maint/maint403/ex/index.htm](http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/unity40/maint/maint403/ex/index.htm).

# Troubleshooting Problems with Outbound AMIS Messages

Figure 5-1 shows at a high level the flow of outbound AMIS messages through Cisco Unity to the remote voice messaging system, and the logs and other tools that you can use to troubleshoot problems along the path.

Figure 5-1 Outbound AMIS Message Flow and Troubleshooting Tools



Use the following task list to troubleshoot problems with outbound AMIS messages:

1. Confirm that the other voice messaging system is supported by Cisco Unity for AMIS messaging. Refer to the “AMIS Support” section of the *Cisco Unity System Requirements, and Supported Hardware and Software*, available at [http://www.cisco.com/univercd/cc/td/doc/product/voice/c\\_unity/sysreq/40\\_sysrq.htm](http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/sysreq/40_sysrq.htm).
2. If Cisco Unity is integrated with Cisco CallManager, verify that the Cisco gateway version is supported for use with AMIS as described in the “Supported Cisco Gateways for Use with AMIS” section of the *Cisco Unity System Requirements, and Supported Hardware and Software*.
3. Check the Windows Application Event log. If there are AMIS-related errors in the Event log, check <http://www.CiscoUnitySupport.com> to see whether troubleshooting information about the error is available.
4. Determine whether the Voice Connector delivered the messages to the UAmis mailbox by using one of the following methods:
  - a. See the procedure [To Confirm That Messages Are Being Delivered to the UAmis Mailbox](#), page 5-11.

- b. Use Exchange Message Tracking. Refer to your Microsoft Exchange documentation for more information.

If you determine that the messages are not being delivered to the UAmis mailbox, see the [“Messages Are Not Delivered to the UAmis Mailbox”](#) section on page 5-7 for information on how to troubleshoot this problem.

5. If messages are being delivered to the UAmis mailbox, but are not being sent on from there, see the [“Messages Are Stuck in the UAmis Mailbox”](#) section on page 5-8 for information on how to troubleshoot this problem.
6. If messages are leaving the UAmis mailbox, but are not delivered to users on the other voice messaging system, see the [“Messages Leave the UAmis Mailbox but Are Not Delivered”](#) section on page 5-9 for information on how to troubleshoot this problem.

Detailed procedures for troubleshooting the above AMIS problems, and information about AMIS diagnostic traces, can be found in the following sections:

- [AMIS Troubleshooting Procedures, page 5-11](#)
- [AMIS Diagnostic Traces, page 2-8](#)

## Messages Are Not Delivered to the UAmis Mailbox

When subscribers address messages to an AMIS recipient, the Voice Connector is responsible for delivering the messages to the UAmis mailbox. If messages are not showing up in the UAmis mailbox, more than likely there is a problem with the Voice Connector. When there is a problem with the Voice Connector, no AMIS-related errors are logged to the Windows Application Event log.

If you are not sure whether messages are being delivered to the UAmis mailbox, do the procedure [To Confirm That Messages Are Being Delivered to the UAmis Mailbox, page 5-11](#).

### To Troubleshoot Problems with the Voice Connector

1. Confirm that the Exchange server on which the Voice Connector is installed has not gone down.
2. Confirm that the Voice Connector service is running. If the service is not running, start it. The messages should be delivered from the Voice Connector MTS-OUT queue to the UAmis mailbox. (Note that in Exchange 2003, there is just one queue, which is the equivalent of the MTS-OUT queue.)

For detailed instructions, see the following procedures:

- [To Confirm That the Voice Connector Service Is Running, page 5-12](#)
  - [To View the Voice Connector MTS-OUT Queue in Exchange 2000, page 5-13](#)
  - [To View the Voice Connector Queue in Exchange 2003, page 5-13](#)
  - [To View the Voice Connector MTS-Out Queue in Exchange 5.5, page 5-13](#).
3. View the Voice Connector log files in the <ExchangeServerPath>\VoiceGateway\logFiles directory on the Exchange server on which the Voice Connector is installed. For more information about the Voice Connector log files, see the [“Cisco Unity Voice Connector Logs”](#) section on page 2-11.
  4. Use the Unity Diagnostic Tool to set the General Outgoing AMIS Message macro trace. For information on using the Unity Diagnostic tool, see the [“To Set and Retrieve Traces for AMIS Messages”](#) section on page 5-14.

## Messages Are Stuck in the UAmis Mailbox

When the Voice Connector has delivered a message to the UAmis mailbox, the AMIS schedule and the AMIS restriction table determine when the message will be sent. When an AMIS delivery number is allowed by the restriction table, messages to the number are sent immediately from the UAmis mailbox—the schedule settings do not matter. On the other hand, when the delivery number is disallowed by the restriction table, messages to the number are queued in the UAmis mailbox until the active hours of the AMIS schedule.

