Agent Greeting

Capabilities

The Agent Greeting feature lets an agent record a message that plays automatically to callers when they connect to the agent. The greeting message can welcome the caller, identify the agent, and include other useful contextual information. With Agent Greeting, each caller can receive a clear, well-paced, language-appropriate, and enthusiastic introduction. Another benefit is that it saves the agent from having to repeat the same introductory phrase for each call. It also gives the agent a moment to review the desktop software screen popups while the greeting plays.

The process of recording a greeting is much the same as recording a message for voicemail. Depending on how the call center is set up, agents may be able to record different greetings that play for different types of callers. For example, agents can record an English greeting for English speakers or an Italian greeting for Italian speakers.

Agent Greeting Phone Requirements (for Local Agents Only)

Agent Greeting is available to agents and supervisors who use IP Phones with Built-In Bridge (BIB). These agents are typically located within a contact center. Phones used with Agent Greeting must meet these requirements:

- The phones must have the BIB feature.

Note If you disable BIB, the system attempts to use a conference bridge for Agent Greeting call flow and raises a warning event.

- In an IPv6-enabled environment, Agent Greeting may require extra Media Termination Points (MTPs).

See the *Contact Center Enterprise Compatibility Matrix* at https://www.cisco.com/c/en/us/support/customer-collaboration/unified-contact-center-enterprise/products-device-support-tables-list.html for the list of supported Cisco Unified Call Center phone models.

Agent Greeting Functional Limitations

Agent Greeting is subject to these limitations.

- Agent Greeting does not support outbound calls made by an agent. The announcement plays for inbound calls only.

- Only one Agent Greeting file plays per call.

- Supervisors cannot listen to agent recorded greetings.

- Agent Greetings do not play when the router selects the agent through a label node.

- Agent Greeting supports Unified CM based Silent Monitoring with this exception: Supervisors cannot hear the greetings themselves. If a supervisor tries to start a silent monitoring session while a greeting is playing, a message displays stating that a greeting is playing and to try again shortly.

Whisper Announcement with Agent Greeting

You can use Agent Greeting with the Whisper Announcement feature. Here are some things to consider when using them together:

- On the call, the Whisper Announcement always plays first.

- To shorten your call-handling time, use shorter Whisper Announcements and Agent Greetings than if you were using either feature by itself. A long Whisper Announcement followed by a long Agent Greeting equals a long wait before an agent actively handles a call.

- If you use a Whisper Announcement, your agents probably handle different types of calls: for example, "English-Gold Member-Activate Card," "English-Gold Member-Report Lost Card," "English-Platinum Member-Account Inquiry." Therefore, you may want to ensure that greetings your agents record are generic enough to cover the range of call types.

For more information about Whisper Announcement, see Whisper Announcement

Initial Setup

This section is intended for system administrators responsible for installing and configuring Unified CCE. It describes the one-time tasks required to set up Agent Greeting.

Configuration Requirements

The following configuration components must be in place to deploy Agent Greeting.

Where	What
Unified Communications Manager	For phones that use Agent Greeting, you must set the Built-in-Bridge option to On or De Administration, select **Device** > **Phone** > **Built in Bridge**.
Unified CCE	Agent Greeting is supported with Type 10 Network VRUs only. (Type 10 is required to al is not configured for a Type 10 VRU, you must modify it accordingly.
	Agent Greeting requires at minimum three expanded call variables.
	• user.microapp.ToExtVXML: This is used twice in an Agent Greeting record script: application; the second time is to tell the recording application where to save greetin
	Use the Unified CCE Administration tool to ensure this variable includes these setti
	• user.microapp.app_media_lib:This is required in Agent Greeting record and play scr greeting audio files are stored. Maximum Length - 100 and Enabled.
	• user.microapp.input_type: This is required in Agent Greeting record scripts to limit th
	No other ECC (Expanded Call Variable) are needed if you serve your files from the Unif default locale directory ("<*web_server_root*>\en-us\app"). However, if you store your fil the ECC in the next row in your scripts.
Unified CCE (optional variables, used to override defaults)	To make these variables available to your script authors, confirm that they are defined in ECC variables for CVP, see the *Administration Guide for Cisco Unified Customer Voice Po unified-customer-voice-portal/tsd-products-support-series-home.html.
	• user.microapp.media_server: Use to identify the Unified CVP media server if it is o
	• user.microapp.locale: Use to specify the name of the locale directory on the media s
	• user.microapp.UseVXMLParams: Required in your record script if you include the recording script to use the name/value pair of the application that you pass in the us
Unified CVP	Unified CVP Server must be installed and configured, as described in the *Cisco Unified C https://www.cisco.com/c/en/us/support/customer-collaboration/unified-contact-center-en

Deploy Agent Greeting

Agent Greeting Deployment Tasks

Procedure

Step 1 Ensure that your system meets the baseline requirements for software, hardware, and configuration described in the System Requirements and Limitations section.

Step 2 Configure one or more servers to act as media servers. Configuration requirements include IIS and FTP.

Step 3 In Unified CVP, add media servers, configure FTP connection information, and deploy the media servers.

Step 4 Configure a Unified CVP media server, if you have not already done so. See Configure Media Server for Agent Greeting, on page 4. .

Step 5   In Unified CVP, republish the VXML Gateway.tcl scripts with updated Agent Greeting support. See Republish the tcl scripts to VXML Gateway, on page 8 for Agent Greeting support.

Step 6   Set the cache size on the VXML Gateway. See Set Cache Size on VXML Gateway, on page 8.

Step 7   Record the voice prompts to play to agents when they record a greeting and to deploy the audio files to your media server. See Create Voice Prompts for Recording Greetings, on page 8.

Step 8   Configure call types to record and play agent greetings. See Configure Call Types, on page 9.

Step 9   Configure dialed numbers to record and play agent greetings. See Configure Dialed Numbers, on page 10.

Step 10   Schedule the Script, on page 10.

Step 11   Define Network VRU Scripts for Agent Greeting, on page 10.

Step 12   In Script Editor:

- To use the installed scripts to record and play agent greetings, see Import Example Agent Greeting Scripts, on page 12.
- To create your own scripts, see Agent Greeting Scripts, on page 15.

Step 13   Modify the Unified CCE call routing scripts to use Play Agent Greeting script, on page 14.

