



Avaya Solution & Interoperability Test Lab

Application Notes for INI AudioMenus™ with Avaya Aura® Experience Portal – Issue 1.0

Abstract

These Application Notes describe the configuration steps required to integrate the INI AudioMenus™ with Avaya Aura® Experience Portal. INI AudioMenus provides tools and a framework to build an IVR menu structure that integrates with Avaya Aura® Experience Portal.

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 in Thornton, CO.

1. Introduction

These Application Notes describe the configuration steps required to integrate the INI AudioMenus™ (AudioMenus) with Avaya Aura® Experience Portal. The calls were initiated from Avaya Aura® Communication Manager using either SIP trunks or H.323 connections to Experience Portal.

AudioMenus is a web-based administration tool that creates IVR menus and announcements for the Avaya Aura® Experience Portal platform. Dynamic, scalable routing applications can be deployed in real-time using the AudioMenus interface by users with little or no programming knowledge. AudioMenus includes features for uploading recorded prompts, scheduling application behavior based on date and time of day, and generating visual representations of call flows. A validation tool ensures error-free deployments, and the success and popularity of menu options can be measured using the built-in AudioMenus reporting functionality.

2. General Test Approach and Test Results

The general test approach was to place calls from Communication Manager to Experience Portal from where the AudioMenus application is launched. The main objectives were to verify the following:

- Calls using SIP connection between Experience Portal and Communication Manager
- Calls using H.323 connection between Experience Portal and Communication Manager
- The AudioMenus VXML application is initiated by Experience Portal
- Calls can be transferred to another extension/agent from the AudioMenus application
- The AudioMenus application can recognize DTMF tones
- The AudioMenus application can recognize speech
- Serviceability

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 interoperability compliance testing included feature and serviceability testing. The focus of interoperability compliance testing was primarily to verify that the AudioMenus application can be initiated from Experience Portal. The scope of testing included the navigation of the paths provided by the AudioMenus sample application using DTMF and Speech recognition.

The serviceability testing focused on verifying the ability of INI AudioMenus to recover from adverse conditions, such as power failures and disconnecting cables to the IP network.

2.2. Test Results

All test cases passed.

2.3. Support

To obtain technical support for INI AudioMenus, contact Interactive Northwest via web, email or phone.

- Web: <http://www.interactivenw.com/support.php>
- Email: support@interactivenw.com
- Phone: (800) 808-8090, say “Support”

3. Reference Configuration

Figure 1 illustrates the configuration used for testing. In this configuration, Avaya Aura® Experience Portal interfaces with Avaya Aura® Communication Manager via SIP or H.323 connection. INI AudioMenus was connected on the same LAN.

