Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Computer Instruments Experience Configuration Interface, with Avaya Aura® Experience Portal – Issue 1.0

Abstract

These Application Notes describe the procedure for configuring Computer Instruments' Experience Configuration Interface (eCI) product to interoperate with Avaya Aura® Experience Portal.

Computer Instruments eCI is a point and click graphical interface for rapidly developing call flow experience. It provides a simple solution for managing IVR application development by enabling the ability to change caller experiences in real time without restarting services. The application notes focus on eCI's integration with Avaya Aura® Experience Portal in support of inbound and outbound Interactive Voice Response (IVR) calls.

Readers should pay attention to section 2, in particular the scope of testing as outlined in Section 2.1 as well as the 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 Computer Instruments' Experience Configuration Interface (eCI) product to interoperate with Avaya Aura® Experience Portal.

Computer Instruments eCI is a point and click graphical interface for rapidly developing call flow experience. It provides a simple solution for managing IVR application development by enabling the ability to change caller experiences in real time without restarting services. The application notes focus on eCI's integration with Avaya Aura® Experience Portal in support of inbound and outbound Interactive Voice Response (IVR) calls.

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 eCI and Experience Portal and the serviceability test verified the ability of eCI to recover under adverse conditions.

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 for 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 general test approach included verification of a successful integration of the eCI application with Experience Portal. IVR call flows were created using CII Voice Administrator, an element of eCI, and verified by placing inbound calls to an Experience Portal inbound application and outbound calls that invoked an Experience Portal outbound application. Both the inbound and outbound applications were developed by Computer Instruments and worked with the eCI software. Once the inbound or outbound application was connected, the eCI software worked in conjunction with Experience Portal to play a menu and the user can select various menu options using DTMF or speech recognition.

During the compliance test, the following call scenarios and call flow elements were used to verify eCI functionality.

- Inbound calls
- Outbound calls
- Play prompt using recording
- Play prompt using TTS
- User input using DTMF
- User input using speech recognition
- Call termination by originator

- Call termination by destination party
- Blind transfer
- Trunk-to-trunk blind transfer
- Simultaneous calls

2.2. Test Results

Computer Instruments eCI successfully passed the compliance testing.

2.3. Support

Technical support for the eCI solution can be obtained by contacting Computer Instruments at:

- URL – support@instruments.com
- Phone – (888) 451-0851 and option 2

3. Reference Configuration

Figure 1 illustrates the reference configuration used during testing. In the reference configuration, the eCI server has an Apache Tomcat server installed to facilitate integration with Experience Portal. An incoming call from PSTN to eCI is first received by Communication Manager which routes the call to Experience Portal via SIP trunks. Experience Portal then invokes an inbound application deployed in the Apache Tomcat server. An outgoing call from eCI is initiated by eCI through the Experience Portal web services interface. Upon received the request, Experience Portal makes a call via SIP trunks to Communication Manager which routes the call to PSTN. When the call is answered, Experience Portal invokes an outbound application on the Apache Tomcat server. For calls that require speech recognition or text to speech resources, resources on a Nuance speech server are used.