Configure Media Server for Agent Greeting

Agent Greeting uses the Unified CVP media server. If you previously configured and deployed one or more Unified CVP media servers for other features, you do not have to configure any additional servers for Agent Greeting. You can optionally add additional media servers.

Agent Greeting uses the Unified CVP media server to store and serve the following types of files:

- Prompt files, prepared by Administrators. These files supply the prompts that agents hear when they record their greetings. The Administrator must manually add the prompt files to all the media servers that their Agent Greeting scripts will query to retrieve those files.

- Greeting files, recorded by agents. These files are the actual greetings that play to callers. They are recorded by individual agents. The system handles the storage of these files as follows:

  - A greeting file is named using the convention *PersonID_AgentGreetingType*. For more about *AgentGreetingType*, see Specify AgentGreetingType Call Variable, on page 14.

  - When a greeting is first recorded, it is stored temporarily on the Unified CVP Server, where an agent can listen to it before confirming its use.

  - When the agent confirms the greeting, the file is transferred, using FTP, to all media servers that are deployed and are configured with FTP enabled. Make sure that an FTP server is installed and configured for the correct version of IIS on the media server. For instructions, consult your Microsoft documentation (http://microsoft.com).

  - To satisfy a request for the greeting to play to a caller, the greeting file is copied from the media server to the VXML Gateway, where it is cached. The cached copy is used to satisfy subsequent requests for the greeting. Content expires in the cache based on the cache timeout period defined on the media server.

The routing scripts look for the prompt and greeting files either on the configured default Unified CVP media server or on a specific server identified in the script. Some typical scripting scenarios for retrieving files for Agent Greeting include:

- All files are retrieved from the default server.

- All files are retrieved from the default server if available; otherwise, a redundant server is queried.

- For security, the prompt files are retrieved from one server and the greetings files are retrieved from a different server.

- For load balancing, the greetings files are dispersed among several servers and retrieved based on tests in the script.

Media Server Hardware and Network Requirements

Ensure the server is accessible to CVP, Unified CCE, and your agent desktops.

Prepare a Media Server

1. Ensure that IIS is properly configured and running on the server. It must be listening on port 80.

2. Ensure the server is accessible to CVP, Unified CCE, and your agent desktops.

3. Perform the following steps:

   a. On the taskbar, click **Start**, point to **Administrative Tools**, and then click **Server Manager**.

   b. In the **Server Manager** hierarchy pane, expand **Roles**, and then click **Web Server (IIS)**.

   c. In the **Web Server (IIS)** pane, scroll to the **Role Services** section, and then click **Add Role Services**.

   d. On the **Select Role Services** page of the **Add Role Services** wizard, expand **FTP Server**.

   e. Select **FTP Service**.

   Note   To support ASP.NET membership or IIS Manager authentication for the FTP service, you need to select **FTP Extensibility**.

   f. Click **Next.**

   g. On the **Confirm Installation Selections** page, click **Install.**

   h. On the **Results** page, click **Close.**

   i. In the sites section, click **Add FTP Site**. Provide a site name and path to the same location as the http directory c:\inetpub\wwwroot.

   j. Select your desired binding method, specify to start automatically, select **No SSL** and click **Next.**

   k. On the **Authentication and Authorization** section select the type of authentication required. If using basic, note the name and password of the account.

   l. Select the authorization; for anonymous select **Anonymous users**.

   m. Set the read and write permissions.

   Note   Make note of your FTP connection information -- connection type, user name, password, and port number.

4. Make sure that the FTP and the IIS share the same root directory, because the recording application writes the file to the media server directory structure, and the greeting playback call uses IIS to fetch the file. The `en-us/app` directory should be under the same root directory for FTP and IIS.

5. Create a dedicated directory on the server to store your greeting files. This lets you specify a lower cache timeout of 5 minutes for your agent greeting files that does not affect other more static files you may be serving from other directories. By default, the Record Greeting application posts the `.wav` file to the `en-us/app` directory under your web/ftp root directory. You may create a dedicated directory such as `ag_gr` under the `en-us/app` directory, and then indicate this in the Unified CCE script that invokes the recording application. Use the array for the ECC variable **call.user.microapp.ToExtVXML** to send the ftpPath parameter to the recording application. Make sure the ECC variable length is long enough, or it may get truncated and fail.

6. In IIS Manager, set the cache expiration for the dedicated directory to a value that allows re-recorded greetings to replace their predecessor in a reasonable amount of time, while minimizing requests for data to the media server from the VXML Gateway. The ideal value varies depending on the number of agents you support and how often they re-record their greetings. Two minutes may be a reasonable starting point.

7. Also find the site you are using, go to the agent greeting folder you created (ag_gr), and then select **HTTP Response Headers**.

8. Select **Add**, then **Set Common Headers**.

9. Select **Expire Web Content** and set your desired value.

Note After specifying the cache timeout, it is a good idea to clear the cache on the VXML Gateway. This ensures the gateway requests the latest files from the media server. You need only clear the gateway cache once. Open a command prompt on the CVP VXML Gateway, log into IOS, and enter the following commands:

```
my_server# conf t
my_server(config)# clear http client cache
my_server(config)# exit
my_server(config)# wr
```

Note The HTTP client response timeout setting on the gateway must be greater than the time it takes to complete the largest anticipated FTP file transfer. If an FTP file transfer takes longer than the configured duration in seconds for HTTP client response timeout, the FTP transfer completes correctly, but the call drops as soon as the configured timeout duration is met. To change the HTTP client response timeout setting, open a command prompt on the CVP VXML Gateway, log into IOS, and enter the following commands:
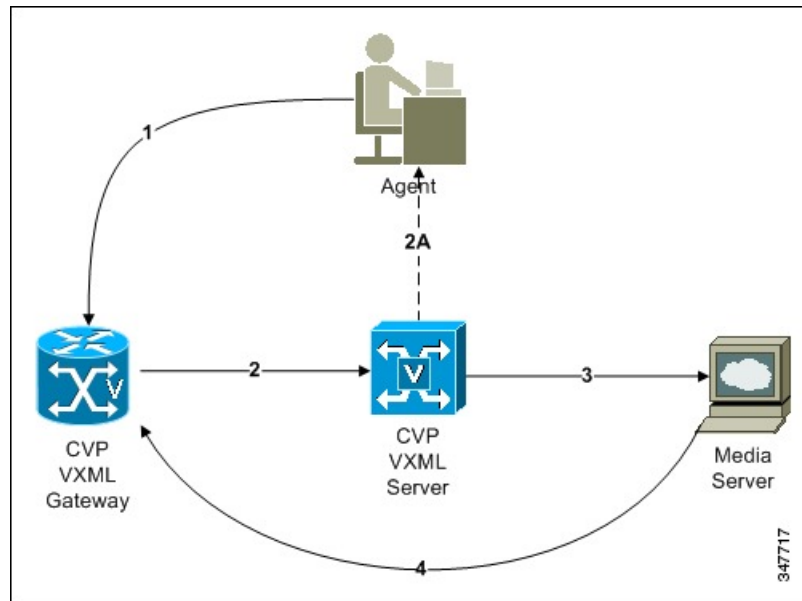
```
my_server# conf t
my_server(config)# http client response timeout <new value in seconds>
my_server(config)# exit
my_server(config)# wr
```

