



Avaya Solution & Interoperability Test Lab

Application Notes for Verbio ASR 9.10 with Avaya Aura® Experience Portal 7.1 - Issue 1.0

Abstract

These application notes describe the configuration steps required for Verbio ASR Software to successfully interoperate with Avaya Aura® Experience Portal. The Software allows Voice XML application to understand spoken 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 ASR Software to successfully interoperate with Avaya Aura® Experience Portal. The Verbio Server is added as a Speech Server on the Experience Portal Management Server. Using Voice XML sample applications the following aspects of Verbio operation were tested

- DTMF recognition using different grammar types
- Voice recognition using different grammar types
- Serviceability

2. General Test Approach and Test Results

The general test approach was to configure the Verbio ASR Software to communicate with Experience Portal as implemented on a customer's premises. 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 process DTMF and Voice prompt 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 handset input was processed and output by Verbio correctly.
- Link Failure\Recovery was also tested to ensure successful reconnection after link failure.
- Scenarios included.
 - Local and external Grammar format (VXML and BNF)
 - DTMF entry playback and menu entry recognition
 - Voice entry playback and menu entry recognition

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 the test cases passed successfully and only the following observation was noted.

- Currently Verbio ASR is not present in the drop-down list of speech server types. A specific configuration is documented in **Section 5.1** to allow Verbio ASR to be selected as a speech server type

2.3. Support

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

Email: support@verbio.com

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 and Session Manager. The Experience Portal is configured to connect the Verbio server over TCP/IP using the MRCP standard protocol. A variety of Avaya 9600 Series H323 and SIP phones were used to generate calls to Experience Portal Applications.

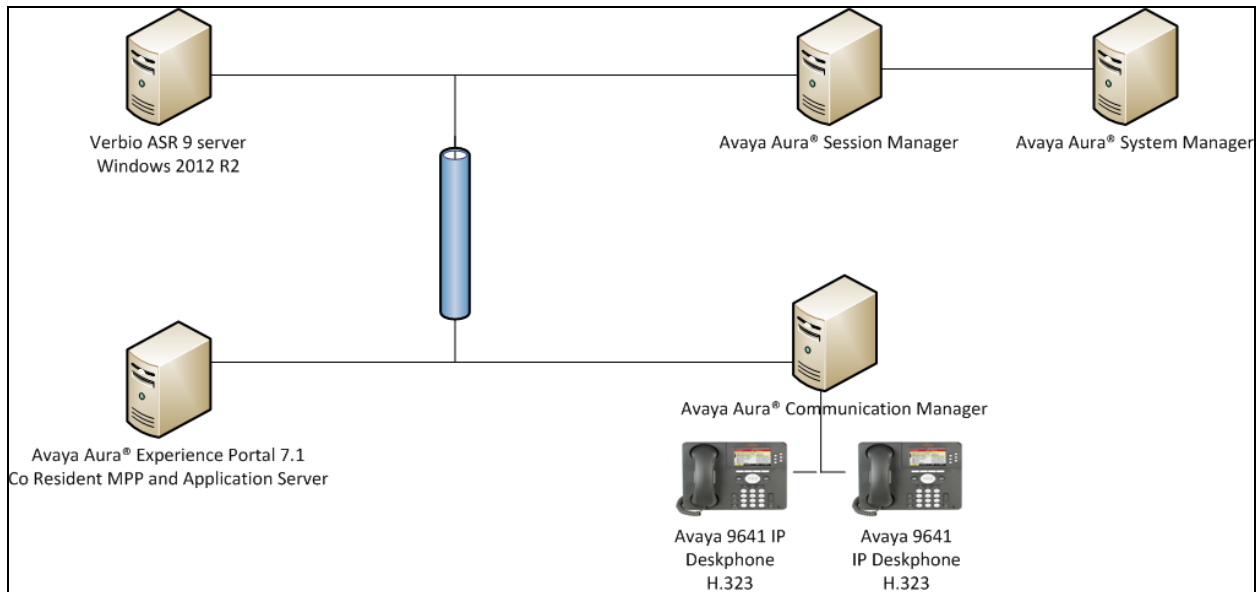


Figure 1: Avaya Aura® Experience Portal and Verbio Reference Configuration

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	7.1.00.1107
Avaya Aura® Session Manager running on a virtual Server	Session Manager R 7 7.0.1.1.70114
Avaya aura® System Manager running on a virtual server	System Manager R 7.0.1.2 Build – 7.0.0.0.16266 Revision – 7.0.1.2.075662 SP2
Avaya Aura® Communication Manager running on a virtual server	R 7.0.1.1.0.441.23169
Avaya G450 gateway	33.39.0/1
Avaya 9641 Series Deskphone	96x1 H.323 Release 6.6029
Verbio	Version 9.10

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 languages 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 ASR server types when using Experience Portal 7.0.1 so at this time two files need to be updated on the Experience portal server. First the updated files must be obtained from Verbio support.