An error is logged in the Windows Application Event log when messages remain in the UAmis mailbox for more than 24 hours. Only one error is logged in the Event log, no matter how many messages remain in the UAmis mailbox. An additional error is logged daily until the messages are either sent or deleted from the UAmis mailbox.

If necessary, you can delete messages that are stuck in the UAmis mailbox by using Outlook or DohPropTest. See the procedure [To View or Remove Messages in the UAmis Mailbox by Using DohPropTest](#), page 5-13.

### To Determine Why Messages Are Stuck in the UAmis Mailbox

1. In the Cisco Unity Administrator, review the settings for the AMIS restriction table. If any delivery numbers are disallowed, messages addressed to these numbers will be queued in the UAmis mailbox. This may not be what you intended. To send the messages immediately, change the AMIS schedule so that it is active during the time that you are troubleshooting. After the messages are sent from the UAmis mailbox, reset the AMIS schedule and adjust the AMIS restriction table as needed.
2. Review the AMIS schedule. Confirm that the schedule has sufficient Active hours set for sending all the messages.
3. Go to the System > Ports page, and confirm that there is at least one port configured for outbound AMIS messages.
4. Go to the Reports > System > AMIS Out Traffic page, and run the report.

If the total transmission time (listed at the bottom of the transmission duration column, and reported in seconds) is approaching the limit of the ports dedicated to AMIS deliveries, all of the port resources available are being used. Review the AMIS schedule and port assignments again to determine if additional resources (time and/or ports) should be dedicated to AMIS message traffic.

5. Confirm that the delivery phone numbers on all AMIS delivery locations are valid. To confirm that the delivery phone numbers are valid, do one of the following:
  - If there are few AMIS delivery locations, in the Cisco Unity Administrator, go to the Network > Delivery Locations > Profile page of each AMIS delivery location to confirm the delivery phone number.
  - Alternatively, if there are many AMIS delivery locations, you can run DohPropTest to view all of the delivery phone numbers and other attributes for the messages that are stuck in the UAmis mailbox. See the procedure [To View or Remove Messages in the UAmis Mailbox by Using DohPropTest](#), page 5-13.
6. In Outlook, confirm that the messages are marked as Unread. Messages that have been manually marked as Read will not be sent from the UAmis mailbox. For example, if someone has been monitoring the UAmis mailbox and has opened a message, that message will not be sent.
7. Use the Unity Diagnostic Tool to set the General Outgoing AMIS Message macro trace. For information on using the Unity Diagnostic tool, see the procedure [To Set and Retrieve Traces for AMIS Messages](#), page 5-14.

## Messages Leave the UAmis Mailbox but Are Not Delivered

Use the following steps to troubleshoot problems with messages that leave the UAmis mailbox but are not delivered to users of the remote voice messaging system.

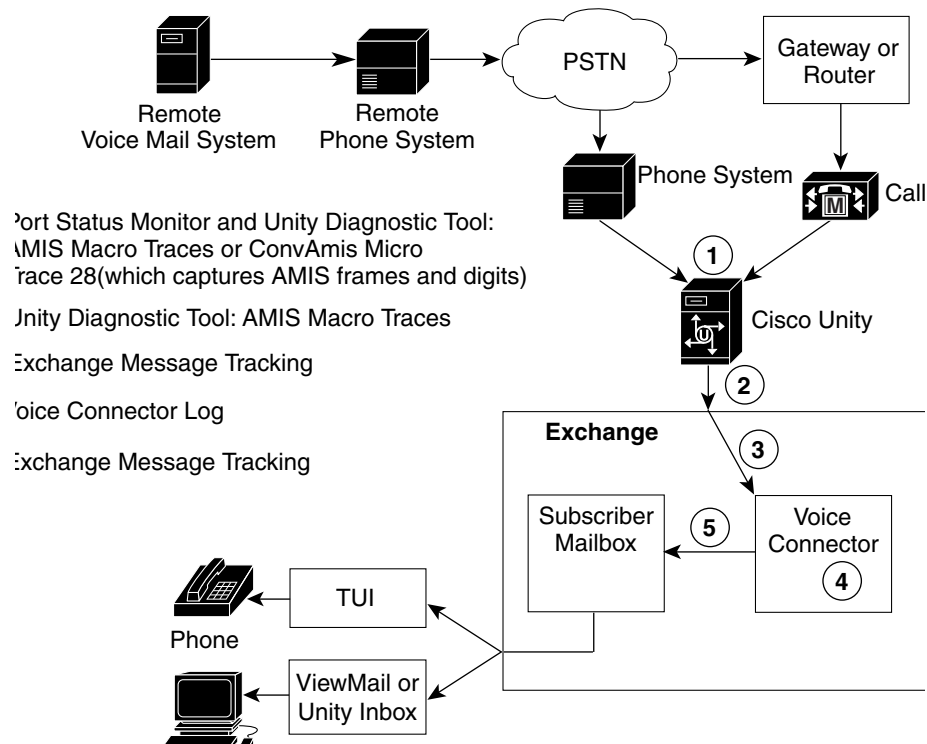
### To Troubleshoot Undelivered Messages

