



Avaya Solution & Interoperability Test Lab

Application Notes for U-Self Serve 1.0 by Uniphore Software Systems, Inc with Avaya Aura® Experience Portal 8.1.1 - Issue 1.0

Abstract

These Application Notes describe the procedure for configuring U-Self Serve by Uniphore Software Systems, Inc to interoperate with Avaya Aura® Experience Portal.

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 procedure for configuring U-Self Serve 1.0 by Uniphore Software Systems, Inc with Avaya Aura® Experience Portal 8.1.1.

U-Self Serve is an intelligent virtual assistant that delivers a human-like experience, simulating human conversations and delivering frictionless experiences in multiple channels, including text, chat and voice. U-Self Serve application base on Voice XML and Call Control XML (CCXML), and provide a seamless conversational experience to end users that dial into Avaya Aura® based contact centers.

The application notes focus on U-Self Serve integration with Experience Portal in support of inbound Interactive Voice Response (IVR) calls via Session Manager (SIP) or Communication Manager (H.323).

2. General Test Approach and Test Results

The interoperability compliance test included feature and serviceability test. Both the feature test cases, and serviceability test cases were performed manually. The feature test verified the feature interoperability between U-Self Serve and Experience Portal and the serviceability test verified the ability of U-Self Serve to recover under adverse conditions

The serviceability test cases were performed by disconnecting/reconnecting the Ethernet connections to the application server or speech servers' Automatic Speech Recognition (ASR), Text-to-Speech (TTS).

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 Uniphore U-Self Serve did not include use of any specific encryption features as requested by Uniphore.

This test was conducted in a lab environment simulating a basic customer enterprise network environment. The testing focused on the standards-based interface between the Avaya solution and the third party solution. The results of testing are therefore considered to be applicable to either a premise-based deployment or to a hosted or cloud deployment where some elements of the third party solution may reside beyond the boundaries of the enterprise network, or at a different physical location from the Avaya components.

Readers should be aware that network behaviors (e.g., jitter, packet loss, delay, speed, etc.) can vary significantly from one location to another, and may affect the reliability or performance of the overall solution. Different network elements (e.g., session border controllers, soft switches, firewalls, NAT appliances, etc.) can also affect how the solution performs.

If a customer is considering implementation of this solution in a cloud environment, the customer should evaluate and discuss the network characteristics with their cloud service provider and network organizations, and evaluate if the solution is viable to be deployed in the cloud.

The network characteristics required to support this solution are outside the scope of these Application Notes. Readers should consult the appropriate Avaya and third party documentation for the product network requirements. Avaya makes no guarantee that this solution will work in all potential deployment configurations.

2.1. Interoperability Compliance Testing

The general test approach included verification of a successful integration of the U-Self Serve application with Experience Portal. The test focused on U-Self Serve integration with Experience Portal in support of inbound Interactive Voice Response (IVR) calls via Session Manager (SIP) or Communication Manager (H.323). Once the application was connected, the U-Self Serve software worked in conjunction with Experience Portal to play a menu and the user can select using speech.

During the compliance test, the following call scenarios and call flow elements were used to verify U-Self Serve functionality.

- Inbound calls
- Call termination by originator
- Call termination by destination party
- User input using speech
- Transfers
- Simultaneous calls
- Calls to and from Experience Portal via SIP and H.323.

2.2. Test Results

All test cases were executed and verified successfully.

2.3. Support

Technical support for the U-Self Serve solution can be obtained by contacting Uniphore Software Systems, Inc. at:

- Email: support@uniphore.com
- Web: <https://www.uniphore.com/contact/>

3. Reference Configuration

Figure 1 illustrates the reference configuration used during testing. In the reference configuration, the U-Self Serve was installed on a remote server to facilitate integration with Experience Portal. An incoming call from PSTN to U-Self Serve is first received by Communication Manager which routes the call to Experience Portal via SIP trunks (or H.323 stations). Experience Portal then invokes the configured U-Self Serve application.