By default, the HTTP client response timeout value for CVP is 30 seconds.

How Greeting Files Are Recorded and Served

Following is an illustration of how Greeting files are recorded and served, followed by a step by step description.

1. An agent initiates a greeting recording session and records a greeting.

2. The VXML Gateway passes the recorded (but unsaved) greeting file to the VXML Server.

3. The agent asks to listen to the greeting before saving it. The file is played from the VXML Server.
4. The agent saves the greeting. The file is named (based on the Person ID + AgentGreetingType) and stored on the media server.

5. Requests for the greeting file come in through the VXML Gateway. The VXML Gateway examines its web server cache for the file. If the file is present and not expired, the cached version is served. If the file is not present, or if its timestamp exceeds the cache expiration, the file is retrieved from the media server and cached again.

Add and Configure Media Servers in CVP

You can add one or more servers to CVP to act as media servers. If you add multiple media servers, note the following:

• CVP automatically propagates files that are added to one media server out to all media servers in the list that have FTP enabled. To enable FTP on a media server, use the following procedure.

• You can designate one media server as the default. If a default media server is defined, requests for files are automatically sent to that server without your having to specify that server in your routing scripts.

1. Access the CVP Operations Console by typing **https://<OAMP_server_IP>:9443/oamp**.

2. At the CVP Operations Console, select **Device Management** > **Media Server**.

3. Add a server to the list of CVP media servers.

4. Select **FTP Enabled**.

5. Configure the credentials and port settings that will permit CVP to write files to the server using FTP.

6. Optionally, you can designate one of your media servers as the Default Media Server.

7. Click the **Deploy** button to deploy the list of media servers to your CVP Servers.

   Note: If you deploy the list of media servers and then designate a default, you must redeploy the list.

Republish the tcl scripts to VXML Gateway

The .tcl script files that ship with Unified CVP include updates to support Agent Greeting. You must republish these updated files to your VXML Gateway.

Republishing scripts to the VXML Gateways is a standard task in CVP upgrades. You must republish the scripts before you can use Agent Greeting.

Procedure

Step 1 In the Unified CVP Operation Console, select **Bulk Administration** > **File Transfer** > **Scripts and Media**.

Step 2 Set Device to Gateway.

Step 3 Select the gateways you want to update. Typically you would select all of them unless you have a specific reason not to.

Step 4 Select **Default Gateway Files**.

Step 5 Click **Transfer**.

Set Cache Size on VXML Gateway

To ensure adequate performance, set the size of the cache on the VXML Gateway to the maximum allowed. The maximum size is 100 megabytes; the default is 15 kilobytes. Failure to set the VXML Gateway cache to its maximum can result in slowed performance to increased traffic to the media server.

Use the following Cisco IOS commands on the VXML Gateway to reset the cache size:

```
conf t
http client cache memory pool 100000
exit
wr
```

For more information about configuring the cache size, see the *Configuration Guide for Cisco Unified Customer Voice Portal* at https://www.cisco.com/c/en/us/support/customer-collaboration/unified-customer-voice-portal/tsd-products-support-series-home.html.

Create Voice Prompts for Recording Greetings

You must create audio files for each of the voice prompts that agents hear as they record a greeting. The number of prompts you require can vary, but a typical set can consist of:

- A welcome followed by a prompt to select which greeting to work with (this assumes you support multiple greetings per agent)

- A prompt to select whether they want to hear the current version, record a new one, or return to the main menu

- A prompt to play if a current greeting is not found.

To create voice prompts for recording greetings:

Procedure

Step 1 Create the files using the recording tool of your choice. When you record your files:

- The media files must be in `.wav` format. Your `.wav` files must match Unified CVP encoding and format requirements (G.711, CCITT A-Law 8 kHz, 8 bit, mono).

- Test your audio files. Ensure that they are not clipped and that they are consistent in volume and tone.

Step 2 After recording, deploy the files to your Unified CVP media server. The default deployment location is to the `<web_server_root>`\en-us\app directory.

Step 3 Note the names of the files and the location where you deployed them on the media server. Your script authors need this information for the Agent Greeting scripts.

Built-In Recording Prompts

The Unified CVP Get Speech micro-application used to record Agent Greetings includes the following built-in prompts:

- A prompt that agents can use to play back what they recorded

- A prompt to save the greeting, record it again, or return to the main menu

- A prompt that confirms the save, with an option to end the call or return to the main menu

You can replace these `.wav` files with files of your own. For more information, see the Unified Customer Voice Portal Call Studio documentation at https://www.cisco.com/c/en/us/support/unified-communications/unified-call-studio/tsd-products-support-series-home.html.

Example Record Greeting Prompts

Unified CCE includes three example record greeting audio prompts. These are installed on each ICM server at <icm_root>\wav. These example files are referenced in the example recording script that are included with ICM. If you plan to deploy the example script, copy the audio prompts to the <web_server_root>en-us\app directory on your media server.

Configure Call Types

To record and play agent greetings, create the following call types: RecordAgentGreeting and PlayAgentGreeting.

Procedure

Step 1 From the Configuration Manager, select **Tools** > **List Tools**.

Step 2 Select **Call Type List**.

Step 3 Click **Retrieve**.

Step 4 Click **Add**.

Step 5 Create a call type to record agent greetings and use the name RecordAgentGreeting. Then click **Save**.

Step 6 Create a call type to play agent greetings and use the name PlayAgentGreeting. Then click **Save**.