1. Check the Event log. If there are AMIS-related errors in the Event log, check <http://www.CiscoUnitySupport.com> to see whether troubleshooting information about the error is available.
2. Double-check the AMIS configuration in Cisco Unity, as follows:
  - a. In the Cisco Unity Administrator, go to the Network > AMIS Options > Delivery Options page. Review the settings for If the Remote System Does Not Answer and If the Remote System Is Busy. These settings should be set to at least the default values (Hang Up After 4 Rings; Try Calling 4 Times; Retry Every 5 Minutes). Otherwise, the remote voice messaging system may not be given enough time to answer.
  - b. Go to the Network > Delivery Options > Profile page of each of the AMIS delivery locations. If the Disable Outbound Messages to This AMIS Location check box is checked, change the Delivery Phone Number as needed, and uncheck the check box.
  - c. Go to the Network > Primary Location > Profile page. Confirm that the Node ID is accepted by the remote voice messaging system.
3. Determine whether the calls to an AMIS location are actually being made or whether there is something unexpected happening during the AMIS transmission. You can use the StatusMonitor utility (located in \CommServer\TechTools) to observe call progress. See the procedure [To Use the StatusMonitor Utility to Watch Details of an AMIS Transmission, page 5-15](#).
4. If the outgoing AMIS calls are to a long-distance number, check the phone system to see if there are restrictions for placing long distance calls.
5. Use the Unity Diagnostic Tool to set the Extensive Outgoing AMIS Message macro trace. For information on using the Unity Diagnostic tool, see the procedure [To Set and Retrieve Traces for AMIS Messages, page 5-14](#).
6. See the [““C” and “D” DTMF Hang-Up Tones Cause AMIS Calls to Fail” section on page 5-15](#) to determine if the hang-up tones could be the source of the problem.

## Troubleshooting Problems with Inbound AMIS Messages

[Figure 5-2](#) shows at a high level the flow of inbound AMIS messages from the remote voice messaging system to Cisco Unity, and the logs and other tools that you can use to troubleshoot problems along the path.

Figure 5-2 Inbound AMIS Message Flow and Troubleshooting Tools



Use the following task list to troubleshoot problems with inbound AMIS messages:

1. Confirm that the other voice messaging system is supported by Cisco Unity for AMIS messaging. Refer to the “AMIS Support” section of the *Cisco Unity System Requirements, and Supported Hardware and Software*, available at [http://www.cisco.com/univercd/cc/td/doc/product/voice/c\\_unity/sysreq/40\\_sysrq.htm](http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/sysreq/40_sysrq.htm).
2. If Cisco Unity is integrated with Cisco CallManager, verify that the Cisco gateway version that you plan to use is supported for use with AMIS as described in the “Supported Cisco Gateways for Use with AMIS” section of the *Cisco Unity System Requirements, and Supported Hardware and Software*.
3. Check the Windows Application Event log. If there are AMIS-related errors in the Event log, check <http://www.CiscoUnitySupport.com> to see whether troubleshooting information about the error is available.
4. Go to the Network > Delivery Options > Profile page of each of the AMIS delivery locations. Confirm that the Node ID entered on the page exactly matches the node ID that the remote voice messaging system transmits.
5. Confirm your configuration. In particular, confirm that the UAmis mailbox has been created.
6. If you have not been able to determine why the messages are not being delivered, use the Cisco Unity Diagnostic Tool to set diagnostic traces and send a test message. See the “AMIS Diagnostic Traces” section on page 2-8 for information on the applicable traces to set.
7. See the ““C” and “D” DTMF Hang-Up Tones Cause AMIS Calls to Fail” section on page 5-15 to determine if the hang-up tones could be the source of the problem.
8. Verify that the Cisco Unity call routing rules route calls to a call handler, such as the Opening Greeting. (When Cisco Unity is initially installed, the call routing table routes calls to the Opening Greeting call handler, so it is properly configured for AMIS Networking.)

Detailed procedures for troubleshooting the above AMIS problems, and information about AMIS diagnostic traces, can be found in the following sections:

- [AMIS Troubleshooting Procedures, page 5-11](#)
- [AMIS Diagnostic Traces, page 2-8](#)

## AMIS Troubleshooting Procedures

Use the following procedures as needed to troubleshoot problems with AMIS message delivery. For discussion of when to use the following procedures, and the correct order in which to do the procedures, see the preceding topics:

- [Troubleshooting Problems with Outbound AMIS Messages, page 5-6](#)
- [Troubleshooting Problems with Inbound AMIS Messages, page 5-9](#)

### To Confirm That Messages Are Being Delivered to the UAmis Mailbox

**Step 1** In the Cisco Unity Administrator, change the AMIS restriction table to disallow all numbers. This will result in all AMIS messages remaining queued in the UAmis mailbox until the AMIS schedule becomes active.