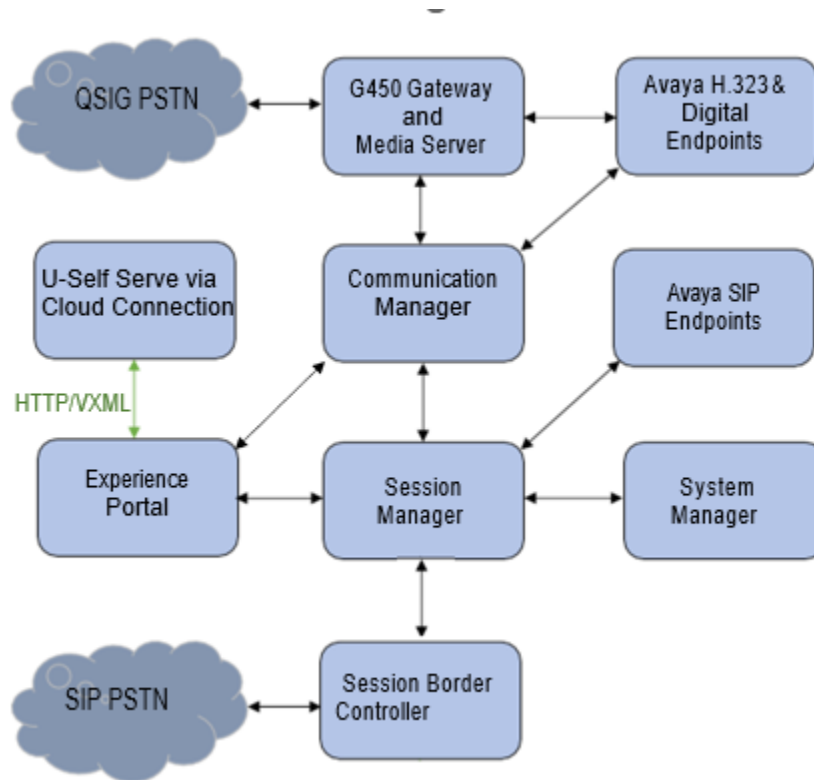


Figure 1: Compliance Testing Configuration

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® Communication Manager running on virtualized environment	10.1.0.2
Avaya Aura® Experience Portal running on virtualized environment: <ul style="list-style-type: none">• EPM• MPP	8.1.1.0.0216 8.1.1.0.0216
Avaya Aura® Session Manager running on virtualized environment	10.1.0.2
Avaya Aura® System Manager running on virtualized environment	10.1.0.2
Avaya Aura® Media Server running on virtualized environment	10.1
Avaya G450 Media Gateway	41.9.0
Avaya Session Border Controller for Enterprise on virtualized environment	10.1.0.0
Avaya IP Deskphones <ul style="list-style-type: none">• J139 (H.323)• J169 (H.323)• J159 (SIP)• J179 (SIP)	6.8.5 6.8.5 4.0.14 4.0.14
Avaya 9404 Digital Telephone	17.0
Desktop PC running Avaya Workplace Client SIP Softphone on Windows 10	3.29.0.54
Uniphore Software Systems, Inc. U-Self Serve	1.0

