Agent Greeting Feature

For Cisco Unified Contact Center Enterprise

Contents

About Agent Greeting

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

The process of recording a greeting is much the same as recording a message for your voice mail. Depending on how your call center is set up, you may be able to record different greetings that play for different types of callers (for example, an English greeting for English speakers or an Italian greeting for Italian speakers).

By default, greeting play is enabled when you log in to your agent desktop. But you can turn it off and on as necessary.

System Requirements and Functional Limitations

System Requirements

To use Agent Greeting, your system must meet these baseline requirements:

Software Requirements

These software pieces must be in place to deploy Agent Greeting:

What	Requirement
Unified CCE Software Versions	To use Agent Greeting, your Unified CCE deployment must be running: - Unified ICME 8.5(x) or greater - Unified CVP 8.5(x) or greater - Unified CTI OS 8.5(x) or greater - Unified CM 8.5(x) or greater

Deployment Models	Agent Greeting is supported with Enterprise deployments of Unified CCE only; it is not supported with hosted or parent /child deployment models.
Agent Types	Agent Greeting is supported for in-house (that is, non-mobile) agents only. It is supported for blended outbound agents when they receive inbound calls.
Agent Desktops	Agent Greeting is supported with CTI OS desktops created using the COM or C++ CILs. CTI OS includes Active X controls that let you integrate Agent Greeting buttons (Enable/Disable, Record) into the desktop. For more information, see the CTI OS developer documentation. Agent Greeting is supported with CAD desktops with these limitations: • There is no support for Agent Greeting controls in the desktop. • Agents do not have the option of enabling or disabling the feature. For more information, see the section on using Agent Greeting with CAD. • Greeting recording calls made using CTIOS are assigned the Peripheral Call Type value 40 (AGENT_GREETING_RECORDING). Greeting recording calls made using CAD are assigned the Peripheral Call Type value 10 (AGENT_INSIDE).

Protocol Requirements

These protocol and encoding pieces must be in place to deploy Agent Greeting:

What	Requirement
CVP Call Control Protocols	Agent Greeting is supported with SIP as the CVP call control protocol. H.323 is not supported.
Codecs	Agent Greetings are recorded using G.711 encoding. CVP supports a mixed codec environment in which the IVR uses G.711 encoding while customer/agent calls can use G.729. G.722 is not supported.

Phone Requirements

Agent Greeting is available to agents and supervisors who use IP Phones with built-in-bridge that are controlled by the Unified CCE and Unified Communications Manager. These agents are typically located within a contact center. Phones used with Agent Greeting must meet these requirements:

• The phones must have the Built in Bridge (BiB) feature.
• The phones must be running the firmware version delivered with Unified CM 8.5(1) or greater. (In most cases phone firmware is upgraded automatically when you upgrade your Unified CM installation.)
• At initial release, these Cisco Unified Call Center phone models are supported. See the Unified CCE Compatibility Matrix for the latest information on supported phones:

Phone Model	Protocol	Firmware Load Name
6921	SCCP	SCCP 9.1.0.75.12 (Tested)
6941	SCCP	SCCP 9.1.0.75.12 (Tested)
6961	SCCP	SCCP 9.1.0.75.12 (Tested)
7941 series	SCCP	SCCP 41.9-1-1TH1-6S (Tested)
7941 series	SIP	SIP 41.9-1-1-TH1-6S (Tested)
7942 series	SCCP	SCCP42.9-1-1PD1-18S (Tested)
7942 series	SIP	SIP42.9-1-1PD1-18S (Tested)
7961 series	SCCP	SCCP41.9-1-1TH1-6S (Tested)
7961 series	SIP	SIP41.9-1-1TH1-6S (Tested)
7962 series	SCCP	SCCP42.9-1-1PD1-18S (Tested)
7962 series	SIP	SIP42.9-1-1PD1-18S (Tested)

Configuration Requirements

These configuration pieces must be in place to deploy Agent Greeting:

Where	What
Unified CM	For phones that will use the feature, the Built in Bridge option must be set to On or Default (if the value of Default is On). To verify, in Unified CM Administration select Device > Phone > Built in Bridge.
Unified ICM	Agent Greeting is only supported with Type 10 Network VRUs. (Type 10 is required to allow CVP to control the call). If your current Unified ICME deployment is not configured for a Type 10 VRU, you must modify it accordingly.
Unified ICM	Agent Greeting requires at minimum three Extended Call Context (ECC) variables. • **user.microapp.ToExtVXML**: This is used twice in Agent Greeting record script: the first time is to queue the CVP RecordAgentGreeting application; the second time is to tell the recording application where to save greeting files. Ensure this variable includes these settings: Maximum Length - 100; Maximum Array Size - 4; Enabled; Persistent. • **user.microapp.app_media_lib**: This is required in Agent Greeting record and play scripts to specify the dedicated directory on the media server where your greeting audio files are stored. • **user.microapp.input_type**: This is required in Agent Greeting record scripts to limit the allowable input type to DTMF. No other EEC variables are needed provided that you 1) serve your files from CVP's default media server, and 2) the directory where your files are stored resides within the media server's default locale directory ("<web_server_root>\en-us\"). However, if you store your files in a location other than these defaults, you will need to use one or more of the following ECC variables in your scripts. * **user.microapp.media_server**: Use to identify the CVP media server if it is other than the default.* **user.microapp.locale**:* Use to specify the name of the locale directory on the media server if it is other than the default ("en-us"). To make these variables available to your script authors, confirm they have been defined in the Unified CCE Configuration Manager tool. See the Configuration and Administration Guide for Unified CVP for instructions on defining ECC variables for CVP.
Unified CVP	Your CVP installation must include the CVP VXML Server and the CVP Call Server. The VXML Server must be deployed and connected to the Call Server using the configuration in the CVP Operations Console.

Functional Limitations

Agent Greeting is subject to these limitations:

- Agent Greeting is not supported with outbound calls made by an agent. The announcement plays for inbound calls only.
- Only one Agent Greeting file will play per call.
- There is not currently a way for supervisors to listen to agents' recorded greetings.
- Out of the box, the default CTI OS Agent desktop includes the Agent Greeting buttons despite the fact that Agent Greeting is not configured. If you use the default desktop but do not plan to use Agent Greeting you should remove them.
- Silent Monitoring (CTI OS and Unified CM-based) is supported with Agent Greeting with this exception: For Unified-CM based Silent Monitoring, supervisors cannot hear the greetings themselves. The Silent Monitor button on the supervisor desktop is disabled while a greeting is playing.

How Agent Greeting Works

How Agent Greeting Files Are Played

A conference bridge is set up for the brief time that the agent greeting file plays. During this conference, the audio from the caller, the agent, and the Unified CVP media file are mixed into a single call stream. When the greeting file has played, the conference bridge drops and the audio is between the caller and the agent.