For detailed instructions on changing the restriction table, see the procedure [To Change the AMIS Restriction Table to Disallow All Delivery Numbers, page 5-12](#).

**Step 2** Change the AMIS schedule so that it is inactive during the time that you are troubleshooting. This will result in any incoming messages remaining in the UAmis mailbox long enough for you to see them.

For detailed instructions on changing the schedule, see the procedure [To Change the AMIS Schedule so That It Is Inactive While Troubleshooting, page 5-12](#).

**Step 3** Open the UAmis mailbox by using one of the following methods:

- If you have access to Outlook, set up a user profile for the UAmis mailbox just like you would for any Exchange mail user, and use Outlook to determine if messages are in the UAmis mailbox. Refer to your Outlook documentation for information about setting up user profiles.



**Note** When a message is addressed to an AMIS recipient by using the phone, a copy of the message is not saved in the Outlook Sent Items folder after the message leaves the UAmis mailbox. However, when a message is addressed to an AMIS recipient by using Outlook, a copy of the message is saved in the Sent Items folder of the UAmis mailbox.

- Use DohPropTest to open the UAmis mailbox. See the procedure [To View or Remove Messages in the UAmis Mailbox by Using DohPropTest, page 5-13](#).
- Use MbxMonitor.exe to monitor the UAmis mailbox.

**Step 4** Send a test message to see if it is delivered to the UAmis Inbox. If using blind addressing, be sure to verify that you are using a valid Dial ID number from a Delivery Location.

**Step 5** After testing, reset the AMIS restriction table and schedule back to the desired settings for normal operations.

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### To Change the AMIS Restriction Table to Disallow All Delivery Numbers

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- Step 1** In the Cisco Unity Administrator, go to the **Network > AMIS Options > Delivery Options** page.
  - Step 2** Click **View** next to Local Dial Restriction Table to display the AMIS restriction table.
  - Step 3** On the AMIS restriction table page, click **Add Dial String**.
  - Step 4** In the Call Pattern box, enter **\***.
  - Step 5** In the Allow This String box, click **No**.
  - Step 6** Click the **Save** icon.
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### To Change the AMIS Schedule so That It Is Inactive While Troubleshooting

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- Step 1** In the Cisco Unity Administrator, go to the **Network > AMIS Options > Schedule** page.
  - Step 2** Click the applicable blocks so that the schedule is inactive while you are troubleshooting.
  - Step 3** Click the **Save** icon.
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### To Confirm That the Voice Connector Service Is Running

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- Step 1** Log on to the Exchange server on which the Voice Connector is installed.
  - Step 2** On the Windows Start menu, click **Programs > Administrative Tools > Services**.
  - Step 3** Locate the Voice Connector service in the Name column. In Exchange 2000 and Exchange 2003, the display name for the service is Exchange 2000 Voice Connector, and in Exchange 5.5, the display name is Internet Voice Connector.
  - Step 4** If the Status column indicates that the Voice Connector service is not running, right-click the service and click **Start**.
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### To Set Access Permissions on the Exchange 2000 Mailbox Store

Do this procedure if you need to gain access to the MTS-IN and MTS-OUT queues on the Exchange server on which the Voice Connector is installed.

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- Step 1** On the Exchange server on which the Voice Connector is installed, on the Windows Start menu, click **Programs > Microsoft Exchange > System Manager**.
- Step 2** Expand **Servers**.
- Step 3** Expand the node for your Exchange 2000 Server.
- Step 4** Expand the **First Storage Group** node.
- Step 5** Right-click the **Mailbox Store**.
- Step 6** Select **Properties** to bring up the Mailbox Store Properties sheet.
- Step 7** Click the **Security** tab.
- Step 8** Click **Add**, and add the current administrator to the list.

**Step 9** Click **OK** twice and close the Exchange System Manager.

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#### To View the Voice Connector MTS-OUT Queue in Exchange 2000

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- Step 1** Log on to the Exchange server on which the Voice Connector is installed.
- Step 2** On the Windows Start menu, click **Programs > Microsoft Exchange > System Manager**.
- Step 3** Browse to Connectors\Exchange 2000 Voice Connector\Queues.
- Step 4** Click **MTS-OUT**.
- 

#### To View the Voice Connector Queue in Exchange 2003

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- Step 1** Log on to the Exchange server on which the Voice Connector is installed.
- Step 2** On the Windows Start menu, click **Programs > Microsoft Exchange > System Manager**.
- Step 3** Expand the **Servers** container, and then expand the server on which the Voice Connector is installed.
- Step 4** Within the server container, click **Queues**. You should see AvExchangeIVC<Server name> listed in the pane on the right.
- Step 5** Double-click **AvExchangeIVC<Server name>**.  
A queue window is displayed.
- Step 6** Click **Find Now** to see all the messages that are in the queue.
- 