5. Configure Avaya Aura® Experience Portal

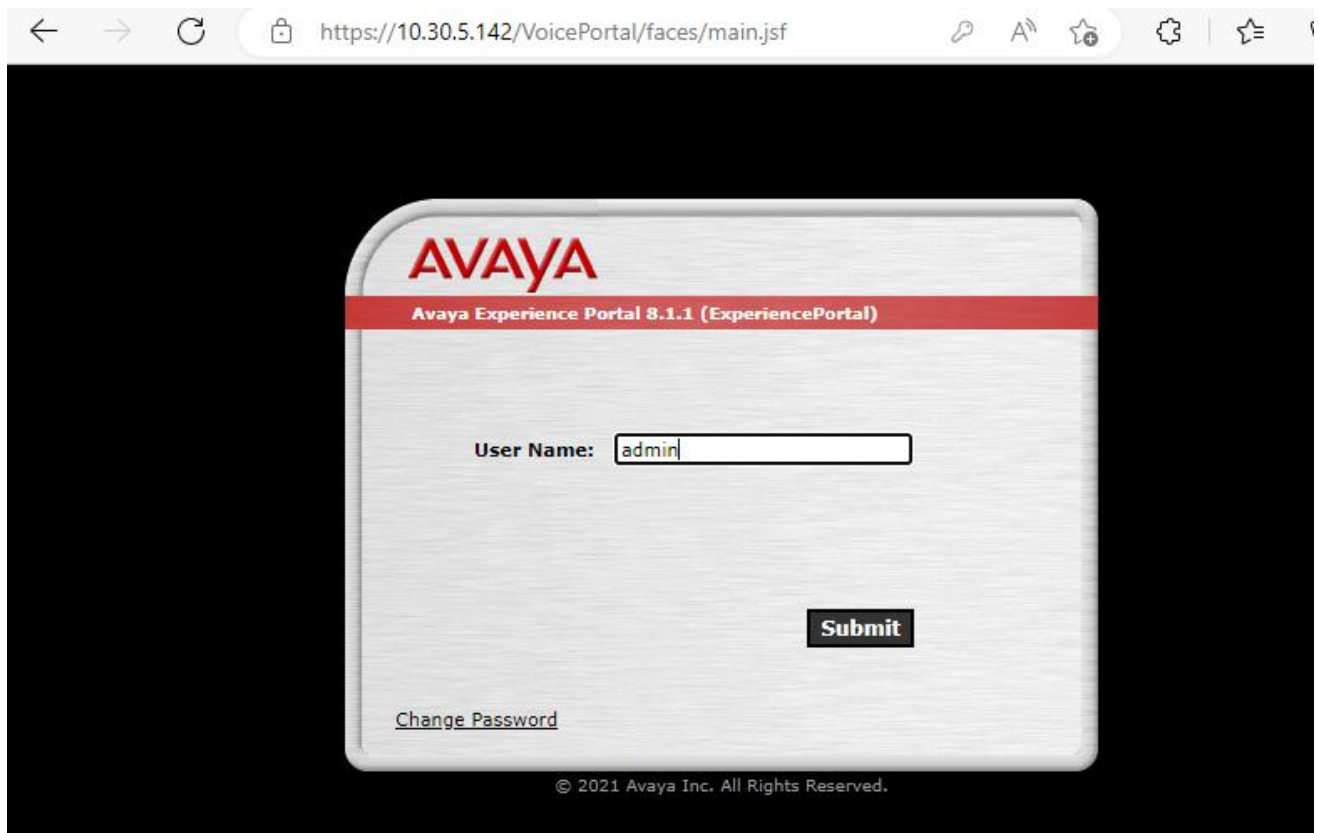
This section describes the Experience Portal configuration to support the network shown in **Figure 1**. The configuration of Experience Portal was performed using a web browser.

The Experience Portal configuration includes the following:

- Launch Experience Portal
- Configure Speech Server
- Configure VoIP Connections
- Add U-Self Serve application

5.1. Launch Experience Portal

From a PC, open a web browser and enter the URL for Experience Portal. Log in with the proper credentials.



The Avaya Aura® Experience Portal Manager page is displayed.

