



## Avaya Solution & Interoperability Test Lab

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# Application Notes for Verbio TTS 9.XX with Avaya Experience Portal 8.0 using MRCP Version 2 - Issue 1.0

### Abstract

These application notes describe the configuration steps required for Verbio Text-To-Speech (TTS) 9.XX to successfully interoperate with Avaya Experience Portal 8.0 using Media Resource Control Protocol (MRCP) Version 2. Verbio TTS allows Voice XML applications to play written text and DTMF entries.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as any observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

# 1. Introduction

These application notes describe the configuration steps required for Verbio TTS 9.XX to successfully interoperate with Avaya Experience Portal 8.0 using MRCP Version 2. Verbio TTS is added as a speech server on the Experience Portal Management Server.

## 2. General Test Approach and Test Results

The general test approach was to configure Verbio TTS to communicate with Experience Portal as implemented on a customer's premises. See **Figure 1** for a network diagram. The feature testing focused on placing calls to Experience Portal to invoke sample VXML applications that use Verbio TTS. The serviceability testing introduced failure scenarios to see if Verbio can resume after a failure.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

Avaya recommends our customers implement Avaya solutions using appropriate security and encryption capabilities enabled by our products. The testing referenced in these DevConnect Application Notes included the enablement of supported encryption capabilities in the Avaya products. Readers should consult the appropriate Avaya product documentation for further information regarding security and encryption capabilities supported by those Avaya products.

Support for these security and encryption capabilities in any non-Avaya solution component is the responsibility of each individual vendor. Readers should consult the appropriate vendor-supplied product documentation for more information regarding those products.

For the testing associated with these Application Notes, the interface between Avaya systems and Verbio TTS did not include use of any specific encryption features as requested by Verbio.

### 2.1. Interoperability Compliance Testing

The interoperability compliance testing covered the following features and functionality:

- Experience Portal and Verbio communicating via MRCP V2.
- Calls to Experience Portal that invoke sample VXML applications and utilize Verbio TTS, which include plain text and SSML tags.
- Male and female TTS voices and TTS prosody to change rate, volume, and pitch of the TTS voice.
- Proper response from Verbio TTS for both text and pre-recorded audio files together.
- Verbio is not a standard option when configuring the speech server in Experience Portal. To allow Verbio to be displayed as an option in the Speech Engine drop-down box, the

**languages.properties** files in Experience Portal were modified. This replaced one of the pre-existing speech engine options.

- Proper system recovery after a restart of the Verbio TTS server and loss of IP connectivity.

## 2.2. Test Results

Tests were performed to ensure full interoperability between Verbio TTS and Experience Portal. The tests were all functional in nature and performance testing was not included. The following observations were noted.

- Currently, Verbio is not a type of TTS server that can be administered and there is a work around to add this functionality documented.
- For mixed text and audio prompts, the last TTS announcement after audio prompts is not heard. Timeout is observed in the status of the TTS. Trace indicates SIP BYE message is received from Verbio before SPEAK. Member is investigating this issue.

## 2.3. Support

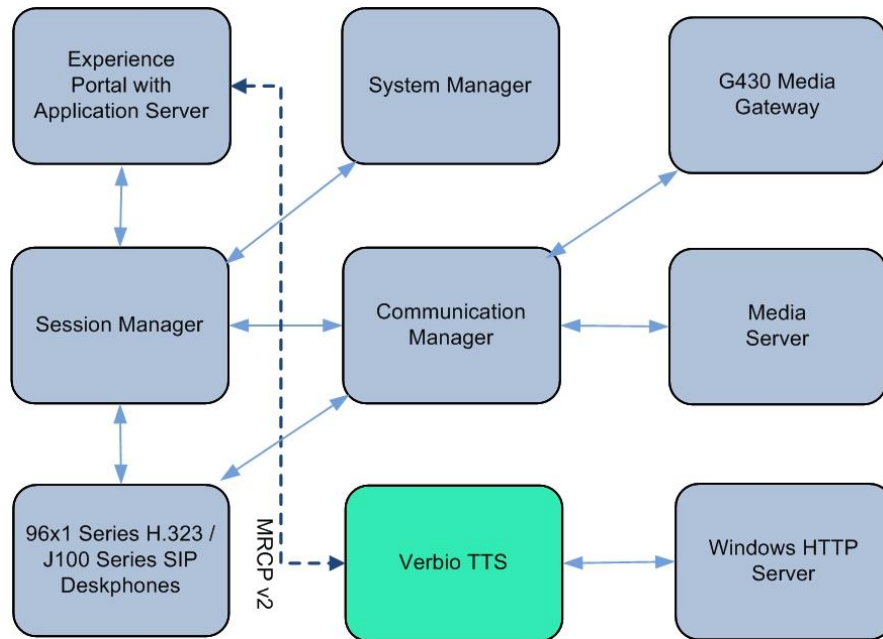
For technical support on Verbio TTS, contact **Verbio Technologies S.L.** at:

- Phone: +34 934 44 79 79
- Web: <https://verbio.com> (Click Support at bottom)
- Email: [support@verbio.com](mailto:support@verbio.com)

### 3. Reference Configuration

**Figure 1** illustrates the network topology used in the compliance testing. In the configuration, Experience Portal is connected to Session Manager via a SIP trunk and interfaced to the Verbio Server via MRCP V2. Sample VXML applications were hosted in an application server on a Windows Server.

