



# **Voice Recognition**

See the following sections for information on troubleshooting problems with the voice recognition conversation:

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- Voice Commands Are Recognized, But Names Are Not, page 20-2
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# Users Hear the Phone Keypad Conversation Rather Than the Voice-Recognition Conversation

Use the following questions to determine the source of the problem and to correct it:

- 1. Does this problem occur for all users whose accounts are configured for voice recognition? If so, do the following sub-tasks:
  - **a.** Confirm that the class of service (COS) is configured to enable voice recognition. On the Class of Service page, under Licensed Features, check the Allow Access to Advanced Features check box, then check the Allow Users to Use Voice Recognition check box.
  - **b.** Confirm that the affected users are associated with the correct COS.
- 2. Does this problem occur only for a single user whose account is configured for voice recognition? If so, do the following sub-tasks:
  - a. Confirm that the affected user is associated with the correct class of service.
  - **b.** Confirm that the phone menu input style is set to voice recognition. The input style can be set either in the Cisco Unity Assistant web tool or in Cisco Unity Connection Administration.
- **3.** Do users hear a prompt indicating that voice-recognition services are not available when they first log in?

If so, see the "Error Prompt: "There Are Not Enough Voice-Recognition Resources"" section on page 20-2.

4. Is the correct codec being used?

Voice recognition does not work if the Connection server or the phone system is using G.729a, if the G.729a prompts are installed, or if greetings and names were recorded in an audio format other than G.711 Mu-Law.

## Error Prompt: "There Are Not Enough Voice-Recognition Resources"

When a user hears the error prompt "There are not enough voice-recognition resources at this time. You will need to use the standard touchtones for the duration of this call," do the following tasks in the order presented:

 Confirm that the Connection Voice Recognizer service is running on the Tools > Service Management page in Cisco Unity Connection Serviceability.

- **Note** For information on Cisco Unity Connection Serviceability, see the Administration Guide for Cisco Unity Connection Serviceability Release 7.x, at http://www.cisco.com/en/US/docs/voice\_ip\_comm/connection/7x/serv\_administration/guide/7 xcucservagx.html.
- 2. Check the Cisco Unity Connection license on the System Settings > Licenses page in Cisco Unity Connection Administration. It may be that all licensed voice-recognition sessions are being used. If users report that the error occurs frequently, it is likely that voice-recognition usage has outgrown current licensing capacity on your Connection server.
- **3.** Check for errors generated by the Connection Voice Recognizer service. You can use the Real-Time Monitoring Tool (RTMT) to view errors in the diagnostic logs that are generated with the default traces turned on. The trace log file names are in the format diag\_NSSserver\_\*.uc.



For information on 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.

# **Voice Commands Are Recognized, But Names Are Not**

When administrators add or change names on the Cisco Unity Connection system, the names are not recognized by the voice-recognition conversation until they are compiled in the grammars. The timing of the grammar compilation can therefore affect name recognition. In other cases, there may be a search scope problem, or the names may not be pronounced the way they are spelled. Use the following troubleshooting steps to determine the source of problem and to correct it:

- Check to make sure that the name is found in the search scope of the user or directory handler, depending on where the recognition problem occurs. The search scope of a user who has logged on is defined on the User Basics page in Cisco Unity Connection Administration. The search scope of a directory handler is defined on the Edit Directory Handler Basics page.
- Check the Voice Recognition Update schedule on the System Settings > Schedules page in Connection Administration; if names have been added during inactive periods in this schedule, they are not recognized until the schedule is active, at which time Connection automatically updates the name grammars.
- Make sure the Connection Voice Recognition Transport service is running on the Tools > Service Management page in Cisco Unity Connection Serviceability.



Note For information on Cisco Unity Connection Serviceability, see the Administration Guide for Cisco Unity Connection Serviceability Release 7.x, at http://www.cisco.com/en/US/docs/voice\_ip\_comm/connection/7x/serv\_administration/guide/7 xcucservagx.html.