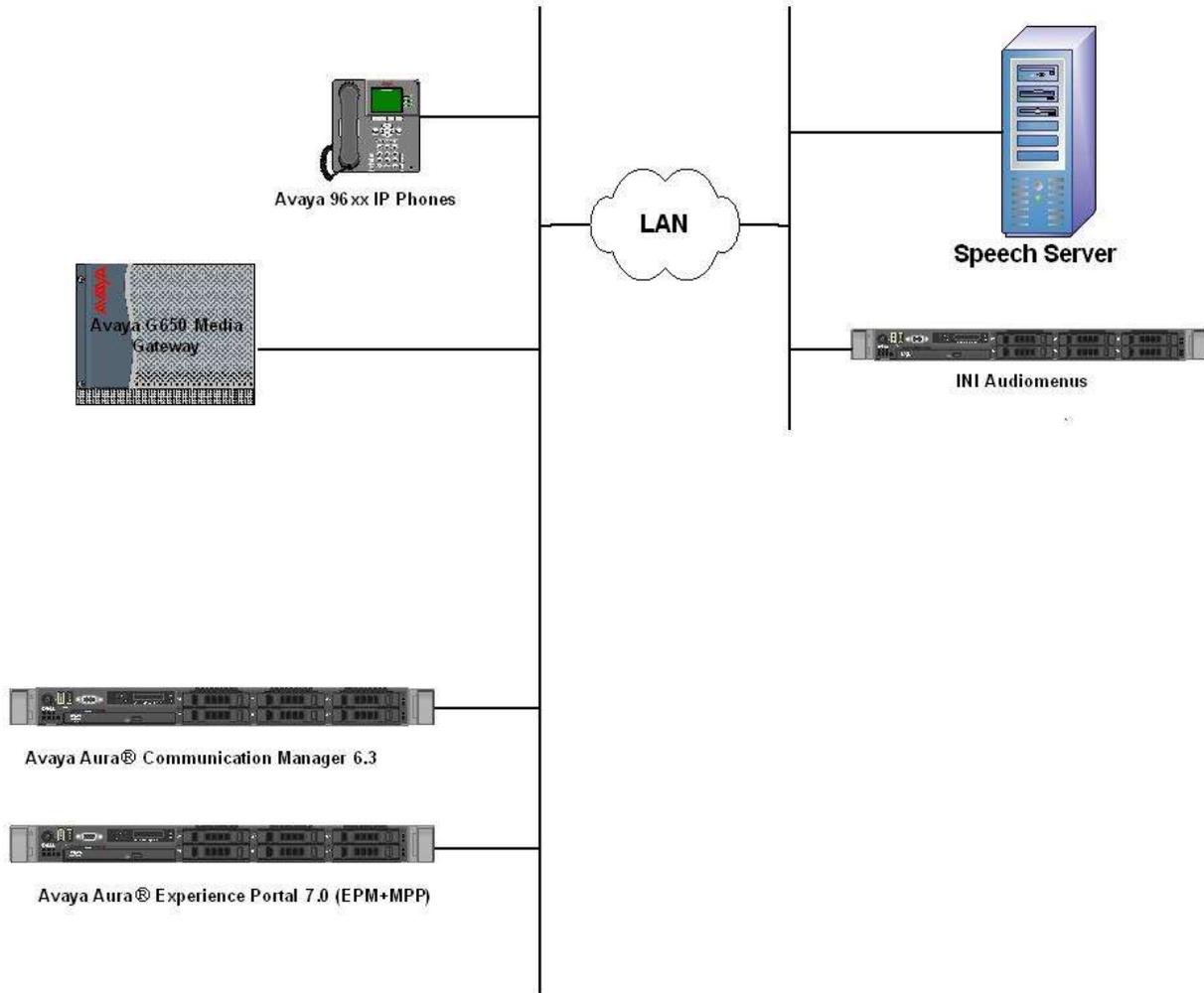


Figure 1: Avaya Aura® Experience Portal and INI AudioMenus

3.1. Equipment and Software Validated

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

Equipment	Software
Avaya Aura® Experience Portal (EPM/MPP)	R7.0.2
Avaya Aura® Communication Manager running in HP DL360 G7 server	R03.0.124.0-22450 – R6.3 SP11.1
INI AudioMenus	R1.0.0

4. Avaya Aura® Communication Manager

Configuration of Communication Manager is beyond the scope of this document. Please refer to **Section 9 [2]** in this document for configuration of SIP Trunk between Communication Manager and Experience Portal.

Additionally, for H.323 connection, Experience Portal can register with Communication Manager as an IP phone for H.323. The following screen shows the station configured for H.323 connection.

Note that **Type** field needs to be set to **7434ND** and **IP SoftPhone** needs to be set to **y**.

```
change station 50200                                     Page 1 of 6
STATION
Extension: 50200                                         Lock Messages? n                                     BCC: 0
Type: 7434ND                                           Security Code: 12345                                  TN: 1
Port: S00016                                           Coverage Path 1:                                     COR: 1
Name: AEP Station                                       Coverage Path 2:                                     COS: 1
Hunt-to Station:           
STATION OPTIONS
Loss Group: 2                                           Time of Day Lock Table:           
Data Module? n                                         Personalized Ringing Pattern: 1
Display Module? y                                       Message Lamp Ext: 50200
Display Language: english                               Coverage Module? n
Survivable COR: internal                               Media Complex Ext:           
Survivable Trunk Dest? y                               IP SoftPhone? y
Remote Office Phone? n
IP Video Softphone? n
Short/Prefixed Registration Allowed: default
```

