Configure Nuance TTS and ASR for Cisco Unified Contact Center Enterprise (UCCE)

Contents

Introduction

This document describes how to configure Cisco UCCE with Nuance Text To Speech (TTS) and Automatic Speech Recognition (ASR).

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- UCCE with Customer Voice Portal (CVP)
- Cisco Virtualized Voice Browser (CVVB) or Voice Xtended Markup Language (VXML) Gateway
- Nuance TTS and ASR Server

Components Used

The information in this document is based on these software versions:

- CVP 11.6
- UCCE 11.6

- VVB 11.6
- Nuance Recognizer 10.0
- Nuance Speech Server 6.2.x

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you   understand the potential impact of any command.

Basic Configuration Cisco UCCE

Configuration on VVB

Step 1. Log in to CVVB Administration page: **https://<vvb_fqdn>**.

Step 2. Navigate to **SubSystem > Speech Servers > TTS Servers**.

Step 3. Configure the TTS server as shown in the image.

Text-to-Speech Server Configuration

[Add] [Cancel]

Status

(i) Status : Ready

Server Name*	192.168.33.28
Port Number*	5060
MrcpVersion*	MRCPv2

**The default Port Number for MRCPv1 is 4900 and MRCPv2 is 5060.

[Add] [Cancel]

(i) *- indicates required item

   Note: 192.168.33.28 is TTS server Internet Protocol (IP) Address.

Server List

Server Name △	Port △	Status △
192.168.33.28	5060	REACHABLE

[Add New] [Refresh]

If the use of a machine name, instead of IP address, is required in your deployment, in the **Server Name** field, provide the machine name instead of the IP address. In that case, you need to reference the machine IP address in the **ect/hosts** file.

This command on VVB Command Line Interface (CLI) makes the link between name and IP address in **etc/hosts**:

utils VVB add host-to-ip <machine_name> <ip>

Example: **utils VVB add host-to-ip nuance 192.168.33.28**

Configuration on VXML GW (If VVB is not deployed)

Step 1. Define Hostname to IP address mapping for ASR and TTS servers.

ip host asr-en-us 192.168.33.28

ip host tts-en-us 192.168.33.28

ip host tts-fr-fr 192.168.33.28

ip host asr-fr-fr 192.168.33.28

ip host tts-de-de 192.168.33.28

ip host asr-de-de 192.168.33.28

ip host tts-pt-pt 192.168.33.28

Ip host asr-pt-pt 192.168.33.28

ip host IPCC-Nuance 192.168.33.28

Step 2. Define the Voice class Uniform Resource Identifier (URI) to match the Session Initiation Protocol (SIP) URI of ASR Server in the dial-peer.

voice class uri ASR sip

pattern asr@192.168.33.28

Step 3. Define the Voice class URI to match the SIP URI of TTS Server in the dial-peer.

voice class uri TTS sip

pattern tts@192.168.33.28

Step 4. Define the amount of maximum memory to used for downloaded prompts.

ivr prompt memory 15000

Step 5. Define the SIP URI of ASR and TTS Server.

ivr asr-server sip:asr@192.168.33.28

ivr tts-server sip:tts@192.168.33.28

Step 6. Configure the SIP Voice Over IP (VOIP) dial-peers. These dial-peers are used as an outbound dial-peer when the gateway initiates a Media Resource Control Protocol (MRCP) over SIP session to the ASR/TTS server (MRCP Version 2).

dial-peer voice 5 voip

description Dial-peer for ARS Nuance

session protocol sipv2

session target ipv4:192.168.33.28

session transport tcp

destination uri ASR

dtmf-relay rtp-nte

codec g711ulaw

no vad

!

dial-peer voice 6 voip

description Dial-peer for TTS Nuance

session protocol sipv2

session target ipv4:192.168.33.28

session transport tcp

destination uri TTS

*dtmf-relay rtp-nte*

codec g711ulaw

no vad

Text To Speech on CVP Call Studio

The TTS server is called when an audio element in CVP Call Studio is not configured or the audio file does not exist in the specified URI and default audio path.

Step 1. Select the **audio** element.

Step 2. Select the **Audio** tab, and navigate to **audio item**.