Calls were placed from Avaya 96x1 Series H.323 and J100 Series SIP Deskphones to Experience Portal and routed through Communication Manager and Session Manager. The G430 Media Gateway and Media Server were used for media resources and System Manager was used to configure Session Manager and SIP users.



**Figure 1:** Avaya Experience Portal and Verbio TTS Reference Configuration

## 4. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

<b>Equipment/Software</b>	<b>Release/Version</b>
Avaya Aura® Communication Manager	8.1.3.0.1-FP3P2 (8.1.3.2.0.890.26989)
Avaya G430 Media Gateway	FW 41.34.3
Avaya Aura® Media Server	v.8.0.2.200
Avaya Aura® System Manager	8.1 Build 8.1.0.0.733078 Feature Pack 3 Service Pack 2 Latest Build 8.1.3.2.1012646
Avaya Aura® Session Manager	8.1.3.2 (8.1.3.2.813207)
Avaya Experience Portal	8.00.0.1497
Avaya 96x1 Series H.323 Deskphones	6.8502 (H.323)
Avaya J100 Series SIP Deskphones	4.0.10.0.4
Verbio TTS	9.49

## 5. Configure Avaya Experience Portal

Configuration and verification operations on the Experience Portal illustrated in this section were all performed using either the Experience Portal Management (EPM) web interface or SSH connection to the server.

The information provided in this section describes the configuration of the Experience Portal for this solution. It is implied a working system is already in place, including Media Processing Platform, Apache Tomcat application Server and SIP routing via Session Manager. Installation of Voice XML applications is also outside the scope of this document. For all other provisioning information, such as initial installation and configuration, please refer to the product documentation in **Section 9**. The configuration operations described in this section can be summarized as follows:

- Update languages.properties Files
- Launch Experience Portal Manager
- Add Verbio TTS Server
- Add Application

### 5.1. Update language.properties Files

Verbio does not appear in the drop-down list of TTS server types when using Experience Portal 8.0. Therefore, two **languages.properties** files need to be updated on the Experience Portal on the EPM server. The files are available in the **Appendices** of these Application Notes.

Note: **\$CATALINA\_HOME** is the default Tomcat directory, /opt/Tomcat/tomcat.

- Copy the new language files on to the EPM server. The files will be named as:
  - languages.properties\_lib
  - languages.properties\_webapps
- Log into Experience portal with appropriate credentials.
- Switch user to a privileged administrator account with permissions to make these changes.
- Use **cd \$CATALINA\_HOME/lib/config** to change to the appropriate directory.
- Rename the current **languages.properties** file to save the original file (e.g., **mv languages.properties languages.properties.orig**).
- Copy languages.properties\_lib to this directory and rename it as **languages.properties** (e.g., **mv languages.properties\_lib languages.properties**).
- Use **chown avayavp languages.properties** to set the correct owner for this file.
- Use **chgrp avayavpgroup languages.properties** to set the correct group for this file.
- Use **chmod 750 languages.properties** to set the correct permissions.
- Next, use **cd \$CATALINA\_HOME/webapps/VoicePortal/WEB-INF/classes/messages/** to change the directory for the location of the next file.

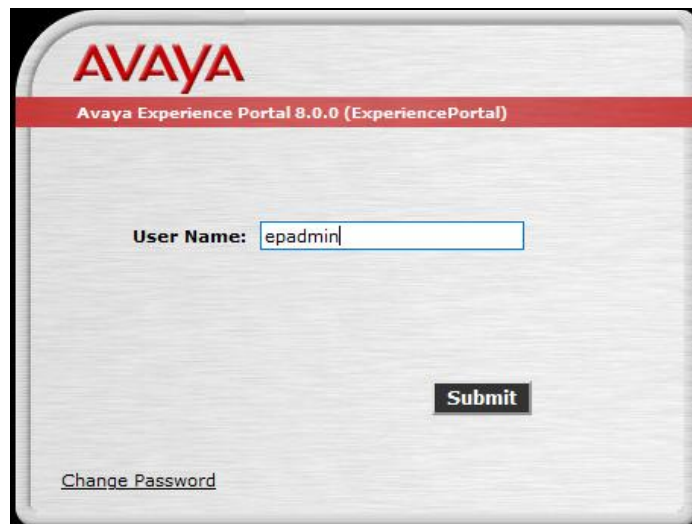
- Rename the current **languages.properties** file (e.g., **mv languages.properties languages.properties.orig**).
- Copy **languages.properties\_webapps** to this directory and rename it as **languages.properties** (e.g., **mv languages.properties\_webapps languages.properties**).
- Use **chown avayavp languages.properties** to set the correct owner for this file.
- Use **chgrp avayavpgroup languages.properties** to set the correct group for this file.
- Use **chmod 750 languages.properties** to set the correct permissions.

Tomcat must now be restarted.