Please note that the following steps have to be done with root level privileges.

- Copy the new language files on to the Experience Portal server
 - the files will be renamed
 - languages.properties_lib
 - languages.properties_webapps
- log in to Experience portal as craft
- switch user to a privileged administrator account with permissions to make these changes
- use **cd /<EPM Tomcat Directory>/lib/config**
 - Default EPM Tomact 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

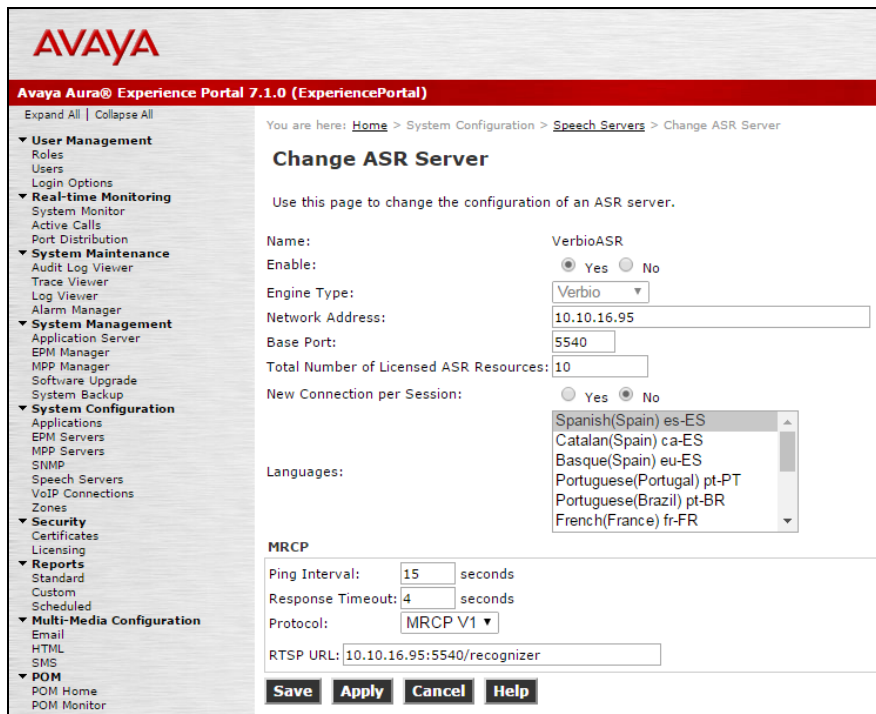
Verbio must be added as a Speech Server using the Experience Portal Manager web interface.

- log into the Experience Portal Manager web interface.



A login form with two input fields: 'User Name' containing 'epadmin' and 'Password' containing a masked password of ten dots. A 'Logon' button is positioned below the fields.

- from the left hand menu go to **System Configuration** → **Speech Servers**. On the ASR tab click on **Add**.
- Give the Speech Server a name.
- Select **Verbio** from the **Engine Type** drop down.
- Enter the **IP Address** of the Verbio Server.
- Set **5540** as the base port.
- Set **New Connection per Session** to **No**.
- Select the **Languages** required using **Ctrl** to select multiple Languages.
- Enter the **RTSP URL**: as **<VerbioIP>:5540/recognizer**.



The screenshot shows the 'Change ASR Server' configuration page in the Avaya Aura Experience Portal 7.1.0. The left sidebar contains a navigation menu with categories like User Management, Real-time Monitoring, System Maintenance, System Management, System Configuration, Security, Reports, and Multi-Media Configuration. The main content area shows the configuration for an ASR server named 'VerbioASR'. Fields include: Name (VerbioASR), Enable (Yes selected), Engine Type (Verbio), Network Address (10.10.16.95), Base Port (5540), Total Number of Licensed ASR Resources (10), and New Connection per Session (No selected). A 'Languages' dropdown menu is open, showing a list of languages including Spanish(Spain) es-ES, Catalan(Spain) ca-ES, Basque(Spain) eu-ES, Portuguese(Portugal) pt-PT, Portuguese(Brazil) pt-BR, and French(France) fr-FR. Below the languages section, MRCP settings are shown: Ping Interval (15 seconds), Response Timeout (4 seconds), Protocol (MRCP V1), and RTSP URL (10.10.16.95:5540/recognizer). At the bottom are buttons for Save, Apply, Cancel, and Help.