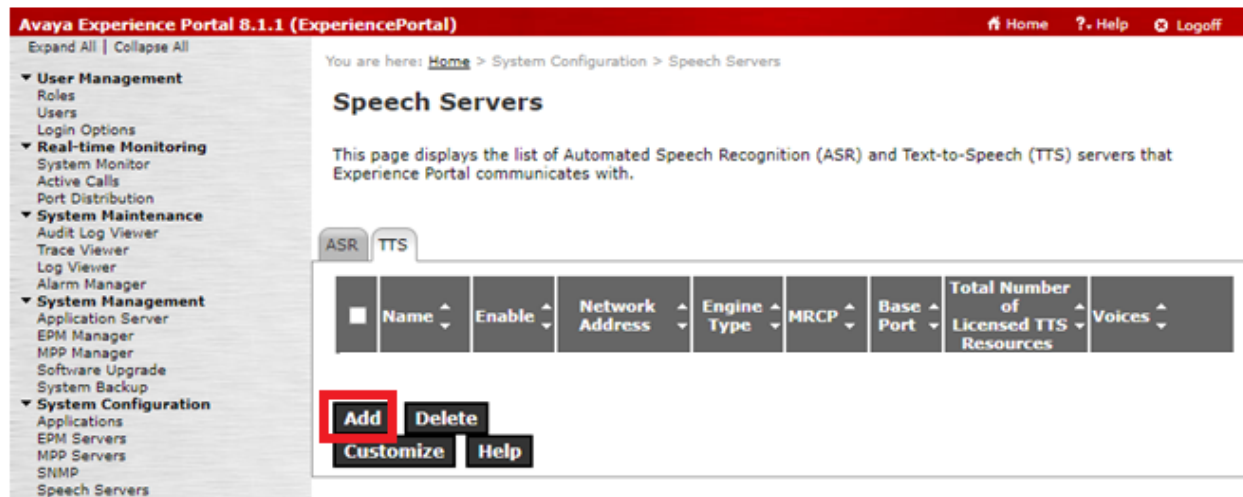
The screenshot shows the Avaya Experience Portal Manager web interface. At the top, the Avaya logo is on the left, and the user is logged in as 'admin' with the text 'Welcome, admin' and 'Last logged in today at 3:14:50 AM EST'. Below this is a red navigation bar with 'Avaya Experience Portal 8.1.1 (ExperiencePortal)' on the left and 'Home', 'Help', and 'Logoff' on the right. A left sidebar contains a tree view of navigation options: User Management (Roles, Users, Login Options), Real-time Monitoring (System Monitor, Active Calls, Port Distribution), System Maintenance (Audit Log Viewer, Trace Viewer, Log Viewer, Alarm Manager), System Management (Application Server, EPM Manager, MPP Manager, Software Upgrade, System Backup), System Configuration (Applications, EPM Servers, MPP Servers, SNMP, Speech Servers, VoIP Connections, Zones), Security (Certificates, Licensing), Reports (Standard, Custom, Scheduled), and Multi-Media Configuration (Email, HTML, SMS). The main content area shows 'You are here: Home' and the title 'Avaya Experience Portal Manager'. Below the title is a paragraph describing EPM as a consolidated web-based application for administering Experience Portal. Further down is a section titled 'Installed Components' with sub-sections: Media Processing Platform (describing MPP), Email Service, HTML Service, and SMS Service. At the bottom is a 'Legal Notice' section containing 'AVAYA GLOBAL SOFTWARE LICENSE TERMS', 'REVISED: June 1st, 2020', and a line of text starting with 'THESE GLOBAL SOFTWARE LICENSE TERMS ("SOFTWARE LICENSE TERMS") GOVERN THE USE OF PROP'.

5.2. Configure Speech Server

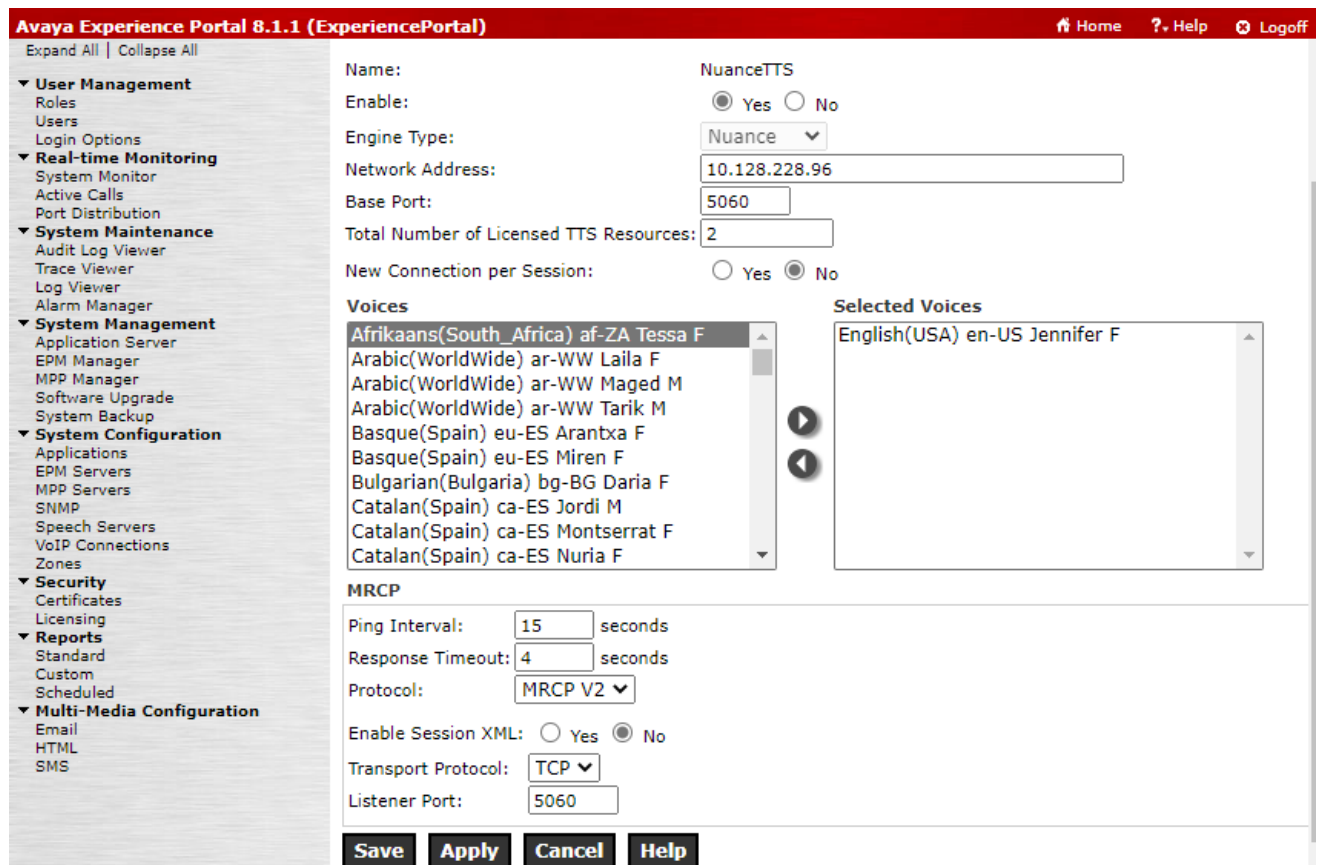
This section describes the Experience Portal configuration for both Text-to-Speech and Automated Speech Recognition.