Configure Dialed Numbers

To record and play agent greetings, create the following dialed numbers: RecordAgentGreeting and PlayAgentGreeting.

Procedure

Step 1 From the Configuration Manager, select **Tools** > **List Tools**.

Step 2 Select **Dialed Number/Script Selector List**.

Step 3 Click **Retrieve**.

Step 4 Click **Add**.

Step 5 On the **Attributes** tab, do the following:

a) Create a dialed number to record agent greetings; use the name RecordAgentGreeting. (The name must match exactly and is case-sensitive.) Set the **Media routing domain** to **Cisco_Voice**, and then click **Save**.

b) Create a dialed number to play agent greetings; use the name PlayAgentGreeting. (The name must match exactly and is case-sensitive.) Set the **Media routing domain** to **Cisco_Voice**, and then click **Save**.

Step 6 On the **Dialed Number Mapping** tab, do the following:

a) Click **Add** and map the RecordAgentGreeting dialed number to its call type; click **OK**.

b) Click **Add** and map the PlayAgentGreeting dialed number and its call type; click **OK**.

Schedule the Script

Procedure

Step 1 In the **Script Editor**, select **Script** > **Call Type Manager**.

Step 2 From the Call Type Manager screen, select the **Schedules** tab.

Step 3 From the Call type drop-down list, select the call type to associate with the script; for example, PlayAgentGreeting.

Step 4 Click **Add** and select the script you want from the Scripts box.

Step 5 Click **OK** twice to exit.

Define Network VRU Scripts for Agent Greeting

For Agent Greeting record and play scripts to interact with Unified CVP, Network VRU scripts are required. The number of VRU scripts that you require and how you configure them depends on how you choose to script Agent Greeting.

To create these scripts, use the Network VRU Script List Tool found in Configuration Manager.

The following table lists an example set of Agent Greeting Network VRU scripts based on the example Agent Greeting scripts that are included with the software.

Note If you require the following example VRU scripts, you must manually create them.

- The Network VRU must be a Type10

- The default timeout 180 is acceptable

- Leave Overridable unchecked

Table 1: Agent Greeting Network VRU Scripts

Name / VRU Script Name	Configuration Parameter	Interruptible (Y/N)	What it does
AgentGreeting PM,-a	null	N	Causes a saved greeting audio file to play. The -a parameter automatically generates the file name by concatenating the Person ID with the AgentGreetingType variable value set in your routing scripts that target an agent.
GreetingMenu_1_to_9 M,press_1_thru_9_greeting,A	1-9	Y	During a recording session, play an audio file that presents a voice menu prompting the agent to press the number corresponding to the greeting he or she wants to record. The 1-9 configuration parameter defines the range of allowable keys. So this value also determines the number of concurrent greetings agents can have. The A parameter specifies that the file is in the (default) Application directory on the Unified CVP Server.
GreetingSubMenu M,press1-press2-press3,A	1-3	Y	During a recording session, play an audio file that prompts the agent to press 1 to listen to a greeting, 2 to record, or 3 to go to the main menu.
Greeting_Not_Found PM,no_greeting_recorded,A	Y	Y	During a recording session, if an agent tries to play back a greeting that does not exist, play the no_greeting_recorded audio file. The Y configuration parameter in this instance allows barge-in (digit entry to interrupt media playback).
T10_GS_AUDIUM GS,Server,V, FTP	,,,,,,,,,,Y	Y	This starts the external VXML application that records the greeting. The VRU script name must be specified exactly as shown and is case-sensitive. The Y parameter in the eleventh position of the Configuration Parameter is required. It allows the script to pass FTP connection information to the VXML server. The VXML server then uses this information to make an FTP connection to the media server when saving greeting files.

Name / VRU Script Name	Configuration Parameter	Interruptible (Y/N)	What it does
GreetingReview PM,-a,A	Y	Y	This script allows the agent to review the recorded greeting audio file.

> **Note** For descriptions of VRU Script Name parameters and detailed instructions on creating Network VRU scripts for CVP micro-applications, see the Configuration and Administration Guide for Cisco Unified Customer Voice Portal.

Import Example Agent Greeting Scripts

To view or use the example Agent Greeting scripts, you must first import them into Script Editor. To import the scripts:

Procedure

Step 1 Launch Script Editor.

Step 2 Select **File > Import Script** and select a script to import.

The scripts are located in the `icm\bin` directory on the Unified CCE AW-HDS-DDS.

> **Note** When you import the example scripts, Script Editor maps objects that are referenced in the scripts. Some of the objects, such as the external Network VRU scripts, skill groups, route to skill group, or precision queue, do not map successfully. You must create these manually or change these references to point to existing scripts, skill groups, and precision queues in your system.

What to do next

In addition to importing the scripts, you may need to modify the following items. For more information, see Agent Greeting Scripts, on page 15.

- If you do not use a default media server, you must modify the media server specification.

- If you do not use the default values for application and locale (`en-us/app`), you must modify the path name of greeting files.

- Using the Unified CCE Administration tool, enable all expanded call variables referenced by the following sample scripts.

Agent Greeting Example Routing Scripts

The example routing script files in the `icm\bin` directory include:

- **AG.ICMS**—This script sets up an Agent Greeting by setting the greeting type to be used on the call and then queueing the call to a skill group or precision queue. Once an agent is selected from the skill group

or precision queue and the call routed to the agent, the PAG.ICMS script is invoked. It requires that you define an AgentGreeting VRU script (described in Define Network VRU Scripts for Agent Greeting, on page 10) and a skill group.

- **PAG.ICMS**—This script causes an Agent Greeting to play. It is invoked by the PlayAgentGreeting dialed number that you configured earlier in the configuration process. This number must be associated with a call type that then runs the script. It requires that you define an AgentGreeting VRU script, described in Define Network VRU Scripts for Agent Greeting, on page 10.

- **RECORD_AG.ICMS**—This script lets agents record a greeting. It is called from the agent desktop when an agent clicks the Record Agent Greeting button. It prompts the agent to select which greeting to play or record. This script is invoked by the RecordAgentGreeting dialed number that you configured earlier in this configuration process. It requires that you define all five VRU scripts described in Define Network VRU Scripts for Agent Greeting, on page 10.

- **WA_AG.ICMS**—This script plays a Whisper Announcement and an Agent Greeting together on the same call flow. It requires that you define an AgentGreeting VRU script (described in Define Network VRU Scripts for Agent Greeting, on page 10) and a skill group.