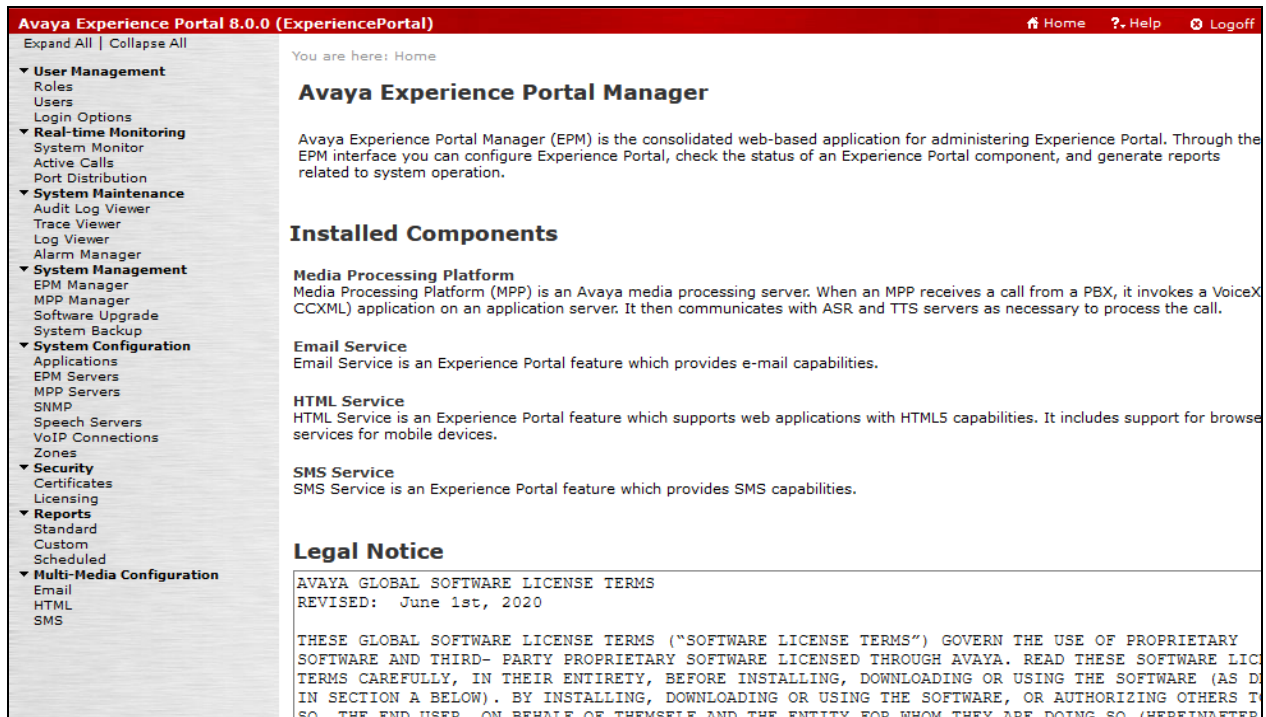
- Use **cd \$CATALINA\_HOME/bin** to change directory and enter:
  - **./shutdown.sh**
- Wait for the first command to complete, and then enter:
  - **./startup.sh**

## 5.2. Launch Experience Portal Manager

Experience Portal is configured via the Experience Portal Manager (EPM) web interface. To access the web interface, enter **https://<ip-addr>** as the URL in a web browser, where *<ip-addr>* is the IP Address of EPM. Log in using the appropriate credentials.



The main page of the EPM web interface is displayed as shown below.



### 5.3. Add Verbio TTS Server

Verbio must be added as a Speech Server using the EPM web interface. To add a TTS server, navigate to **System Configuration** → **Speech Servers** on the left pane. In the **Speech Servers** page (not shown), select the **TTS** tab and click **Add**. Configure the following parameters in the **Add TTS Server** page. Below screenshot shows a completed screen.

- **Name:** Provide a descriptive name (e.g., *Verbio*).
- **Enable:** Select *Yes* to enable the TTS server.
- **Engine Type:** Set to *Verbio*.
- **Network Address:** Set to Verbio IP Address (e.g., *10.1.10.125*).
- **\*Base Port:** This is auto populated as 5060 base on Verbio Engine Type.
- **Total Number of Licensed TTS Resources:** Set to number of TTS resources per license.
- **New Connection per Session** This does not apply to MRCP V2.
- **Selected Voices:** Select supported TTS voices.
- **Protocol:** Select *MRCP V2* from the drop-down menu.
- **Transport Protocol:** This is auto populated as *TCP*.
- **\*Listener Port:** This is auto populated as *5060*.

Leave the rest as default. Click **Save** below to complete.

*\*These parameters are auto-populated per languages.properties file in the Appendices and needs to match Verbio TTS.*



## Change TTS Server

Use this page to change the configuration of a TTS server.