Step 3. Configure the **audio item** in order to use text to speech instead of audo files. Write the text you want to convert to speech in the TTS field, as shown in the image.
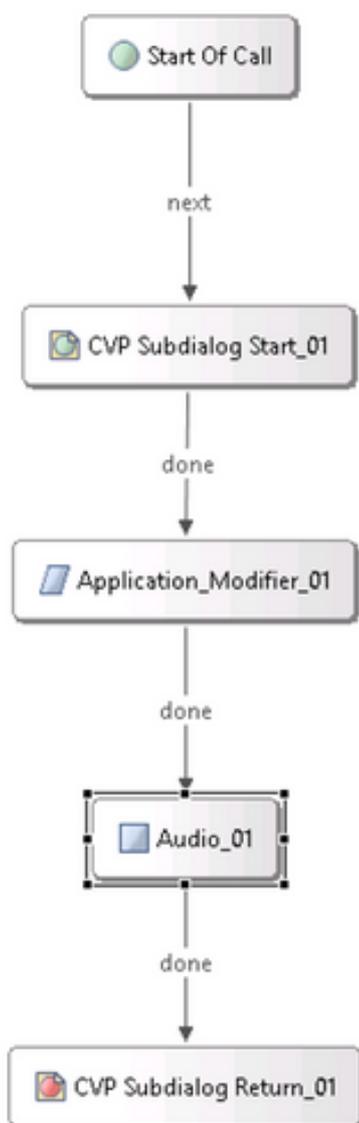
Voice Element - Audio

General | Settings | **Audio** | Data | Events

Audio Groups
Initial
audio item 1

Default Language

⦿ Audio File / TTS ○ Say It Smart

☑ Use Default Audio Path

URI: [   ]

TTS: Hello, I am the TTS server

Start Of Call

next

CVP Subdialog Start_01

done

Application_Modifier_01

done

Audio_01

done

CVP Subdialog Return_01
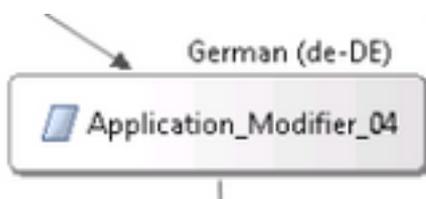
Multi-Languages support

The **Application Modifier** element in CVP Call Studio allows to provide multi-languange suppport. Here is an example of script that uses different languages.
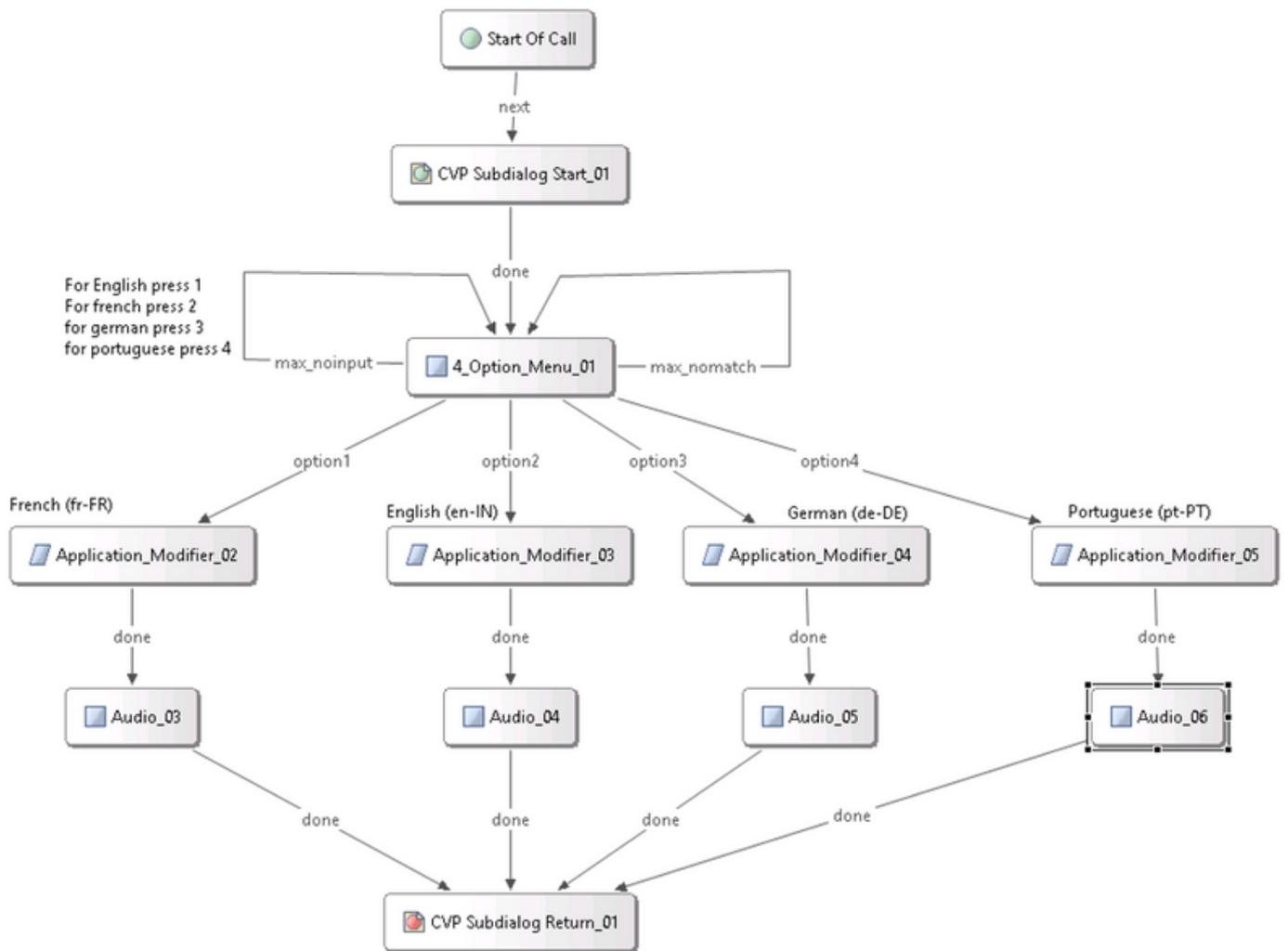
Note: You are required to install the langage pack you support, in the Nuance TTS/ASR server. For example, to use German (de-DE), a German language pack on the TTS server is required.
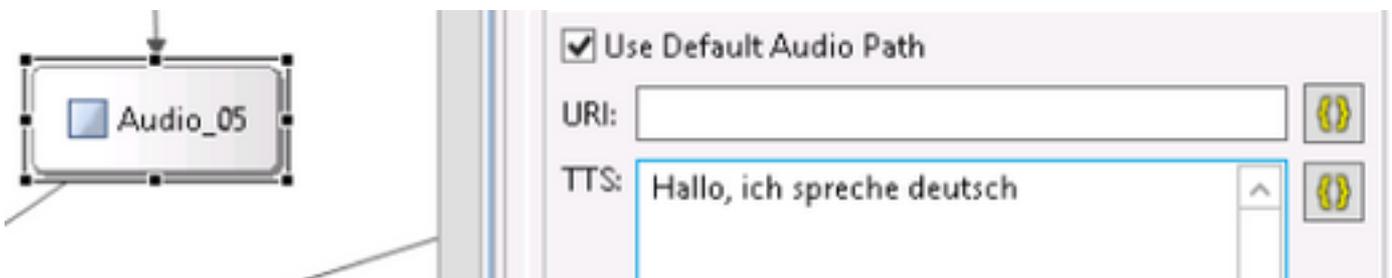
Configure Multi-Languages