How Agent Greeting Files Are Named and Saved

Agent Greeting files are named automatically at the time an agent records and saves them. The file name is a concatenation of the agent's Login Name and the current value of the AgentGreetingType variable in the Agent Greeting record script. For example:

1. If an agent's Login Name is "agent123", and...
2. When selecting which greeting to record, the agent presses "1", and...
3. In the Agent Greeting record script, the value of the AgentGreetingType variable when 1 is pressed is set to "_fr", then...
4. The file is saved as "agent123_fr.wav"

How to Limit the Number of Greetings an Agent Can Have

Unified CCE does not impose a limit on the number of concurrent greetings you can allow your agents to have. Practically speaking, though, the number of keys on your agents' dial pads sets an upper bound of about nine. You can further limit the number of greetings in the Network VRU

script that prompts agents to select the greeting they want to record. For example. in that script, a configuration parameter value of 1-3 allows three greetings, 1-5 allows 5 greetings, and so on.

About Login Name Changes and Agent Greeting

The association of agent with the agent's greeting files are based on Login Name. If an agent's Login Name changes for any reason, that association will be lost and the agent will need to re-record his or her greetings. Conversely, if a new agent is assigned a pre-existing Login Name, that agent is automatically associated with any existing greetings for that name.

Agent Greeting Call Flow
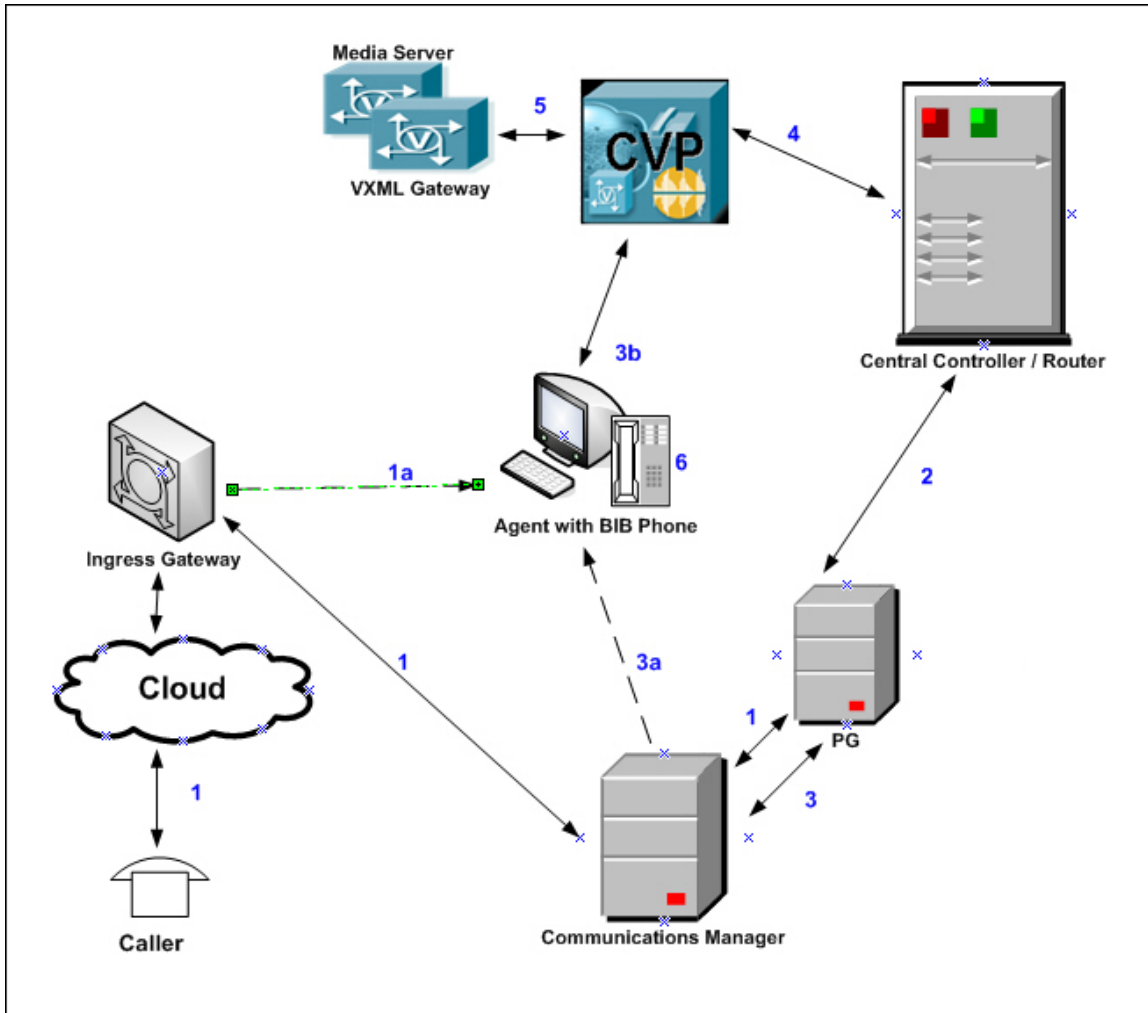
1. Call arrives and is connected.

1a. Voice media to agent phone.

2. PG gets label for the greeting.

3. PG asks Unified CM to add greeting media.

3a. Greeting media to agent phone.

3b. Call signaling paths set up with CVP.

4. Router and CVP shake hands.

5.CVP to VXML Gateway to media server: play media.

6. BiB phone mixes media. CVP disconnects.

Reporting and Serviceability

Reporting

Greeting time is not specifically broken out in Unified CCE reports. In agent and skill group reports 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.

Agent Greeting Call Types

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.

Note: Greeting recording calls made using CAD are assigned the Peripheral Call Type value 10 (AGENT_INSIDE).

Serviceability

Serviceability for Agent Greeting includes system events to indicate reasons for greeting failures and counters to track the number of failed greeting events. TBD...need pointer

Component Failure and Agent Greeting

Failover of ICM and CTI OS Server

In a duplexed deployment, when a router, logger, peripheral gateway, or CTI OS Server fails over, Agent Greeting behaves as follows:

- Logged in agents are automatically logged out and in again. While this is happening, agents see a brief message in their desktop client status bar showing that they are being disconnected/reconnected.
- After agents are logged back in, their Agent Greeting state (on or off) is set to what it was prior to failover.

Failover of VRU PG

In a duplexed deployment, when a VRU peripheral gateway fails over, Agent Greeting play and record may not work until the failover is complete. Agent desktops are unaffected.

Failure to Access CVP Media Server

If the connection to the CVP media server fails, or if a requested greeting audio file cannot be found for any reason, the call proceeds normally without the Agent Greeting.

Failure to Access CVP VXML Server

If the VXML Server fails during a greeting recording session the agent experiences a dropped call.

If the Agent Desktop Closes Unexpectedly

If the CTI OS Agent Desktop software closes unexpectedly (for example, due to a crash), when the agent relaunches it: A) they remain logged in; B) their Agent Greeting state is set to Enabled.

