Avaya Solution & Interoperability Test Lab

Application Notes for Interactions Curo Speech Automated Speech Recognizer and Text-to-Speech Server with Avaya Aura® Experience Portal using MRCP V2 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required to integrate Interactions Curo Speech Automated Speech Recognizer and Text-to-Speech Server 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.

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1. Introduction

The objective of compliance test was to validate interoperability of Interactions Curo Speech (hereafter referred as Curo Speech) Automated Speech Recognizer and Text-to-Speech Server with Avaya Aura® Experience Portal (hereafter referred as Experience Portal).

Curo Speech provides a complete set of speech recognition and text-to-speech technologies for use in interactive voice response (IVR) applications. The product set includes the Curo Automatic Speech Recognizer (ASR) and Text-to-Speech (TTS) Server. Both products are used in conjunction with the Curo Media Server which provides an interface to Experience Portal using the Media Resource Control Protocol Version 2 (MRCP V2) and Transport Layer Security (TLS) or Transmission Control Protocol (TCP).

2. General Test Approach and Test Results

General test approach was to test various VoiceXML scripts that exercise various types of grammars in Curo ASR and TTS. A predefined set of VoiceXML scripts tested built-in DTMF, voice grammars, and menu grammars.

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 test included feature and serviceability tests. Feature tests focused on the ability of Curo ASR and TTS to successfully exercise appropriate grammar and return expected results using MRCP V2 with TCP and TLS.

Serviceability testing focused on verifying the ability of Curo ASR and TTS server to recover from adverse conditions, such as restart, power failures and network disconnects.

2.2. Test Results

All test cases were executed and passed with the following observations.

- Voice change within a single TTS request is currently not supported by Curo Speech.
- Two simultaneous calls using TLS MRCP V2 to Curo Speech to query the ASR resource caused the second call not be connected to Curo Speech server. The temporary workaround was that the second call should be made after 10-15 seconds of the first call; the issue does not occur on TCP MRCP V2 and is currently under investigated by Avaya development team.

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- Curo Speech server sent an extra BYE SIP request for every call coming to Curo Speech server; this issue did not have any impact on the caller but from SIP perspective it is not a standard behavior. The issue will be addressed in next release of Curo Speech.

2.3. Support

To obtain technical support for Interactions Curo:

- **Web:** http://www.interactions.com/
- **Phone:** (866) 637-9049

3. Reference Configuration

Following diagram shows the configuration used during interoperability compliance test. Reference configuration consisted of: Avaya Aura® Experience Portal, Avaya Aura® Communication Manager, Avaya Aura® Session Manager, Avaya Aura® System Manager, Avaya G450 Media Gateway, Avaya Aura® Media Server, Avaya 9600 Series IP Deskphones and Interactions Curo Speech server. Simulated PSTN connected to the G450 via PRI/T1 trunk.

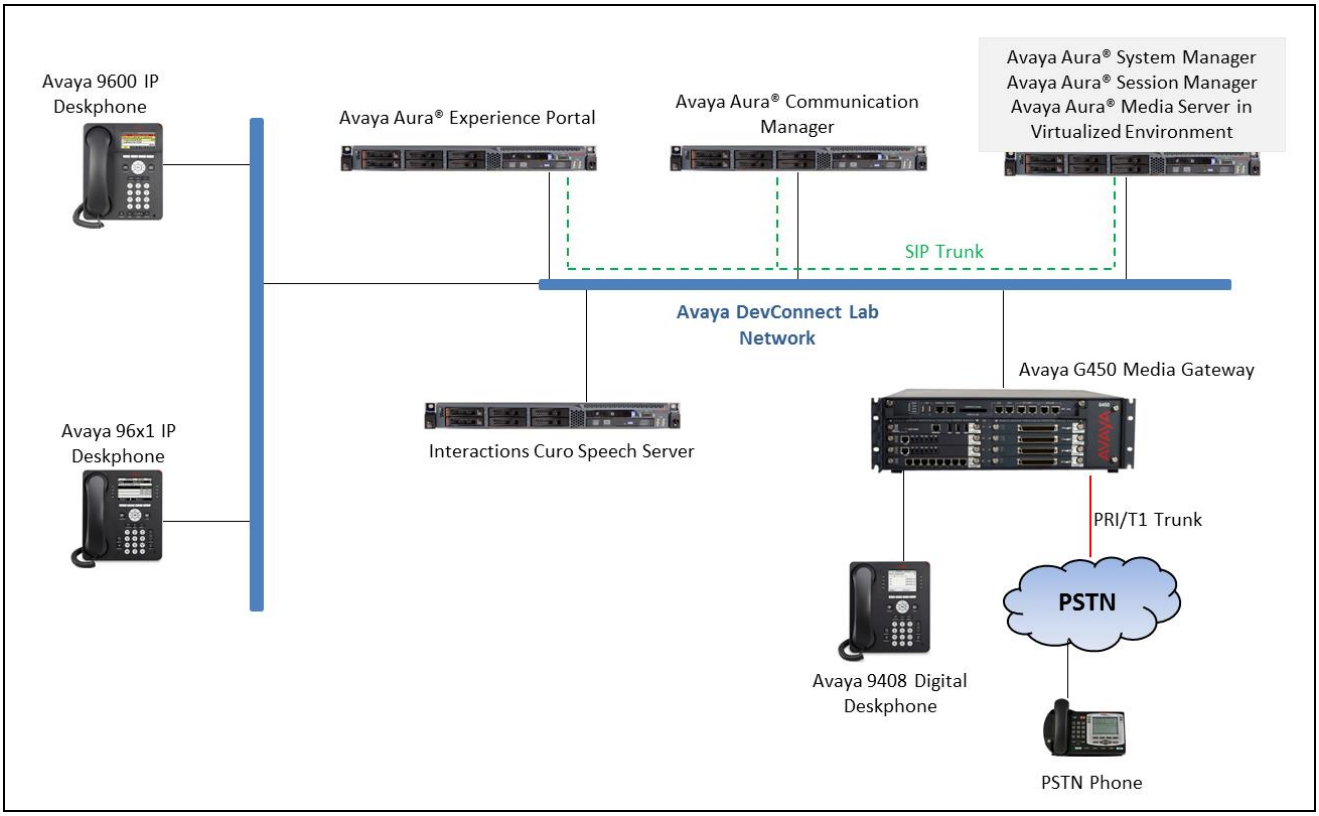

Figure 1: Test Configuration Diagram

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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	R017x.00.0.441.0 Patch 23523
Avaya Aura® System Manager running on Virtualized Environment	7.0.1.2
Avaya Aura® Session Manager running on Virtualized Environment	7.0.1.2
Avaya Aura® Media Server running on Virtualized Environment	7.7.0.34
Avaya Aura® Experience Portal running on Virtualized Environment	7.1.0 Designer Patch Pre1117
Avaya G450 Media Gateway	37.19.0
Avaya 9641 H323 IP Deskphone	6.6.4
Avaya 9611 SIP IP Deskphone	7.0.1.29
Avaya 9640 H323 IP Deskphone	3.26A
Interactions Curo Speech running on Virtualized Environment	7.2

5. Configure Avaya Aura® Communication Manager

This document assumes installation and configuration of Avaya Aura® Communication Manager (CM) are already in place. For more information on how to configure CM, please refer to **Section 11**.

