



## **Avaya Solution & Interoperability Test Lab**

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# **Application Notes for Verbio TTS 9 with Avaya Aura® Experience Portal 7.0.1 - Issue 1.0**

### **Abstract**

These application notes describe the configuration steps required for Verbio TTS 9 to successfully interoperate with Avaya Aura® Experience Portal 7.0.1. Verbio TTS allows Voice XML applications to play written text.

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 to successfully interoperate with Avaya Aura® Experience Portal 7.0.1. The Verbio TTS server is added as a Speech Server on the Experience Portal Management Server. Using Voice XML sample applications the following aspects of Verbio operation was tested

- Text to speech synthesis using plain text and SSML tags
- Serviceability

## 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 premise. See **Figure 1** for a network diagram. The interoperability compliance testing included feature and serviceability testing. The feature testing verified the ability of Verbio to synthesize text prompts made during Voice XML calls and responses were prompt and accurate. 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.

### 2.1. Interoperability Compliance Testing

The testing included:

- Verification of connectivity between Verbio and Experience Portal.
- Verification that written text was processed and output by Verbio correctly.
- Link Failure\Recovery was also tested to ensure successful reconnection after link failure.
- Scenarios included
  - Plain text to be synthesize
  - SSML tags to modify the default TTS behaviour
  - Mixture of text and pre-recorded audio files

## 2.2. Test Results

Tests were performed to ensure full interoperability between Verbio and Experience Portal. The tests were all functional in nature and performance testing was not included. All test cases passed successfully and only 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 as documented.
- During a network outage the Verbio service must be restarted and then the MPP must also be restarted to resume calls.

## 2.3. Support

Web: <https://verbio.zendesk.com> (Ticket system)

Email: [support@verbio.com](mailto:support@verbio.com)

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### Verbio Technologies S.L.

C/Loreto, 44 Bajos Derecha

08029 Barcelona

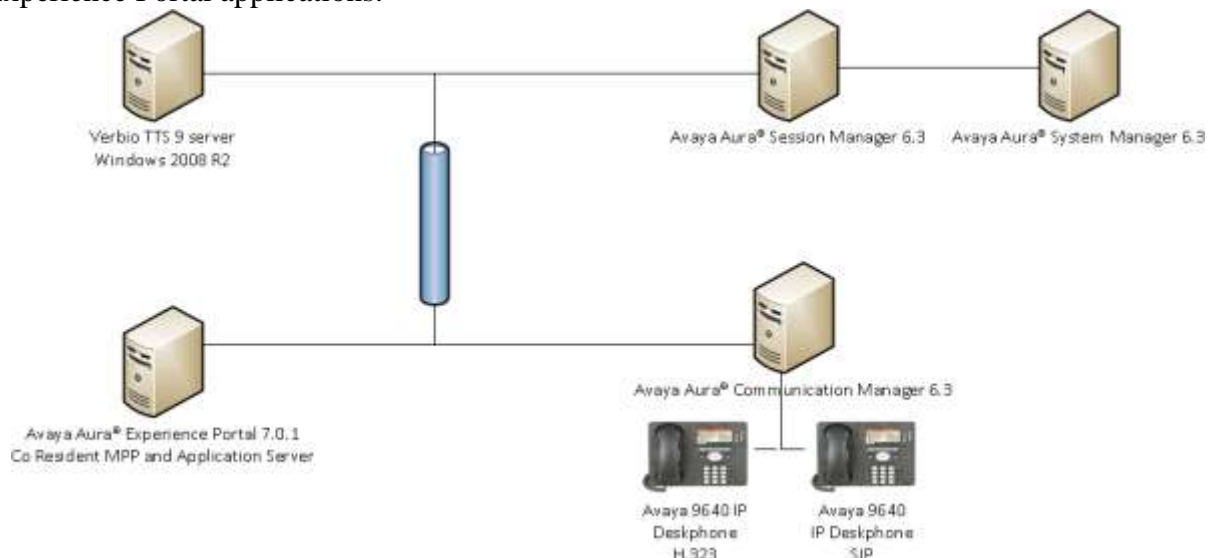
Spain

Tel: +34 93 444 79 79

<http://www.verbio.com>.