Using Whisper Announcement with Agent Greeting

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

- On the call, the Whisper Announcement always plays first before the greeting.
- To shorten your call-handling time, you may want to use shorter whispers and greetings than you might if you were using either feature by itself. A long whisper followed by a long greeting means a long wait before an agent is actually actively handling a call.
- By its nature, when you use a whisper it means that your agents are likely handling different types of calls: for example, "English-Gold Member-Activate Card," English-Gold Member-Report Lost Card," "English-Platinum Member-Account Inquiry." Therefore you will probably want to ensure the greetings your agents record are generic enough to cover the range of call types.
- TBD Will eventually need load and deployment info--for example, # PGs needed for # agents, can Whisper and Greeting be on the same PG?

How to Deploy and Configure Agent Greeting

Agent Greeting Deployment Map

This is the high-level sequence of tasks you need to complete to deploy Agent Greeting. Individual steps are covered in more detail in later sections.

1. Ensure your system meets the baseline requirements for software, hardware, and configuration described in the System Requirements and Limitations section.
2. Configure the media server that will serve greeting files. Configuration must be performed on the server itself and in CVP. Optionally, you can define a default media server in CVP
3. In CVP, republish to the VXML Gateway.tcl scripts with updated Agent Greeting support.
4. In CVP, set the cache size on the VXML Gateway to the maximum.
5. Record the voice prompts that will be played to agents when they record a greeting. Deploy the audio files to your media server.
6. Configure the Call Types and dialed numbers for Agent Greeting record and play.
7. In the Unified CCE Configuration Manager tool, define the Network VRU Scripts you will need for your Agent Greeting Scripts.

8. In Unified CCE Script Editor, create the scripts you need for Agent Greeting:
    a. Create a script to record Agent Greetings.
    b. Create a script to play Agent Greetings.
    c. Modify your existing call routing scripts to call the play Agent Greeting script.
9. Add the Active X controls for Agent Greeting to your custom C++ or COM-sourced CTI OS agent and supervisor desktops.

Note: As an alternative to creating scripts from scratch, you can import and modify the example Agent Greeting Scripts that are installed on ICM. For more information, see the section on Agent Greeting example scripts.

Configuring Your Media Server for Agent Greeting

About the Media Server for Agent Greeting

Your CVP media server is the main storage device for your agent greetings. When a greeting is first recorded, it is stored temporarily on the CVP Call Server, where an agent can listen to it prior to confirming its use. Once the agent confirms the greeting, the file is transferred to the media server via FTP. When a request for the greeting is made (in other words, when the greeting is played 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.

Agent Greeting Media Server Configuration

The media server(s) you use to store and serve your greeting files must meet this criteria:

Media Server Hardware and Network Requirements

1. Ensure the server is accessible to CVP, Unified CCE, and your agent desktops.
2. See the Unified CVP Hardware and System Software Functional Specification for information on Media Server hardware requirements and co-resident software compatibilities.

Configuring the Media Server

1. Ensure that IIS is installed, 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. Ensure that FTP is enabled on the server and that Write access is enabled for the FTP Server. This allows CVP to copy recorded greeting files be written to the Media Server. Make note of your FTP connection information -- connection type, user name, password, and port number. You will need to enter this information in the CVP Management Console.
4. Make sure that the FTP and the IIS root directory is the same, because the recording application will write the file to the media server directory structure, and the greeting playback call will use 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 will post 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 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, set the cache expiration for the dedicated directory to a value that A) allows re-recorded greetings to replace their predecessor in a reasonable amount of time, while B) minimizing requests for data to the media server from the VXML Gateway. The sweet spot for this value will vary depending on the number of agents you support and how often they re-record their greetings. Two minutes may be a reasonable starting point.

Note: After specifying the cache timeout, it is a good idea to clear the cache on the VXML Gateway. This ensures the gateway will request the latest files from the media server. You will only need to clear the gateway cache once. Use the gateway's "clear http client cache" command.

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 will complete correctly, but the call will drop as soon as the configured timeout duration is met.

How Greeting Files are Recorded and Served

1. An agent initiates a greeting recording session and records a greeting.
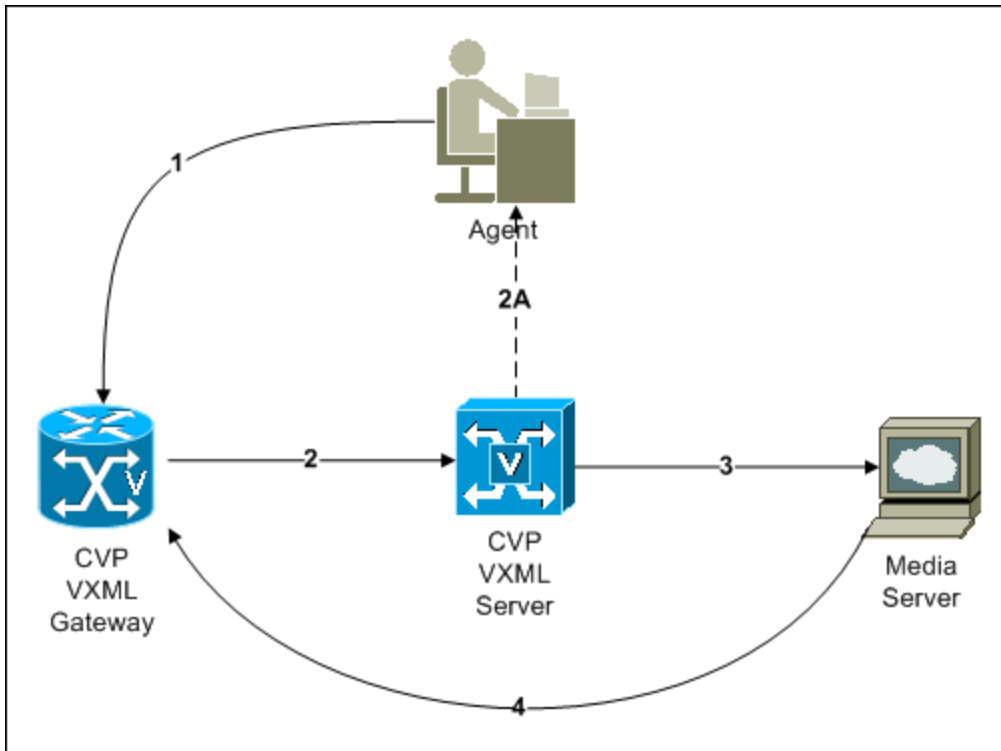
2. The VXML Gateway passes the recorded (but unsaved) greeting file to the VXML Server.

2a. The agent asks to listen to the greeting before saving it. The file is played from the VXML Server.

3. The agent saves the greeting. The file is named (based on the agent Login Name + AgentGreetingType) and stored on the media server.