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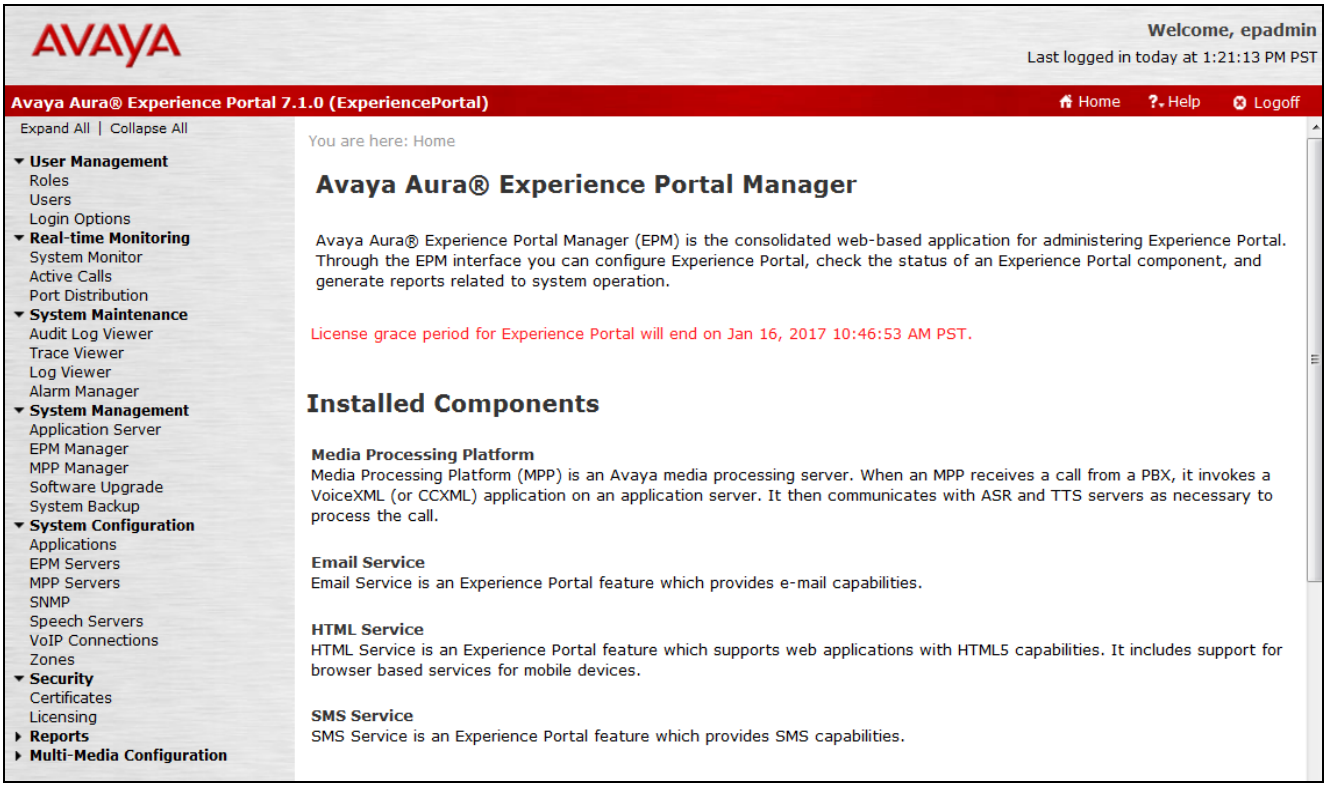
6. Configure Avaya Aura® Experience Portal

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

Note: Some of the screens in this section are shown after the Experience Portal had been configured. Don't forget to save the screen parameters as you configure Experience Portal.



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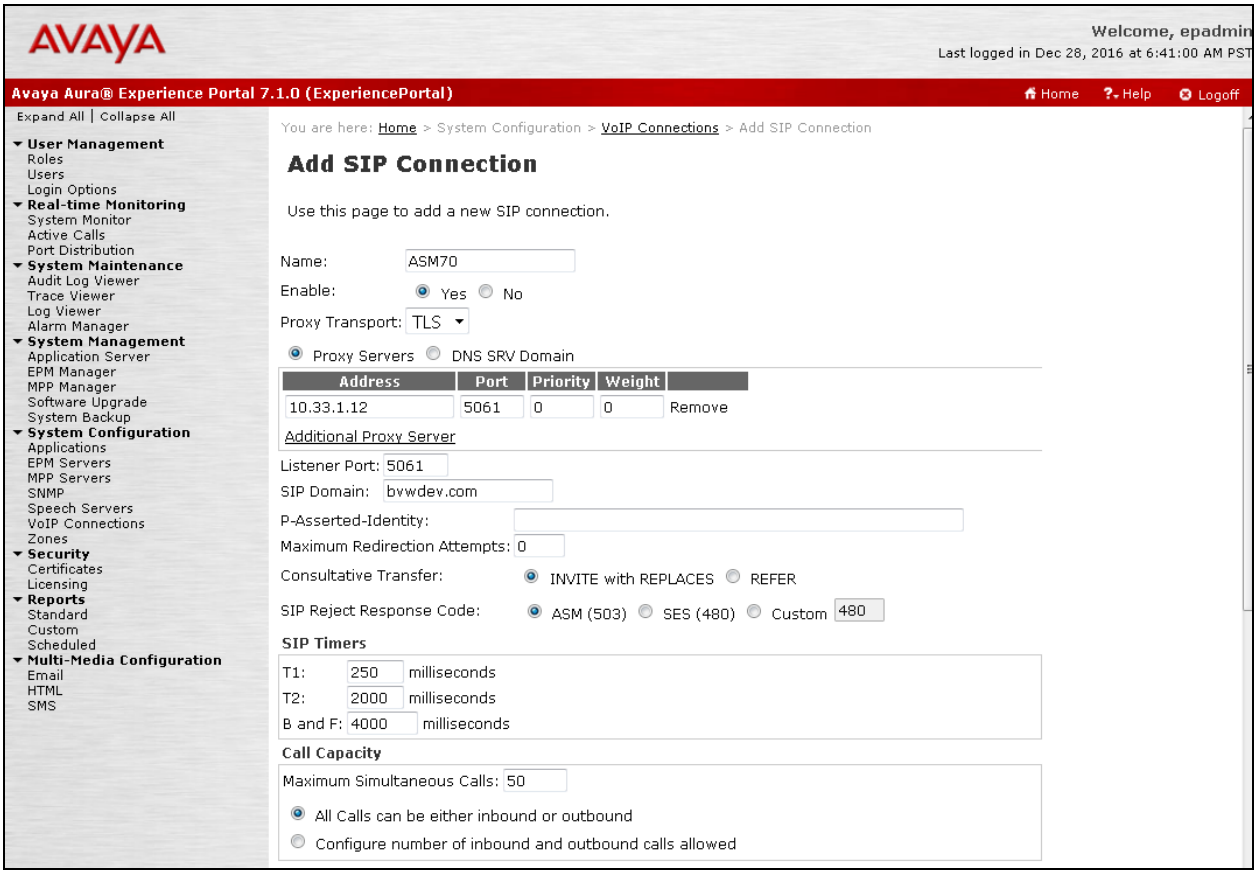
6.1. Administer VoIP Connection

On the left pane, click on the **VoIP Connections** under **System Configuration** (not shown). To add a **SIP Connection**, click on the **SIP** tab on **VoIP Connections** page (not shown).

- **Name**: Enter a descriptive name.
- **Enable**: Select **Yes** radio button.
- **Proxy Transport**: select **TLS** if SIP connection to Session Manager is using TLS otherwise select **TCP**.
- **Proxy Servers**: Enter the signaling IP address of Session Manager in the Address box.
- **SIP Domain**: Enter a SIP domain "bvwdev.com" as configured in **Section 7.3**.
- In the **Call Capacity** section, enter a number of SIP call that in the **Maximum Simultaneous Calls** and select **All call can be either inbound or outbound** option. All other fields can be left at default.

Click **Save** button to save changes.