Note The PAG.ICMS and RECORD_AG.ICMS example scripts assume that a default media server is configured in Unified CVP, and the greeting files are stored in a dedicated directory named ag_gr directory. The WA_AG.ICMS script does not include a dedicated directory.

Note For greeting, the initial script sets up the call between caller and agent, and a different script plays the greeting to the agent after the caller is connected. If the initial Unified CCE script overrides the default media server with a SET node, the call context of expanded call variables is preserved on the greeting playback call as well, and the Default Media Server may be overridden. In this case, modify the greeting playback script to use a SET node with the correct media server.

Test Agent Greeting File Path

When an agent records a greeting, the greeting file is saved with a system-generated name as follows:

- The Person ID number is prepended to the starting string. For example, an agent with a Person ID of 5050 would have greeting files named 5050_1 or 5050_French.

- The filename ends with the value of the Call.AgentGreetingType variable associated with the choice the agent made when recording the greeting. For example, if the agent selected the first option, and the Agent Greeting record script sets the first option to "1," then the greeting filename is appended with _1. As another example, if descriptive strings were implemented, and the first option is associated with the string "French," then the greeting filename is appended with _French.

The greeting file is saved in a directory whose path is determined by the following variables in the Agent Greeting record script:

- A specific media server, or the default media server. (The file is later pushed to all FTP-enabled media servers.)

- A specific application directory, or the default application directory.

• A specific locale directory, or the default locale directory.

To test the path you defined to the greeting file in your script variables, plug the complete URL into a browser. The `.wav` file should play. For example:

• If your script uses a default media server whose IP is *192.1.1.28 + the default locale + an application directory named greet + 5050_im1.wav*, then the generated URL should be `http://192.1.1.28/en-us/app/greet/5050_1.wav`. Entering this URL into a browser should cause this agent's greeting to play.

• If your script includes: *http://my_server.my_domain.com + the default locale + an application directory app/greet + 5050_1.wav*, then the path should be `http://my_server.my_domain.com/en-us/app/greet/5050_1.wav`.

Modify the Unified CCE call routing scripts to use Play Agent Greeting script

For an Agent Greeting play script to run, you must add an AgentGreetingType Set Variable node to your existing Unified CCE call routing scripts: This variable's value is used to select the audio file to play for the greeting. Set the variable before the script node that queues the call to an agent (that is, the Queue [to Skill Group or Precision Queue], Queue Agent, Route Select, or Select node).

Specify AgentGreetingType Call Variable

To include Agent Greeting in a script, insert a Set Variable node that references the AgentGreetingType call variable. The AgentGreetingType variable causes a greeting to play and specifies the audio file it should use. The variable value corresponds to the name of the greeting type for the skill group or Precision Queue. For example, if there is a skill group or Precision Queue for Sales agents and if the greeting type for Sales is '5', then the variable value should be 5.

You can use a single greeting prompt throughout a single call type. As a result, use one AgentGreetingType set node per script. However, as needed, you can set the variable at multiple places in your scripts to allow different greetings to play for different endpoints. For example, if you do skills-based routing, you can specify the variable at each decision point used to select a particular skill group or Precision Queue.

✎

Note Only one greeting can play per call. If a script references and sets the AgentGreetingType variable more than once in any single path through a script, the last value to be set is the one that plays.

Use these settings in the Set Variable node for Agent Greeting:

• Object Type: Call.

• Variable: Must use the AgentGreetingType variable.

• Type: Must use the PersonID_AgentGreetingType type.

• Value: Specify the value that corresponds to the greeting type you want to play. For example: "2" or "French"

  • You must enclose the value in quotes.

  • The value is not case-sensitive.

  • The value cannot include spaces or characters that require URL encoding.

Scripting Agent Greeting for Multiple Customers

In the out-of-box method for deploying Agent Greeting, Unified CCE uses the customer information from the built-in "PlayAgentGreeting" dialed number to choose the correct network VRU to play the greeting. If your deployment has multiple customers configured within your Unified CCE instance and you want to use Agent Greeting with all of them, you must configure things differently to work around customer associations.

Configure Custom Dialed Number for Agent Greeting Play

To play Agent Greetings for multiple customer instances, configure the built-in PlayAgentGreeting dialed number for each Unified CM routing client, but do not associate it with a specific customer. The Unified CM peripheral uses this number to initiate Agent Greeting play. If you want your greetings to be played from a different network VRU, use the TranslationRouteToVRU node in your routing scripts to explicitly choose the network VRU.

Configure Custom Dialed Number for Agent Greeting Record

To record Agent Greetings when you have multiple customers, you must create your own custom dialed number for recording. You may want to create different dialed numbers for different customers. As with Agent Greeting play, if want to use different network VRUs to record Agent Greetings for different customers, use the TranslationRouteToVRU node in your routing script to explicitly select the network VRU.

Create your own custom button or have your agents enter the record dialed number using the dial pad on their desktops.

Agent Greeting Scripts

Agent Greeting requires two call routing scripts: one that agents can use to record greetings and one to play a greeting to callers. Examples of these scripts are included in your installation. This section describes the elements in the installed example scripts, including optional features and other modifications that you can make. To create scripts from scratch, use this section to understand the required elements in Agent Greeting scripts.

> ✎
>
> **Note**   If you plan to use the installed example scripts out of the box, you can ignore this section.