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, 4. the file is retrieved from the media server and cached again.

Configuring the Media Server in CVP

In your CVP Management Console:

1. Add the server to the list of CVP Media Servers (Device Management > Media Server). Ensure that you select the FTP Enabled option for the server and configure the credentials/port settings as appropriate for the server. These settings tell CVP to write files to the server.
2. Deploy your media server(s) to your CVP Call Servers (using the Deploy button on the Media Server page).
3. Optionally, you can designate one of your media servers as the Default Media Server. If a default media server is defined, requests for greeting files will automatically be sent to that server without having to specify that server in your scripts. Note that if you have already deployed the list of media servers, you must redeploy it after designating a default.
4. Note that if the initial CCE script overrides the default media server with a SET node, the call context of ECC variables is preserved on the greeting playback call as well, and so the Default Media Server may be overridden. The greeting playback script may need to be modified to use a SET node with the correct media server in this case.

Republishing .tcl Scripts to the VXML Gateway

The .tcl script files that ship with CVP 8.5(1) include updates to support Agent Greeting. These updated files must be republished to your VXML Gateway. Since republishing scripts to the VXML Gateways is a standard task in CVP upgrades, this may already have been done. If it has not, you will need to do it before you can use Agent Greeting.

To republish the scripts:

1. In the CVP Management Console, select Bulk Administration > File Transfer > Scripts and Media.
2. Set Device to Gateway.
3. Select the gateways you want to update. Typically you would select all of them unless you have a specific reason not to.
4. Select Default Gateway Files.
5. Click Update.

Setting the Cache Size on the VXML Gateway

To ensure adequate performance, set the size of the cache on the VXML Gateway to the maximum allowed. The maximum size is one gigabyte; the default is fifteen kilobytes. See the *Configuration and Administration Guide for Cisco Unified Customer Voice Portal* for instructions on how to configure caching on the gateway. Failure to set the VXML Gateway cache to its maximum can result in slowed performance to increased traffic to the media server.

Creating Voice Prompts for Recording a Greeting

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

1. A welcome followed by a prompt to select which greeting they want to work with (this assumes you support multiple greetings per agent)
2. A prompt to select whether they want to hear the current version, record a new one, or return to the main menu.
3. A prompt to play if a selected greeting is not found.

Create the files using the recording tool of your choice. When recording your files:

- The media files must be in .wav format. Your wav files must match CVP's 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.

After recording, deploy the files to your CVP media server. Note the names of each file and the location where you deploy them on the media server. You script authors will need this information for the Agent Greeting scripts. The recommended default deployment location is to the <web_server_root>en-us\app directory.

Built-In Recording Prompts

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

1. A prompt that lets agents play back what they have recorded.
2. A prompt to save the greeting, record it again, or return to the main menu.
3. A prompt confirming the save, with an option to hang up or return to the main menu.

If you like, you can replace these wav files with files of your own. See your CVP Call Studio documentation for more information.

Example Record Greeting Prompts

Unified CCE ships with 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 ships 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.

Configuring Dialed Numbers and Call Types for Agent Greeting Record and Play

Create the following in Unified CCE Configuration Manager:

1. Using the Call Type list tool, create two new call types to use for recording and playing Agent Greeting. (For clarity, you may want to name them RecordAgentGreeting and PlayAgentGreeting.)
2. Using the Dialed Number list tool, add two dialed numbers: RecordAgentGreeting and PlayAgentGreeting. The numbers must be specified literally as they appear here. They are case-sensitive. For each set the Media Routing Domain to Cisco_Voice.
3. Using the Dialed Number list tool, on the Dialed Number Mapping tab, map the RecordAgentGreeting and PlayAgentGreeting dialed numbers to their respective call types.

Defining Network VRU Scripts for Agent Greeting

You will need a number of Network VRU scripts so your Agent Greeting record and play scripts can interact with CVP at various points. Create these in Unified CCE Configuration Manager using the Network VRU Script List Tool. How many VRU scripts you need and how you configure them will depend on how you choose to script Agent Greeting.

Here is an example set of Agent Greeting Network VRU Scripts based on the example Agent Greeting scripts that ship with ICM, For each:

- The Network VRU must be a Type10
- The default timeout 180 is acceptable
- Leave overridable as de-selected

ICM Name	VRU Script Name	Configuration Parameter	Interruptible	What It Does
AgentGreeting	PM,-a	null		Causes a saved greeting audio file to play. The -a parameter automatically generates the file name by concatenating the agent's Login Name 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	X	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 the file is in the (default) Application directory on the CVP VXML Server.
GreetingSubMenu	M,press1-press2-press3,A	1-3	X	During a recording session, play an audio file that prompts the agent to press 1 to listen to a greeting, 2 to record, 3 to go to the main menu.
Greeting_Not_Found	PM,no_greeting_recorded,A	Y	X	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 Y in this instance allows barge-in (digit entry to interrupt media playback).
T10_GS_AUDIUM	GS,Server,V	,,,,,,,,,,Y	X	This starts the external VXML application that records the greeting. The VRU script name must be specified exactly as shown, case-sensitive. The Y parameter in the eleventh position 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.

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 .

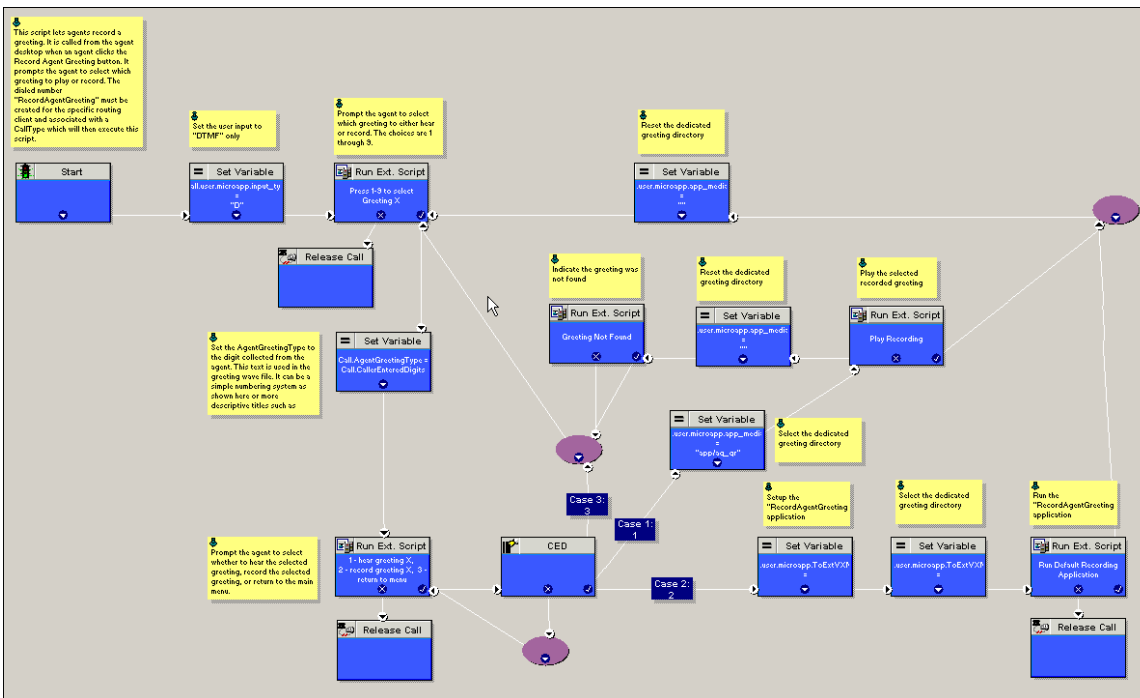## Creating the Agent Greeting Scripts

Agent Greeting requires two new call routing scripts: one to record the greeting and one to play it. You will also need to set the AgentGreetingType variable in your existing agent-targeting scripts for the routing client.

