



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Avaya Aura® Orchestration Designer Release 7.2 with Versay CUE Pluggable Connector Version 1.0.7 - Issue 1.0

Abstract

These Application Notes describe the configuration steps required to integrate Versay CUE Pluggable Connector with Avaya Aura® Orchestration Designer.

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

The objective of compliance test was to validate interoperability of Versay CUE Pluggable Data Connector with Avaya Aura® Orchestration Designer.

Versay created a CUE Pluggable Data Connector that is used in Avaya Experience Portal platform and allows for a standardized way to develop CUE integration within the Avaya Experience Portal interactive voice response (IVR) using Orchestration Designer. The CUE Pluggable Data Connector (PDC) may be included and used by the IVR designer to generate CUE events that will be sent to the Vail CUE gateway.

Versay Vail CUE gateway is a real-time analytics tool designed to surface the customer experience. In the compliance test, the CUE Analytics gateway captures application events in the Experience Portal, which are aggregated, analyzed by the CUE Contextual Understanding Engine and published in real-time to a secure dashboard and mobile (iOS) application.

2. General Test Approach and Test Results

General test approach was to verify interoperability of the Versay CUE Pluggable Data Connector solution with Avaya Aura® Orchestration Designer and Avaya Aura® Experience Portal.

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.

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 interoperability compliance test included feature and serviceability tests. Feature tests focused on the ability of CUE Analytics to successfully receive application and call events from the Experience Portal through the application server and publish in real-time to a secure dashboard. Following widgets in the CUE dashboard were verified:

- CUE Now Screen – Calls widget: shows the number of active callers currently in the system.
- CUE Now Screen – Timeline widget: shows the active callers in the system by 5-minute intervals for the time period selected. A vertical line is drawn noting the current time.
- CUE Now Screen – Callers widget: shows current callers and repeat callers. The Active tab will show the current callers in the system by ANI with the most recent call being at the top.
- CUE Now Screen – Engagement widget: provides real-time updates for three main averages of the active callers in the system and provides an indication as to how the current callers are tracking as compared to the average for callers in the selected time period.
- CUE Trends Screen – Call Volume widget: plots total number of calls for a specific time period.
- CUE Trends Screen – Dialogs widget: displays information about each dialog state traversed in the application in two tabs for the time period selected: Visits - the number of times each dialog state has been traversed by a caller. Duration - the time spent in each dialog state. This widget will update after a call has ended.
- CUE Trends Screen – Recognitions widget: displays the number of times callers traversed each dialog state (Visits) and the percentage of responses that were In Grammar, No Match and No Inputs.
- CUE Trends Screen – Call Outcomes widget: provide two types of view, Total percentage and Over Time. The Over Time view allows for up to three outcomes to be graphed. The Total percentage View is designed to summarize and tabulate call outcomes for a given time period.

- CUE Trends Screen – Hang ups widget: summarize the total number of hangups in the application for the time period selected, what percentage of the total calls were hangups and how many of the hang ups were "short calls" as determined by the threshold.
- CUE Trends Screen – Events widget: displays custom events and metrics that were identified by customer as important to track in CUE.
- CUE Trends Screen – Locations widget: provides a count and percentage of calls by state/country for the time period selected. Location is determined by the 3-digit area code.

Serviceability testing focused on verifying the ability of CUE system to recover from adverse conditions, such as restart, power failures and network disconnects.

2.2. Test Results

All test cases were executed and passed.

2.3. Support

For support on the CUE Analytics Solution visit the corporate Web page at:

<http://www.versay.com/solutions-1/> or call (888) 869-0121 or send email to sales@versay.com.

3. Reference Configuration

Figure 1 illustrates the sample configuration of how the CUE Analytics solution interacts with Avaya Aura® Experience Portal. For inbound calls, the calls flow from the service provider to the Avaya SBCE then to Session Manager. Session Manager uses the configured dial patterns (or regular expressions) and routing policy to determine the recipient (in this case Experience Portal) and on which link to send the call. Once the call arrived at Experience Portal, further incoming call treatment, such as executing VXML script from the application server was performed.

The Avaya components used to create the simulated enterprise customer site included:

- Avaya Aura® Session Manager.
- Avaya Aura® System Manager.
- Avaya Session Border Controller for Enterprise.
- Avaya Aura® Experience Portal.
- Avaya Aura® Orchestration Designer.