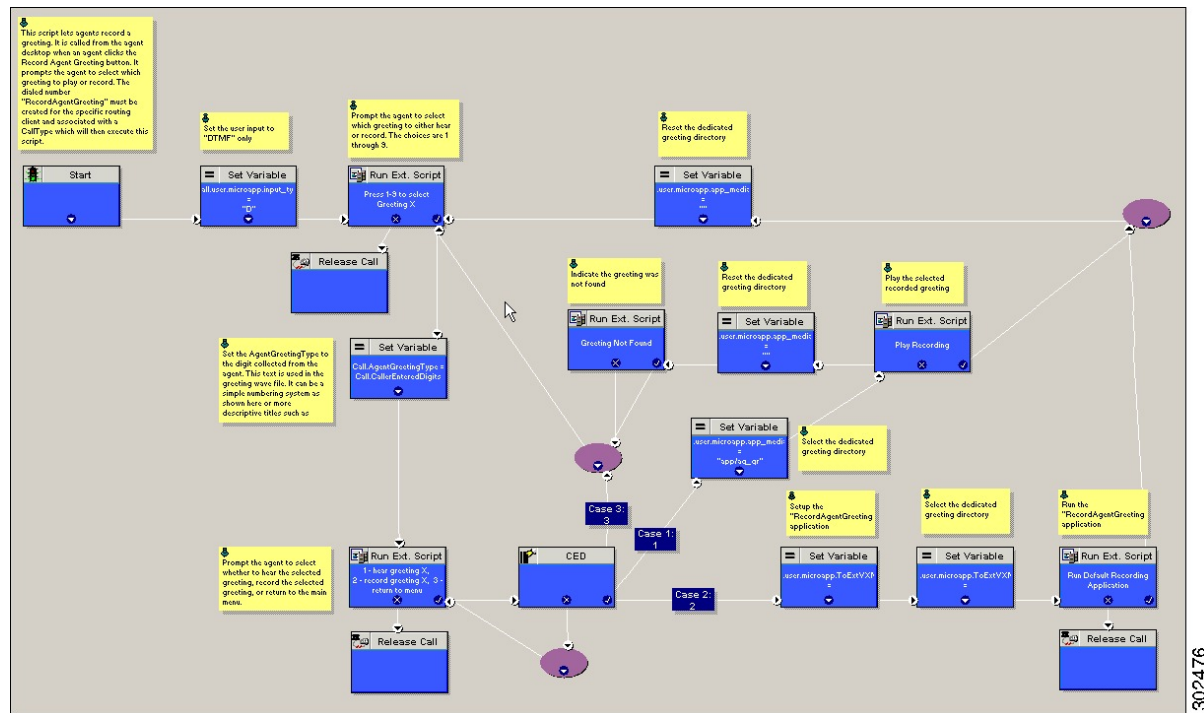## Agent Greeting Recording Script

The Agent Greeting recording script is a dedicated routing script that allows agents to record greetings. You can use the installed example scripts or create your own.

In the example script shown here, the agent is first prompted to select one of nine possible greeting types. After selecting a greeting type, the agent chooses whether to 1) listen to the existing greeting for that type; 2) record a new greeting for that type, or 3) return to the main menu. If the agent selects the option to listen, the name of the application directory on the media server is set and the external VRU script that plays the greeting is triggered. Then the agent is returned to the main menu. If the agent selects the option to record, the Unified CVP recording application is called. The recording application contains its own built-in audio prompts that step the agent through the process of recording and saving a greeting. At the end, the agent is returned to the main menu.

There are several other behaviors in the script to note. An agent may select to listen to a greeting type for which no greeting exists. In that event, a VRU script that plays an error message is called. Also, in two places in the script, the path to the application directory is reset to the default. This is because (in this example) that

is where the files for the audio files reside. The only files that reside outside of the default directory are the greetings themselves.

Figure 1: Agent Greeting Record Script

RecordAgentGreeting Micro-application

Unified CVP includes a dedicated micro-application -- RecordAgentGreeting -- for recording agent greetings. The application lets agents record, review, re-record, and confirm the save of a greeting. It includes audio files to support each of these functions. If an agent is not satisfied with a greeting, it can be re-recorded up to three times. Upon confirmation of a save, the application FTPs the saved file to the media server.

Built-in error checking includes checks for the data required to name the file (*Person ID* + *AgentGreetingType* variable value), media server specification, valid menu selections made by the agent, and successful FTP of the greeting file.

Agent Greeting Record Script Nodes

Using the example script as a reference, here are descriptions of the functions its nodes perform.

Table 2: Script Node Functions for Agent Greeting

Node	Value	What it does
Variable:Call:user. microapp.input_type	D	Sets the allowable input type to DTMF (touch tone).

Node	Value	What it does
RunExtScript:Press 1-9 to Select Greeting X	`M,press_1_thru_9_greeting,A`	Runs the VRU script that defines which digits are valid to select an AgentGreetingType and plays a voice prompt describing the options.
Variable:Call:AgentGreetingType	`Call.CallerEnteredDigits`	Sets the AgentGreetingType to the digit the agent pressed. This text is used in the greeting wave file. It can be a simple numbering system or more descriptive titles such as "English."
RunExtScript: 1 - hear greeting X, 2 - record greeting X, 3 - return to menu	`M,press1-press2-press3,A`	Runs the VRU script that defines which digits are valid to select a desired action and plays a voice prompt describing the options.
CED	`1,2,3`	Tells the script how to handle the caller entered digits in response to the 1,2,3 external script.
Variable:Call: user.microapp.app_media_lib	Set three times: • Once to `"app/ag_gr"` • Twice to `""` (an empty string; that is, the default)	Defines the path to the application directory on the Unified CVP media server. Prior to playing the greeting file, it is set to the dedicated greeting file directory (in this example, `app/ag_gr`). After the greeting file plays, it is reset to the default application directory where (in this example) the files for voice prompts are stored. If the voice prompts were stored in the same directory as the greeting files, there would be no need to reset the path.
RunExtScript: Play Recording	`PM,-a,A`	Runs the VRU script that plays the selected Agent Greeting.
RunExtScript:Greeting Not Found	`PM,no_greeting_recorded,A`	Runs the VRU script that plays an error message if the Agent Greeting selected to play does not exist.

Node	Value	What it does
Variable: Call:user.microapp. ToExtVXML[]	Array Index: 2 Value: "ftpPath=<*path_to_dedicated/ directory*>" For example: "ftpPath=en-us/app/ag_gr"	Specifies the FTP information that the VXML server uses to write greeting files to the media server. The information must match the FTP information configured for the media server in the Unified CVP Operations Console. The value for array index must be 2. The value consists of: • ftpPath= to set the path to the dedicated directory for agent greeting files. • The path must begin with the locale directory. To view additional setting options, see CVP documentation.
Variable: Call:user.microapp. ToExtVXML[]	Array Index: 0 Value: "application=RecordAgentGreeting"	Identifies the external Unified CVP micro-application (RecordAgentGreeting) that is used to record the greeting. The value for array index must be 0.
RunExtScript: Run Default Recording Application	GS,Server,V	Runs the VRU script that launches the Get Speech micro-application on the VXML server.