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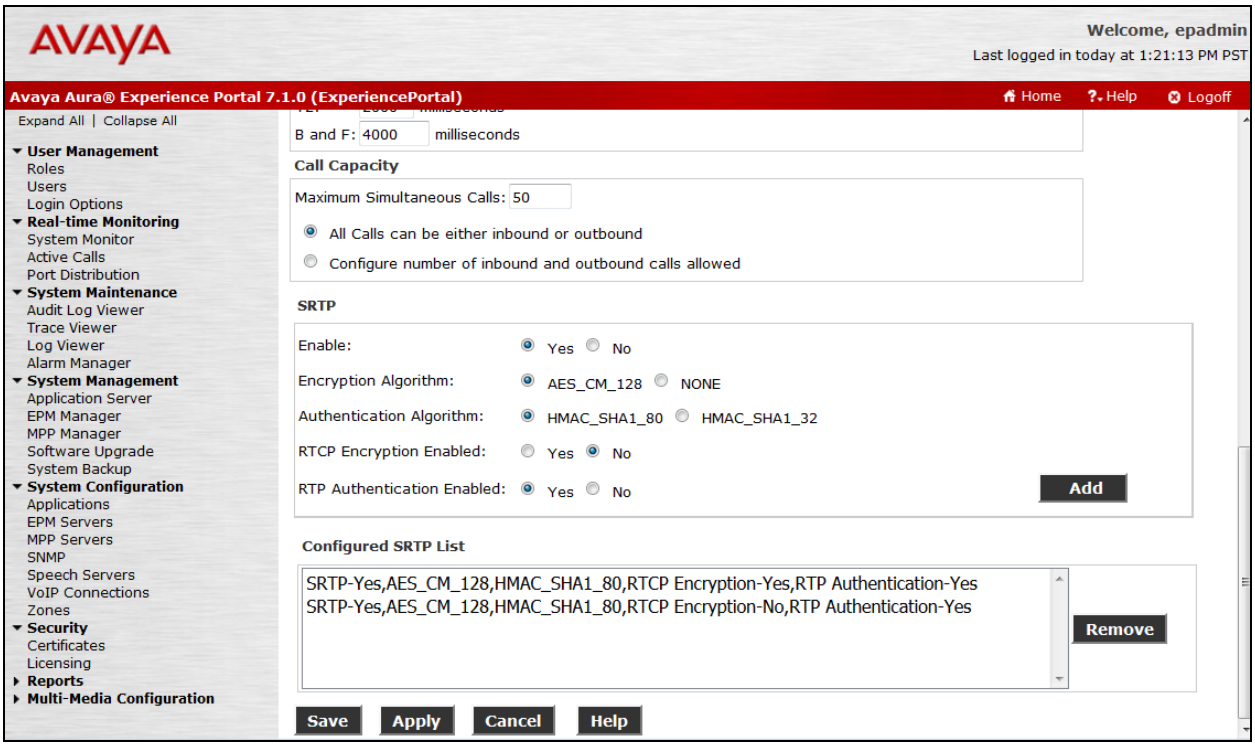
Scroll down to **SRTP** section, configure two SRTP profiles as shown in the **Configured SRTP List** below.



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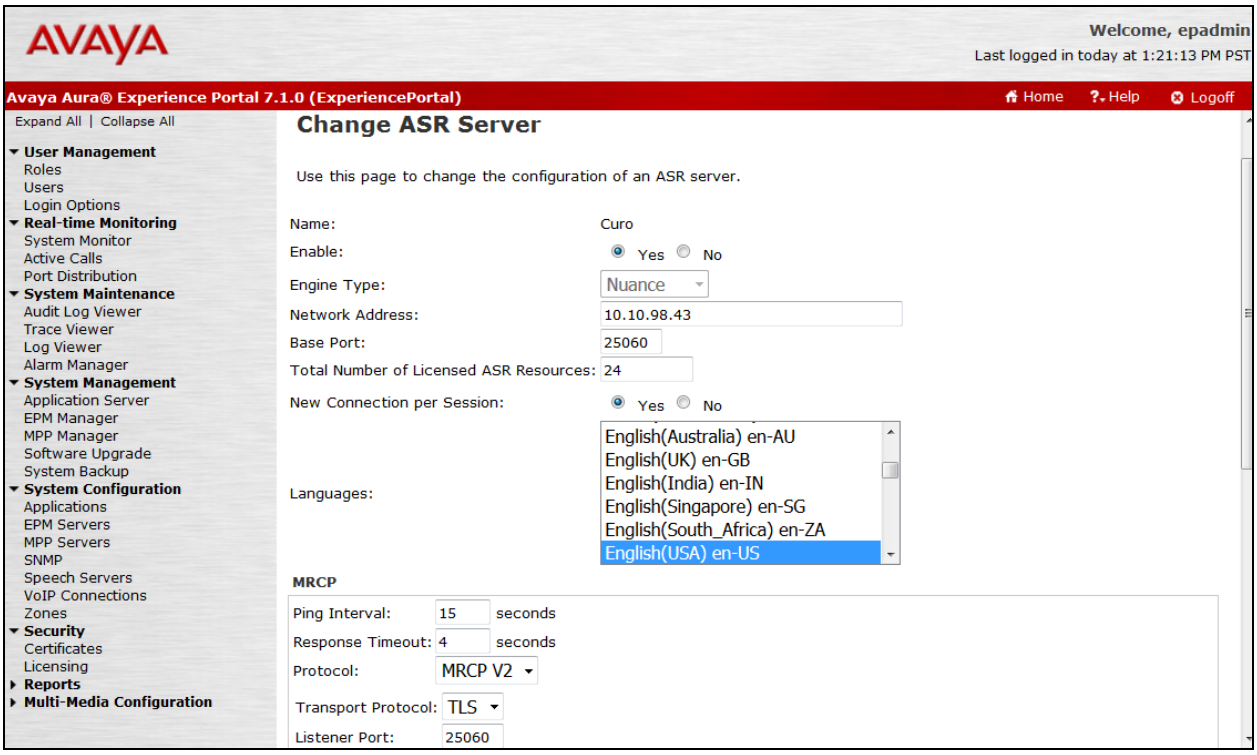
6.2. Administer Speech Server

6.2.1. Administer ASR

On the left pane, navigate to **System Configuration → Speech Servers** (not shown). To add an **ASR** server, click on **ASR** tab (not shown) and click **Add** (not shown). Enter a **Name**, set **Enable** to **Yes** and set **Engine Type** to **Nuance**. Fill in the IP address of Curo Speech server in **Network Address**. In **Base Port**, fill in "15060" for **TCP** and **"**25060" for **TLS**, in this case the port "25060" was used for TLS. Enter appropriate value in **Total Number of Licensed ASR Resources**, set **New Connection per Session** to **Yes**, set **Languages** to **English(USA) en-US**. In the **MRCP** section, select **MRCP V2** in the **Protocol** dropdown menu, select **TLS** in the **Transport Protocol** dropdown menu and enter the port "25060" in the **Listener Port** field.