- Check the Tools > Grammar Statistics page in Cisco Unity Connection Administration to see if a grammar has updates pending. To force an update when a grammar says that updates are pending but does not say it is rebuilding, click the Rebuild Grammars button.
- If the problem occurs in a voice-enabled directory handler, try adjusting the Speech Confidence Threshold setting for the directory handler. A lower speech confidence threshold level results in more matches when callers say names, but when callers say digits, extraneous extension matches are returned. A higher speech confidence threshold level results in more precise extension matching, but fewer name matches.
- If the voice-recognition system is having trouble understanding how a particular name is pronounced, consider adding nicknames or alternate names. You can use both of these features to add differing pronunciations for names that are not pronounced the way they look. (For example, if a user name is Janet but is pronounced Jah-nay, you could add the pronunciation "Jahnay" as an alternate name or nickname.)

# Note

For information on adding nicknames for a user or alternate names for system distribution lists or VPIM locations, see the *System Administration Guide for Cisco Unity Connection*. See the *User Moves, Adds, and Changes Guide for Cisco Unity Connection* for information on adding alternate names for a user. Both guides are available at http://www.cisco.com/en/US/products/ps6509/prod\_maintenance\_guides\_list.html.

## **Voice Commands Are Not Recognized**

When users encounter issues with poor recognition of voice commands, the problem may stem from many sources—the wrong command being used, issues with pronunciation or foreign accent recognition, a poor phone connection, jitter in the network, and so on. Use the following troubleshooting steps to narrow down the source of the problem and to correct it:

- 1. Determine the nature of the problem.
  - **a.** If the user is having a problem with a single command, see the "Voice Commands" section in the "Cisco Unity Connection Phone Menus and Voice Commands" chapter of the *User Guide* for the Cisco Unity Connection Phone Interface (Release 7.x) for a table of preferred voice commands. Although the voice-recognition grammar files contain many synonyms for the preferred commands, it is not possible for them to contain every word or phrase a user might say. For the best performance, encourage users to use the preferred commands.
  - b. If the user is having a problem with Connection taking unintended actions without prompting for confirmation, or if Connection is prompting for confirmation too frequently, check the Voice Recognition Confirmation Confidence Threshold setting. See the "Checking the Voice Recognition Confirmation Confidence Setting" section on page 20-4.
- 2. Try to reproduce the problem while running the Remote Port Status Monitor to determine which voice commands Connection thinks are being uttered. See the "Using the Remote Port Status Monitor" section on page 20-6.

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- **3.** Capture and listen to user utterance files to determine if the problem is related to audio quality or accent recognition. See the "Using the Utterance Capture Trace to Review User Utterances" section on page 20-5.
- 4. Enable diagnostic traces and try to reproduce the problem. See the "Using Diagnostic Traces for Voice Recognition" section on page 20-4.

## **Checking the Voice Recognition Confirmation Confidence Setting**

You can use the Voice Recognition Confirmation Confidence setting to adjust the likelihood that Cisco Unity Connection prompts the voice recognition user to verify certain user intentions. For example, if users complain that the system mistakenly hears them say "cancel" or "hang up," you can try increasing the value of this setting to prevent users from accidentally committing actions they did not intend. Alternatively, if users complain that the system prompts for confirmation too frequently, try adjusting this setting to a lower value.

Voice Recognition Confirmation Confidence is set on a systemwide basis on the System Settings > Advanced > Conversations page in Cisco Unity Connection Administration. The setting also can be changed on a per-user basis on the Phone Menu page for an individual user.

A realistic range of values for this setting is 30 to 90. The default value of 60 should reliably filter out most errors and provide confirmation when necessary for most systems.

## **Diagnostic Tools**

There are diagnostic tools available to help you troubleshoot voice-recognition problems. See the following sections:

- Using Diagnostic Traces for Voice Recognition, page 20-4
- Using the Utterance Capture Trace to Review User Utterances, page 20-5
- Using the Remote Port Status Monitor, page 20-6

## **Using Diagnostic Traces for Voice Recognition**

Cisco Unity Connection Serviceability offers diagnostic micro traces and macro traces for help in troubleshooting voice-recognition issues. For detailed instructions on enabling the traces and viewing the trace logs, see the "Diagnostic Traces" chapter.

#### **Micro Traces**

- Conversation Development Environment (CDE)
  - 10 State Machine Trace
  - 22 Speech Recognition Grammar
- Media: Input/Output (MiuIO)
  - 25 ASR and MRCP
- Subscriber Conversation (ConvSub)
  - 03 Named Properties Access
  - 05 Call Progress

- Phrase Server
  - 10 Speech Recognition

#### **Macro Traces**

Set the Voice User Interface/Speech Recognition Traces.