Specify Media Server in Routing Scripts

When you configure media servers in CVP, you can specify a default media server. The benefit to specifying a default media server is that your scripts do not need a Set Variable node to access the default media server. For this to work, you must make sure that the files a script requests are stored on the default server.

If you do not define a default media server, or if you define a default but the files that your script requires are not stored on the default, then the script must include a Set Variable node to identify a media server.

To specify a media server that stores the files required by your script, use the following settings in the Set Variable node:

• Object Type: Call.

• Variable: Must use the user.microapp.media_server expanded call variable.

• Value: Specify the HTTP path to the server. For example: "http://myserver.mydomain.net." You must enclose the path in quotes.

• Alternately you can specify an IP address in place of a hostname.

In scripts that invoke an external VXML application (as the Agent Greeting record script does), if you explicitly set a variable for the media server (user.microapp.media_server), then you must also set the following variables:

- The path to the media server application directory (user.microapp.app_media_lib)

- The CVP UseVXMLParams value to N.(user.microapp.UseVXMLParams)

See the following example.

Figure 2: Additional Required Variables When Specifying a Media Server
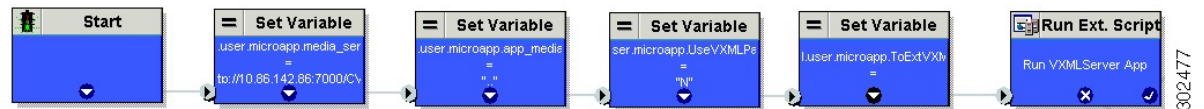
Specify Greeting File Locale and Application Directories in Routing Scripts

CVP uses a default storage directory for media files: `<web_server_root>`/en-us/app. To take advantage of this, Unified CCE call routing scripts automatically add en-us/app to the server name when constructing HTTP requests for media files. For example:

- If the script node that defines the media server has a value of "http://myserver.mydomain.com," and

- The script node that defines which audio file to play has a value of "5050_1.wav" (for an agent with a Person ID of 5050), then

- The HTTP request for the file is automatically constructed as
  http://myserver.mydomain.com/en-us/app/5050_1.wav

If your greeting audio files are stored in a different locale directory, you must add a Set Variable node to your script that identifies the locale directory. As you must store your greeting files in a dedicated subdirectory under the locale, you must always add a Set Variable node that identifies that directory.

Use these settings in the Set Variable node to specify your locale directory:

- Object Type: Call.

- Variable: Must use the user.microapp.locale expanded call variable.

- Value: Specify the directory name. For example: "pt-br" (Portuguese-Brazil). You must enclose the path in quotes.

Use these settings in the Set Variable node to specify your application directory:

- Object Type: Call.

- Variable: Must use the user.microapp.app_media_lib expanded call variable.

- Value: Specify the directory name. For example: to use a directory "greet" in place of the default directory "app", enter "greet". To use a sub-directory "greet" under "app" enter "app/greet". You must enclose the path in quotes.

Verify Length for Media Server Locale and Application Directory Variables

If you include Set Variable nodes for the media server, locale, and/or application directories, make sure that the values you set for them do not exceed the Maximum Length settings for their corresponding expanded call variables.

For example, if you include a Set Variable node for the media server with a value of "http://mysubdomain.mydomain.co.uk", the string is 33 characters long. Therefore, the Maximum Length setting for the user.microapp.media_server expanded call variable must be 33 or greater. Otherwise, the server name is truncated in the HTTP request for the file and the file is not found.

To configure ECC variables, use the Unified CCE Configuration Manager. Select **List Tools** > **Expanded Call Variables List**.

Descriptive Agent Greeting Type Strings

The previous Agent Greeting record script example stores Agent Greeting Type values as numbers (although in string format). But suppose you prefer more descriptive string names. For example, "English," "French," and "Spanish." Or "Sales," "Billing," and "Tech Support."

Descriptive names can make it easier to understand at a glance what different numeric key selections in your scripts correspond to. Note that they also affect how greeting files are named (for example, for an agent whose Person ID is 5050, 5050_English.wav as opposed to 5050_1.wav).

The following script example is almost identical to the previous record script, except that it includes four additional nodes (highlighted in green). They consist of an additional CED node that maps the keys 1, 2, and 3 to language names. The Run Ext Script node (in gray) was modified for the new options. The rest of the script is the same with no other changes required. Note that your routing scripts require a corresponding mapping of numeric keys to language names.

Figure 3: Script with Descriptive Greeting Type Strings
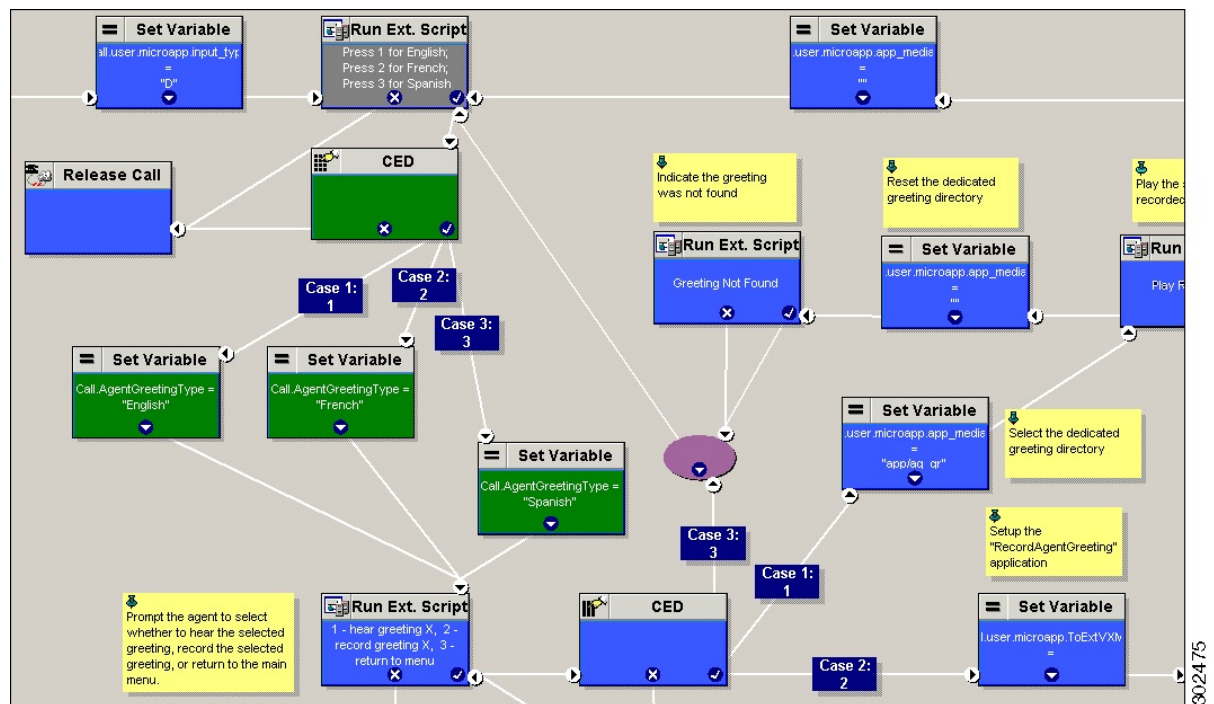
Agent Greeting Play Script