5.2.1. Configure TTS Server

From the left pane, select **System Configuration** → **Speech Servers** → **TTS** → **Add** to an TTS server.



During the compliance test, the following **NuanceTTS** server was configured.



5.2.2. Configure Automated Speech Recognition Server

From the left pane, select **System Configuration** → **Speech Servers** → **ASR** → **Add to an ASR server**.

Avaya Experience Portal 8.1.1 (ExperiencePortal) Home Help Logoff

Expand All Collapse All

System Configuration → **Speech Servers**

Speech Servers

This page displays the list of Automated Speech Recognition (ASR) and Text-to-Speech (TTS) servers that Experience Portal communicates with.

ASR TTS

Name	Enable	Network Address	Engine Type	MRCP	Base Port	Total Number of Licensed ASR Resources	Languages
------	--------	-----------------	-------------	------	-----------	----------------------------------------	-----------

Add **Delete** **Customize** **Help**

During the compliance test, the following **UniphoreASR** server was configured.

Avaya Experience Portal 8.1.1 (ExperiencePortal) Home Help Logoff

Expand All Collapse All

System Configuration → **Speech Servers**

UniphoreASR

Name: UniphoreASR

Enable: ☒ Yes ☐ No

Engine Type: Nuance

Network Address: 18.189.65.122

Base Port: 8060

Total Number of Licensed ASR Resources: 5

New Connection per Session: ☒ Yes ☐ No

Languages

Afrikaans(South_Africa) af-ZA

Arabic(Jordan) ar-JO

Arabic(WorldWide) ar-WW

Assamese(India) as-IN

Basque(Spain) eu-ES

Bengali(Bangladesh) bn-BD

Bengali(India) bn-IN

Bhojpuri(India) bh-IN

Bulgarian(Bulgaria) bg-BG

Cantonese(Hong_Kong) cn-HK

Selected Languages

English(USA) en-US

MRCP

Ping Interval: 15 seconds

Response Timeout: 4 seconds

Protocol: MRCP V2

Enable Session XML: ☐ Yes ☒ No

Transport Protocol: TCP

Listener Port: 5060

5.3. Configure VoIP Connections

During the compliance test, U-Self Serve was tested using both H.323 and SIP connections to Experience Portal. H.323 connectivity is configured with Communication Manager and SIP connectivity is configured with Session Manager. To view **VoIP Connections**, from the left pane, select **System Configuration** → **VoIP Connections**, select **SIP** or **H323** Tab.