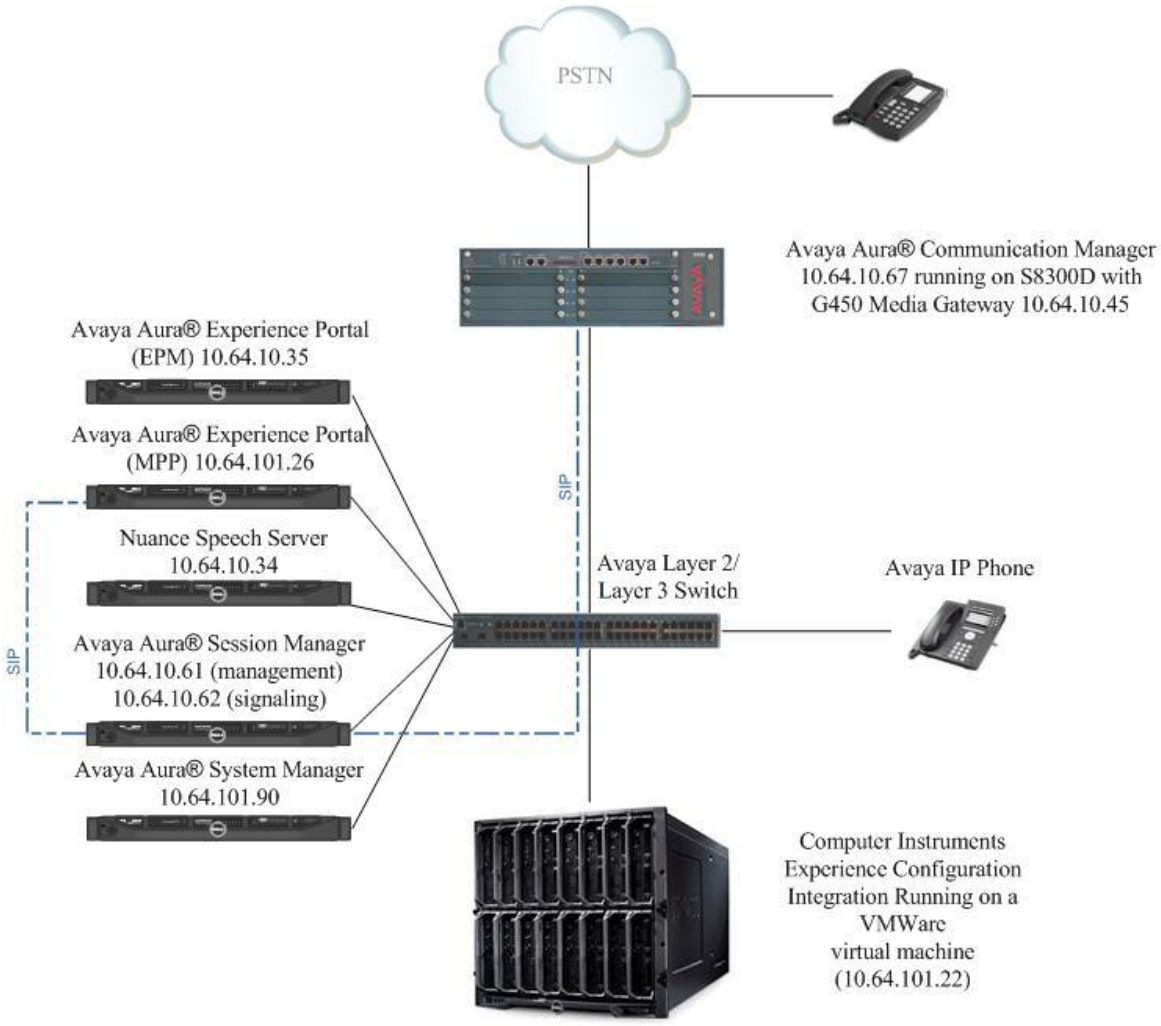


Figure 1: Test Configuration of eCI

4. Equipment and Software Validated

The following equipment and software were used for the test configuration.

Equipment/Software	Version
Avaya Aura® Experience Portal running on HP Proliant DL360 G7 Server	6.0 SP2
Avaya Aura® Communication Manager running on Avaya S8300 Server	6.3 SP1 (patch 20850)
Avaya G450 Media Gateway MGP MM710 T1 Module	 HW 1 FW 31.20.0 HW 01 FW 013
Avaya Aura® Session Manager running on HP Proliant DL360 G7 Server	6.3.5
Avaya Aura® System Manager running on a VMWare virtual machine	6.3.5
Nuance Speech Server running on Dell Power Edge 850	5.0
Avaya 96x1 Series IP Telephones	6.2.3
Computer Instruments Server running on a VMware host with Windows Server 2008 R2 SP1 64bit Operating System Experience Configuration Interface CII Voice Administrator Apache-Tomcat	 5.1.0 5.1.0 6.0.18