On **Page 2**, make sure that **Multimedia Mode** is set to **enhanced**. For rest of the fields on the station form, the default values can be used.

```
change station 50200                                     Page 2 of 6
STATION
FEATURE OPTIONS
  LWC Reception: spe                                     Auto Select Any Idle Appearance? n
  LWC Activation? y                                       Coverage Msg Retrieval? y
  LWC Log External Calls? n                                   Auto Answer: none
  CDR Privacy? n                                           Data Restriction? n
  Redirect Notification? y                                   Idle Appearance Preference? n
  Per Button Ring Control? n                               Bridged Idle Line Preference? n
  Bridged Call Alerting? n                                   Restrict Last Appearance? y
  Active Station Ringing: single
  H.320 Conversion? n                                       Per Station CPN - Send Calling Number? _
  Service Link Mode: as-needed                               EC500 State: enabled
  Multimedia Mode: enhanced                                   Audible Message Waiting? n
  MWI Served User Type: _____                             Display Client Redirection? n
  AUDIX Name: _____                                       Select Last Used Appearance? n
  Coverage After Forwarding? s
  Multimedia Early Answer? n
  Remote Softphone Emergency Calls: as-on-local Direct IP-IP Audio Connections? y
  Emergency Location Ext: 50200 Always Use? n IP Audio Hairpinning? n
```

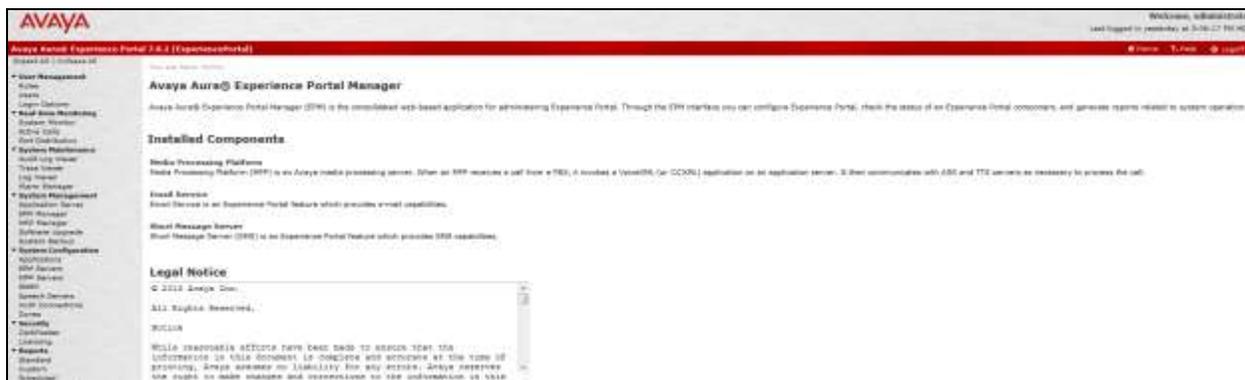
For each H.323 connection to Experience Portal, a separate station needs to be created. For this compliance test, an additional station **50201** was created.

5. Configure Avaya Aura® Experience Portal

This section covers the administration of Avaya Aura® Experience Portal. The following Experience Portal configuration steps will be covered:

- Verify SIP or H.323 Connection
- Configuring INI AudioMenus Applications
- Starting the MPP server

Experience Portal is configured via the Experience Portal Management (EPM) web interface. To access the web interface, enter `http://<ip-addr>/` as the URL in an internet browser, where `<ip-addr>` is the IP address of the EPM. Log in using the Administrator user role (not shown). The screen shown below is displayed.



5.1. Verify SIP or H.323 Connection

Navigate to **System Configuration** → **VoIP Connections** and click on the SIP connection **ToCM3** (not shown) and the following screen is displayed. Make sure that the **Enable** field is set properly and the **Address** field has the IP address of the CLAN on Communication Manager. Also, the **SIP Domain** field is set to match the domain used for AudioMenus.