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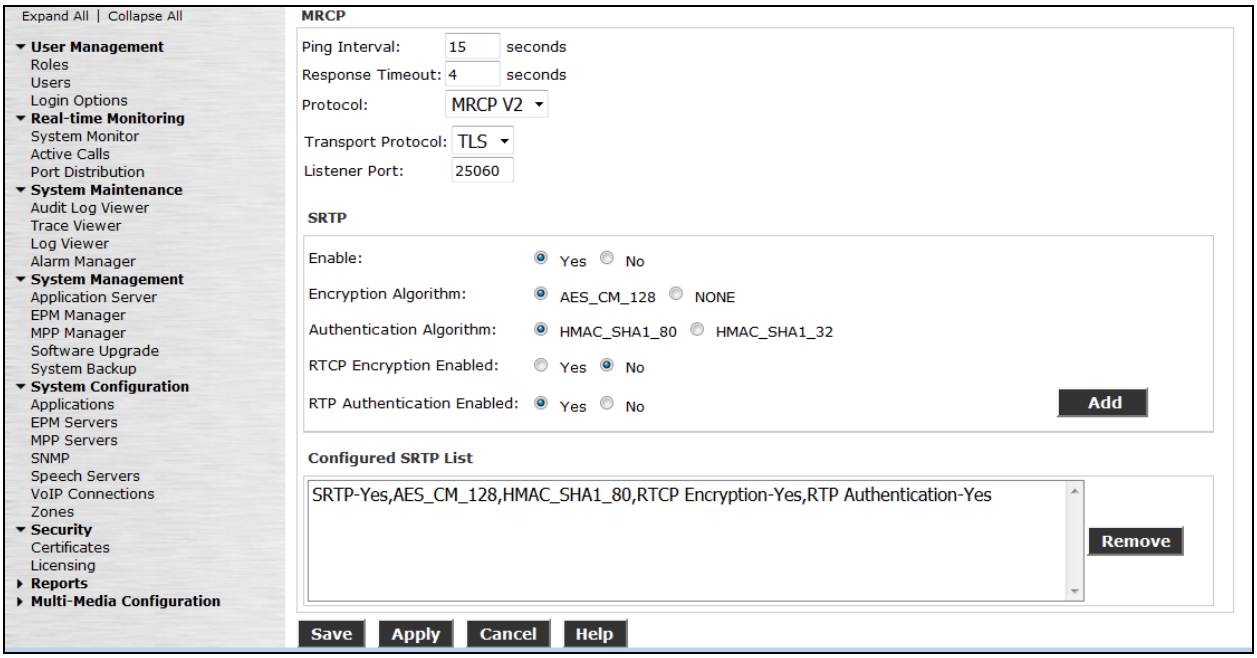
Scroll down to **SRTP** section, select SRTP profile as shown in the **Configured SRTP List**. Click **Save** to save changes.



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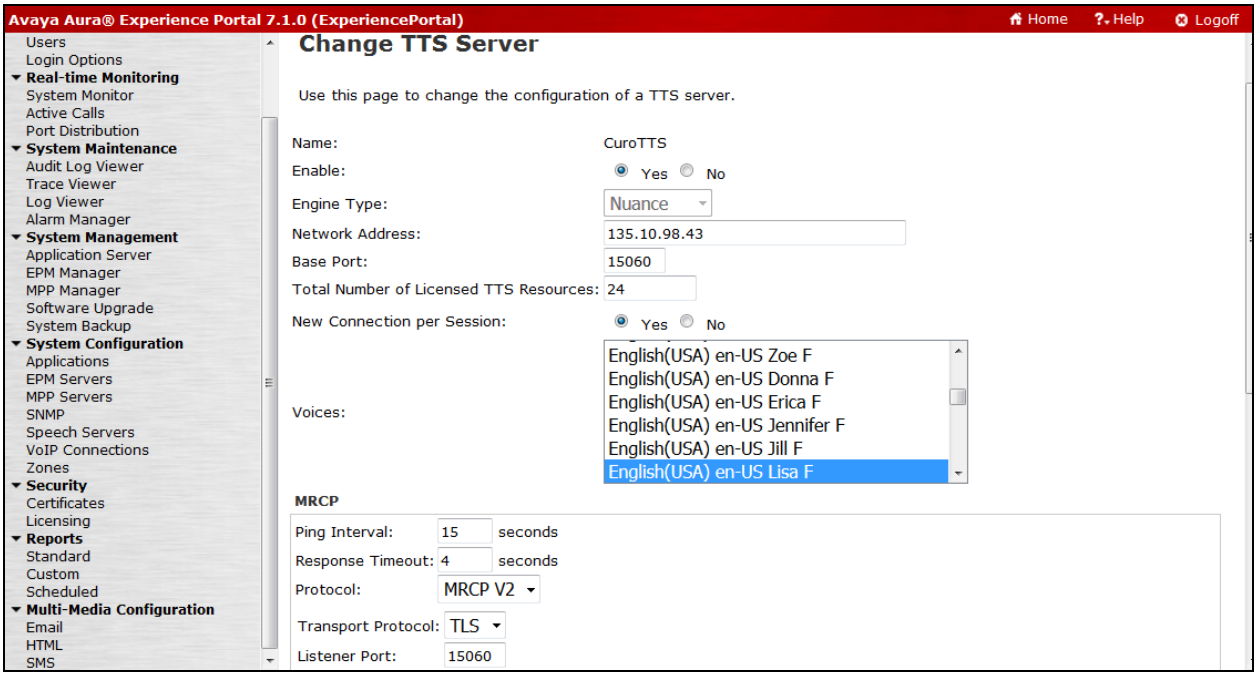
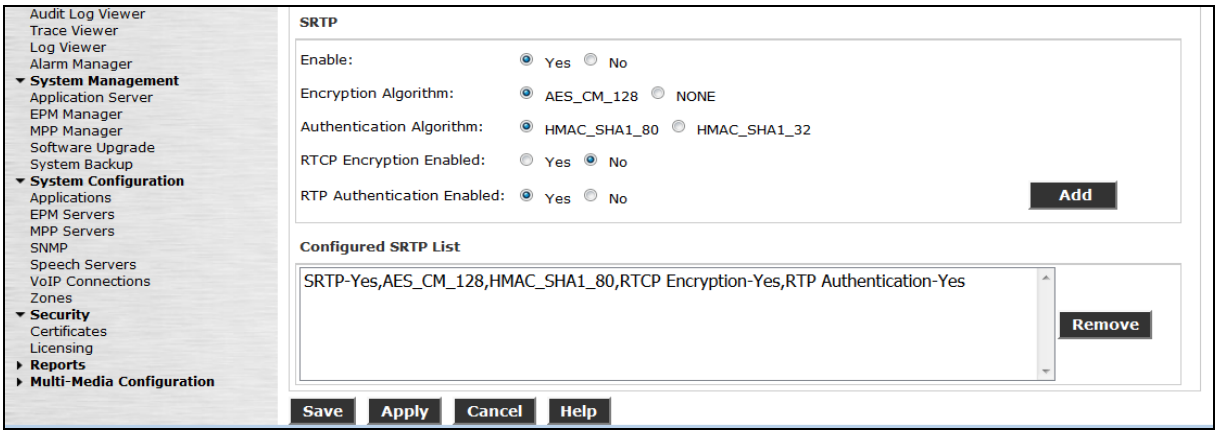
6.2.2. Administer TTS

On the left pane, navigate to **System Configuration → Speech Servers** (not shown). To add a **TTS** server, click on **TTS** tab (not shown) and click **Add** (not shown). Enter a **Name**, set **Enable** to **Yes** and set **Engine Type** to **Nuance**. Fill in the IP address of Curo Speech server in **Network Address**. In **Base Port**, fill in "15060." Enter appropriate value in **Total Number of Licensed ASR Resources**, set **New Connection per Session** to **Yes**, set **Voices** to **English(USA) en-US Lisa F**. In the MRCP section, select **MRCP V2** and **TLS** in the **Protocol** and **Transport Protocol** dropdown menu, enter "15060" in the **Listener Port** field and keep other values at default.



Scroll down to the **SRTP** section, add the SRTP profile as shown in the Configured SRTP List below.