Avaya Experience Portal 8.1.1 (ExperiencePortal)

Expand All | Collapse All

▼ User Management
Roles
Users
Login Options

▼ Real-time Monitoring
System Monitor
Active Calls
Port Distribution

▼ System Maintenance
Audit Log Viewer
Trace Viewer
Log Viewer
Alarm Manager

▼ System Management
Application Server
EPM Manager
MPP Manager
Software Upgrade
System Backup

▼ System Configuration
Applications
EPM Servers
MPP Servers
SNMP
Speech Servers
VoIP Connections

You are here: [Home](#) > System Configuration > VoIP Connections

VoIP Connections

This page displays a list of Voice over Internet Protocol (VoIP) servers that Experience Portal communicates with. You can configure multiple SIP connections, but only one SIP connection can be enabled at any one given time.

H.323 SIP

<input type="checkbox"/>	Name	Enable	Proxy Transport	Proxy/DNS Server Address	Proxy Server Port	Listener Port	SIP Domain	Maximum Simultaneous Calls
<input type="checkbox"/>	SMSIP92	Yes	TCP	10.128.224.18	5060	5060	aura.com	10

Add **Delete** **Help**

The following screen captures display the configured **SIP Connection**.

Avaya Experience Portal 8.1.1 (ExperiencePortal)

Expand All | Collapse All

▼ User Management
Roles
Users
Login Options

▼ Real-time Monitoring
System Monitor
Active Calls
Port Distribution

▼ System Maintenance
Audit Log Viewer
Trace Viewer
Log Viewer
Alarm Manager

▼ System Management
Application Server
EPM Manager
MPP Manager
Software Upgrade
System Backup

▼ System Configuration
Applications
EPM Servers
MPP Servers
SNMP
Speech Servers
VoIP Connections
Zones

▼ Security
Certificates
Licensing

▼ Reports
Standard
Custom
Scheduled

▼ Multi-Media Configuration
Email
HTML
SMS

You are here: [Home](#) > System Configuration > [VoIP Connections](#) > Change SIP Connection

Change SIP Connection

Use this page to change the configuration of a SIP connection.

Name: SMSIP92

Enable: ☒ Yes ☐ No

Proxy Transport: **TLS**

☒ Proxy Servers ☐ DNS SRV Domain

Address	Port	Priority	Weight	
10.128.224.18	5061	0	0	Remove

[Additional Proxy Server](#)

Listener Port: 5061

SIP Domain: aura.com

P-Asserted-Identity:

Maximum Redirection Attempts: 0

Consultative Transfer: ☐ INVITE with REPLACES ☒ REFER

SIP Reject Response Code: ☒ ASM (503) ☐ SES (480) ☐ Custom 503

SIP Timers

T1: 250 milliseconds

T2: 2000 milliseconds

B and F: 4000 milliseconds

Call Capacity

Maximum Simultaneous Calls: 10

☒ All Calls can be either inbound or outbound

☐ Configure number of inbound and outbound calls allowed

The following screen captures display the configured **H.323 Connection**.

5.4. Add U-Self Serve Application

From the left pane, select **System Configuration** → **Applications**. The Applications page is displayed (not shown). Click **Add**. Complete the fields as follows:

- Enter a descriptive name in the **Name** field. In the compliance test, **U-Self-Service** was used.
- For the **Type** field, select VoiceXML from the drop-down menu.
- In the **URI** box, fill in the VoiceXML URL field:
http://10.30.5.142:7080/AvayaIntractVxmlConnector/akeira.vxml, where 10.30.5.142 and 8080 are the IP Address and Port of the server hosting the U-Self Serve application.
Verify button can be selected to verify if the application is reachable or not.
- In the **ASR Speech Servers** section, Select **Nuance** under the ASR Engine Types box and select the right arrow.
- In the Application Launch section, select the Inbound radio button and the Number radio button. Enter the **Called Number** and select **Add**.

Avaya Experience Portal 8.1.1 (ExperiencePortal)
Home Help Logoff

Expand All Collapse All

User Management
Roles
Users
Login Options

Real-time Monitoring
System Monitor
Active Calls
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Log Viewer
Alarm Manager

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System Configuration
Applications
EPM Servers
MPP Servers
SNMP
Speech Servers
VoIP Connections
Zones

Security
Certificates
Licensing

Reports
Standard
Custom
Scheduled

Multi-Media Configuration
Email
HTML
SMS

Use this page to change the configuration of an application.