## 3. Reference Configuration

**Figure 1** illustrates the network topology used during compliance testing. The Avaya solution consists of Experience Portal, Communication Manager, System Manager, Session Manager and a G450 Gateway. The Experience Portal is configured to connect the Verbio server over IP. A variety of Avaya 9600 Series H323 and SIP IP Deskphones were used to generate calls to Experience Portal applications.



**Figure 1:** Avaya Aura® Experience Portal and Verbio Reference Configuration

## 4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® Experience Portal running on a virtual server	7.0.1.0.1601
Verbio TTS	Version 9.0
Avaya Aura® Session Manager running on a virtual server	Session Manager R 6.3 SP11 Build No. - 6.3.11.0.631103
Avaya Aura® System Manager running on a virtual server	System Manager R 6.3 SP12 Build No. – 6.3.0.8.5682-6.3.8.4903
Avaya Aura® Communication Manager running on a virtual server	R6.3 SP9 Build No. - R16x.03.0.124.0-12754
Avaya G450 Media Gateway	33.12.0/1
Avaya 9640 IP Deskphone	96x0 H.323 Release 3.2
Avaya 9640 IP Deskphone	96x0 SIP Release 6.2.1.26

## 5. Configure Avaya Aura® Experience Portal

Configuration and verification operations on the Experience Portal illustrated in this section were all performed using either the Experience Portal Management 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 out with 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 language property files to allow Verbio speech server type
- Add Verbio speech server
- Configure Application

## 5.1. Update Language Properties

Verbio does not appear in the drop down list of TTS server types when using Experience Portal so at this time 2 files need to be updated on the Experience Portal server. First the updated files must be obtained from Verbio support.

- Copy the new language files to the Experience Portal server.
  - languages.properties\_lib
  - languages.properties\_webapps
- Log in to Experience portal with administrator credentials.
- Su to proper login with root privileges.
- Use **cd /<EPM Tomcat Directory>/lib/config**.
  - Default EPM Tomcat Directory is /opt/tomcat/tomcat.
- Rename languages.properties (e.g. **mv languages.properties languages.orig**) and copy languages.properties\_lib to this directory renaming it as languages.properties (e.g **mv <\_lib file location>languages.properties\_lib languages.properties**).
- Use **chown avayavp languages.properties** to set the correct owner for this file.
- Use **chmod 750 languages.properties** to set the correct permissions.
- Use **cd /<EPM Tomcat Directory>/webapps/Voiceportal/WEB-INF/classes/messages/**.
- Rename languages.properties (e.g. **mv languages.properties languages.orig**) and copy languages.properties\_webapps to this directory renaming it as languages.properties (e.g **mv <\_lib file location>languages.properties\_lib languages.properties**).
- Use **chown avayavp languages.properties** to set the correct owner for this file.
- Use **chmod 750 languages.properties** to set the correct permissions.

Tomcat must now be restarted

- Use **cd /<EPM Tomcat Directory>/bin**.
  - **./shutdown.sh**
  - Wait for this to complete.
  - **./startup.sh**

## 5.2. Add Verbio Speech Server

Verbio must be added as a Speech Server using the Experience Portal Manager web interface.

- Log into the Experience Portal Manager web interface.



- From the left hand menu go to **System Configuration** → **Speech Servers**. On the TTS tab click on **Add** (not shown).
- Give the Speech Server a name.
- Select **Verbio** from the **Engine Type** drop down.
- Enter the **IP Address** of the Verbio server.
- Select the **Languages** required using **Ctrl** to select multiple languages.
- Remove the directory media from the **RTSP URL** entry.

### Add TTS Server

Use this page to configure Experience Portal to communicate with a new TTS server.