#### To View the Voice Connector MTS-Out Queue in Exchange 5.5

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- Step 1** Log on to the Exchange server on which the Voice Connector is installed.
- Step 2** On the Windows Start menu, click **Programs > Microsoft Exchange > Exchange Administrator**.
- Step 3** Browse to Connectors\Internet Voice Connector.
- Step 4** Double-click **Internet Voice Connector** to display the properties.
- Step 5** Click the **Queues** tab.
- Step 6** On the Queue Name list, click **MTS-OUT**.
- 

#### To View or Remove Messages in the UAmis Mailbox by Using DohPropTest

---

- Step 1** On the Cisco Unity server, browse to the location where Cisco Unity is installed (the default is C:\CommServer), and then browse to the TechTools directory.
- Step 2** Run **DohPropTest.exe**.



**Note** Although DohPropTest is password protected, it can be run in read-only mode. Keep in mind that in read-only mode, you cannot remove messages from the UAmis mailbox.

---

- Step 3** In the DohPropTest Logon dialog box, leave the Password box empty, and click **OK**.
- Step 4** On the warning dialog box, click **Ignore** to start the read-only mode of DohPropTest.
- Step 5** In the list on the left side of the window, click **MailUsers**.
- Step 6** In the middle list, click the UAmis\_<server name> mailbox.
- Step 7** Click **Get User's Mailbox**, which displays a dialog box.
- Step 8** Click **OK**. A dialog box with all the messages appears.
- Step 9** Click a message. The message plays, and the message properties are displayed. Select a property to check the values. The following properties should be checked:
- AVP\_AMIS\_Destination\_NODE—The AMIS delivery location Dial ID.
  - AVP\_AMIS\_Recipient—The remote mailbox number of the recipient.
  - AVP\_AMIS\_SENDER\_ADDRESS—The message sender.
  - AVP\_SUBMIT\_TIME—The time the message was submitted. Note that the timestamp is in GMT.

---

#### To Set and Retrieve Traces for AMIS Messages

See the “[AMIS Diagnostic Traces](#)” section on page 2-8 for information about the diagnostic traces to set for troubleshooting AMIS message delivery problems.

- 
- Step 1** On the Windows Start menu, click **Programs > Cisco Unity > Unity Diagnostic Tool**.
- Step 2** On the Cisco Unity Diagnostic Tasks screen, click **Configure Macro Traces**. The Configure Macro Traces Wizard displays.
- Step 3** Click **Next** to select the traces to enable.
- Step 4** After selecting the applicable traces, click **Finish**.
- Step 5** On the Cisco Unity Diagnostic Tasks screen, click **Start New Log Files**.
- Step 6** After the problem reoccurs, or sufficient time has passed to gather AMIS message data, in the tree in the left pane of the Unity Diagnostic Tool, click **Processes > AvCsMgr**, and then click the **Current** log file to view it.
- The selected log file is formatted and displayed in the right pane.
- Step 7** To export or save a copy of the log file, click **Action > Export List**.
- Step 8** Name the file and save it to a location of your choice in .txt or .csv format.
- Step 9** Disable all diagnostic traces that were activated in [Step 3](#).
- Step 10** If you need assistance in interpreting the diagnostic logs, or are unable to resolve an AMIS message problem, contact Cisco TAC.

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#### To View AMIS Subscriber Extension Addresses

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- Step 1** On the Windows Start menu, click **Programs > Administrative Tools > Active Directory Users and Computers**.
- Step 2** Open the properties page for an AMIS subscriber.

- Step 3** Click the **E-mail Addresses** tab. You should see an address with the type "amis" and an address in the format <Location Dial ID>\_<Remote Mailbox Number>.
- Step 4** Confirm that this is the correct address.

---

#### To Use the StatusMonitor Utility to Watch Details of an AMIS Transmission

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- Step 1** In the Cisco Unity Administrator, go to the **System > Ports** page, and change the settings as needed so that only one port is enabled for outbound AMIS calls, and that all other functions (such as Message Notification and Dialout MWIs) on the port are disabled. This makes it easier to observe the call progress information in the StatusMonitor.



**Note** For any outgoing call troubleshooting—AMIS, MWI, message notification, or TRAP—it is best to use one of the last ports because the higher-numbered ports are most likely being used for outgoing tasks. Cisco Unity searches for available ports for outgoing tasks starting with the last port.

---

- Step 2** On the Cisco Unity server, browse to the location in which Cisco Unity is installed (the default is C:\CommServer), and then browse to the TechTools directory.
- Step 3** Run **StatusMonitor.exe**.
- Step 4** Click **Display** and **Conversation** in the Monitor Settings When Started section.
- Step 5** In the Ports list, confirm that the port selected on the System > Ports page for outbound AMIS calls (the port you selected in [Step 1](#)) is selected for monitoring.
- Step 6** Click **Start Monitor**.
- Step 7** Use the phone to dial into Cisco Unity on a port other than the one configured for outbound AMIS calls, and send a test message to someone on the remote voice messaging system.
- Step 8** Observe the information in the StatusMonitor.