Name: Verbio  
Enable:  Yes  No  
Engine Type: Verbio  
Network Address: 10.1.10.125  
Base Port: 5060  
Total Number of Licensed TTS Resources: 10  
New Connection per Session:  Yes  No

### Voices

es-AR Silvana F  
Basque(Spain) eu-ES Amaia F  
Catalan(Spain) ca-ES Meritxell F  
Catalan(Spain) ca-ES Oriol M  
French(France) fr-FR Brigitte F  
Portuguese(Brazil) pt-BR Luma F  
Portuguese(Portugal) pt-PT Adriana F  
Spanish(Argentina) es-AR Javier M  
Spanish(Latin\_American) es-MX Celia F  
Spanish(Latin\_American) es-MX Lucia F

### Selected Voices

English(USA) en-US Jane F  
English(USA) en-US Lucy F

### MRCP

Ping Interval: 15 seconds  
Response Timeout: 4 seconds  
Protocol: MRCP V2  
Enable Session XML:  Yes  No  
Transport Protocol: TCP  
Listener Port: 5060

**Save** **Apply** **Cancel** **Help**

Navigate to **System Management** → **MPP Manager** to restart the MPP server. Select the MPP and then click **Restart**. After the MPP is started, the **Mode** of the MPP should be *Online* and the **State** should be *Running*.

**AVAYA**  
**Avaya Experience Portal 8.0.0 (ExperiencePortal)**  
 Expand All | Collapse All  
 You are here: [Home](#) > System Management > MPP Manager  
**MPP Manager (Dec 22, 2021 3:52:49 PM SGT)**  
 This page displays the current state of each MPP in the Experience Portal system. To enable the state of MPPs. To enable the mode commands, the selected MPPs must also be stopped.  
 Last Poll: Dec 22, 2021 3:52:31 PM SGT

<input checked="" type="checkbox"/>	Server Name	Mode	State	Config	Auto Restart	Restart Schedule	Active Calls
						Today Recurring	In Out
<input checked="" type="checkbox"/>	aaep-mpp8	Online	Running	OK	No	No  None	0 0

**State Commands**

**Restart/Reboot Options**  
 One server at a time  
 All servers

**Mode Commands**

## 5.4. Add Application

This section covers the configuration of a sample VXML application that uses TTS resources from Verbio.

On the left pane, navigate to **System Configuration** → **Applications**. The **Applications** page is displayed (not shown). For the compliance test, one of the sample VXML applications was configured as shown on next page.

- **Name:** Provide a descriptive name (e.g., *Verbio*).
- **Enable:** Set to *Yes* to enable the application.
- **Type:** Set to *VoiceXML*.
- **VoiceXML URL:** Specify the VXML application URL. For the compliance test, the application was located on application server in Windows server.

Expand the **TTS Speech Servers** section.

- **Selected TTS:** Select *Verbio*.
- **Selected Voices:** Select the Voices (e.g., *English(USA) en-US Jane F*).

In the **Application Launch** section, set the **Called Number** (e.g., *10393*) associated with the application and click **Add**. The called number will be added to the text below the field.

### Change Application

Use this page to change the configuration of an application.

Name: Verbio

Enable:  Yes  No

Type: VoiceXML

Reserved SIP Calls:  None  Minimum  Maximum

Requested:

**URI**

Single  Fail Over  Load Balance

VoiceXML URL:  **Verify**

Mutual Certificate Authentication:  Yes  No

Basic Authentication:  Yes  No

**ASR Speech Servers**

**TTS Speech Servers**

TTS: Verbio

Voices	Selected Voices
English(USA) en-US Lucy F	English(USA) en-US Jane F

**Application Launch**

Inbound  Inbound Default  Outbound

Number  Number Range  URI

Called Number:  **Add**

**Remove**

SIP Header Source: Any

In the **Advance Parameters** section, select the **Support Remote DTMF Processing** to **No** to allow Experience Portal to perform DTMF processing. DTMF processing isn't supported by Verbio.

**Advanced Parameters** ▾

Support Remote DTMF Processing:  Yes  No

DTMF Type Ahead Enabled:  Yes  No

Converse-On:  Yes  No

Network Media Service:  Yes  No

Early Media:  Yes  No

Sync FROM and PAI Headers:  Yes  No

Dialog URL Pattern:

VoiceXML Event Handler:  ▾

CCXML Event Handler:  ▾

Generate UCID:  Yes  No

Operation Mode:  ▾

Transport UCID in Shared Mode:  Yes  No

Maximum UUI Length:

Fax Detection Enabled:  Yes  No

Fax Phone Number:

Video Enabled:  Yes  No

Video Screen Format:  ▾

Video Minimum Picture Interval:

**Save** **Apply** **Cancel** **Help**

## 6. Configure Verbio TTS

The following sections describe the steps required to configure the base configuration required to enable Verbio to interoperate with Experience Portal. It is implied a working system is already in place. For all other provisioning information, such as initial installation and configuration, please refer to the product documentation in **Section 9**. The sub-section below will be used to verify configuration of MRCP settings.