Name:

Enable: ☒ Yes ☐ No

Engine Type:

Network Address:

Base Port:

Total Number of Licensed TTS Resources:

New Connection per Session: ☒ Yes ☐ No

Voices: 

Catalan(Spain) ca-ES Meritxell F

Basque(Spain) eu-ES Amaia F

Portuguese(Portugal) pt-PT Adriana F

Portuguese(Brazil) pt-BR Luma F

English(USA) en-US Jane F

English(USA) en-US Lucy F

MRCP

Ping Interval:  seconds

Response Timeout:  seconds

Protocol:

RTSP URL:

- When the TTS server is added the MPP/s need to be restarted.

### 5.3. Configure Application

This section shows how to add the Verbio Speech Server to an application configuration

- From the left hand menu go to **System Configuration** → **Applications** and click on **Add** (not shown).
- Select **VoiceXML** as the **Type**.
- Select **Verbio** as the **TTS** Speech Server.
- Choose the **Languages** the Application requires.
- Select **yes** from **Advanced Parameters** → **Support Remote DTMF Processing**.

#### Add Application

Use this page to deploy and configure a new application on the Experience Portal system.

Start With:

Name:

Enable: ☒ Yes ☐ No

Type:

Reserved SIP Calls: ☒ None ☐ Minimum ☐ Maximum

Requested:

**URI**

☒ Single ☐ Fail Over ☐ Load Balance

VoiceXML URL:

Mutual Certificate Authentication: ☐ Yes ☒ No

Basic Authentication: ☐ Yes ☒ No

**Speech Servers**

ASR:  TTS:

Languages:   Voices:

**Application Launch**

☒ Inbound ☐ Inbound Default ☐ Outbound

☒ Number ☐ Number Range ☐ URI

Called Number:

**Speech Parameters** ▶

**Reporting Parameters** ▶

**Advanced Parameters** ▼

Support Remote DTMF Processing: ☒ Yes ☐ No



## 6. Configure Verbio TTS

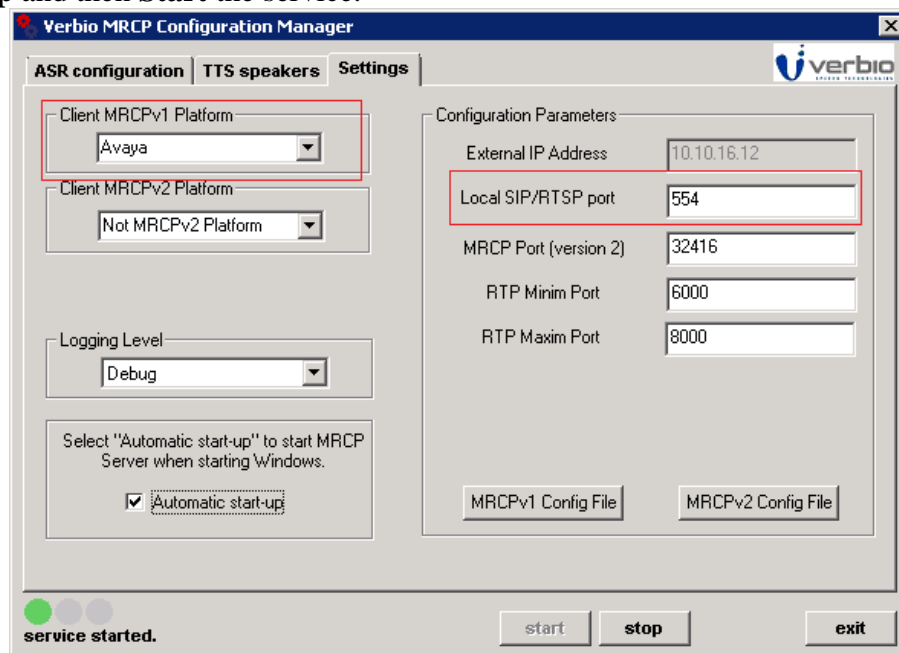
The following sections describe the steps required to configure the base configuration required to enable Verbio TTS to interoperate with Experience Portal. It is implied a working system is already in place. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 9**. The configuration operations described in this section can be summarized as follows:

- Configure MRCP

### 6.1. Configure MRCP

The Platform Type must be set and the port for connection checked. Default for both Verbio and Experience Portal is **554**.