Step 1. In order to select the language, set the language field in the application modifier element, as shown in the image.

Step 2. Now, the German(de-DE) language pack is used in the next audio element. To revert back to another language, use the application modifier once again.

Note: To use Cisco VVB with multi-languages, it is required to install the following Engineering Specials (ES): 11.5ES43 and 11.6 ES22. More information on CSCvf30722.

Basic Configuration Nuance ASR/TTS server

After you have installed Nuance ASR/TTS server and the license is configured, there are few more tasks you need to do, in order to complete the configuration with UCCE.

Speech Server Configuration

Step 1. Open the file: **C:\Program Files (x86)\Nuance\Speech Server\Server\config\NSSserver.cfg**.

Step 2. Search for **server.mrcp1.resource.2.url** and change the value to **/synthesizer** from **media /speechsynthesizer**.

Step 3. Search for **server.mrcp1.resource.3.url** and change the value to **/recognizer** from **media/speechrecognizer**.

Step 4. Search for **server.mrcp1.osrspeechrecog.cache.maxNumber** and set the variable value to the number of recognizer licenses you have. For instance, If you have 4 ports license then change the variable value to 4.

Step 5.Search for **server.mrcp1.osrspeechrecog.startOfSpeechOnDTM** and set the variable value to 0(zero) from 1.

Recognizer Configuration

Step 1. Open the file: **C:\Program Files\Nuance\Recognizer\config\Baseline.xml**.

Step 2. Set the param values to maximum number of recognizer licenses from default value.

```
<param name="swirec_license_ports">

        <declaration group="license" type="int" set_by="default">

                    <min_value>0</min_value>

          </declaration>

          <value>4</value>

 </param>

<param name="swiep_license_ports">

        <declaration group="license" type="int" set_by="default">

                       <min_value>0</min_value>

        </declaration>
<value>4</value>

 </param>
```

> **Note**: Here the value 4 has been specified, since this is a 4-port Nuance license implementation.

Vocalizer Configuration

Step 1. Open the file: **C:\Program Files (x86)\Nuance\Vocalizer for Enterprise\config\Baseline.xml**.

Step 2. Set the param values to maximum number of synthesizer licenses.

```
<param name="swiep_license_ports">

        <declaration group="license" type="int" set_by="default">

                       <min_value>0</min_value>

        </declaration>
<value>4</value>

 </param>
```
Step 3. Modify **ssml_validation** from **strict** to **warn.**

```
 <ssml_validation>warn</ssml_validation>
```