In the Display State pane in the StatusMonitor window, you should see the dialout information. In the Conversation State pane, you should see the states that the AMIS call goes through. An AMIS call goes through a finite number of states during an AMIS transmission. As the AMIS call progresses, you should see the descriptive name of each state in the Conversation State pane. For detailed information about the AMIS transmission states, refer to the *White Paper: AMIS Analog Networking Definitions (for Cisco Unity with Microsoft Exchange)*, available at [http://www.cisco.com/univercd/cc/td/doc/product/voice/c\\_unity/whitpapr/amis.htm](http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/whitpapr/amis.htm).

---

## "C" and "D" DTMF Hang-Up Tones Cause AMIS Calls to Fail

"C" and "D" DTMF tones, also known as fourth-column tones, are just like the twelve other DTMF tones ("0–9," "\*", and "#") found on a regular analog phone. They are commonly used for in-band analog integrations and other "non-human" tasks.

The first action of an AMIS call is the handshake between the originating and receiving voice messaging systems. The originating system dials the number of the destination system. When the originating system detects that the destination system has answered the call, the originating system transmits a "C" tone to

the destination. If the destination system answers the call and detects the “C” tone, it should respond with a “D” tone within 10 seconds. After transmitting the “D” tone, the destination system expects a Start Session frame.

**Note**

For more information on the details of an AMIS call, refer to the *White Paper: AMIS Analog Networking Definitions (for Cisco Unity with Microsoft Exchange)*, available at [http://www.cisco.com/univercd/cc/td/doc/product/voice/c\\_unity/whitpapr/amis.htm](http://www.cisco.com/univercd/cc/td/doc/product/voice/c_unity/whitpapr/amis.htm).

Many Toshiba phone systems use the “D” tone to indicate to voice messaging systems that a disconnect has occurred. Other phone systems may also use the “C” or “D” tones to indicate that a disconnect has occurred. When this is the case, a parameter of “HangUpTone=C” or “HangUpTone=D” will be defined in the active switch configuration file on the Cisco Unity server.

If “HangUpTone=C” is defined, the AMIS feature cannot be used on that system. When a remote voice messaging system dials Cisco Unity and sends the “C” tone to initiate the AMIS handshake, Cisco Unity interprets it as a disconnect signal from the phone system and hangs up on the call.

Similarly, if “HangUpTone=D” is defined, the AMIS feature cannot be used on that system. When Cisco Unity dials the remote voice messaging system and sends the “C” tone to initiate the AMIS handshake, and the remote system responds with the “D” tone, Cisco Unity interprets it as a disconnect signal from the phone system and hangs up on the call.

To fix this problem, configure the phone system to use another type of disconnect indication (such as the reorder tone, dial tone, or loop current reversal), then remove the HangUpTone parameter from the active switch file. However, if this recommended option is not possible, configure the phone system to use “A” or “B” as a hang-up tone, and then modify the HangUpTone parameter in the active switch file to match this new value.

The default values for the hang-up packets expected by Cisco Unity (defined in `avanaglog.avd`) have been chosen to work with AMIS. Changing these values may cause AMIS calls to fail.

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**To Obtain the Name(s) of the Active Switch File(s)**

**Step 1** On the Cisco Unity server, start Regedit.

**Caution**

Changing the wrong registry key or entering an incorrect value can cause the server to malfunction. Before you edit the registry, confirm that you know how to restore it if a problem occurs. (Refer to the “Restoring” topics in Registry Editor Help.) Note that for Cisco Unity failover, registry changes on one Cisco Unity server must be made manually on the other Cisco Unity server, because registry changes are not replicated. If you have any questions about changing registry key settings, contact Cisco TAC.

**Step 2** If you do not have a current backup of the registry, click **Registry > Export Registry File**, and save the registry settings to a file.

**Step 3** Expand the key

HKEY\_LOCAL\_MACHINE\Software\Active Voice\Miu\1.0\Initialization\Switch 0.

For dual-switch integrations, also expand the key

HKEY\_LOCAL\_MACHINE\Software\Active Voice\Miu\1.0\Initialization\Switch 1.

