



CHAPTER 8

Audio Quality

See the following sections:

- [Using the Check Telephony Configuration Test, page 8-1](#)
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- [Using Traces to Troubleshoot Audio Quality Issues, page 8-5](#)

Using the Check Telephony Configuration Test

Do the following procedure to use the Check Telephony Configuration test to troubleshoot audio quality.

To Use the Check Telephony Configuration Test

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- Step 1** In Cisco Unity Connection Administration, in the Related Links box in the upper right corner of any Telephony Integrations page, click **Check Telephony Configuration** and click **Go**.
- If the test is not successful, the Task Execution Results displays one or more messages with troubleshooting steps. After correcting the problems, run the test again.
- Step 2** In the Task Execution Results window, click **Close**.
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Problem with Choppy Audio from Cisco Unity Connection

Use the troubleshooting information in this section if the audio you hear from Cisco Unity Connection is choppy. See the following possible causes:

- The hard disk from which Connection is playing a recording is full. To resolve the situation, eliminate unnecessary files from the hard disk.
- The network connection to the Connection server is not adequate. To resolve the situation, improve the network connection.

- The Connection platform has a malfunctioning component. To resolve the situation, identify the malfunctioning hardware component, then repair or replace it.
- Another process is using too much CPU time. To resolve the situation, stop the process and run it when phone traffic is lighter.

Problem with Garbled Recordings

Use the troubleshooting information in this section if recordings sound garbled. See the following possible scenarios:

- The audio stream sounded garbled when Cisco Unity Connection created the recording. See the [“Troubleshooting a Garbled Audio Stream in the Network” section on page 8-2](#).
- The audio stream did not sound garbled when Cisco Unity Connection created the recording, but became garbled later. See the [“Troubleshooting How Cisco Unity Connection Makes Recordings” section on page 8-2](#).

Troubleshooting a Garbled Audio Stream in the Network

When the audio stream is garbled when Cisco Unity Connection created the recording, use the following task list to determine the cause and to resolve the problem. Do the tasks in the order presented until the problem is resolved.

Task List for Troubleshooting a Garbled Audio Stream in the Network

1. Confirm that the connection to the caller is clear. Calls that have bad PSTN connections or calls from mobile phones may sometimes have garbled audio streams. Connection cannot correct for a garbled audio stream.
2. Determine whether the garbled audio stream is caused by problems with the network. Use network analysis tools to do the following:
 - Check for latency, packet loss, and so on.
 - Search for devices on the network that are causing garbled audio streams. Some examples are routers, gateways, transcoders, and gateways that are configured for one packet size (such as G.711 30ms) while Connection is configured for another packet size (such as G.711 20ms).
3. Determine whether the audio stream is garbled at the closest point to the Connection server by obtaining a sniffer capture at that point. If the audio stream from the sniffer capture is not garbled, Connection may not be handling the audio stream correctly. See the [“Troubleshooting How Cisco Unity Connection Makes Recordings” section on page 8-2](#).

Troubleshooting How Cisco Unity Connection Makes Recordings

When the audio stream did not sound garbled when Cisco Unity Connection created the recording, but became garbled later, use the following task list to determine the cause and to resolve the problem. Do the tasks in the order presented until the problem is resolved.

Task List for Troubleshooting How Cisco Unity Connection Makes Recordings

1. Enable the Media (Wave) Traces macro traces in Cisco Unity Connection Serviceability. For detailed instructions on enabling the macro trace and viewing the trace logs, see the “[Using Cisco Unity Connection Serviceability Traces to Troubleshoot Problems](#)” section on page 1-9.
2. Obtain a snapshot of CPU usage on the Connection server by using the CPU and Memory display in the Real-Time Monitoring Tool (RTMT). For detailed information on using RTMT, see the applicable *Cisco Unified Real-Time Monitoring Tool Administration Guide* at http://www.cisco.com/en/US/products/ps6509/prod_maintenance_guides_list.html.
3. Contact Cisco TAC.

Problem with Garbled Prompts on the Phone

When Cisco Unity Connection prompts sound garbled or jittery when heard on the phone, use the following task list to determine the cause and to resolve the problem. Do the tasks in the order presented until the problem is resolved.