AVAYA

Avaya Aura® Experience Portal 7.0.2 (ExperiencePortal)

Expand All | Collapse All

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: ToCM63

Enable: Yes No

Proxy Transport: TCP

Proxy Servers DNS SRV Domain

Address	Port	Priority	Weight	
10.80.130.204	5060	0	0	Remove

[Additional Proxy Server](#)

Listener Port: 5060

SIP Domain: avaya.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: 8

All Calls can be either inbound or outbound

Configure number of inbound and outbound calls allowed

The following screen shows the H.323 connection configured between Experience Portal and Communication Manager. The **Gatekeeper Address** field is set to IP address of Communication Manager and the **password** field matches the **Security Code** field in **Section 4**. Additionally, make sure that **Configured Stations** section matches the stations configured in **Section 4**.

AVAYA
Avaya Aura® Experience Portal 7.0.2 (ExperiencePortal)

Expand All | Collapse All

You are here: [Home](#) > System Configuration > [VoIP Connections](#) > Change H.323 Connection

Change H.323 Connection

Use this page to change the configuration of an H.323 connection.

Name: ToCM63

Enable: Yes No

Gatekeeper Address: 10.80.130.110

Alternative Gatekeeper Address:

Gatekeeper Port: 1719

Media Encryption: Yes No

New Stations

From	To
Station:	
Password:	
<input checked="" type="radio"/> Same Password	
<input type="radio"/> Use sequential passwords	
Station Type:	<input type="button" value="Add"/>
Inbound and Outbound	
Inbound Only	
Maintenance	

Configured Stations (M for Maintenance, I for Inbound Only)

50200 - 50201	<input type="button" value="Remove"/>
---------------	---------------------------------------

Note: Only one of the SIP or H.323 connections can be enabled on Experience Portal.

5.2. Configure INI AudioMenus Applications

On the **Applications** page, add an AudioMenu application to handle incoming calls. Navigate to **System Configuration** → **Applications** → **Add**. The screen capture below shows the configuration used during compliance testing. The **VoiceXML URL**: field points to the AudioMenu application server. Note that two entries 55100 and 50200-50201 are entered in the **Application Launch** section. Entry **55100** was used for SIP connection between Experience Portal and Communication Manager and **50200 -50201** for H.323 connection. Click **Save**.

Note: Only one of the **SIP** or **H.323** connections can be enabled on Experience Portal.

The screenshot displays the 'Add Application' configuration page in the Avaya Aura Experience Portal 7.0.2. The page is titled 'Add Application' and includes a breadcrumb trail: Home > System Configuration > Applications > Add Application. The main content area is divided into several sections:

- Start With:** A dropdown menu set to '<None>'.
Name: A text input field containing 'AudioMenu'.
Enable: Radio buttons for 'Yes' (selected) and 'No'.
Type: A dropdown menu set to 'VoiceXML'.
Reserved SIP Calls: Radio buttons for 'None' (selected), 'Minimum', and 'Maximum'.
Requested: An empty text input field.
- URI:** Radio buttons for 'Single' (selected), 'Fail Over', and 'Load Balance'.
VoiceXML URL: A text input field containing 'https://10.64.101.50:8844/AudioMenus/Start' with a 'Verify' button to its right.
Mutual Certificate Authentication: Radio buttons for 'Yes' and 'No' (selected).
Basic Authentication: Radio buttons for 'Yes' and 'No' (selected).
- Speech Servers:** Two columns of dropdown menus. The first column has 'ASR' set to 'Nuance' and 'Languages' set to 'English(USA) en-US'. The second column has 'TTS' set to 'Nuance' and 'Voices' set to 'English(USA) en-US Jennifer F'.
- Application Launch:** Radio buttons for 'Inbound' (selected), 'Inbound Default', and 'Outbound'. Below this, radio buttons for 'Number', 'Number Range' (selected), and 'URI'.
Called Number: A text input field.
To: A text input field with an 'Add' button to its right.
Number Range: A list box containing '55100' and '50200 - 50201', with '50200 - 50201' selected and a 'Remove' button to its right.
- Speech Parameters:** A collapsed section with a right-pointing arrow.
Reporting Parameters: A collapsed section with a right-pointing arrow.
Advanced Parameters: A collapsed section with a right-pointing arrow.