Creating an Agent Greeting Record Script

You will need a dedicated routing script that allows agents to record greetings. The script should be called from the agent desktop when an agent clicks the Record Greeting button. If you support multiple greetings per agent, it should include prompts to select which greeting to play or record. The dialed number RecordAgentGreeting must be created for the specific routing client and associated with a call type which will then execute this script.

In the example script shown here, the agent is first prompted to select one of nine possible greeting types he or she wants to work with. 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 option to listen is selected, the name of the application directory on the media server is set and the external VRU script that plays the greeting is triggered. Afterwards the agent is returned to the main menu. If the option to record is selected, the 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 which 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.

Call Type Association

You must associate the Agent Greeting record script with the call type for the RecordAgentGreeting dialed number.

About the RecordAgentGreeting Micro-Application

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 (agent Login Name + 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.

Node	Value	What It Does
Variable:Call:user.microapp.input_type	D	Sets the allow (touch tone).

RunExtScript:Press 1-9 to Select Greeting X	M,press_1_thru_9_greeting,A	Runs the VRU which digits a AgentGreeting prompt descri
Variable:Call:AgentGreetingType	Call.CallerEnteredDigits	Sets the Ager digit the agent used in the gr be a simple nu more descript "English."
RunExtScript: 1 - hear greeting X, 2 - record greeting X, 3 - return to menu	M,press1-press2-press3,A	Runs the VRU which digits a desired action prompt descri
CED	1, 2, 3	Tells the scrip caller entered 1,2,3 external
Variable:Call:user.microapp.app_media_lib	Set three times, once to "app/ag_gr" and twice to ""	Defines the pa directory on th Prior to playin the dedicated this example, it is reset to th directory wher voice prompts stored. If the v stored in the s greeting files, to reset the pa
RunExtScript: Play Recording	PM,-a,A	Runs the VRU selected Ager
RunExtScript:Greeting No Found	PM,no_greeting_recorded,A	Runs the VRU error message selected to pla
Variable:Call:user.microapp.ToExtVXML[]	Array Index: 2 Value: "ftpServer=<media_server>;ftpPath=<path/to/dedicated/directory>en-us/app/ag_gr" Example: "ftpServer=10.86.129.92;ftpPath=en-us/app/ag_gr"	Specifies the l VXML server files to the me information m information co server in the C Console. The array inde The value cor 1. ftpSe serve includ name forma host|p 2. ftpPa dedic greeti with t See y for ac
Variable:Call:user.microapp.ToExtVXML[]	Array Index: 0 Value: "application=RecordAgentGreeting"	Identifies the micro-applicat (RecordAgent used to recor The array inde
RunExtScript: Run Default Recording Application	GS,Server,V	Runs the VRU Get Speech VXML server.

Specifying the Media Server in Routing Scripts

You can define a default media server in your CVP Operations Console. If you do this, and if that is the server from which you serve you whisper files, then you don't need to specify the media server in your routing scripts. However, if you 1) do not define a default media server, or 2) store your greeting files on a server other than the default, then your scripts must include a Set Variable node that identifies that server.

Use these settings in the Set Variable node to specify your media server:

- Object Type: Call

- Variable: Must use the user.microapp.media_server ECC 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 DNS. Include the listening port number if the media server's web server listens on a port other than 80 (for HTTP) or 443 (for HTTPS).

Specifying the 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. Further, 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 "agent123_1.wav", then...
- The HTTP request for the file is automatically constructed as http://myserver.mydomain.com/en-us/app/agent123_1.wav

If your greeting audio files are stored in a different locale directory, you will need to 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 will always need to add a Set Variable node that identifies that directory.

Specifying the Locale Directory

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

- Object Type: Call

- Variable: Must use the user.microapp.locale ECC variable.

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

Specifying the Application Directory

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 ECC 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" "app" enter "app/greet". You must enclose the path in quotes.

Variable Length for Media Server, Locale, and Application Directory Variables

If you do 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 ECC variables.

For example, suppose you include a Set Variable node for the media server with a value of "http://mysubdomain.mydomain.co.uk" That string is 33 characters long. Therefore, the Maximum Length setting for the user.microapp.media_server ECC variable must be 33 or greater. If it's not, you must increase the Maximum Length setting. Otherwise the server name will be truncated in the HTTP request for the file and the file will not be found. You configure ECC variables in the Unified CCE Configuration Manager at List Tools > Expanded Call Variables List.

Testing Your Agent Greeting File Path

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

- If your script includes: default media server + default locale + "greet" directory + agent123_1.wav, then the path should be "http://<default_media_server>/en-us/app/greet/agent123_1.wav"
- If your script includes: "http://my_server.my_domain.com + default locale + "app/greet" + agent123_1.wav, then the path should be "http://my_server.my_domain.com/en-us/app/greet/agent123_1.wav"

Using Descriptive Agent Greeting Type Strings

The previous Agent Greeting record script example stores Agent Greeting Type values as numbers (albeit 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 will also affect how greeting files are named (for example "agent123_English.wav" as opposed to "agent123_1.wav").

