



Customer Virtual Assistant

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Feature Overview

Customer Virtual Assistant (CVA) feature enables the IVR Platform to integrate with cloud-based speech services. This feature supports human-like interactions that enable customers to resolve issues quickly and more efficiently within the IVR thereby, reducing the calls directed towards actual agents.

In a traditional IVR, customers can interact with the IVR in the following ways:

- **VVB Media Services Based Interaction:** Prompts are played locally by VVB by downloading a WAV files, and user inputs are captured using DTMF grammar.
- **ASR and TTS Based Interactions:** Prompts are played by the external media server over MRCP Synthesis command for Text to Speech (TTS) functionality. These prompts are recognized by external media server based on pre-defined grammar by Asynchronous Speech Recognition (ASR).

CVA-based IVR enables a new mechanism to leverage cloud-based-AI-enabled speech services. CVA provides the following speech services:

- **Text-to-Speech:** Integration with cloud-based TTS services in your application for Speech Synthesis operations. CVA currently supports [Google Text to Speech](#) service.
- **Speech-to-Text:** Integration with cloud-based ASR services in your application for Speech Recognition operations. CVA currently supports [Google Speech to Text](#) service.
- **Speech-to-Intent:** CVA provides capability of identifying the intent of customer utterances by processing the text received from Speech to Text operations. CVA offers this service by using cloud-based Natural Language Understanding (NLU) services. CVA currently supports [Google Dialogflow](#) service.



Note You can configure the Customer Virtual Assistant (CVA) feature of VVB 12.5(1) keeping the Unified CCE Controller in 12.0 version (as in multi-stage upgrade). However, in this case, the configuration user interface for CVA service account will not be available in the Unified CCE Administration. So, System Administrators can use the *Command Execution Pane* for such configurations.

For more information, see the *Command Execution Pane* section in the *Cisco Packaged Contact Center Enterprise Administration and Configuration Guide* at <https://www.cisco.com/c/en/us/support/customer-collaboration/packaged-contact-center-enterprise/products-maintenance-guides-list.html>.

Getting Started

This section explains the prerequisites and the documentation resources for CVA.

Prerequisites



Note CCAI/OEM customers need to enable Google CCAI services procured through Cisco and provision it to work with Cisco Contact Center Solution. For more information, see *Google CCAI Provisioning with Cisco Contact Center Enterprise* in the Cisco Community page.

- CVP 12.5(1) and VVB 12.5(1).
- CVP/VVB configuration:
 - Access to cloud-based services from CVP and VVB directly or through proxy.
 - Synchronize the date/time in CVP/VVB/Proxy with NTP.
 - Configure DNS server in CVP/VVB.
- Access key for Google Text-to-Speech. For more information, see <https://cloud.google.com/text-to-speech/docs/quickstart-client-libraries>.
- Access key for Google Speech-to-Text. For more information, see <https://cloud.google.com/speech-to-text/docs/quickstart-client-libraries>.
- Configure Dialogflow Agent:
 1. Get the Dialogflow Agent Key. For more information, see <https://dialogflow.com/docs/reference/v2-auth-setup>.
 2. Migrate your Dialogflow Agent to Enterprise Essential (**Console Left Bar > Migrate from Standard to Enterprise Essential**).
 3. Enable the enhanced Speech Model in Dialogflow console (**Settings > Speech > Enable Enhanced Speech Model and Data Logging**).



Note If this option is enabled, speech recognition data is shared with Google. For more information see <https://cloud.google.com/speech-to-text/docs/enhanced-models>.

Documentation Resources

The following table lists the reference documents for CVA.

Information	Resource
Sample CVA Application	See https://github.com/CiscoDevNet/cvp-sample-code/tree/master/Customervirtualassistant .
Design Considerations	<i>Cisco CVA Considerations</i> section in <i>Solution Design Guide</i> at https://www.cisco.com/c/en/us/support/customer-collaboration/unified-contact-center-enterprise/products-implementation-design-guides-list.html .
CVA configuration in PCCE Deployment	<i>Customer Virtual Assistant</i> section in <i>PCCE Administration and Configuration Guide</i> at https://www.cisco.com/c/en/us/support/customer-collaboration/packaged-contact-center-enterprise/products-maintenance-guides-list.html .
TTS Prompt Cache Management and proxy setting for Speech Server	<i>VVB Operations Guide</i> at https://www.cisco.com/c/en/us/support/customer-collaboration/virtualized-voice-browser/products-maintenance-guides-list.html .
Proxy settings for VXML Server	<i>CVP Configuration Guide</i> at https://www.cisco.com/c/en/us/support/customer-collaboration/unified-customer-voice-portal/products-installation-and-configuration-guides-list.html .
Configuration of Call Studio elements for CVA	The following chapters in <i>CVP Element Specification Guide</i> at https://www.cisco.com/c/en/us/support/customer-collaboration/unified-customer-voice-portal/products-programming-reference-guides-list.html : <ul style="list-style-type: none"> • <i>Dialogflow Element</i> • <i>DialogflowIntent Element</i> • <i>DialogflowParam Element</i> • <i>Transcribe Element</i>
CVA Speech Configuration APIs	See <i>CVA Speech Configuration</i> section in <i>VVB Developer Guide</i> at https://developer.cisco.com/site/customer-voice-portal/documents/virtual-voice-browser/ .