### 6.1. Verify MRCP Settings

In the Verbio TTS server, locate the MRCP config file “software-verbio-mrcp” in `/opt/Verbio/config` directory. The Platform Type must be set, IP Address configured, MRCP Version and the MRCP local port for connection set as below:

- **PLATFORM:** Set to *Avaya*.
- **IP ADDRESS:** Set to *10.1.10.125* for the server IP Address.
- **VERSION:** Set to *2* for MRCP Version 2.
- **LOCAL PORT:** Set to *5060* as configured on Experience Portal **Section 5.3**.

```
#
# == mrcp2d configuration file ==
#

string ASR_SERVER = "127.0.0.1";
string ASR_START = "verbio8k.en-us";
string ASR_LANG = "en-us";
string ASR_CONFS = "verbio8k.en-us";
string ASR_LANGS = "en-us";
string TTS_SERVER = "127.0.0.1";
string TTS_START = "en-us";
string PLATFORM = "Avaya";
string MRCPDIR = "/opt/verbio/mrcp";
string IP_ADDRESS = "10.1.10.125";
string EXTERNAL_IP_ADDRESS = "10.1.10.125";
int LOGGING_LEVEL = 7;
int LOGGING_DEST = 0;
int VERSION = 2;
int LOCAL_PORT = 5060;
int MRCP_PORT = 32416;
int RTP_PORT_MIN = 6000;
int RTP_PORT_MAX = 8000;
string TTS_SERVER_STATUS = "1";
string ASR_SERVER_STATUS = "1";
string NORMALIZATION = "/opt/verbio/mrcp/ttscnf.kv";
string CLS_CONF = "";
string CLS_LANG = "";
string CLS_SERVER = "";
string CLS_RULES = "";
string NLP_DICTIONARY = "";
string NLP_TEMPLATE = "";
string NLP_SUBSTITUTIONS = "";
string CSR_MODEL = "";
int USE_INTENT_SERVICE = 0;
string INTENT_SERVICE_URI = "";
string MRCP_MASK_EXTENSIONS = "";
int MRCP_SET_SESSIONID = 0;
string EXPAND_RULES = "";
```

## 7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Experience Portal and Verbio TTS.

After performing the verification in this section, place a call to an Experience Portal number that would launch a VXML application that uses the Verbio TTS resources. Verify that the application answers the call and that the correct TTS prompts are heard.

### 7.1. Avaya Experience Portal

This section provides the verification steps that may be performed to verify that Experience Portal can run Verbio TTS server.

From the EPM web interface, verify that the MPP server is online by navigating to **System Management** → **MPP Manager**. The **Mode** of the MPP should be *Online* and the **State** should be *Running*.

**AVAYA**

**Avaya Experience Portal 8.0.0 (ExperiencePortal)**  
Expand All | Collapse All

You are here: [Home](#) > System Management > MPP Manager

### MPP Manager (Dec 22, 2021 3:52:49 PM SGT)

This page displays the current state of each MPP in the Experience Portal system. To enable the state commands, the selected MPPs must also be stopped.

Last Poll: Dec 22, 2021 3:52:31 PM SGT

<input checked="" type="checkbox"/>	Server Name	Mode	State	Config	Auto Restart	Restart Schedule		Active Calls	
						Today	Recurring	In	Out
<input checked="" type="checkbox"/>	aaep-mpp8	Online	Running	OK	No	No	None	0	0

**State Commands**

**Mode Commands**

**Restart/Reboot Options**

One server at a time  
 All servers

From the EPM web interface, verify that the ports on the MPP server are in service in the by navigating to **Real-time Monitoring → Port Distribution** and selecting the MPP in the **Port Distribution** page (not shown). Verify that the SIP Trunk is in *Online Mode* and *In service State*.

**AVAYA**  
**Avaya Experience Portal 8.0.0 (ExperiencePortal)**  
 Expand All | Collapse All

You are here: [Home](#) > [Real-Time Monitoring](#) > [Port Distribution](#) > Port Distribution Report

### Port Distribution Report (Dec 22, 2021 3:59:23 PM SGT)

This page displays information about how the telephony resources have been distributed to the VoIP Connections page.

Servers: aaep-mpp8  
 Total Ports: 15  
 Last Poll: Dec 22, 2021 3:59:09 PM SGT

Port	Mode	State	Port Group	Protocol	Current Allocation	Base Allocation
<a href="#">10106</a>	Online	In service	DuplexCM	H323	aaep-mpp8	
<a href="#">10107</a>	Online	In service	DuplexCM	H323	aaep-mpp8	
<a href="#">10108</a>	Online	In service	DuplexCM	H323	aaep-mpp8	
<a href="#">10109</a>	Online	In service	DuplexCM	H323	aaep-mpp8	
<a href="#">10110</a>	Online	In service	DuplexCM	H323	aaep-mpp8	
<a href="#">10</a>	Online	In service	SM1	SIP_Trunk	aaep-mpp8	

[Help](#)

Navigate to **Real-time Monitoring → System Monitor** and select the **ExperiencePortal Details** tab. Click on the MPP under the **Server Name** (not shown). In the **MPP Details** page, click **Service Menu** and a new tab will be presented. Finally, navigate to **Resources → Speech Servers** in the left pane to view the status of the speech servers as shown below. The **Status** of the speech servers should be *UP* for **Verbio TTS** as shown below.