The Agent Greeting feature requires a dedicated routing script that causes the agent greeting to play. This script is invoked by the PlayAgentGreeting dialed number.

The Play script must contain at least two and possibly four specific nodes, depending on other factors.

You always need the following nodes:

- A Run External Script node that calls the VRU script that plays the greeting.

- A Set Variable node that sets the directory path to your greeting files.

You may also need to include in your scripts Set Variable nodes that:

- Specify the Media Server: Unified CVP lets you specify a default media server. If you are not serving your audio files from the default media server, your scripts must include a variable that identifies the server where your audio files are stored.

- Specify the Locale Directory: Additionally, if you are not storing your files in the default locale directory en-us on the media server, you must include a variable that specifies the name of the locale directory where the files are stored.

Note The Locale Directory set variable node is optional. It is needed only if you decide to use a directory other than the default one.

Figure 4: Agent Greeting Play Script Example
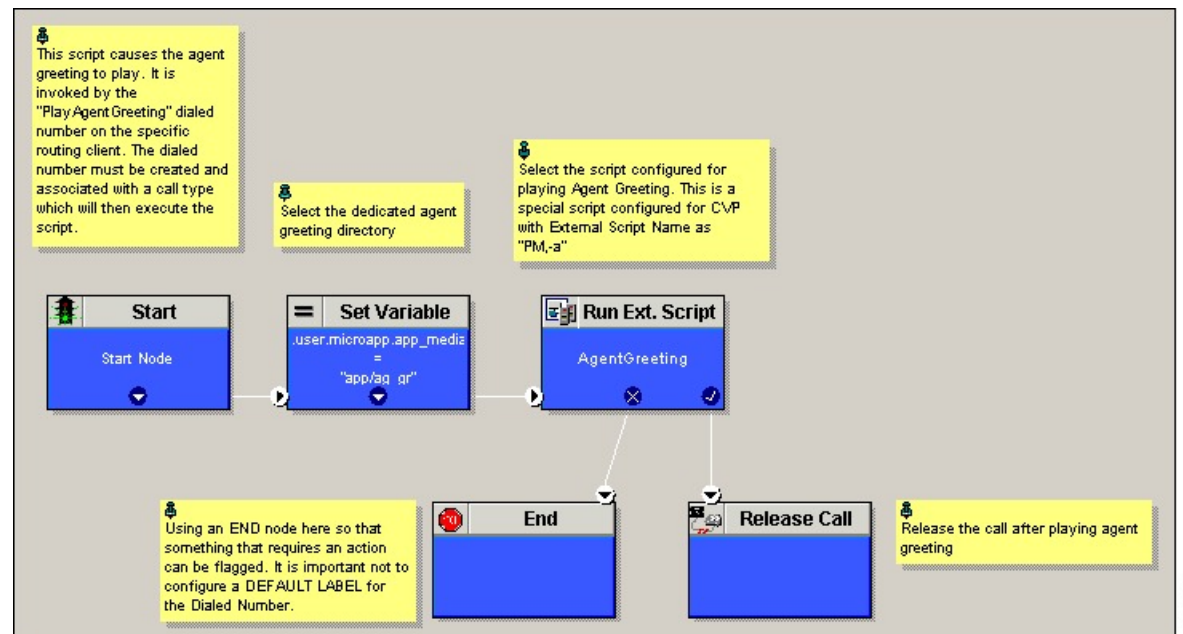
On a Mobile Agent callflow, CUCM may return a 404 error due to the absence of Agent Greeting, leading to call failure. To fix this issue, do the following:

1. Add a new Run External Script node with its backup media mapped to the agent greeting.

2. Add the Run External Script node between the failure path of the AgentGreeting Run External Script node and the End node.

3. Connect the Run External Script node's success path to the existing Release call node and failure path to the existing end node.

Adding the Run External Script node may add a short delay of one to two seconds to the call flow.

Reporting

In agent, skill group, and precision queue reports, greeting time is not specifically broken out. The period during which the greeting plays is reported as talk time. Record time is counted as an internal call by the default skill group.

Calls that involve Agent Greeting consist of two call legs: the inbound call from the customer and the call to Unified CVP for the greeting. Both of these legs have the same RouterCallKeyDay and RouterCallKey values in the TCD and RCD tables in the database. You can use these values to link the two legs together for reporting purposes.

Greeting Call Statistics

To view greeting call statistics, create a separate call type and associate it with the routing script that plays agent greeting. New Cisco Unified Intelligence Center templates for the agent greeting call type are created based on the data in the existing Call_Type_Real_Time and Call_Type_Interval table in the database.

Peripheral Call Types for Agent Greeting

There are two peripheral call types specific to Agent Greeting that you can use to track and report on the feature.

- Call Type 39: Play Agent Greeting. Route request to play an Agent Greeting.

- Call Type 40: Record Agent Greeting. Agent call for recording an Agent Greeting.

Extra TCDs and RCDs are generated for the agent greeting call leg, and they can be linked to the first call leg by the same RouterCallKeyDay and RouterCallKey.

Serviceability

Serviceability for Agent Greeting includes SNMP events captured by your Network management software that indicate reasons for greeting failures and counters to track the number of failed greeting events.

Note There is no counter for the number of failed agent greeting calls.

When system components fail, Agent Greeting may be impacted. For example, if a requested greeting audio file cannot be found for any reason, the call proceeds without the Agent Greeting.