At the bottom of the page, there are four buttons: 'Save', 'Save & Add Next', 'Cancel', and 'Help'.

Once the application is added, return to the list of applications and select the pencil icon at the far right to edit the **Configurable Application Variables**.

Name ID	Enabled	Type	URL	Search	AIG	TTS	Supported SIP Capabilities	Configurable Application Variables
AUDIOMenu	No	VoiceXML	http://10.08.136.123:7080/WTSP/Info/Start	80004154931298, 80004154931299	English(USA) en-US English(USA) en-US Jennifer F None			
AUDIOMenuTest	No	OOXML	http://10.08.136.123:7080/WTSP/Info/StartTest.xml	80004154931289	No AIG	No TTS	None	
AUDIOMenu	No	VoiceXML	http://10.08.136.123:7080/WTSP/Info/Start	80004154931298, 80004154931299	English(USA) en-US English(USA) en-US Jennifer F None			
AudioMenu	Yes	VoiceXML	http://10.84.101.20:8844/AudioMenu/Start	8000, 8000-8000	English(USA) en-US English(USA) en-US Jennifer F None			

In the **Application ID** field, type in the INI AudioMenus ID that will be launched. Note that there can be several applications which can be launched from AudioMenus and **Application ID** field can be used to determine which particular application is launched.

You are here: [Home](#) > [System Configuration](#) > [Applications](#) > [Change Audiomenus Configurable Application Variables](#)

Change Audiomenus Configurable Application Variables

Use this page to change the values of the configurable application variables, defined in the applications that are deployed on the Experience Portal system.

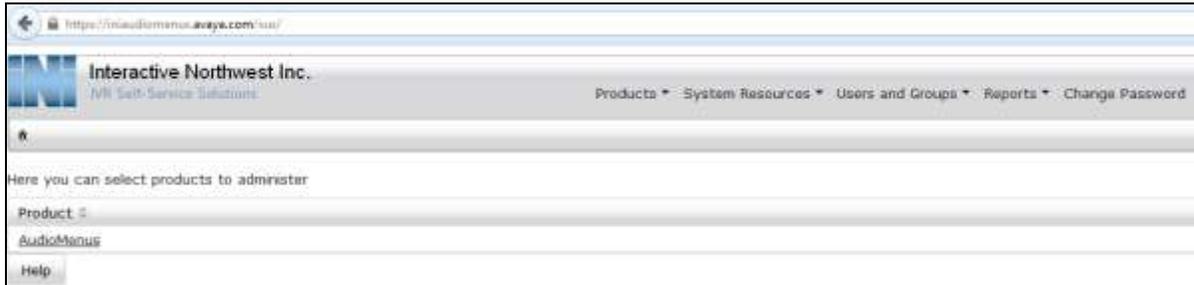
[Reset All to Default](#)

Application ID:

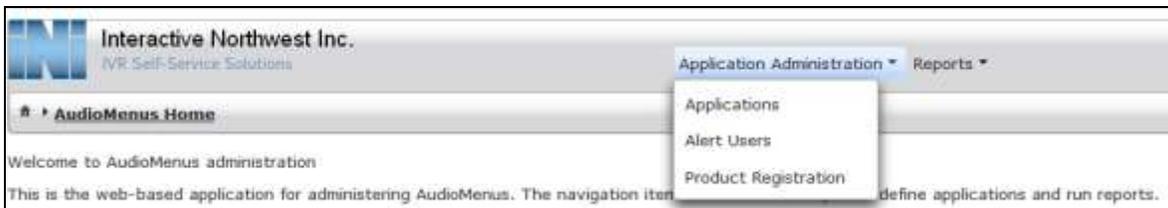
Start Dialog (Optional):