**AVAYA**  
**Avaya Experience Portal MPP 8.0.0.0.1497 on aaep-mpp8.sglab.com**

You are here: [Home](#) > [Resources](#) > Speech Servers

### Speech Servers

Name	Type	Status	Values	Ports	Errors	Latency
Verbio	ASR	Server is UP	H (Simultaneous): 10 M (Total): 10	Active: 0 Reserve: 0	Timeout: 0 Setup: 0 Application: 5	Average: 220 Maximum: 5190 Minimum: 0
Verbio	TTS	Server is UP	H (Simultaneous): 10 M (Total): 10	Active: 0 Reserve: 0	Timeout: 4 Setup: 0 Application: 0	Average: 501 Maximum: 4000 Minimum: 0

Wed Dec 22 16:00:53 2021

## 8. Conclusion

These Application Notes describe the compliance tested configuration used to validate Verbio TTS Server Version 9.XX with Avaya Experience Portal Version 8.0 using MRCP V2. All feature and serviceability test cases were completed successfully with observations noted in **Section** Error! Reference source not found..

## 9. Additional References

These documents form part of the Avaya official technical reference documentation suite. Further information may be had from <http://support.avaya.com> or from your Avaya representative.

[1] *Deploying Avaya Aura® Experience Portal in an Avaya Customer Experience Virtualized Environment*, Release 8.1, Issue 1 June 2021.

Verbio documentation can be obtained by using the contact details listed in **Section 2.3**.

[1] *Verbio 9.40 Installation Guide*, Version 1.9, October 2020.