The snippet below shows a script almost identical to the previous record script, except that it includes four additional nodes (highlighted in purple). They consist of an additional CED node (inserted after the Press 1-3 Run Ext. Script) that maps the keys 1,2 and 3 to language names. The rest of the script is the same. No other changes to it are necessary. Your Agent Greeting play script would need a corresponding mapping of numeric keys to language names.
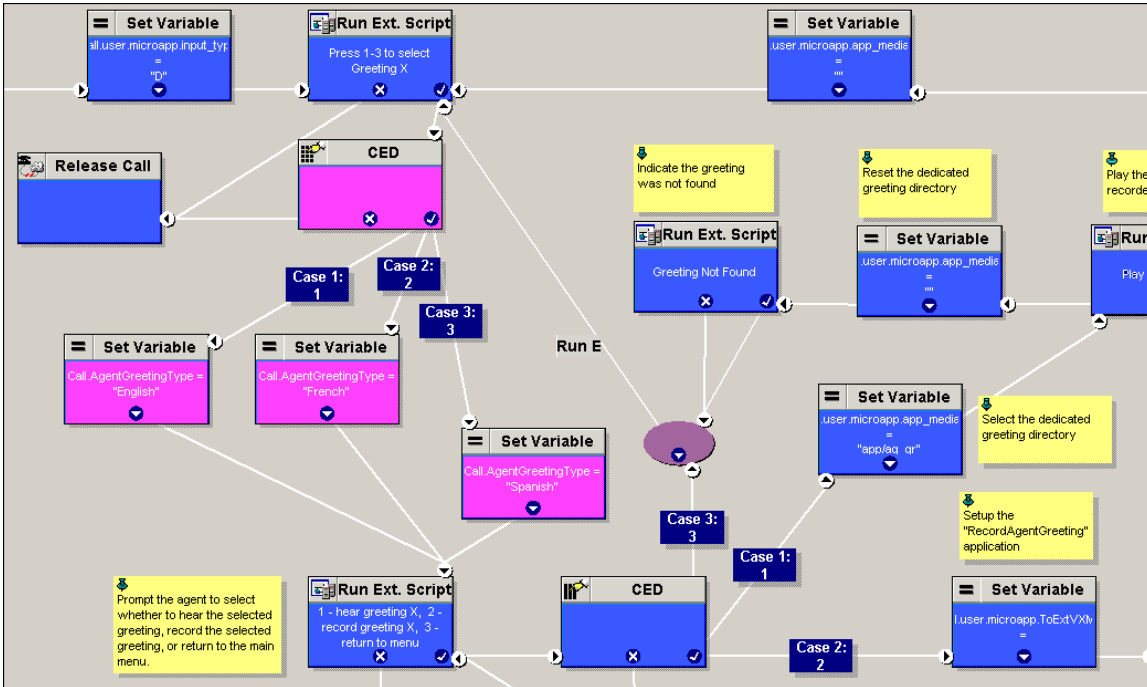
Creating an Agent Greeting Play Script

You will need a dedicated routing script causes the agent greeting to play. This script is invoked by the PlayAgentGreeting dialed number on the specific routing client. The dialed number must be created and associated with a call type which will then execute the script.
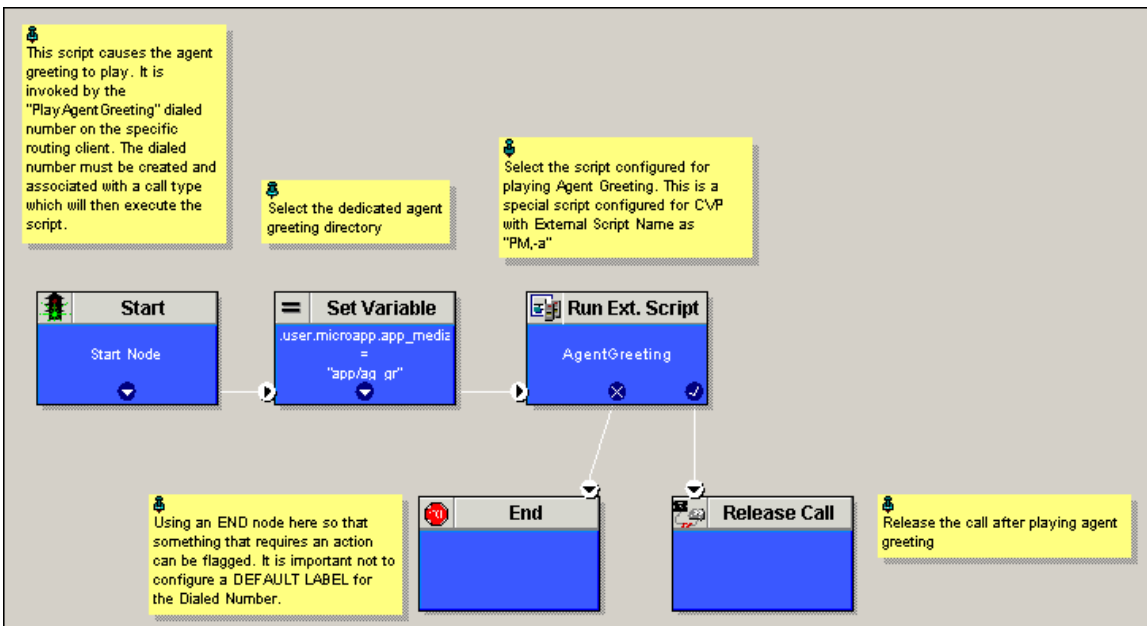
The Play script must contain two and possibly four specific nodes.

Always Needed

1. **A Run External Script node** that calls the VRU script that plays the greeting.
2. **A Set Variable node** that sets the directory path to your greeting files.

Possibly Needed

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

1. **Specify the Media Server**: 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.
2. **Specify the Locale Directory**: Additionally, if you are not storing your whisper 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.

Call Type Association

You must associate the Agent Greeting play script with the call type for the PlayAgentGreeting dialed number.

Modify Call Routing Scripts to Use the Play Agent Greeting Script

For an Agent Greeting play script to run, you must add an AgentGreetingType call variable node to your existing 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), Queue Agent, Route Select, or Select node).

## Specifying the 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's value corresponds to the name of the greeting type for the skill group. For example, if there is a skill group for Sales agents and if the greeting type for Sales is '5', then the variable value to 5.

Typically you will want to use a single greeting prompt throughout a single call type. As a result, you will only 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 end points. For example, if you do skills-based routing you may want to specify the variable at each decision point used to select a particular skill group.

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 will play.

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

- Object Type: Call

- Variable: Must use the AgentGreetingType variable.