- Step 4** View the **Switch Configuration File** value under the ...\Switch 0 key to obtain the name of the active switch file, and then click **Cancel**. For dual-switch integrations, also view the **Switch Configuration File** value under the ...\Switch 1 key to obtain the name of the second active switch file, and then click **Cancel**.
- Step 5** Close Regedit.
- 

#### To Edit the Active Switch File(s)

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- Step 1** On the Cisco Unity server, browse to the \CommServer\IntLib directory. (C:\CommServer is the default directory in which Cisco Unity is installed. If Cisco Unity is installed in another directory, use that path instead.)
- Step 2** Open the active switch file with a text editor.
- Step 3** In the [Configuration] section, if “HangUpTone=” does not exist, or if it is set to any value other than “C” or “D,” do not change anything in the file, because the parameter does not conflict with AMIS. Close the file, and skip to [Step 5](#).
- Step 4** If “HangUpTone=” is set to either the “C” or “D” DTMF tone, the action you take depends on the new disconnect indication that you configured on the phone system, as follows:
- If the phone system uses some other type of disconnect indication, such as the reorder tone, dial tone, or loop current reversal, remove the HangUpTone parameter from the active switch file. Save and close the file.
  - If the phone system uses either the “A” or “B” DTMF tone as a hang-up tone, modify the “HangUpTone=” to match this new value. Save and close the file.
- Step 5** For dual-switch integrations, repeat [Step 1](#) through [Step 4](#) to edit the second active switch file.
- Step 6** Stop and restart Cisco Unity to activate the changes to the active switch file.
- 

## Troubleshooting SMTP Networking Message Delivery Problems

By understanding the path of a voice message as it is routed via SMTP Networking to a remote Cisco Unity server, you can use applicable tools to troubleshoot message delivery problems. See the following sections for more information:

- [Path of Voice Messages to a Remote Cisco Unity Server, page 5-17](#)
- [Tools for Troubleshooting SMTP Networking Message Delivery Problems, page 5-18](#)

### Path of Voice Messages to a Remote Cisco Unity Server

The path of a voice message is similar, whether the subscriber who sent the message used blind addressing, or addressed the message to an Internet subscriber on the local server that corresponds to a subscriber on a remote Cisco Unity server:

1. On the phone, a subscriber addresses a message to a subscriber on another Cisco Unity server.

2. Cisco Unity searches for a matching extension or delivery location.
  - If a matching extension is found, voice confirmation is provided, and Cisco Unity obtains the SMTP Address from the Internet subscriber account and addresses the message.
  - If a matching delivery location is found, the number that the subscriber entered is used for the address.

In both cases, Cisco Unity forms an address in the following format and gives the message to Exchange:

VOICE:<Delivery Location Dial ID>\_<Extension>

3. Because the message has the VOICE address type, Exchange hands off the message to the Voice Connector.
  4. The Voice Connector obtains the domain name from the delivery location and constructs the To address in the following format:  
SMTP:IMCEAVOICE-<Delivery Location Dial ID>\_<Extension>@<Domain Name>
  5. The Voice Connector obtains information from the primary location and constructs the From address in the following format:  
SMTP:IMCEAVOICE-<Primary Location Dial ID>\_<Extension>@<Domain Name>
- If the message was from an unidentified caller to an Internet subscriber, the From message is constructed in the following format:  
SMTP:IMCEAVOICE-<Primary Location Dial ID>\_unknown@<Domain Name>
6. The Voice Connector converts the message to MIME, and then hands the message back to Exchange to be sent through the Exchange SMTP gateway.
  7. On the receiving side, because of the IMCEAVOICE address type, Exchange hands the message over to the Voice Connector for processing.
  8. The Voice Connector parses the To address and looks for a matching primary location and a matching subscriber extension at that location to obtain the e-mail address for the recipient. If a match is found, the Voice Connector addresses the message appropriately so that it can be delivered by Exchange. If a match is not found, an NDR is returned to the sender.
  9. The Voice Connector parses the From address and looks for a matching Internet subscriber. If a match is found, the Voice Connector changes the From address so that the sender is identified when the recipient listens to the message.
  10. The Voice Connector converts the MIME message back to a voice message.
  11. The Voice Connector sends the message back to Exchange to be delivered to the subscriber.

## Tools for Troubleshooting SMTP Networking Message Delivery Problems

### To Increase the Voice Connector Logging Level

- 
- Step 1** Log on to the Exchange server on which the Voice Connector is installed.
  - Step 2** From the Windows Start menu, click **Programs > Microsoft Exchange > Exchange System Manager**.
  - Step 3** Expand the **Connectors** container in the left-hand pane.
  - Step 4** Right-click **Exchange 2000 Voice Connector (<Server name>)**, and select **Properties**.
  - Step 5** Click the **Advanced** tab.
  - Step 6** In the Logging Level list, click **Information**.

- Step 7** Click **OK**.
- Step 8** In the Windows Services applet, right-click **Exchange 2000 Voice Connector (<Server name>)**, and select **Restart**.
- 

#### To Enable Message Tracking in Exchange 2000

You need to enable message tracking on each Exchange server that participates in message delivery. This is the Exchange server (or servers) on which the Voice Connector is installed, and the Exchange server on which the Cisco Unity subscriber mailbox is located.