Name: U-Self Service

Enable: ☒ Yes ☐ No

Type: VoiceXML

Reserved SIP Calls: ☒ None ☐ Minimum ☐ Maximum

Requested:

URI

☒ Single ☐ Fail Over ☐ Load Balance

VoiceXML URL: http://10.30.5.142:7080/AvayaIntractVxmlConnector/akeira.vxml

Mutual Certificate Authentication: ☐ Yes ☒ No

Basic Authentication: ☐ Yes ☒ No

ASR Speech Servers

	Engine Types		Selected Engine Types
ASR:	<None>	▶	Nuance

Nuance

Languages		Selected Languages
<None>	▶	English(USA) en-US

Resources: Acquire on call start and retain

N Best List Length:

Speech Complete Timeout: milliseconds

Speech Incomplete Timeout: milliseconds

Vendor Parameters:

TTS Speech Servers ▾

TTS: Nuance ▾

Voices

<None>

▶

◀

Selected Voices

English(USA) en-US Jennifer F

▶

◀

Application Launch ▾

☒ Inbound
 ☐ Inbound Default
 ☐ Outbound

☒ Number
 ☐ Number Range
 ☐ URI

Called Number:

Add

30001

▶

◀

Remove

SIP Header Source: Any ▾

Speech Parameters ▸

Reporting Parameters ▸

Advanced Parameters ▸

Save

Apply

Cancel

Help

6. Configure U-Self Serve and Uniphore ASR

Please reach out to Uniphore Software Systems for U-Self Serve and Uniphore ASR configuration as U-Self Serve and Uniphore ASR will be configured as necessary by the Uniphore implementation team as per the customer deployment requirements.

7. Verification Steps

The following steps may be used to verify proper configuration for Experience Portal.

7.1. Verify Avaya Aura® Experience Portal

From an **Experience Portal Manager** page, click **Real Time Monitoring** → **System Monitor** in the left pane. The System Monitor screen is displayed, as shown below. Verify that the **Mode**, **State**, and **Config** fields of the **MPP144** being used (MPP in the compliant test) shows **Online**, **Running**, and **OK**. Also review any alarms if they are present.

Avaya Experience Portal 8.1.1 (ExperiencePortal)

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

System Monitor (Nov 29, 2022 4:44:58 AM EST)

This page displays the current state of the local Experience Portal system plus any remote Experience Portal systems that you have configured. For information about the colored alarm symbols, click [Help](#).

Summary | ExperiencePortal Details

Last Poll: Nov 29, 2022 4:44:46 AM EST

Server Name	Type	Mode	State	Config	Call Capacity			Active Calls		Calls Today	Alarms
					Current	Licensed	Maximum	In	Out		
EPM	EPM	Online	Running	OK							
MPP144	MPP	Online	Running	OK	10	10	50	0	0	0	
Summary					10	10	50			0	

[Help](#)

To verify **VoIP Connection**, select **Real-time Monitoring** → **Port Distribution** → **All server**. For SIP VoIP connection, the following screen is displayed, verify the **State** as **In service**.

Avaya Experience Portal 8.1.1 (ExperiencePortal)

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

Port Distribution Report (Nov 29, 2022 4:45:45 AM EST)

This page displays information about how the telephony resources have been distributed to the MPPs. You configure the telephony resources on the [VoIP Connections](#) page.

Total Ports: 10 | Last Poll: Nov 29, 2022 4:45:30 AM EST

Port	Mode	State	Port Group	Protocol	Current Allocation	Base Allocation
10	Online	In service	SMSIP92	SIP_Trunk	MPP144	

[Help](#)

7.2. Verify call to U-Self Serve

From PSTN, make call to U-Self Serve application, verify IVR can play successfully, Nuance TTS and Uniphore ASR can work well.

8. Conclusion

These Uniphore Software Systems, Inc. U-Self Serve successfully completed compliance testing. These Application Notes describe the procedures required to configure Uniphore Software Systems, Inc. U-Self Serve 1.0 to interoperate with Avaya Aura® Experience Portal 8.1.1 to support the reference configuration shown in **Figure 1**.

9. Additional References

This section references the Avaya and Uniphore product documentation that are relevant to these Application Notes.

Product documentation for Avaya products may be found at <http://support.avaya.com>.

1. *Administering Avaya Aura® Experience Portal, Release 8.1.1*, Issue 2 February 2022

Product Documentation for Uniphore products may be found at <https://www.uniphore.com/>

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