- Value: Specify the value that corresponds to the greeting type you want to play. For example: ""2" or "_fr"
    - You must enclose the value in quotes.
    - The value is not case-sensitive.
    - The value cannot include spaces or characters that require URL encoding.
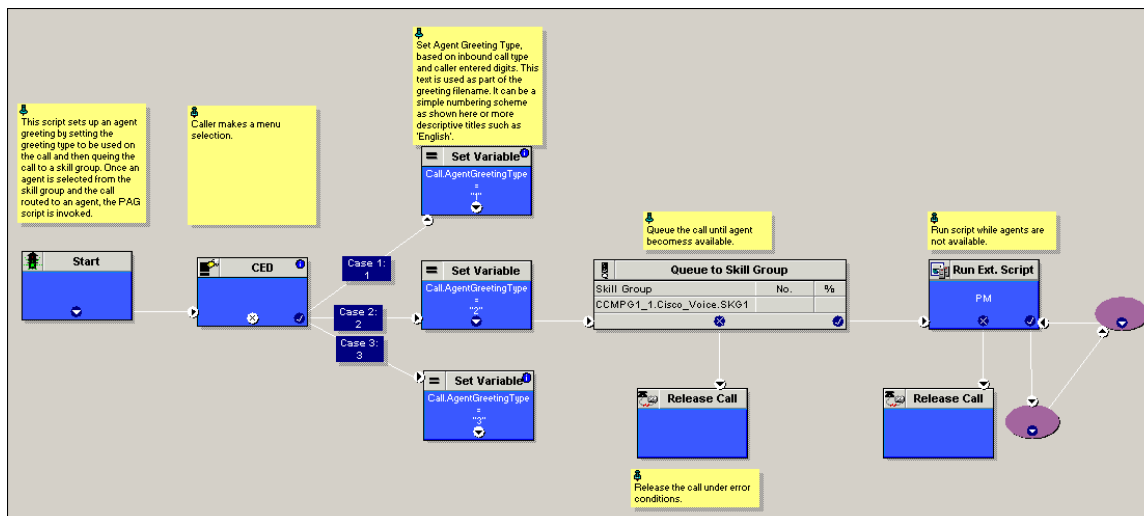
Including the Agent Greeting Controls in Your Agent Desktops

CTI OS includes Active X objects that let you to include Agent Greeting controls in your COM and C++ sourced agent desktops. Available controls include Enable Greeting, Disable Greeting, and Record Greeting. See your CTI OS Developer's Guide for more information. Agent Greeting controls are not supported with Java or .NET based CTI OS desktops, or with non-CTI OS desktops such as CAD.

Agent Greeting Example Scripts

ICM includes example routing scripts that demonstrate Agent Greeting. You can use them as learning tools and as models for your own Agent Greeting scripts. The script files are located in the icm\bin directory. They include:

- **AG.ICMS** This script sets up an Agent Greeting.
- **PAG.ICMS** This script causes an Agent Greeting to play.
- **RECORD_AG.ICMS** This script lets agents record a greeting.
- **WA_AG.ICMS** This script plays a Whisper Announcement and an Agent Greeting together on the same call flow.

Note: The APG.ICMS and RECORD_AG.ICMS example scripts assume that A) a default media server has been configured in CVP, and B) the greeting files are stored in a dedicated directory named ag_gr directory. The WA_AG.ICMS script does not include a dedicated directory.

About the AG.ICMS Script

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. Once an agent is selected from the skill group and the call routed to the agent, the PAG.ICMS script is invoked. (Click image to enlarge)

About the PAG.ICMS Script
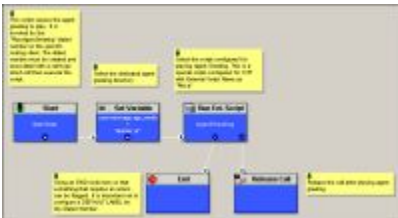
This script causes an Agent Greeting to play. It is invoked by the "PlayAgentGreeting" dialed number on the specific routing client. The dialed number must be created and associated with a call type which will then execute the script. (Click image to enlarge)

About the RECORD_AG.ICMS Script

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. The dialed number "RecordAgentGreeting" must be created for the specific routing client and associated with a Call Type which will then execute this script. (Click image to enlarge)

About the WA_AG.ICMS Script

This script causes both a Whisper Announcement and an Agent Greeting to play. (Click image to enlarge)

How to the Import the Example Agent Greeting Scripts

To view or use the example Agent Greeting scripts, you will first need to import them into Unified CCE Script Editor. To import the scripts:

1. Launch Script Editor.
2. Select **File > Import Script** and select the first of the three scripts to import.
3. In addition to importing the script, Script Editor will try to map imported objects. Some objects referenced in the example scripts, such as the external Network VRU scripts or the skill groups, will not map successfully. You will need to create these manually or change these references to point to existing scripts and skill groups in your system.
4. Repeat these steps for the remaining scripts.

Troubleshooting Agent Greeting

Debugging Agent Greeting Scripts

Script Editor's Call Tracer utility, which tests and debugs routing scripts to confirm the selection of Unified CCE targets, includes these fields for debugging Agent Greeting scripts:

- Agent (the Enterprise Agent ID),
- Greeting (the greeting type), and
- Customer (the instance)

Monitoring Agent Greeting

As a general monitoring/troubleshooting practice for Agent Greeting, you may find it best to review log files on your Peripheral Gateway in this order:

1. Review the Windows Event Viewer Application log first. It is easier and faster to locate errors here.
2. If you find an error in Windows Event Viewer, note the time. Then use the ICM Dumplog utility to export the contents of your ICM logs to a human-readable file that you can consult for more detail. Dumplog outputs files to at <icm_root>\<instance>\<pg_name>\logfiles\.

For More Information

For more Agent Greeting troubleshooting information, see the Cisco DocWiki .

Agent Greeting Questions and Answers

What is the maximum number of greetings an agent can have? Unified CCE does not impose a limit on how many greetings your agents can have. You determine the limit in the way you design your scripts. The number of numeric keys on a dial pad imposes a practical limit of nine; However, this can be gotten around by including nested CED nodes in your routing scripts that allow agents to drill-down to the greeting type they want to record.

I work at a large company that has both internal and external tech support agents. The types of greetings these two groups need are not the same. Can I deploy different Agent Greeting scripts for different types of agents? Yes. The best way to do this will depend on how your agents are created in the system.

For example, if your internal and external agents are created on separate routing clients, you can simply create different Agent Greeting scripts for each of the two routing clients. If internal and external agent records are mixed together on a single routing client you will need a different approach. You could create a script that uses agent Login IDs to direct them to the correct Agent Greeting record script. Or one that requires agents to select their agent type from a menu and then uses that information to select the right Agent Greeting script.

Using Agent Greeting with Your CTI OS Agent or Supervisor Desktop

How to Record a Greeting

Recording an Agent Greeting is very similar to recording a personal message for your voice mail. To record a greeting, you must be logged in to your desktop software and in the Not Ready state.

To record a greeting:

1. Click the Agent Greeting Record button on your desktop.

2. You may hear a brief ring tone, after which you'll receive voice instructions for recording a greeting. Options may include selecting a greeting type (if your call center uses more than one greeting per agent), recording, playing back, and confirming whether to use the new greeting. There will also be an option for listening to your existing greetings.
3. When you connect to the Record Greeting service, a dialog box containing a dial pad opens on your agent desktop. You can use either it or the keypad on your phone to make your selections. (If you accidentally close the dialog box before you are done recording your greeting you will not be able to re-open it; use the keypad or your hard phone to complete your recording.)
4. If you prefer to exit without recording a greeting, simply release the call.

How many different greetings you will use and need to record is determined by your call center. It may vary depending on things like your skill group membership or the time of day or day of the week. Your call center also determines how long your greeting can be. When you are recording, you receive notification if you have reached the maximum recording time.

How to Delete a Greeting

You cannot delete an agent greeting. However, you *can* record over previously recorded greetings. When you record over a greeting, the new greeting will be used for the next customer call you take.