- From the Windows Start menu click on **Start → All Programs → Verbio → MRCP → Configuration Manager**.
- From the **Client MRCPv1 Platform** drop down choose **Avaya**.
- Check that the **Local SIP/RTSP** port is set to **554**.
- **Stop** and then **Start** the service.



## 7. Verification Steps

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

### 7.1. Verify Speech Server Connection is Established

- Log into Experience Portal Manager web interface.



- For the left hand menu go to **Real-time Monitoring** → **System Monitor**.
- Click on the **MPP**.

This page displays the current state of the local Experience Portal system plus any remote Experience Portal s: symbols, click Help.

Summary ExperiencePortal Details

Last Poll: May 26, 2015 5:18:10 AM PDT

Server Name	Type	Mode	State	Config	Call Capacity			Active Calls		Calls Today	Alarms
					Current	Licensed	Maximum	In	Out		
EPM / LocalMPP	EPM/MPP	Online	Running	OK	10	10	10	0	0	0	✓
Summary					10	10	10			0	✓

- From the MPP screen click on **Service Menu**.

### LocalMPP Details (May 26, 2015 5:20:35 AM PDT)

This page displays the detailed status of the selected MPP server.

#### General Information

Server Name: LocalMPP  
Unique Id: 10000  
Host Address: AAEP1619VB  
IP Address: 10.10.16.19  
Version: 7.0.1.0.1601  
Last Successful Poll: May 26, 2015 5:20:22 AM PDT

#### Operational State

Current State: Running (Since May 25, 2015 10:41:53 AM PDT)

#### Operational Mode

Current Mode: Online (Since May 25, 2015 9:10:31 AM PDT)

#### Configuration [History](#)

Current State: OK  
Last Modified: May 25, 2015 9:56:07 AM PDT

#### Call Status

Current Capacity: 10  
Licenses Allocated: 10  
Maximum Call Capacity: 10  
Active Calls: 0  
Calls Today: 0

#### Resource Status

CPU: 3%  
Memory: 26%  
Disk: 19%

#### Miscellaneous

[Service Menu](#)

[Configure](#)

[Help](#)

- From the left hand menu select **Diagnostics** and click on **Check connections to servers**.

**Avaya Aura® Experience Portal MPP 7.0.1.0-1601 on AAEP1619VB**

You are here: [Home](#) > [Diagnostics](#)

**Diagnostics**

[Check connections to servers](#)

[Pack files](#)

[View process messages](#)

[Version](#)

Tue May 26 05:21:56 2015

- The **TTS** server is listed and the **ICMP Check\*** is **Success**.

### Check Server Connections

Speech Servers							
Type	Name	Address	Engine Type	Base Port	Languages/TTS Voices	ICMP Check*	Service Check
TTS	VerbioTTS	10.10.16.12	verbio tts	554	en-US:Lucy:female,es-ES:Amaya:female	Success	<a href="#">Check TTS Server</a>

- Click on **Check TTS Server** to see the connection to Verbio TTS on port 554 was successfully opened.

### Check Server Status

A connection to host *10.10.16.12* on port *554* was successfully opened.

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Tue May 26 05:24:44 2015

## 8. Conclusion

These Application Notes describe the compliance tested configuration used to validate Verbio TTS Version 9 with Avaya Aura® Experience Portal Version 7.0.1. A full and comprehensive set of feature and functional test cases were performed during compliance testing. Verbio TTS is considered compliant with Avaya Aura® Experience Portal. All test cases have passed with any issues and observations outlined in **Section 2.2**.

## 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] *Avaya Aura® Experience Portal 7.0.1 Overview and Specification*
- [2] *Deploying Avaya Aura® Experience Portal 7.0.1 in an Avaya Customer Experience Virtualized Environment*

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

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