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- Step 1** Open the Exchange System Manager. (From the Windows Start menu, click **Programs > Exchange > Exchange System Manager**.)
- Step 2** Right-click the Exchange server on which you want to enable message tracking, and select **Properties**.
- Step 3** Check **Enable Message Tracking**.
- Step 4** Click **OK**.
- Step 5** Repeat [Step 1](#) through [Step 4](#) for each Exchange server that participates in message delivery.
- 

#### To Enable SMTP Logging in Exchange 2000

- Step 1** Open the Exchange System Manager.
- Step 2** In the left-hand pane, expand **Servers > <Server where Voice Connector is installed> > Protocols > SMTP**.
- Step 3** Right-click the Default SMTP Virtual Server (or any other SMTP Connector that may be routing mail) and select **Properties**.
- Step 4** Check **Enable Logging**.
- Step 5** In the Active Log Format list, click **NCSA Common Log File Format**.
- Step 6** Click **Properties** and enter the location for the log file.
- Step 7** Click **OK** twice and close the Exchange System Manager.
- 

## Cisco Unity Stops Recording Before a Caller Has Finished Leaving a Message

The following sections describe possible reasons that Cisco Unity may stop recording before a caller has finished leaving a message. Use the [“Task List for Troubleshooting Recordings That Are Being Cut Off”](#) to troubleshoot the possible causes.

#### Task List for Troubleshooting Recordings That Are Being Cut Off


1. Check to see whether the quiet parameter is set to recognize low voice volume. See the [“Dialogic Quiet Parameter Is Incorrect”](#) section on page 5-20.

2. Calls may be cut off by Cisco Unity, the phone system, or the central office. See the “[Cisco Unity, the Phone System, or the Central Office Disconnected the Call](#)” section on page 5-20.

## Dialogic Quiet Parameter Is Incorrect

A caller may report hearing a prompt and being prevented from completing a message, or a subscriber may report this problem after noticing that a recording ends before the caller finished leaving a message. This can happen when the quiet parameter is not set to recognize low voice volume. It can also happen when a changed quiet parameter is not retained after a Cisco Unity upgrade.

### To Change the Dialogic Quiet Parameter (Systems Equipped with Dialogic Voice Cards Only)

- 
- Step 1** Shut down the Cisco Unity software.
  - Step 2** On the Windows Start menu, click **Programs > Dialogic System Software > Dialogic Configuration Manager–DCM**.
  - Step 3** On the Service menu, click **Stop Service**. A second Dialogic Configuration Manager window appears.
  - Step 4** When the message “Success: Dialogic service stopped” appears, click **Close**.
  - Step 5** In the Service window, select a Dialogic voice card.
  - Step 6** In the DCM–Properties dialog box for the card, click **Misc**.
  - Step 7** Click **ParameterFile**.
  - Step 8** Under Edit in the Value field, enter **quiet50.prm**, and click **OK**.
-  **Note** If spandti.prm or any other values exist in the Value field, enter a space at the end of the existing value, and enter **quiet50.prm**. The space ensures that both .prm entries exist in the field.
- 
- Step 9** Repeat [Step 5](#) through [Step 8](#) for each additional Dialogic voice card.
  - Step 10** On the Service menu, click **Start Service**. A second Dialogic Configuration Manager window appears.
  - Step 11** When the message “Success: Dialogic service started” appears, click **Close**.
  - Step 12** Restart the Cisco Unity server.
- 

## Cisco Unity, the Phone System, or the Central Office Disconnected the Call

If a caller reports being cut off while leaving a message and if the caller did not hear a prompt prior to the disconnect, Cisco Unity, the phone system, or the central office may have disconnected the call.

### To Determine Why the Call Was Disconnected

- 
- Step 1** On the Windows Start menu, click **Programs > Administrative Tools > Event Viewer**.
  - Step 2** On the Log menu, click **System**.
  - Step 3** In the System Event log, look for an error that occurred at the time of the reported disconnected call. If an error appears, double-click the error and skip to [Step 6](#).

If no error appears for the date and time of the disconnected call, continue with [Step 4](#).

**Step 4** On the Log menu, click **Application**.

**Step 5** In the Application Event log, look for an error that occurred at the time of the reported disconnected call. Double-click the error.

**Step 6** In the Event Detail dialog box, review the contents of the Description box.

If you need assistance interpreting or resolving the error, or if no error appears in the Application Event log that matches the date and time of the reported disconnected call, contact Cisco TAC.

---

## Dial Tone or Reorder Tone Is Present at the End of a Message

A possible cause may be that the switch disconnect tone and/or the PSTN disconnect tone are incorrect in the Switch.ini file (for circuit-switched phone systems only). Running the Learn Tones utility will correct the Switch.ini file so that Cisco Unity will recognize dial tone and reorder tone, preventing them from being recorded as part of a message.

### To Run the Learn Tones Utility

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**Step 1** Run the Learn Tones utility. See the [“Learn Tones” section on page 12-5](#) for detailed instructions.

**Step 2** If running the Learn Tones utility does not resolve the problem, contact Cisco TAC.

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■ Dial Tone or Reorder Tone Is Present at the End of a Message