5. Configure Avaya Aura® Experience Portal

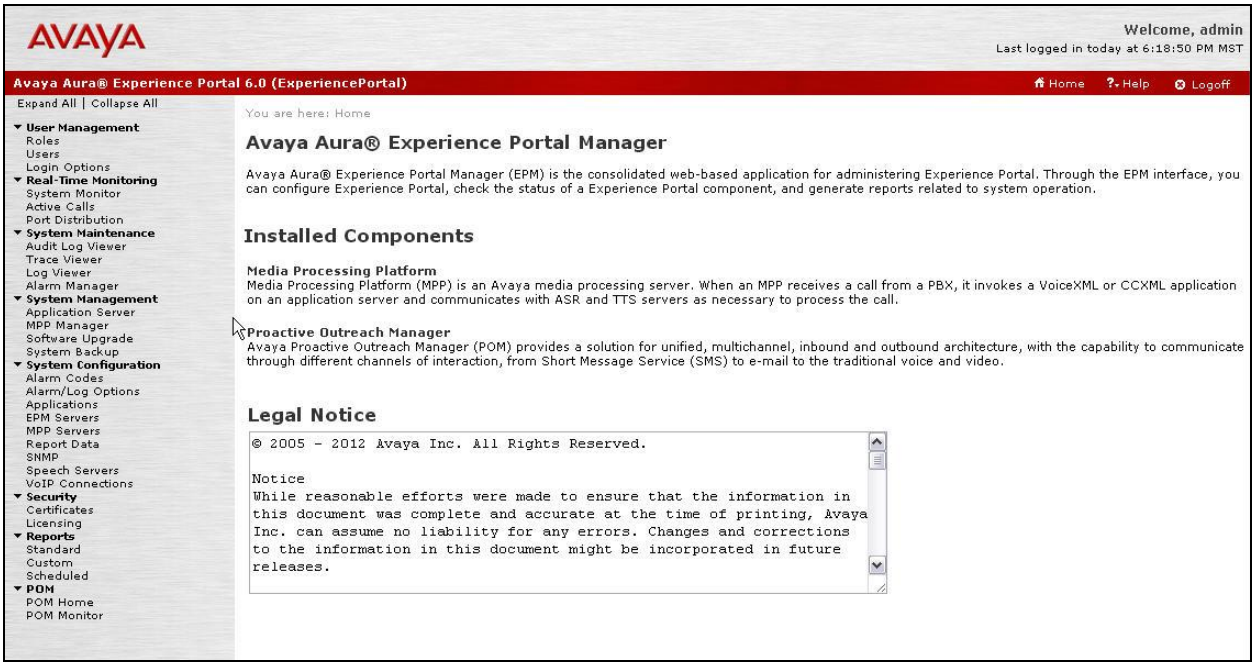
This section describes the Experience Portal configuration to support the network shown in **Figure 1**. The configuration of Experience Portal was performed using a web browser.

The Experience Portal configuration includes the following:

- Launch Experience Portal
- Add eCI inbound application
- Add eCI outbound application