## 10. APPENDIX 1: languages.properties\_lib

This file should replace **languages.properties** file in the **\$CATALINA\_HOME/lib/config** directory in the EPM server. Note that the text in **bold** were either added for Verbio TTS or commented out to remove a pre-existing speech engine.

```
#
# Engine Type options displayed on the page
#
asrEngines=Verbio,Loquendo,Google Speech,Dialogflow
#asrEngines=Loquendo,Nuance,Google Speech,Dialogflow
ttsEngines=Verbio,Loquendo
#ttsEngines=Loquendo,Nuance
asrEnginesAmsOnly=Nuance
ttsEnginesAmsOnly=Nuance

# Engine Type conversion from display to internal data in the database
IBMVWSASR=ibm wvs
IBMWVTTS=ibm wvs
#NuanceASR=nuance osr
#NuanceTTS=nuance realspeak
LoquendoASR=loquendo
LoquendoTTS=loquendo
GoogleSpeechASR=googleasr
DialogflowASR=dialogflowasr
VerbioASR=nuance osr
VerbioTTS=nuance realspeak

# Engine Type conversion from internal data in the database to display
ibmwvs=IBM WVS
nuanceosr=Verbio
nuancerealspeak=Verbio
#nuanceosr=Nuance
#nuancerealspeak=Nuance
#nuancequantum=Nuance
loquendo=Loquendo
googleasr=Google Speech
dialogflowasr=Dialogflow

#
# Languages
#
NuanceASRlanguages=af-za,ar-jo,ar-ww,as-in,eu-ES,bn-bd,bn-in,bh-in,bg-bg,cn-HK,ca-ES,hr-HR,cs-
CZ,da-DK,nl-BE,nl-nl,en-au,en-gb,en-in,en-SG,en-ZA,en-us,fi-FI,fr-BE,fr-ca,fr-FR,gl-ES,gu-IN,de-
at,de-DE,de-CH,el-GR,he-IL,hi-IN,hu-HU,is-IS,id-ID,it-IT,ja-JP,kn-IN,ko-KR,ms-MY,ml-IN,zh-cn,zh-
tw,mr-IN,ne-NP,no-NO,or-IN,pl-PL,pt-br,pt-PT,pa-IN,ro-RO,ru-RU,sr-rs,sk-SK,sl-SL,es-ar,es-CO,es-
ES,es-us,sv-SE,sv-fi,ta-IN,te-IN,th-TH,tr-TR,uk-UA,ur-IN,ur-PK,va-ES,vi-VN,cy-gb
IBMVWSASRlanguages=zh-CN,en-GB,en-AU,en-US,fr-CA,de-DE,ja-JP,es-MX,es-ES
LoquendoASRlanguages=ca-ES,zh-CN,nl-NL,en-US,en-GB,fr-FR,de-DE,el-GR,it-IT,pl-PL,pt-BR,pt-PT,ru-
RU,es-AR,es-CL,es-CO,es-MX,es-ES,es-US,sv-SE
VerbioASRlanguages=es-ES,ca-ES,eu-ES,pt-PT,pt-BR,fr-FR,en-US,es-MX,es-AR,es-CL,es-VE,es-CO

# TTS LANGUAGE
NuanceTTSlanguages=ar-WW Laila F,ar-WW Maged M,ar-WW Tarik M,eu-ES Miren F,eu-ES Arantxa F,bg-BG
Daria F,ca-ES Jordi M,ca-ES Montserrat F,ca-ES Nuria F,zh-HK Sin-Ji F,zh-CN Li-li F,zh-CN Mei-
Ling F,zh-CN Tian-Tian F,zh-CN Ting-Ting F,cs-CZ Iveta F,cs-CZ Zuzana F,da-DK Ida F,da-DK Magnus
M,da-DK Sara F,da-DK Nanna F,nl-BE Ellen F,nl-NL Claire F,nl-NL Claire-ml F,nl-NL Xander M,en-AU
Karen F,en-AU Lee M,en-GB Daniel M,en-GB Emily F,en-GB Serena F,en-GB Kate F,en-GB Malcolm M,en-
GB Oliver M,en-GB Stephanie F,en-IN Sangeeta F,en-IN Rishi M,en-IN Veena F,en-IE Moira F,af-ZA
Tessa F,en-SC Fiona F,en-US Allison F,en-US Ava F,en-US Ava-ml F,en-US Ethan M,en-US Evelyn F,en-
US Nathan M,en-US Susan F,en-US Evan M,en-US Zoe F,en-US Donna F,en-US Erica F,en-US Jennifer
F,en-US Jill F,en-US Lisa F,en-US Samantha F,en-US Tom M,en-US Vicky F,fi-FI Onni F,fi-FI Satu
F,fi-FI Mikko F,fr-CA Amelie F,fr-CA Chantal F,fr-CA Nicolas M,fr-CA Felix M,fr-CA Julie F,fr-FR
Audrey-ml F,fr-FR Aurelie F,fr-FR Thomas M,fr-FR Audrey F,fr-FR Sebastien M,fr-FR Virginie F,gl-
```

```

ES Carmela F,de-DE Steffi F,de-DE Beate F,de-DE Yannick M,de-DE Viktor M,de-DE Petra F,de-DE
Petra-ml F,de-DE Markus M,de-DE Anna F,de-DE Anna-ml F,gr-GR Melina F,gr-GR Nikos M,gr-GR
Alexandros M,he-IS Carmit F,hi-IN Lekha F,hi-IN Neel M,hu-HU Mariska F,is-IS Ragga F,id-ID
Damayanti F,it-IT Alice F,it-IT Alice-ml F,it-IT Federica F,it-IT Federica-ml F,it-IT Luca M,it-
IT Paola F,it-IT Paolo M,it-IT Silvia F,ja-JP Otoya M,ja-JP Kyoko F,ko-KR Sora F,ko-KR Narae
F,zh-TW Mei-Ling F,zh-TW Mei-Jia F,zh-TW Ya-Ling F,no-NO Henrik M,no-NO Nora F,no-NO Stine F,pl-
PL Agata F,pl-PL Ewa F,pl-PL krzysztof M,pl-PL Zosia F,pt-BR Felipe M,pt-BR Luciana F,pt-BR
Raquel F,pt-PT Catarina F,pt-PT Joana F,pt-PT Joaquim M,pt-PT Madalena F,ro-RO Ioana F,ru-RU
Katya F,ru-RU Katya-ml F,ru-RU Katerina F,ru-RU Milena F,ru-RU Yuri M,en-ZA Tessa F,es-AR Diego
M,es-CO Carlos M,es-CO Soledad F,es-ES Jorge M,es-ES Marisol F,es-ES Monica-ml F,es-ES Diego
M,es-ES Isabel F,es-ES Monica F,es-MX Angelica F,es-MX Juan M,es-MX Javier M,es-MX Paulina F,sk-
SK Laura F,sv-SE Klara F,sv-SE Ingrid F,sv-SE Oskar M,sv-SE Alva F,th-TH Kanya F,th-TH Narisa
F,tr-TR Aylin F,tr-TR Cem M,tr-TR Cem-ml M,tr-TR Yelda F,va-ES Empar F
IBMWVSTSLanguages=zh-CN Zhou-Hong F,en-US Andrew M,en-US Allison F,en-US Julie F,en-US Lisa
F,en-US Tyler F,en-GB David M,en-GB Kate F,en-GB Sally F,en-GB Dawn F,fr-CA Pierre M,fr-CA Louise
F,de-DE Dieter M,de-DE Erika F,ja-JP Daichi M,ja-JP Shizuka F,es-MX Rafael M,es-MX Sofia F
LoquendoTTSlanguages=ca-ES Jordi M,ca-ES Montserrat F,zh-CN Linlin F,nl-NL Saskia F,nl-NL Willelm
M,en-GB Simon M,en-GB Kate F,en-GB Elizabeth F,en-US Allison F,en-US Dave M,en-US Susan F,en-US
Kenneth M,fr-FR Bernard M,fr-FR Juliette F,fr-FR Sophie F,de-DE Stefan M,de-DE Katrin F,de-DE
Ulrike F,el-GR Afroditi F,el-GR Artemis F,it-IT Giulia F,it-IT Luca M,it-IT Paola F,it-IT Fabio
M,it-IT Marcello M,it-IT Matteo M,it-IT Roberto M,it-IT Silvana F,pl-PL Zosia F,pt-PT Amalia
F,pt-PT Eusebio M,pt-BR Gabriela F,ru-RU Dmitri M,ru-RU Olga F,es-ES Jorge M,es-ES Carmen F,es-ES
Juan M,es-CO Carlos M,es-AR Diego M,es-CL Francisca F,es-MX Esperanza F,es-US Carlos M,es-US
Soledad F,es-US Ximena F,sv-SE Annika F
VerbioTTSlanguages=es-ES Laura F,es-ES Carlos M,es-ES Amaya F,es-MX Lucia F,es-MX Celia F,es-AR
Javier M, es-AR Silvana F,ca-ES Oriol M,ca-ES Meritxell F,eu-ES Amaia F,pt-PT Adriana F,pt-BR
Luma F,en-US Jane F,en-US Lucy F,fr-FR Brigitte F,es-VE Carmen F

#
# Language Default
#
#NuanceASRLanguagesDefault=en-us
IBMWVSASRLanguagesDefault=en-US
LoquendoASRLanguagesDefault=en-US
VerbioASRLanguagesDefault=es-ES

#
#NuanceTTSlanguagesDefault=en-US Jennifer F
IBMWVSTSLanguagesDefault=en-US Andrew M
LoquendoTTSlanguagesDefault=en-US Dave M
VerbioTTSlanguagesDefault=es-ES Carlos M

#
# default base port
#
#NuanceBasePort=4900
IBMWVSBasePort=554
LoquendoBasePort=554
VerbioBasePort=5060
#
# default New Connection per Session
#
#NuancePerPort=No
IBMWVSPerPort=Yes
LoquendoPerPort=Yes
VerbioPerPort=Yes
#
# default URL
#
IBMWVSRtspUrlAsr=/media/recognizer
IBMWVSRtspUrlTts=/media/synthesizer
#NuanceRtspUrlAsr=/media/speechrecognizer
#NuanceRtspUrlTts=/media/speechsynthesizer
LoquendoRtspUrlAsr=/media/recognizer
LoquendoRtspUrlTts=/media/synthesizer
VerbioRtspUrlAsr=/recognizer
VerbioRtspUrlTts=/synthesizer
#