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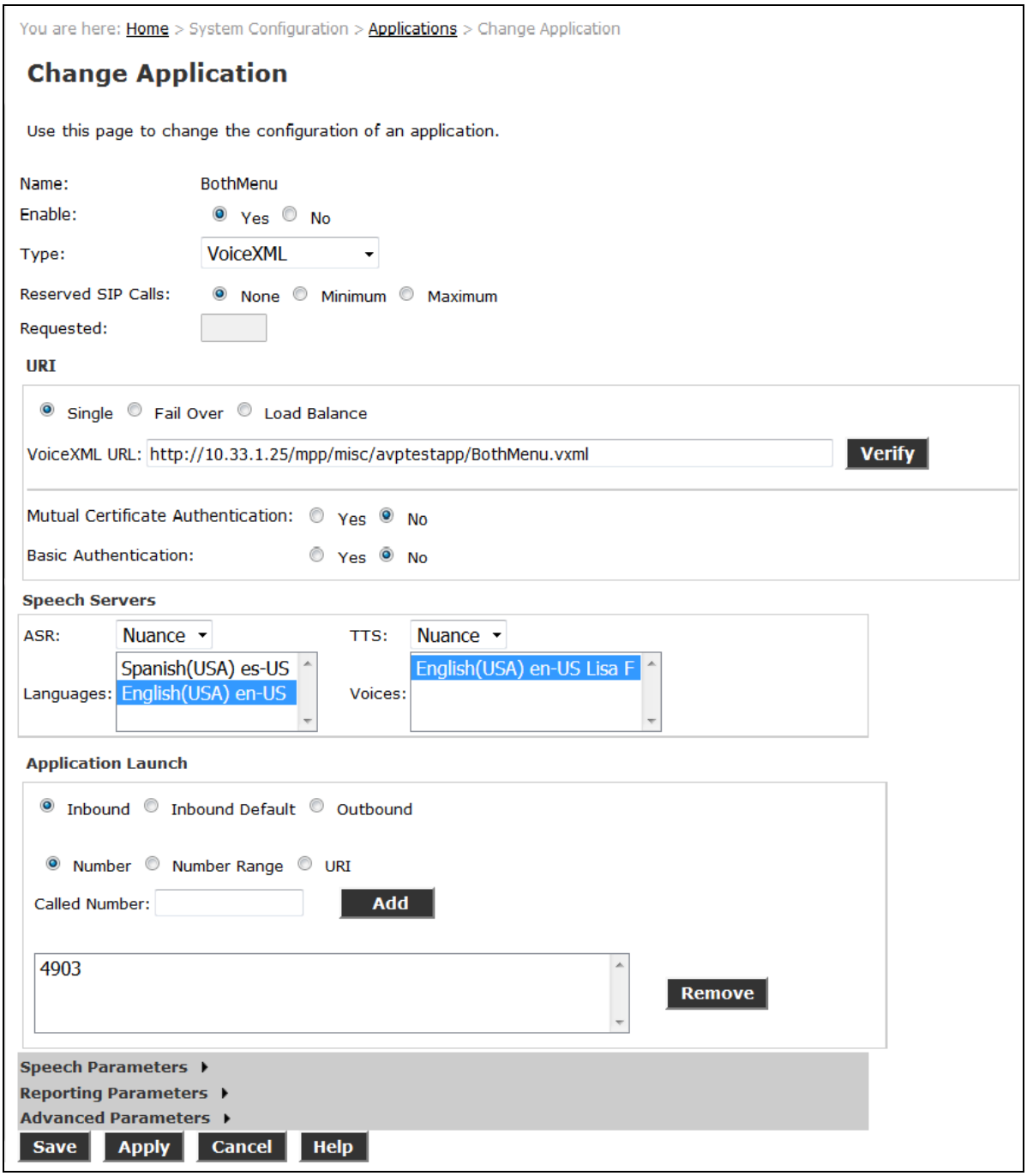
6.3. Administer Applications

Applications are needed to drive calls in Experience Portal. To add a new application, from the left pane, navigate to **System Configurations → Applications** and in the Application page click Add button (not shown). Below is the sample of application used during the compliance test. In the **Speech Server** section, select the ASR and TTS servers as configured in **Section 6.2**.



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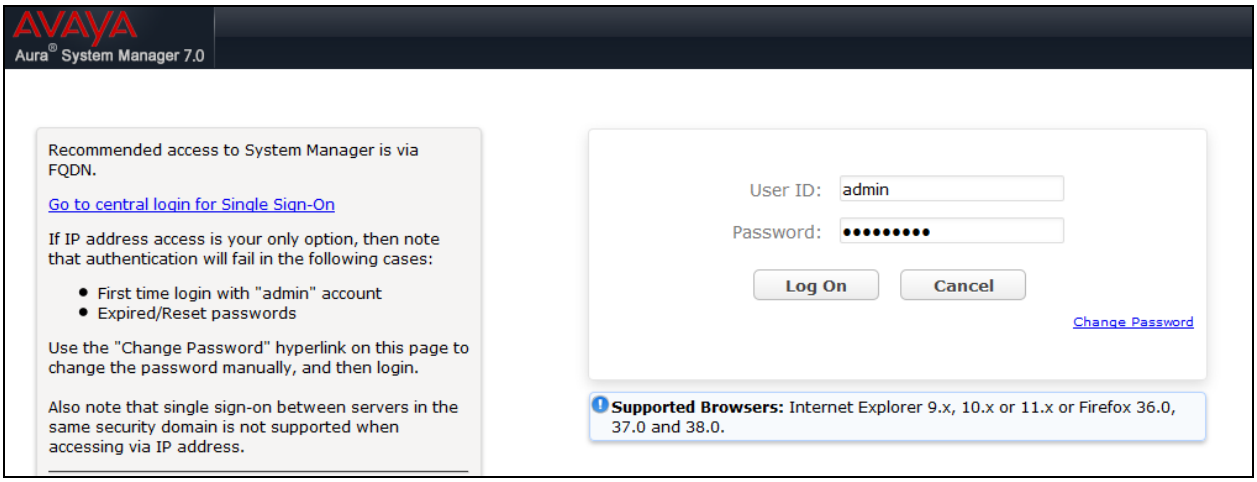
7. Configure Avaya Aura® Session Manager

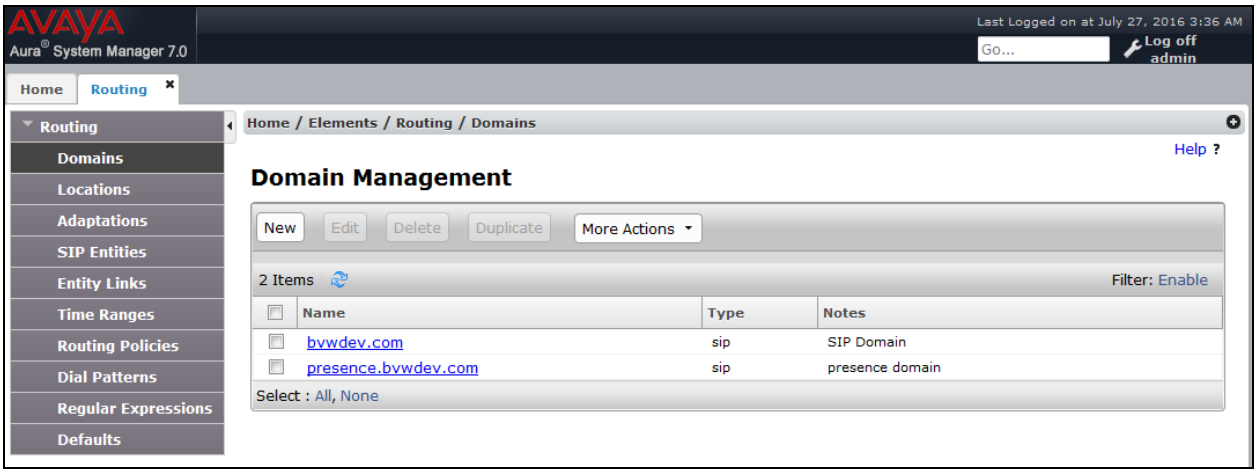
Configuration for Session Manager is performed via System Manager. From a web browser, type in https://[IP-Address]/SMGR where IP-Address is the IP Address of System Manager. Log in using appropriate credentials.

Please note that configuration of each item is not shown in detail. In the following sections, screen captures of the configured items during compliance testing are shown. For details steps on configuration of each item, refer to Document [2].



7.1. Configure Domain

Once logged in, select **Routing** (not shown). On the left pane select **Domains**. Click **New** to add a new domain. For compliance testing, domain of **bvwdev.com** was added.