Use this macro trace only if you have first tried to diagnose the problem by using the recommended micro traces. The macro trace generates a large amount of diagnostic information which can be difficult to sort through.

#### **Using the Utterance Capture Trace to Review User Utterances**

When you enable the VUI micro trace level 05 (Capture Utterances), Cisco Unity Connection saves user utterances as WAV files in CCITT (u-law) 8-kHz mono format. The files are stored on the file system, with one folder created for each MRCP session. (You can view MRCP session information for a call in the diagnostic logs by enabling the MiuIO level 25 micro trace for ASR and MRCP.)

You can access the utterance files by using the Real-Time Monitoring Tool (RTMT). Do the following procedure:

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Enabling the utterance capture micro trace can affect system performance. Consider doing so only when the system is not under heavy load, and be sure to disable the trace when you are done collecting the desired utterances.

#### To Enable and View Utterance Capture Traces by Using RTMT

- Step 1 In Cisco Unity Connection Serviceability, on the Trace menu, click Micro Traces.
- **Step 2** On the Micro Traces page, in the Server field, click the name of the Connection server and click Go.
- Step 3 In the Micro Trace field, click VUI and click Go.
- **Step 4** Check the **Capture Utterances** check box (level 05) and click **Save**.
- **Step 5** Reproduce the problem.
- **Step 6** To access the utterance files, launch Real-Time Monitoring Tool (RTMT). For details, see the "Working with Trace and Log Central" chapter of the *Cisco Unified Real-Time Monitoring Tool Administration Guide, Release* 7.0(1).
- **Step 7** In RTMT, on the System menu, click **Tools > Trace > Trace & Log Central**.
- Step 8 In the Trace & Log Central tree hierarchy, double-click Remote Browse.
- Step 9 In the Remote Browse window, click Trace Files and click Next.
- **Step 10** In the Select CUC Services/Application tab, check the check box next to the IP address of the server and click **Next**.
- **Step 11** In the Select System Services/Applications tab, click **Finish**.
- **Step 12** When the Result pop-up displays, indicating that the Remote Browse is ready, click **Close**.
- Step 13 On the Remote Browse tab, browse to the Nodes > Server Name > CUC > Connection Voice Recognition Transport folder.

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Step 14	In the Connection Voice Recognition Transport folder, double-click the name of a folder to view the audio files that were captured for that MRCP session. (One folder is created for each MRCP session.)
Step 15	In the files pane, double-click the name of an audio file to play it.
Step 16	In the Open With window, choose the program you want to use to play the audio file.
	If an appropriate audio player is not available in the list, click the <b>Other</b> tab at the bottom of the window, browse to the location of an audio player, double-click the name of the audio player executable, and click <b>Open</b> . Then click the name of the program you just added.
Step 17	Click <b>OK</b> .
Step 18	In Cisco Unity Connection Serviceability, disable the trace that you enabled in Step 3, then click Save.

## **Using the Remote Port Status Monitor**

The Remote Port Status Monitor tool is useful for troubleshooting voice-recognition problems because it displays the conversation flow for a call in real time, including speech input and confidence scores, system interpretations of utterances, and changes to the search scope that can affect name and digit interpretation during the course of the call. To use the tool, do the following procedures in order.

#### To Download the Remote Port Status Monitor

- Step 1 In a web browser, go to the Cisco Unity Tools website at http://www.ciscounitytools.com.
- Step 2 Click the CUC 2.x/7.x Tools tab.
- **Step 3** On the CUC 2.x/7.x Tools page, in the left column of the table, click **Port Status Monitor**.
- **Step 4** On the Remote Port Status Monitor page, click **Download Now**.
- Step 5 Follow the on-screen instructions to download the Remote Port Status Monitor tool.

#### To Configure Cisco Unity Connection for the Remote Port Status Monitor

Step 1	In Cisco Unity Connection Administration, expand <b>System Settings</b> , then click <b>Advanced &gt; Conversations</b> .
Step 2	On the Conversation Configuration page, check the <b>Enable Remote Port Status Monitor Output</b> check box.
Step 3	In the IP Addresses Allowed to Connect for Remote Port Status Monitor Output field, enter the IP addresses of your workstations.
	Note that you can enter up to 70 IP addresses. Each IP address must be separated from the following IP address by a comma.
Step 4	Click Save.