- When the ASR 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 and allow it to process DTMF

- From the left hand menu go to **System Configuration** → **Applications** and click on **Add**.
- Select **VoiceXML** as the **Type**.
- Select **Verbio** as the **ASR** Speech Server.
- Choose the **Languages** the Application requires.
- Set **Support Remote DTMF processing** as **Yes**

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

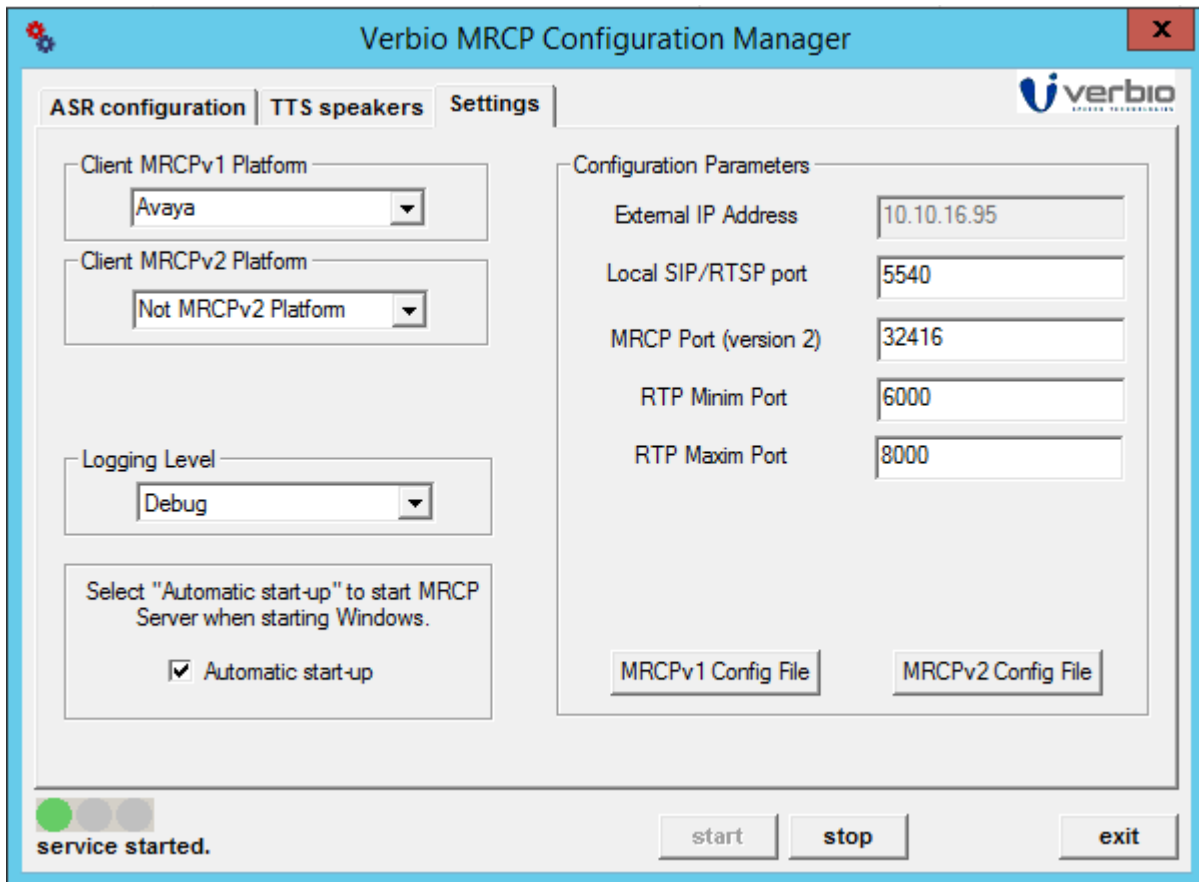
The following sections describe the steps required to configure the base configuration required to enable Verbio to interoperate with Experience Portal. It is implied a working system is already in place. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 9**. The 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 **5540**.