5.1. Launch Avaya Aura® 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.

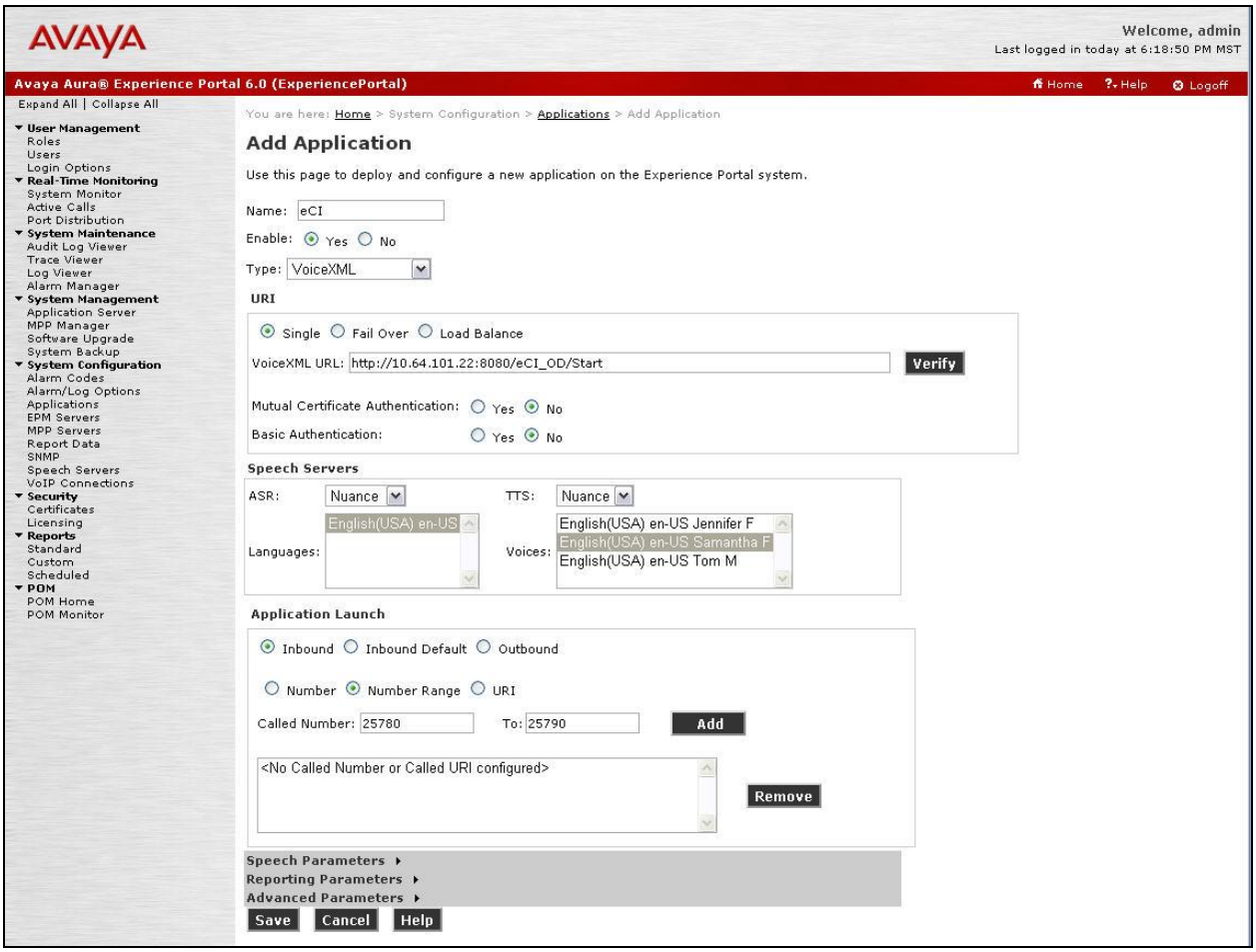


5.2. Add Inbound Application

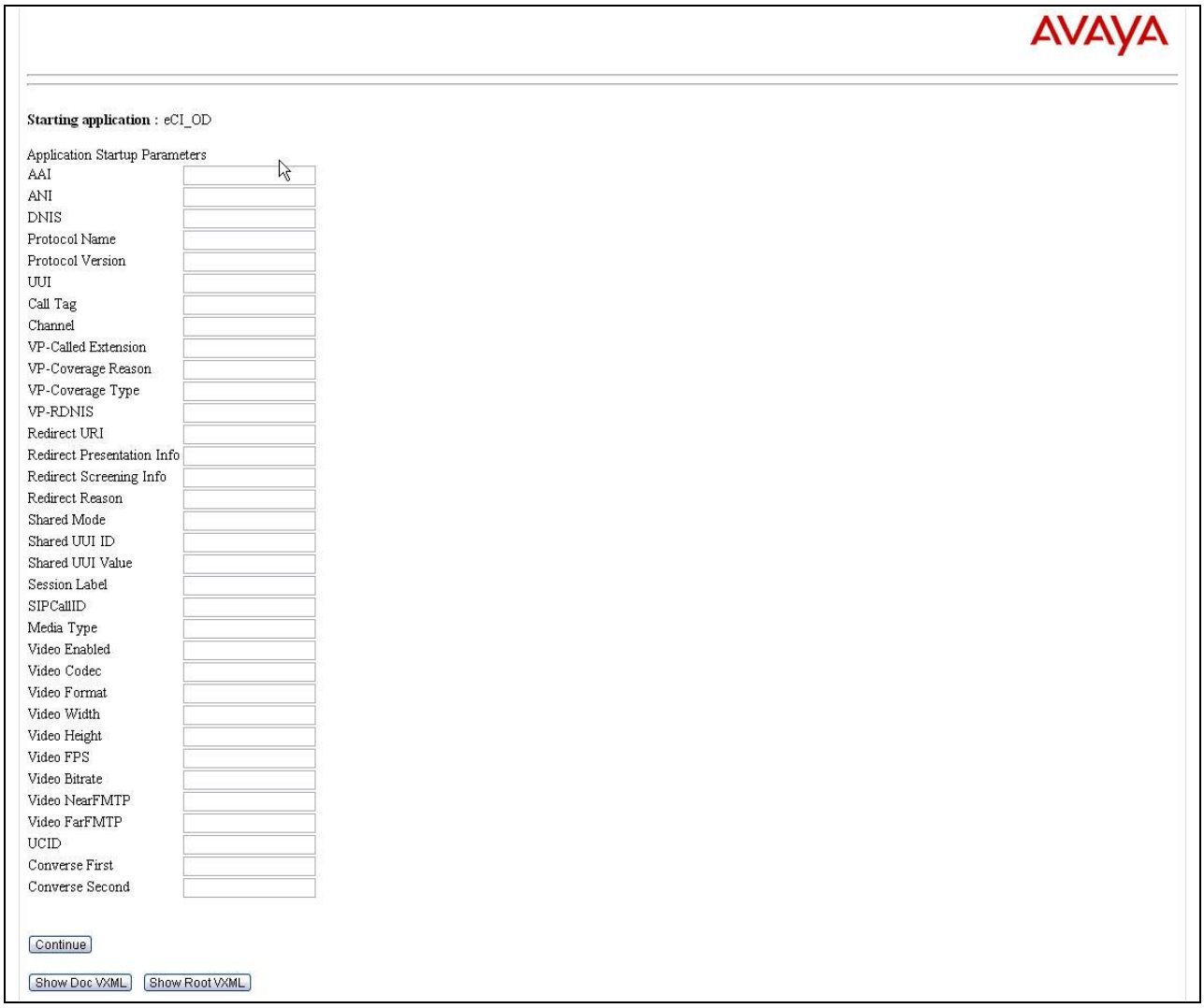
From the left pane, select **System Configuration → Applications.** The **Applications** page is displayed (not shown). Click **Add**.