Task List for Troubleshooting Garbled Prompts on the Phone

1. Determine whether the audio stream is garbled at the closest point to the phone by obtaining a sniffer capture at that point. If the audio stream from the sniffer capture is not garbled, the cause may be in the network or with Connection.
2. Determine whether the garbled audio stream is caused by problems with the network. Use network analysis tools to do the following:
 - Check for latency, packet loss, and so on.
 - Search for devices on the network that are causing garbled audio streams. Some examples are routers, gateways, transcoders, and gateways that are configured for one packet size (such as G.711 30ms) while Connection is configured for another packet size (such as G.711 20ms).
3. Determine whether the audio stream is garbled at the closest point to the Connection server by obtaining a sniffer capture at that point. If the audio stream from the sniffer capture is not garbled, Connection may not be handling the audio stream correctly.
4. Enable the Media (Wave) Traces macro traces in Cisco Unity Connection Serviceability. For detailed instructions on enabling the macro trace and viewing the trace logs, see the “[Using Cisco Unity Connection Serviceability Traces to Troubleshoot Problems](#)” section on page 1-9.
5. Obtain a snapshot of CPU usage on the Connection server by using the CPU and Memory display in the Real-Time Monitoring Tool (RTMT). For detailed information on using RTMT, see the applicable *Cisco Unified Real-Time Monitoring Tool Administration Guide* at http://www.cisco.com/en/US/products/ps6509/prod_maintenance_guides_list.html.
6. Contact Cisco TAC.

Problem with the Volume of Recordings

Use the troubleshooting information in this section if the volume of recordings is too loud or too soft, or if the recordings do not have any sound. Consider the following:

- Verify the audio level at each hardware point in the network by obtaining a sniffer capture at each point.

- If the audio level from the sniffer capture at one point is too soft or too loud, the cause may be the configuration of the hardware (such as routers, gateways, transcoders) at that point. Check the automatic gain control (AGC) settings for the applicable hardware.
- If the audio level from the sniffer capture at all points is too loud or too soft, see the [“Changing the Volume for Cisco Unity Connection Recordings” section on page 8-4](#).
- Disable automatic gain control (AGC) for Connection so that Connection does not automatically adjust the volume of recordings. See the [“Disabling Automatic Gain Control \(AGC\) for Cisco Unity Connection” section on page 8-4](#).
- If the recordings do not have any sound, confirm that the advertised codec settings are correct. See the [“Confirming the Advertised Codec Settings” section on page 8-4](#).

Changing the Volume for Cisco Unity Connection Recordings

Do the following procedure.

To Change the Volume for Cisco Unity Connection Recordings

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| Step 1 | In Cisco Unity Connection Administration, expand System Settings , then click General Configuration . |
| Step 2 | On the Edit General Configuration page, in the Automatic Gain Control (AGC) Target Decibels field, enter the applicable number. |
| | Note that the AGC decibel levels are set in negative numbers. For example, –26 db is louder than –45 db. |
| Step 3 | Click Save . |
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Disabling Automatic Gain Control (AGC) for Cisco Unity Connection

Do the following procedure.

To Disable Automatic Gain Control (AGC) for Cisco Unity Connection

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| Step 1 | In Cisco Unity Connection Administration, expand Telephony Integrations , then click Port Group . |
| Step 2 | On the Search Port Groups page, click the name of the applicable port group. |
| Step 3 | On the Port Group Basics page, on the Edit menu, click Advanced Settings . |
| Step 4 | On the Edit Advanced Settings page, under Automatic Gain Control (AGC) Settings, uncheck the Enable AGC check box. |
| Step 5 | Click Save . |
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Confirming the Advertised Codec Settings

Do the following procedure.

To Verify the Advertised Codec Settings

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- Step 1** In Cisco Unity Connection Administration, expand **Telephony Integrations**, then click **Port Group**.
- Step 2** On the Search Port Groups page, click the name of the applicable port group.
- Step 3** On the Port Group Basics page, under Advertised Codec Settings, determine whether the list of codecs is correct.
- Step 4** If the list is correct, skip to [Step 8](#). Otherwise, click **Change Advertising**.
- Step 5** Click the **Up** and **Down** arrows to change the order of the codecs or to move codecs between the Advertised Codec box and the Unadvertised Codecs box.
- If only one codec is in the Advertised Codecs box, Connection sends the audio stream in that audio format. If the phone system does not use this audio format, the phone system drops the call.
- If two or more codecs are in the Advertised Codecs box, Connection advertises its preference for the first codec in the list but sends the audio stream in the audio format from the list that the phone system selects.
- Step 6** Click **Save**.
- Step 7** On the Edit menu, click **Port Group Basics**.
- Step 8** On the Search Port Groups page, if you want to change the packet size that is used by the advertised codecs, under Advertised Codec Settings, click the applicable packet setting for each codec and click **Save**.
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Using Traces to Troubleshoot Audio Quality Issues

You can use traces to troubleshoot audio quality issues. For detailed instructions on enabling the applicable traces and viewing the trace logs, see the [“Using Cisco Unity Connection Serviceability Traces to Troubleshoot Problems”](#) section on page 1-9.