- 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 **5540**
- **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 solution

7.1. Verify Speech Server connection is Established

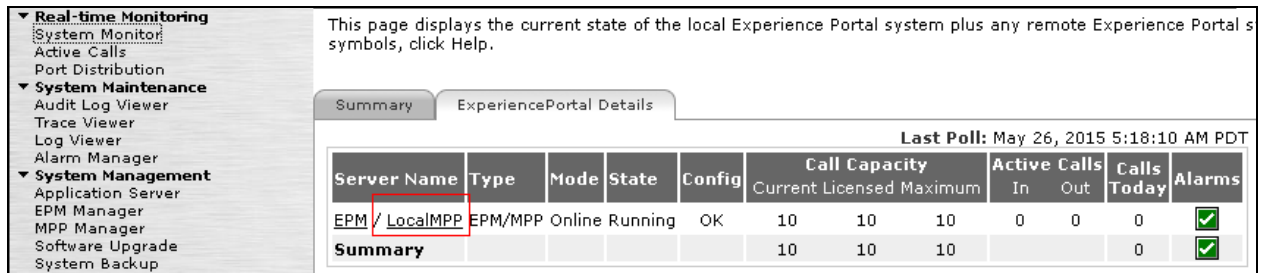
- log into Experience Portal Manager web interface



User Name:

Password:

- 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	<input checked="" type="checkbox"/>
Summary					10	10	10			0	<input checked="" type="checkbox"/>

- From the MPP screen click on Service Menu

AVAYA
Avaya Aura® Experience Portal 7.1.0 (ExperiencePortal)

Expand All | Collapse All

You are here: [Home](#) > Real-Time Monitoring > [System Monitor](#) > Local Details

Local Details (Dec 14, 2016 1:41:44 AM PST)

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

General Information

Server Name:	Local
Unique Id:	10001
Host Address:	AAEP71620
IP Address:	10.10.16.20
Version:	7.1.0.0.1107
Last Successful Poll:	Dec 14, 2016 1:41:23 AM PST

Operational State

Current State: Running (Since Dec 14, 2016 1:16:22 AM PST)

Operational Mode

Current Mode: Online (Since Dec 8, 2016 1:18:05 AM PST)

Configuration [History](#)

Current State: OK
Last Modified: Dec 14, 2016 1:14:13 AM PST

Call Status

Current Capacity:	10
Licenses Allocated:	10
Maximum Call Capacity:	10
Active Calls:	0
Calls Today:	8

Resource Status

CPU:	12%
Memory:	77%
Disk:	12%

Miscellaneous

[Service Menu](#)

Configure **Help**

- From the left hand menu select **Resources** → **Speech Servers**.

You are here: [Home](#)

Avaya Aura® Experience Portal MPP 7.1.0.0-1107

MPP Status

Run state	Running
Configuration state	Configuration OK
Time of last heartbeat	Wed Dec 14 01:56:43 2016
Time of last session information update	Wed Dec 14 01:18:09 2016

Process Status

Name	Path	Restart count	State	Type
EventMgr	/opt/Avaya/ExperiencePortal/MPP/bin/EventMgr	3	Running	system
CCXML	/opt/Avaya/ExperiencePortal/MPP/bin/ccxml	3	Running	managed
CCXML1	/opt/Avaya/ExperiencePortal/MPP/bin/ccxml	3	Running	managed
CCXML2	/opt/Avaya/ExperiencePortal/MPP/bin/ccxml	3	Running	managed
CCXML3	/opt/Avaya/ExperiencePortal/MPP/bin/ccxml	3	Stopped	managed
CCXML4	/opt/Avaya/ExperiencePortal/MPP/bin/ccxml	3	Stopped	managed

- The ASR server is listed and under **Status** shows **Server is UP**

Name	Type	Status	Values	Ports	Errors	Latency
VerbioASR	ASR	Server is UP	H (Total): 10 M (Simultaneous): 10	Active: 0 Reserve: 0	Timeout: 0 Setup: 0 Application: 0	Average: 3 Maximum: 10 Minimum: 0
VerbioTTS	TTS	Server is UP	H (Total): 10 M (Simultaneous): 10	Active: 0 Reserve: 0	Timeout: 0 Setup: 0 Application: 0	Average: 0 Maximum: 0 Minimum: 0

8. Conclusion

These Application Notes describe the compliance tested configuration used to validate Verbio ASR Server Version 9.10 with Avaya Aura® Experience Portal Version 7.1. A full and comprehensive set of feature and functional test cases were performed during Compliance testing. Verbio ASR Server is considered compliant with Avaya Aura® Experience Portal. All of the 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 7.1 Overview and Specification*

[2] *Deploying Avaya Aura® Experience Portal 7.1 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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