6. Configure INI AudioMenus

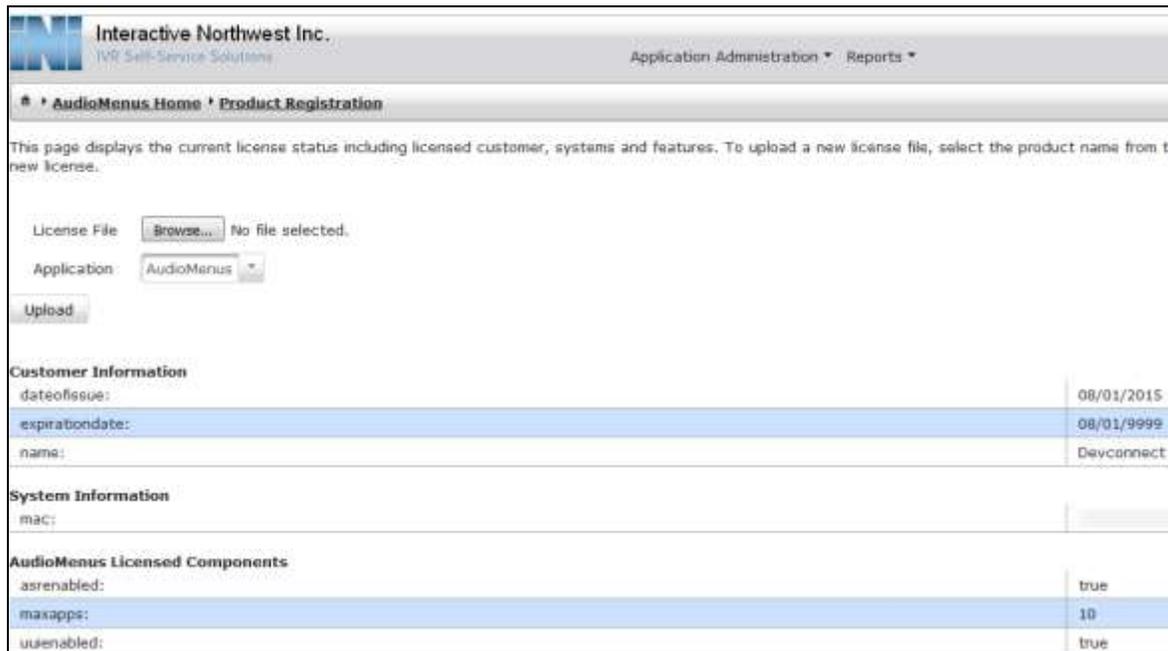
To access the web interface for INI AudioMenus, enter `http://<FQDN>/` as the URL in an internet browser, where `<FQDN>` is the fully qualified domain name of the INI AudioMenus application server. Log in using appropriate credentials. From the home page, click **AudioMenus**.



The following screen is displayed. Select **Product Registration** from the **Application Administration** drop-down menu.



Verify that the licenses are installed as shown below:



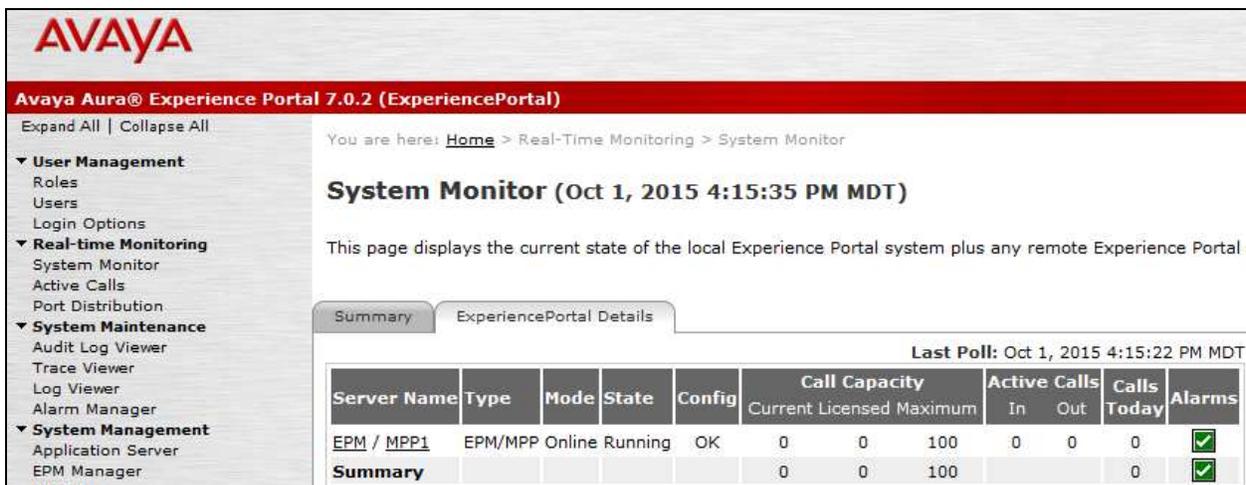
Select **Applications** from the **Application Administration** drop-down menu and the following screen is shown. Note that **ID 2** was used in **Section 6** while configuring the AudioMenus application to be launched from Experience Portal.