The **Add Application** screen is displayed. Complete the fields as follows:

- Enter a descriptive name in the **Name** field. In the compliance test **eCI** was used.
- For the **Type** field, select **VoiceXML** from the drop down menu.
- In the **URI** box, fill in the **VoiceXML URL** field: **http://10.64.101.22:8080/eCI_OD/Start**, where **10.64.101.22** and **8080** are the IP Address and Tomcat Port of the eCI Server
- In the **Speech Servers** box, select **Nuance** for the **ASR** field and **Nuance** for the **TTS** field.
- In the **Application Launch** box, select the **Inbound** radio button and the **Number Range** radio button. Enter **25780** and **25790** in the **Called Number** and **To** fields. Click **Add**.



After entering the URL information, click the **Verify** button to make sure the application is accessible. The following page should be displayed:



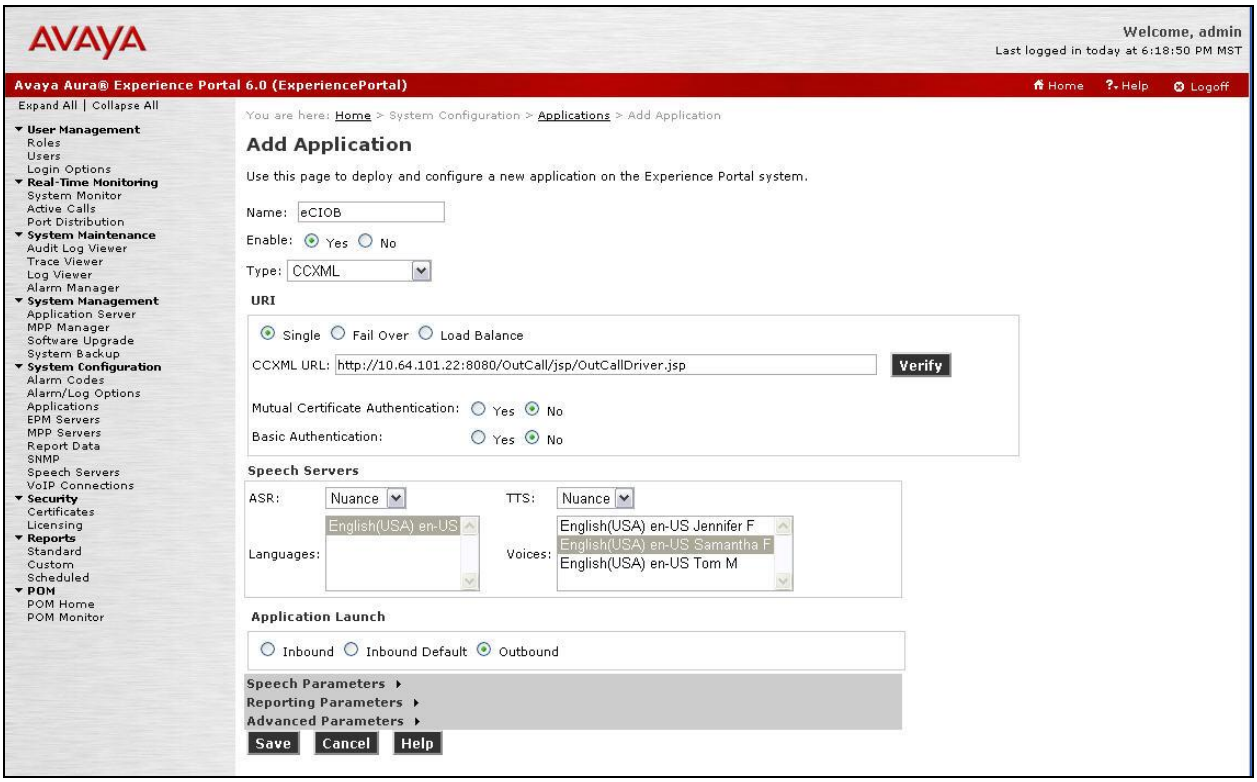
After a successful verification, click **Save**.