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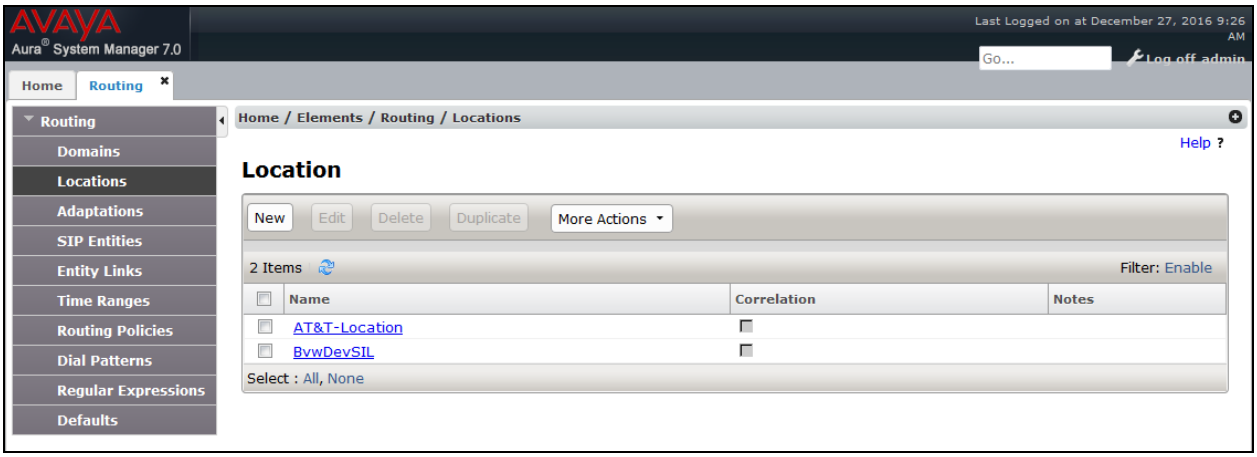
7.2. Configure Locations

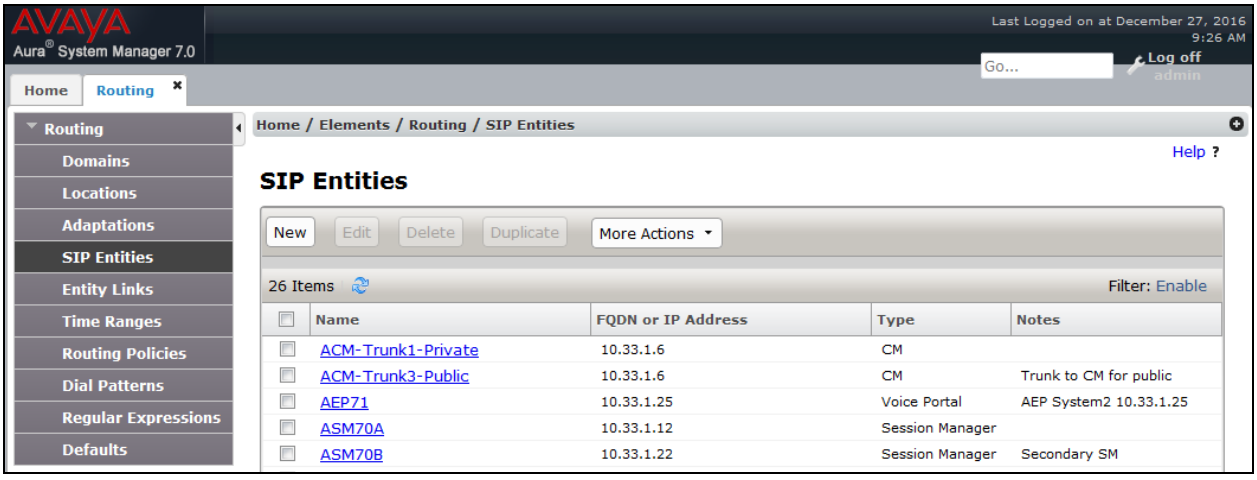
From the left pane, select **Location**. To add a new location, select **New**. For compliance testing, the location of **BvwDevSIL** was added.



7.3. Configure SIP Entities

From the left pane, select **SIP Entities**. To add a new SIP Entity, select **New**. For compliance testing, three SIP Entities were added as shown below.

- AEP71: Experience Portal SIP Entity
- ASM70A: Session Manager SIP Entity
- ACM-Trunk1-Private: Communication Manager SIP Entity



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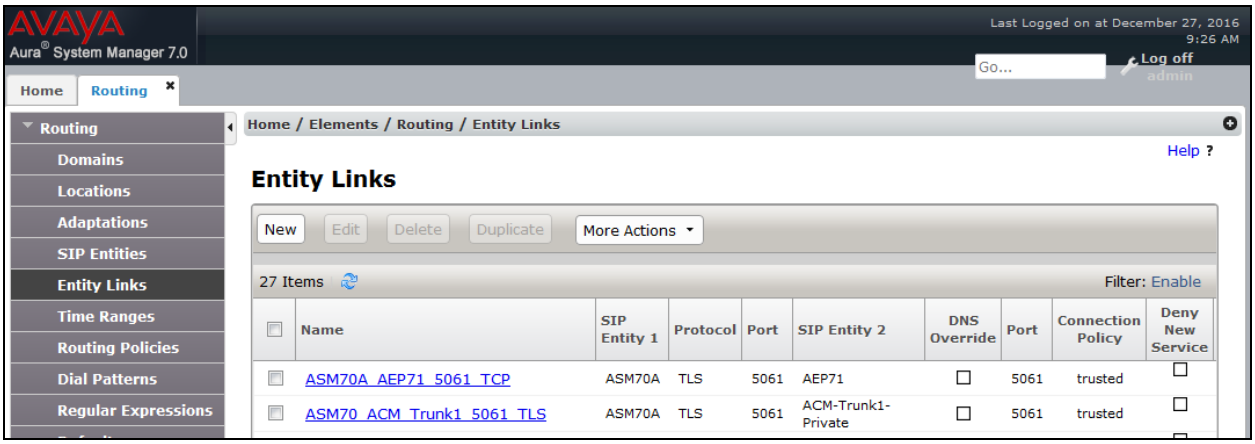
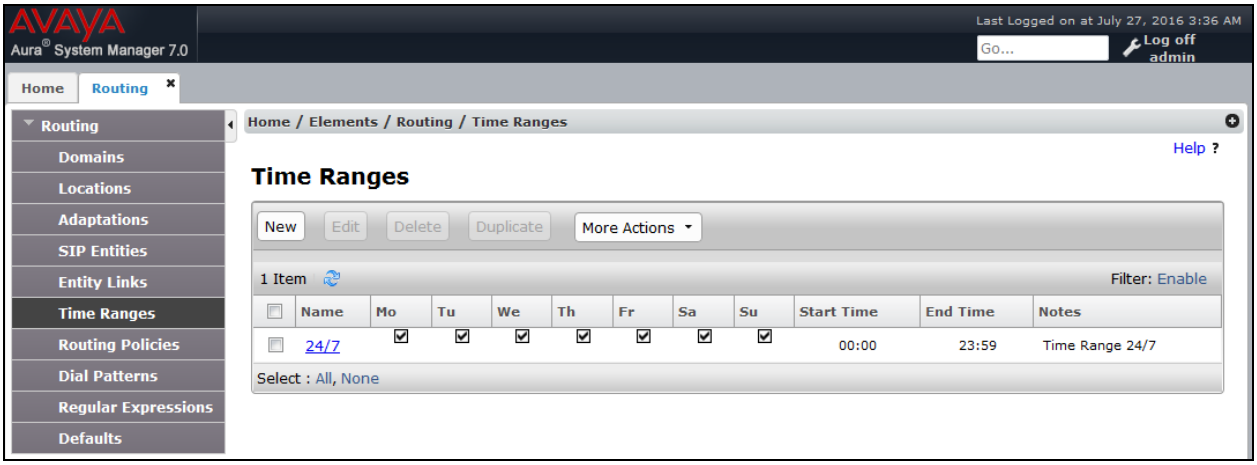
7.4. Configure Entity Links

For each SIP Entity, with the exception of Session Manager, an entity link needs to be added. On the left pane, select **Entity Links**. To add a new entity link, select **New**. For compliance testing two entity links, one for Communication Manager and another for Experience Portal, were added.