7. Verification Steps

This section provides the verification steps that may be performed to verify that Experience Portal is configured properly to instantiate AudioMenus application/s.

1. From the EPM web interface, verify that the MPP server is online and running in the **System Monitor** page shown below.



2. From the EPM web interface, verify that the ports on the MPP server are **In Service/Active** in the **Port Distribution** page shown below.



Port Distribution for SIP Connection

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Avaya Aura® Experience Portal 7.0.2 (ExperiencePortal)
 Expand All | Collapse All

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

Port Distribution Report (Oct 1, 2015 4:21:39 PM MDT)

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

Total Ports: 2 Last Poll: Oct 1, 2015 4:21:35 PM MDT

Port	Mode	State	Port Group	Protocol	Current Allocation	Base Allocation
50200	Online	Active	ToCM63	H323	MPP1	
50201	Online	Active	ToCM63	H323	MPP1	

Port Distribution for H.323 Connection

3. The following screens show active calls on Experience Portal from the EPM web interface.

AVAYA
Avaya Aura® Experience Portal 7.0.2 (ExperiencePortal)
 Expand All | Collapse All

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

Active Calls Report (Oct 1, 2015 4:30:20 PM MDT)

This page displays the status of the active calls being handled by the servers.

Total Calls: 1 Last Poll: Oct 1, 2015 4:30:18 PM MDT

Port	Port Group	Protocol	Call Type	MPP Server	Start Time	Calling Number/URI	Called Number/URI	Application	ASR Server	TTS Server
50200	ToCM63	SIP_Trunk	Inbound	MPP1	Oct 1, 2015 4:30:19 PM MDT	sip:50003@avaya.com	sip:55160@avaya.com	AudioMenus	LumenVox	

Active Call for SIP Connection

AVAYA
Avaya Aura® Experience Portal 7.0.2 (ExperiencePortal)
 Expand All | Collapse All

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

Active Calls Report (Oct 1, 2015 4:27:47 PM MDT)

This page displays the status of the active calls being handled by the servers.

Total Calls: 1 Last Poll: Oct 1, 2015 4:27:42 PM MDT

Port	Port Group	Protocol	Call Type	MPP Server	Start Time	Calling Number/URI	Called Number/URI	Application	ASR Server	TTS Server
50200	ToCM63	H323	Inbound	MPP1	Oct 1, 2015 4:27:42 PM MDT	tel:50200		AudioMenus	LumenVox	

Active Call for H.323 Connection

8. Conclusion

These Application Notes describe the configuration steps required to integrate the INI AudioMenus with Avaya Aura® Experience Portal. All feature and serviceability test cases were completed successfully.

9. Additional References

This section references the product documentation that is relevant to these Application Notes.

- [1] [Administering Avaya Aura® Experience Portal, December 2013](#)
- [2] [Administering Avaya Aura® Communication Manager, June 2015](#)
- [3] INI AudioMenus Administration User Guide, August 2015

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