5.3. Add Outbound Application

From the **Applications** page, click **Add**. The **Add Application** screen is displayed. Complete the fields as follows:

- Enter a descriptive name in the **Name** field. In the compliance test **eCIOB** was used.
- For the **Type** field, select **CCXML** from the drop down menu.
- In the **URI** box, fill in the **VoiceXML URL** field: **http://10.64.101.22:8080/OutCall/jsp/OutCallDriver.jsp**, where **10.64.101.22** and **8080** are the IP Address and Tomcat Port of the eCI Server
- In the **Speech Servers** box, select **Nuance** for the **ASR** field and **Nuance** for the **TTS** field.
- In the **Application Launch** box, select the **Outbound** radio button.

Use the **Verify** button to make sure the application is accessible and then click **Save**.



6. Configure Experience Configuration Interface

This section describes the configuration of eCI in order to interoperate with Experience Portal. It is assumed that the following components have been installed by the Computer Instruments support team.

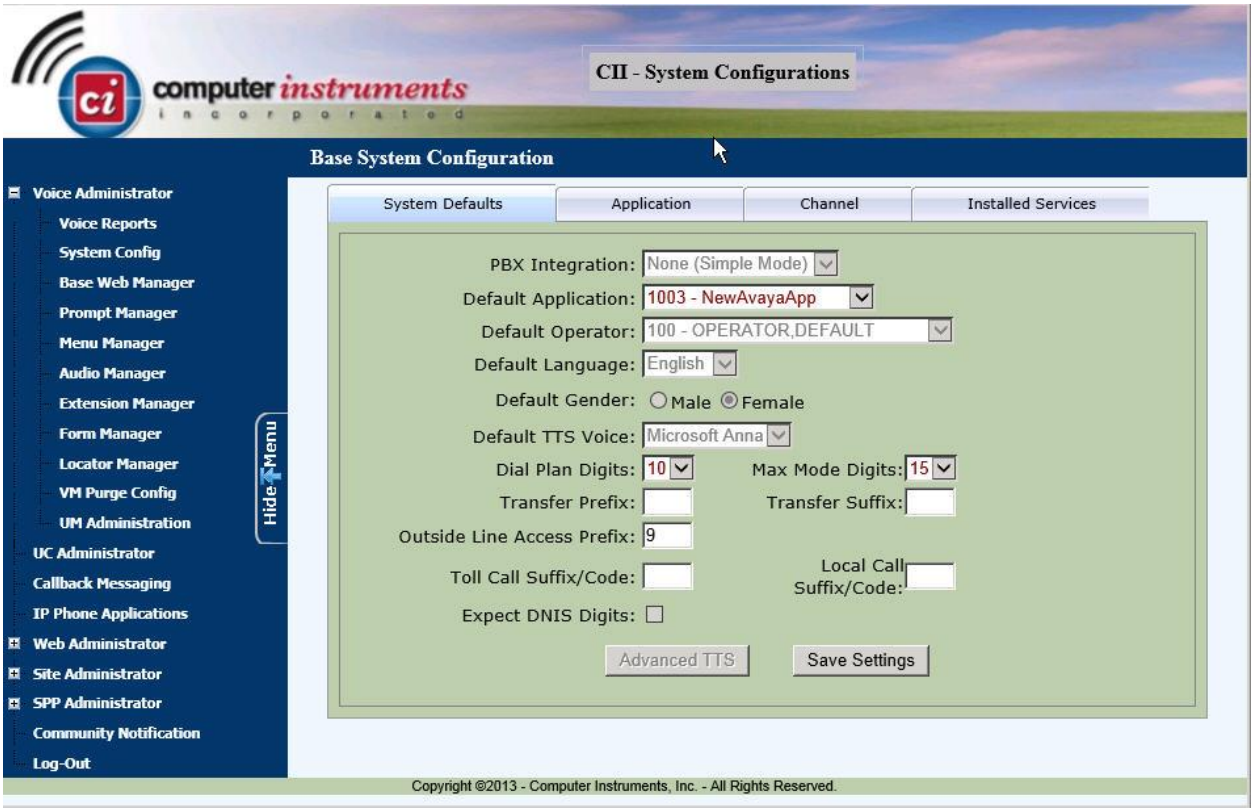
- Apache-Tomcat server with eCI_OD, OutCall, and eCI_OB_OD applications deployed
- Microsoft .NET 4.5 framework with the latest updates
- Microsoft IIS with ASP and ASP.NET enabled
- eCI software