How to Review Your Greetings

If you simply want to listen to your current greeting(s), click the Agent Greeting Record button on your desktop and select the greeting you want to listen to.

Enabling or Disabling Greeting Play

Your CTI desktop toolbar includes a Greeting button that lets you turn the Agent Greeting feature off and on. There are various reasons you might want to turn off your greeting. You might want to turn off your greeting on a day when you have a cold and you are concerned that your voice does not sound like your recorded message. Or you might want to turn off a greeting that was appropriate yesterday but isn't today, until you have time to go Not Ready and record a new one. Turning off Agent Greeting will not affect a greeting that is already playing to a caller.

Turning off Agent Greeting stops your greetings from playing until you manually turn it back on again, or until the next time you log in to the desktop; Agent Greeting is always automatically turned on at login.

To turn off Agent Greeting, Agent with Greeting enabled, click the Greeting button. The button's icon changes to [icon]. To turn Agent Greeting back on, click the button again. It's icon changes to [icon].

Using Agent Greeting with the Outbound Agent Desktop

Agent greetings play to inbound callers only; they do not play when you make an outbound call. If you are an outbound-only agent, you can still record greetings but they will not play, even when Agent Greeting play is turned on in your desktop toolbar.

Agent Greeting During Transfers and Conferences

For transferred and conference calls, Agent Greeting support is limited to BiB-enabled phones. Other than that, Agent Greeting functions much the same for blind transfer and conference calls as it does for customer calls. When you blind transfer a call to another agent, your customer hears the other agent's greeting (assuming that agent has greeting enabled). Similarly, when you conference in another agent, all parties on the call hear the other agent's greeting.

Consultative transfers work a little differently. When you place a consultative transfer, your customer will not hear the other agent's greeting. (Provided of course that you don't transfer the customer while the other agent's greeting is still playing.)

If Your Agent Desktop Closes

If, while you are logged in, your CTI OS Agent Desktop software closes for any reason, when you relaunch it your Agent Greeting state is set to Enabled.

Using Agent Greeting with Your CAD Agent or Supervisor Desktop

Recording a Greeting

There is no button support for Agent Greeting in CAD desktops. To record a greeting:

1. On your desktop, open the Make a Call dialog.
2. In Name: Number, type or paste "RecordAgentGreeting" (case-sensitive).
3. Check the Dial Number As Entered box.
4. Click Dial.
5. Once the recording session starts, use the Dial Pad on your desktop or the keys on your hard phone to respond to prompts.
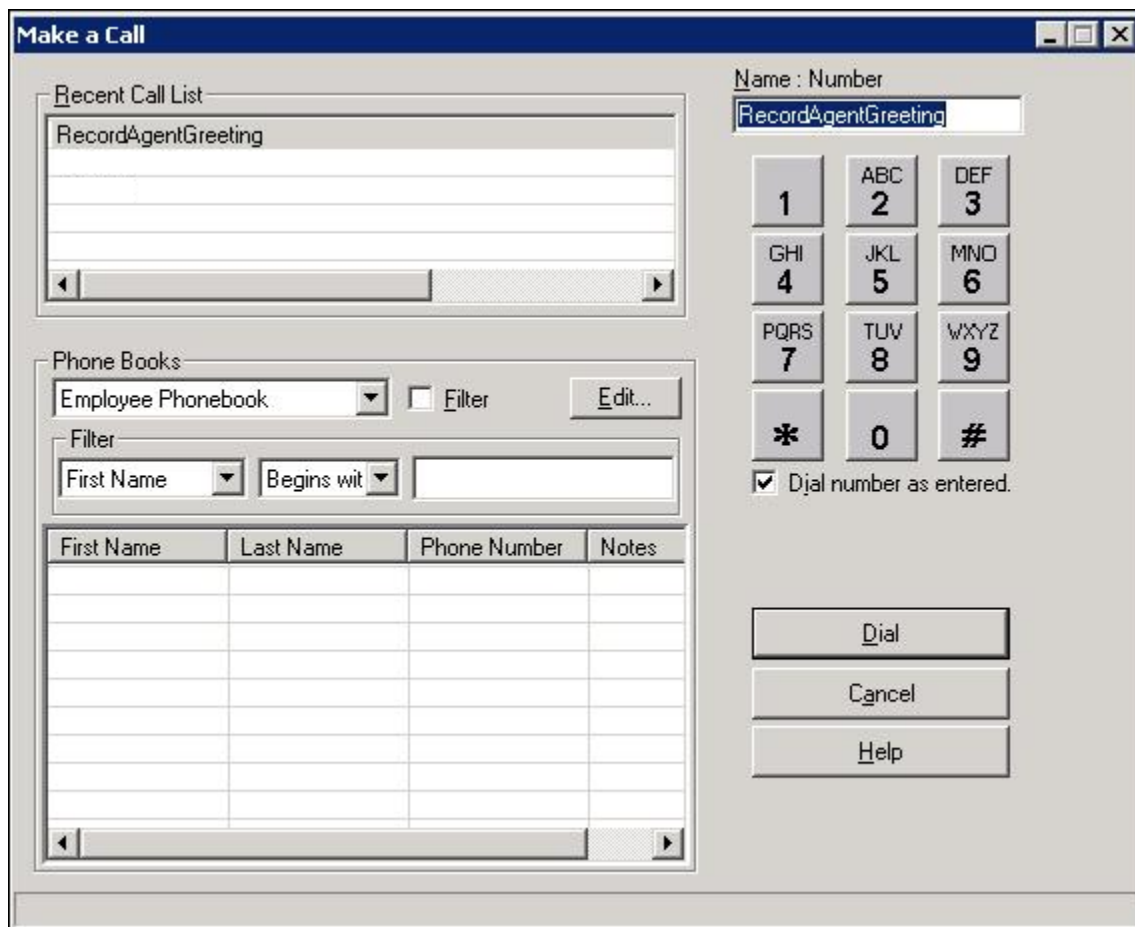
Disabling Agent Greeting

There may be times when you do not want your greeting to play to callers. But as a CAD agent you cannot turn off the Agent Greeting feature--if it is enabled for your call center, it is always on. As an alternative to disabling Agent Greeting, you can record as your greeting a brief (one second) message consisting of silence. This should mimic no greeting as far as the caller experience is concerned.

Related Information

See the following sources for additional information related to Agent Greeting:

- For information on phone compatibility, see the Unified CCE compatibility documentation.
- For information on including Agent Greeting controls on your agent desktop, see the CTI OS Developers Guide.
- For information on configuring you CVP media server, VXML gateway, Call Server, ECC variables, SIP subsystem, and creating Network VRU scripts for CVP micro-apps see the CVP 8.5(1) documentation.
- For load performance and sizing information, see the Unified CCE SRND Guide.
- For troubleshooting information, see the Cisco DocWik.