7.5. Configure Time Ranges

On the left pane, select **Time Ranges**. To add a new time range, select **New**. For compliance testing, time range of 24/7 was added.



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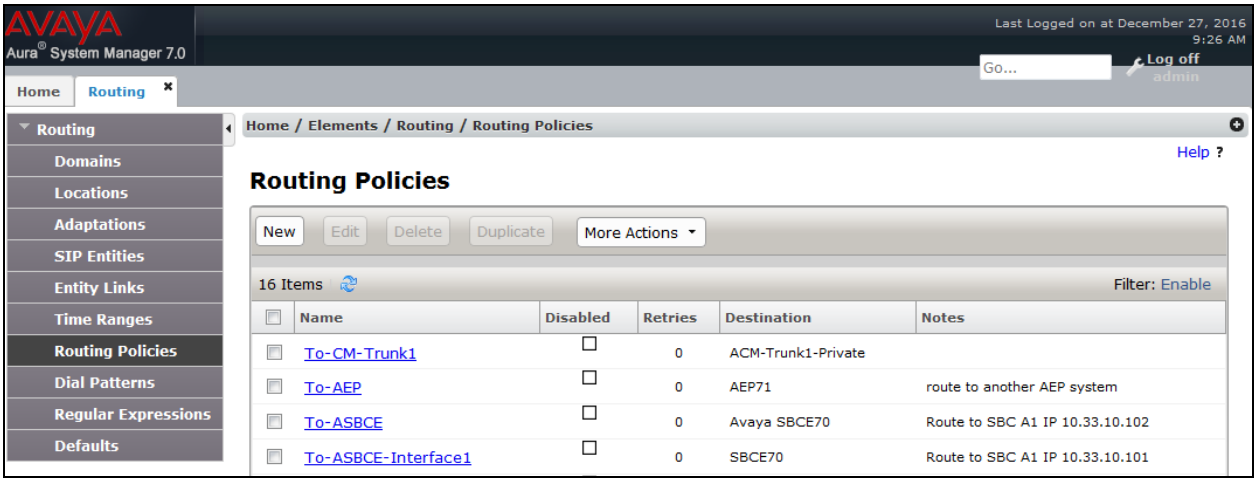
7.6. Configure Routing Policies

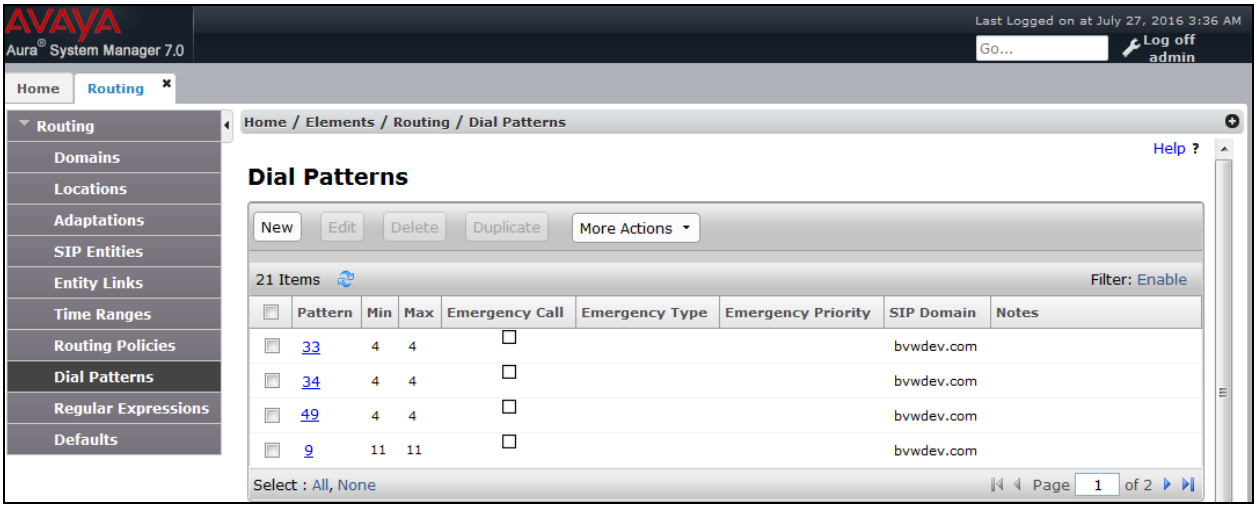
On the left pane, select **Routing Policies**. To add a new routing policy, select **New**. For compliance testing, two routing policies were added, one for Communication Manager and another for Experience Portal.



7.7. Configure Dial Patterns

On the left pane, select **Dial Patterns**. To add a new dial pattern, select **New.** For compliance testing three dial patterns were added:

- 33 and 34: All calls starting with pattern 33 and 34 with 4 digits were routed to Communication Manager. For compliance test, Experience Portal placed calls to extensions 3301, 3302 and 3401, which were routed to Communication Manager.
- 49: All calls starting with pattern 49 and 4 digits long were routed to Experience Portal.
- 9: All calls starting with 9 and 11 digits long were routed to Communication Manager. This was used for routing calls out to PSTN via PRI trunk configured in Communication Manager.



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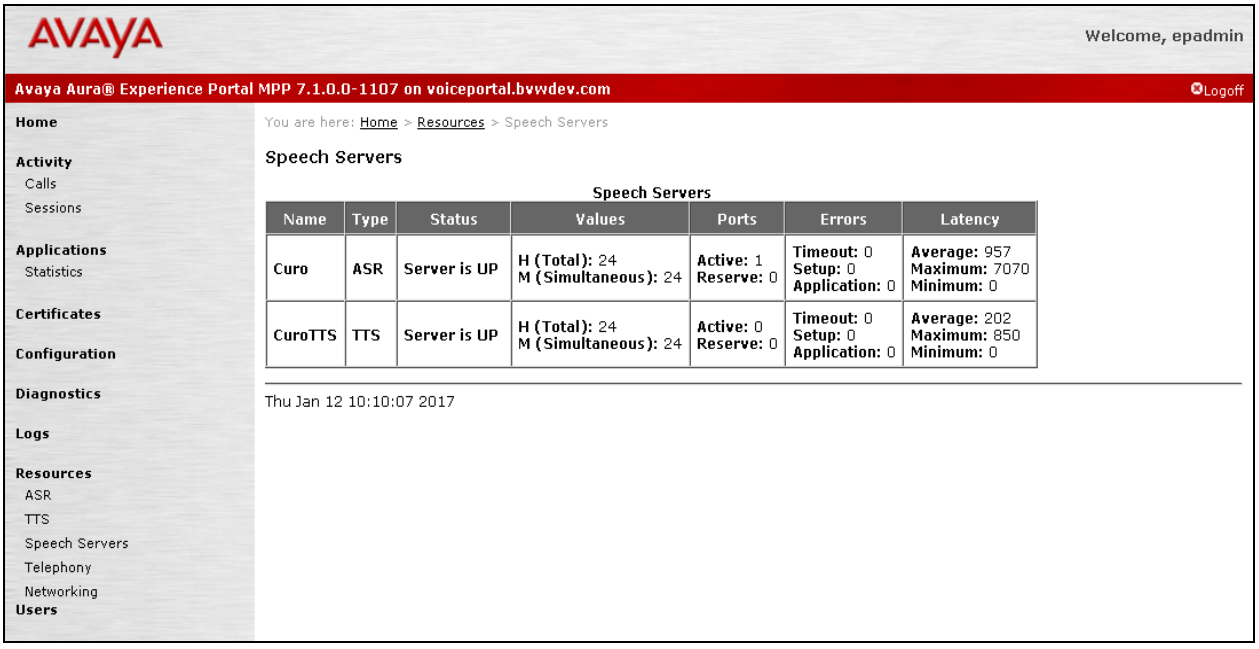
8. Configure Interactions Curo Speech Server

The configuration of Interactions Curo Speech Server is done by Interactions engineer and is outside of the scope of these Application Notes. To obtain further information on Interactions Curo Speech Server configuration, please contact an Interactions representative.