6.1. Launch Voice Administrator

IVR call flows are created or modified using CII Voice Administrator. To launch eCI Voice Administrator, enter **https://<ip-addr>/VoiceAdmin,** where **<ip-addr>** is the IP address of the eCI server, in the URL field of a web browser. Log in with the proper credentials. The **CII - Voice Administrator** page is displayed.

6.2. Configure Default Application

In the compliance test, all the inbound calls and outbound calls are connected to the default application in eCI. To configure the default application, click **Voice Administrator → System Config** in the left pane. The **Base System Configuration** page is displayed. For the **Default Application** field, select an application from the dropdown list.



Configuring an application involves creation of a menu. In the compliance test, three menus were created to exercise two types of prompts, recording and text-to-speech, and four different types of input: DTMF, DTMF via speech recognition, digits via speech recognition, and words via speech recognition. Details of configuring applications and menus are outside the scope of these application notes and can be obtained from references [2] and [3] in **Section 9**.

6.3. Configure Outbound Call Parameters

In order to make outbound calls, the following lines have to be added in the **AppConfig.ini** file residing in the **C:\Program Files (x86)\Apache Software Foundation\Tomcat 6.0\webapps\DD Home** folder.

```
OutCallAppName = eCIOB
VPIP = 10.64.10.35
VPOutCallUserName = xxxxxx
VPOutCallPassword = xxxxxx
```

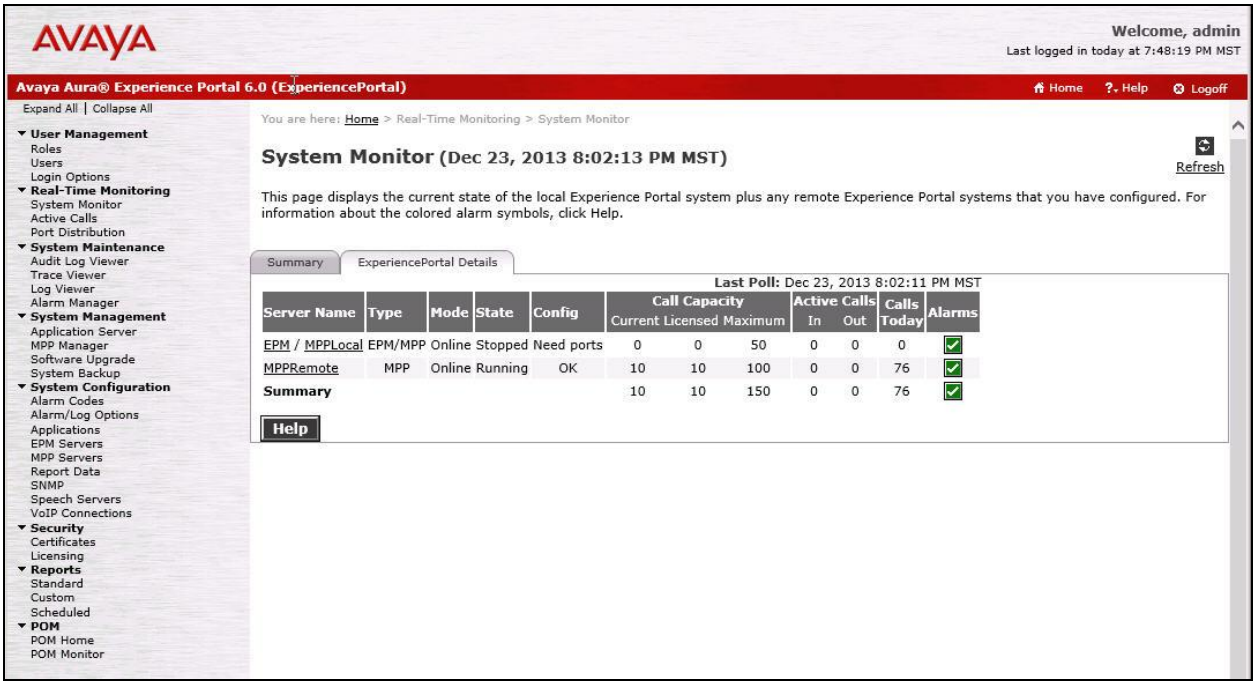
OutCallAppName is the application associated with outbound calls. **VPIP** is the IP address of Experience portal. **VPOutCallUserName** and **VPOutCallPassword** are the login and password for accessing Experience Portal web services.