```

```

# Grammar Type
#
ibmwvsGrammarType=srgs
#nuanceosrGrammarType=srgs
#nuancequantumGrammarType=srgs
loquendoGrammarType=sisr
verbioasrTypeGrammar=srgs
#
# MRCP Protocol
#
IBMWVSMRCPValues=mrppv1
#NuanceMRCPValues=mrppv1, mrppv2
LoquendoMRCPValues=mrppv1
#NuanceMRCPAmsOnlyValues=mrppv1, mrppv2
VerbioMRCPValues=mrppv2
#
# Transport
#
IBMWVSTransportValues=tcp
#NuanceTransportValues=tcp, tls
LoquendoTransportValues=tcp
VerbioTransportValues=tcp

#
# Resources
#
#NuanceASRResourcesDefault=asrAcquireCallStartRetain
IBMWVSAASRResourcesDefault=asrAcquireCallStartRetain
LoquendoASRResourcesDefault=asrAcquireCallStartRetain
GoogleSpeechResourcesDefault=asrAcquireReleaseAsNeeded
DialogflowResourcesDefault=asrAcquireReleaseAsNeeded
VerbioASRResourcesDefault=asrAcquireCallStartRetain

#
# Google Speech Engine
#
configureGoogleSpeechNetworkAddress=false
configureGoogleSpeechBasePort=false
configureGoogleSpeechTotalLicensed=false
configureGoogleSpeechPerPort=false
configureGoogleSpeechLanguages=false
configureGoogleSpeechResources=false
configureGoogleSpeechNBestListLength=false
configureGoogleSpeechSpeechTimeouts=false
configureGoogleSpeechMRCP=false

configureGoogleSpeechCredentials=true
configureGoogleSpeechProfanity=true
configureGoogleSpeechLicense=true

#
# Google Dialogflow
#
configureDialogflowNetworkAddress=false
configureDialogflowBasePort=false
configureDialogflowTotalLicensed=false
configureDialogflowPerPort=false
configureDialogflowLanguages=false
configureDialogflowResources=false
configureDialogflowNBestListLength=false
configureDialogflowSpeechTimeouts=false
configureDialogflowMRCP=false

configureDialogflowCredentials=true
configureDialogflowProjectParameters=true

# AVB XML:Language
#

```

```
# Please follow the ASR LOCALIZATION INSTRUCTIONS mentioned above.
avbLanguageLabels=af-za,ar-jo,ar-ww,as-in,eu-ES,bn-bd,bn-in,bh-in,bg-bg,cn-HK,ca-ES,hr-HR,cs-
CZ,da-DK,nl-BE,nl-nl,en-au,en-gb,en-in,en-SG,en-ZA,en-us,fi-FI,fr-BE,fr-ca,fr-FR,gl-ES,gu-IN,de-
at,de-DE,de-CH,el-GR,he-IL,hi-IN,hu-HU,is-IS,id-ID,it-IT,ja-JP,kn-IN,ko-KR,ms-MY,ml-IN,zh-cn,zh-
tw,mr-IN,ne-NP,no-NO,or-IN,pl-PL,pt-br,pt-PT,pa-IN,ro-RO,ru-RU,sr-rs,sk-SK,sl-SL,es-ar,es-CO,es-
ES,es-us,sv-SE,sv-fi,ta-IN,te-IN,th-TH,tr-TR,uk-UA,ur-IN,ur-PK,va-ES,vi-VN,cy-gb

# The following is for internal software to decide which default value to use for Speech Complete
Timeout in application advanced parameters.
# If Nuance, the default value is "0", otherwise, the default is "";
IBM=ibm wvs
LOQUENDO=loquendo

#
#     Default engine type for speech servers
#
#defaultEngineType=Nuance
defaultEngineType=Verbio
```











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