9. Verification Steps

This section provides the verification steps that may be performed to verify that Experience Portal can run Curo Speech ASR and TTS servers.

1. From the EPM web interface, verify that the Curo Speech resource and status. Navigate to **System Monitor → MPP** (click on MPP link) **→ Service Menu** (under Miscellaneous section) **→ Resources → Speech Servers**, the **Speech Servers** is displayed as shown below.



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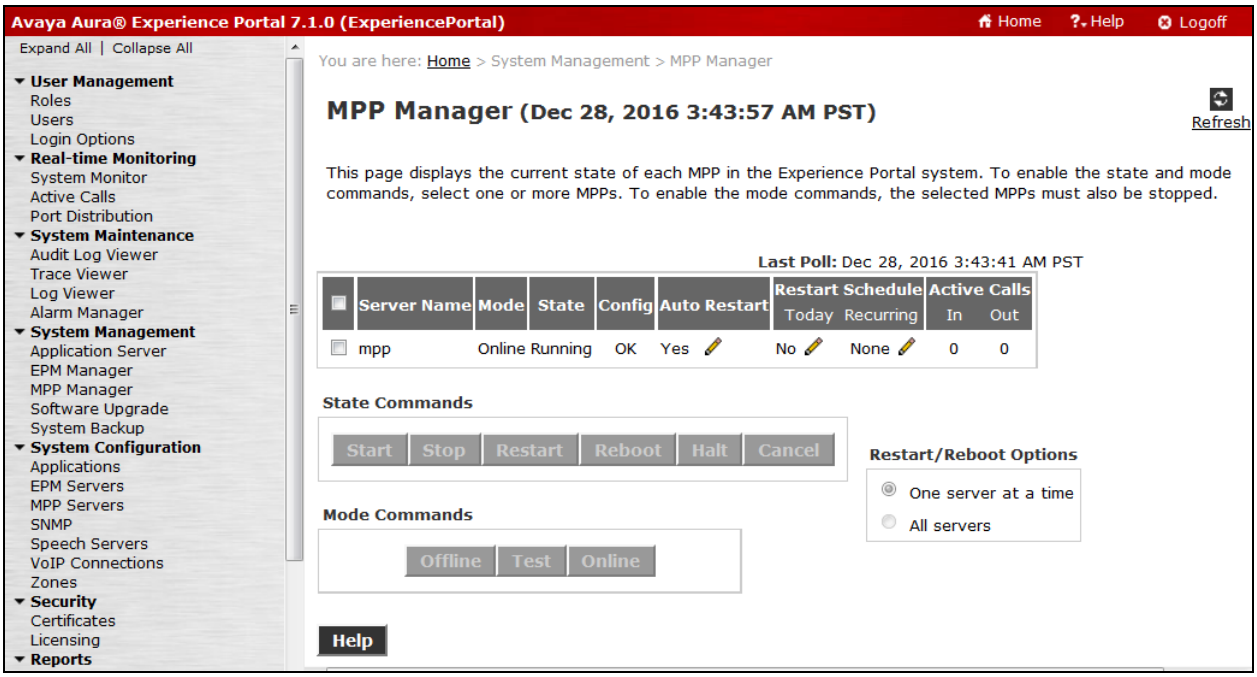
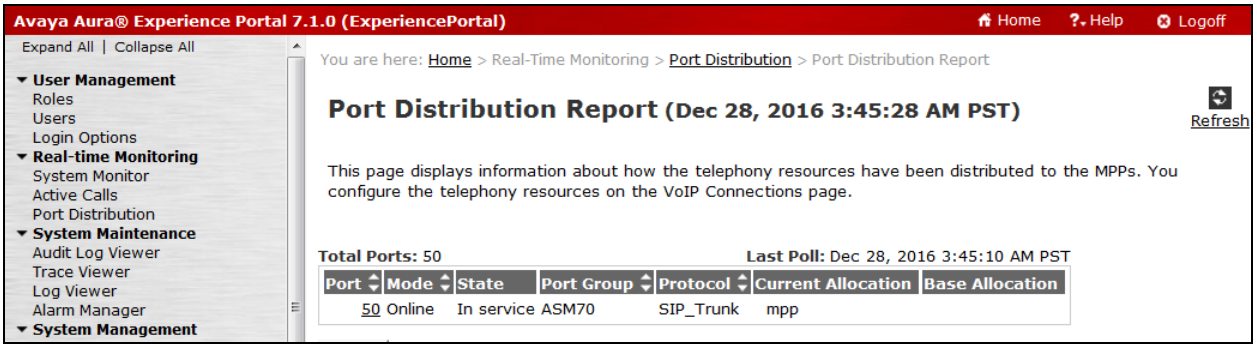
2. From the EPM web interface, verify that the MPP servers are online and running. On the left pane, navigate to **System Management → MPP Manager** (not shown).



3. Verify that the ports on the MPP server are in service. On the left lane, click on **Port Distribution**. Select the MPP server and click **OK.**



4. Place calls to the Experience Portal number 4903 as configured in **Section 6.3**, listen to the prompt and select a proper option to test ASR and TTS. Navigate to **Real-time Monitoring → Active Calls** to check status of the active call. The **Active Call Report** displays parameters of call such as call type, calling number, called number, application name, ASR and TTS servers as shown below.

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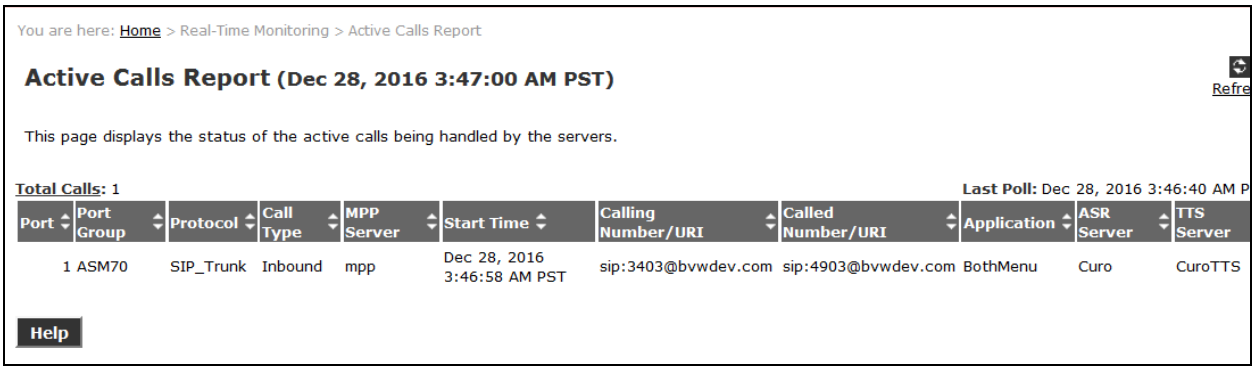

10. Conclusion

These Application Notes describe the configuration steps required to integrate Interactions Curo Automated Speech Recognizer and Text-to-Speech Server with Avaya Aura® Experience Portal. All feature and serviceability test cases were completed successfully refer to **Section 2.2** for details.

11. Additional References

This section references the Avaya documentation relevant to these Application Notes. The following Avaya product documentation is available at http://support.avaya.com.

[1] Administering Avaya Aura® Communication Manager, Release 7.0.3, Document 03-300509, Issue 10, June 2016
[2] Administering Avaya Aura® Session Manager, Release 7.0, Issue 7, Jan 2016
[3] Administering Avaya Aura® Experience Portal, Release 7.0.1, April 2015

Interactions Curo documentation is always available from http://www.interactions.com/library/

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