7. Verification Steps

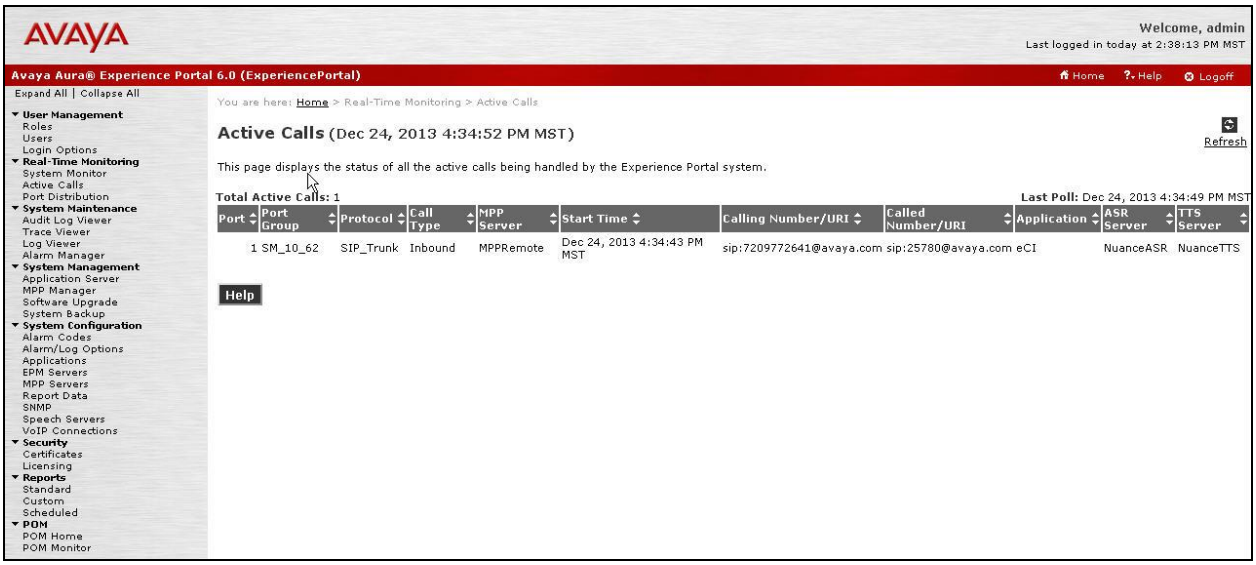
The following steps may be used to verify proper configuration between Experience Portal and eCI.

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 MPP being used (MPPRemote in the compliant test) shows **Online**, **Running**, and **OK**. Also review any alarms if they are present.



Make an inbound call to one of the application phone numbers configured in **Section 5.2** (e.g. 25780). Click **Real-Time Monitoring → Active Calls** in the left pane and verify the active call.



Make an outbound call from eCI. Click **Real-Time Monitoring → Active Calls** in the left pane and verify the active call.

7.2. Verify eCI Application

Place an inbound call to one of the eCI application phone numbers configured in **Section 5.2**. Once the call is connected, follow the prompts and verify the correct functionality.

Place an outbound call from eCI using the **testoutcall.html** program to a PSTN number (see below for the interface). Once the call is connected, the answering party follows the prompts and verifies the correct functionality.

8. Conclusion

Computer Instruments eCI passed compliance testing with an observation noted in **Section 2.2**. These Application Notes describe the procedures required to configure Computer Instruments eCI to interoperate with Avaya Aura® Experience Portal to support the reference configuration shown in **Figure 1**.

9. Additional References

The following Avaya product documentation can be found at http://support.avaya.com

[1] *Administering Avaya Aura® Experience Portal*, April 2012.

The following CII product documentation can be found at http://www.instruments.com/doclib/index.html

[2] *eCI User's Manual*, April 2012.
[3] *eCI User's Tutorial,* April 2012.