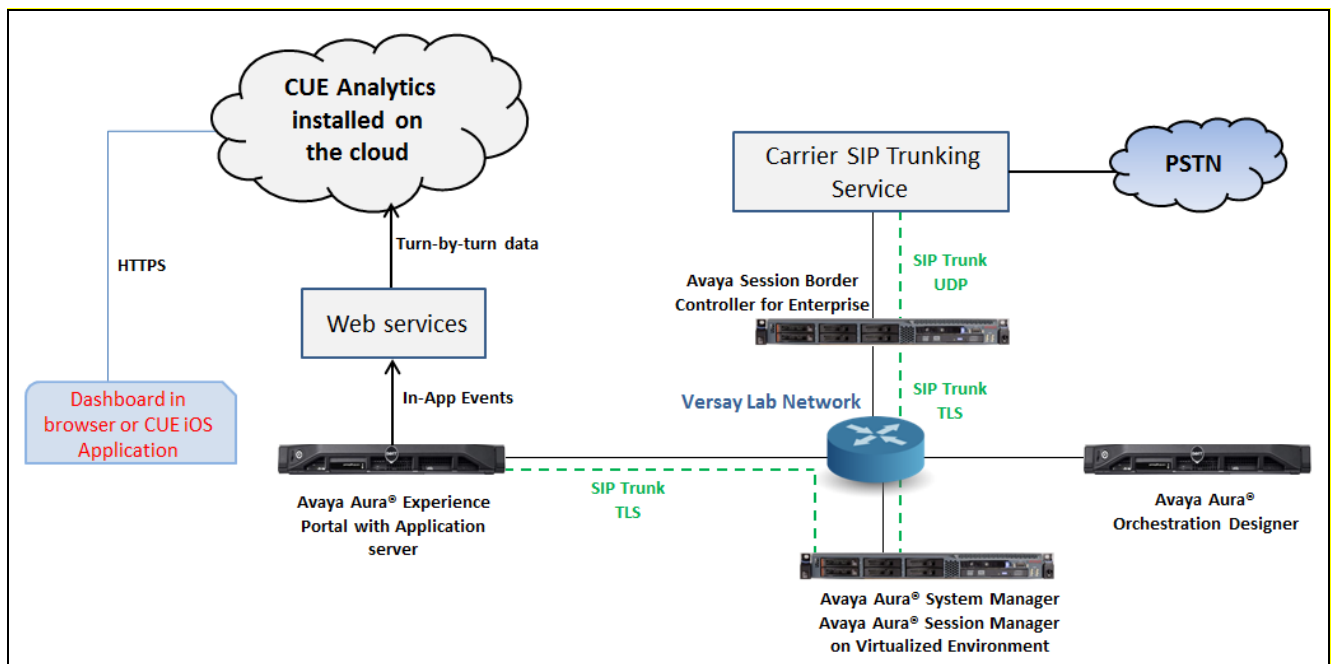


Figure 1: Test Configuration Diagram

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® System Manager	7.0.1.0
Avaya Aura® Session Manager	7.0.1.0.701007
Avaya Aura® Experience Portal	7.1.0.0.1107
Avaya Session Border Controller for Enterprise	7.1.0.2
Avaya Aura® Orchestration Designer	7.2.1
Versay CUE Analytics	3.0
Versay CUE Integration Adapter Com.vailsys.cue.adapter.plugin.ui_1.0.7.jar	1.0.7

5. Configure Avaya Aura® Experience Portal

Avaya Aura® 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. Ensure to save the screen parameters while configuring Avaya Aura® Experience Portal.

AVAYA Welcome, epadmin
Last logged in today at 1:21:13 PM PST

Avaya Aura® Experience Portal 7.1.0 (ExperiencePortal) Home Help Logoff

Expand All | Collapse All

You are here: Home

Avaya Aura® Experience Portal Manager

Avaya Aura® Experience Portal Manager (EPM) is the consolidated web-based application for administering Experience Portal. Through the EPM interface you can configure Experience Portal, check the status of an Experience Portal component, and generate reports related to system operation.

License grace period for Experience Portal will end on Jan 16, 2017 10:46:53 AM PST.

Installed Components

Media Processing Platform
Media Processing Platform (MPP) is an Avaya media processing server. When an MPP receives a call from a PBX, it invokes a VoiceXML (or CCXML) application on an application server. It then communicates with ASR and TTS servers as necessary to process the call.

Email Service
Email Service is an Experience Portal feature which provides e-mail capabilities.

HTML Service
HTML Service is an Experience Portal feature which supports web applications with HTML5 capabilities. It includes support for browser based services for mobile devices.

SMS Service
SMS Service is an Experience Portal feature which provides SMS capabilities.

- ▼ **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**
- ▶ **Multi-Media Configuration**

5.1. 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 SIP proxy using TLS otherwise select TCP.
- **Proxy Servers:** Enter the SIP signaling IP address of Session Manager.
- **SIP Domain:** Enter a SIP domain “avayasm.vailsys.com” as configured in **Section 6.1**.

Click **Save** button to save the changes.

AVAYA

Welcome, epadmin
Last logged in May 3, 2017 at 8:05:55 AM PDT

Avaya Aura® Experience Portal 7.1.0 (ExperiencePortal) Home Help Logoff

Expand All | Collapse All

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

Add SIP Connection

Use this page to add a new SIP connection.

Name:

Enable: Yes No

Proxy Transport:

Proxy Servers DNS SRV Domain

Address	Port	Priority	Weight	
172.20.152.253	5061	0	0	Remove

[Additional Proxy Server](#)

Listener Port:

SIP Domain:

P-Asserted-Identity:

Maximum Redirection Attempts:

Consultative Transfer: INVITE with REPLACES REFER

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

In the **Call Capacity** section, enter a number in the **Maximum Simultaneous Calls** and select “All call can be either inbound or outbound” option. All other fields can be left at default. Scroll down to **SRTP** section, configure SRTP profile as shown in the **Configured SRTP List** below.

The screenshot displays the Avaya Aura Experience Portal 7.1.0 (ExperiencePortal) interface. The left sidebar contains a navigation menu with categories: 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), and Security (Certificates). The main content area is titled "Call Capacity" and includes a text input field for "Maximum Simultaneous Calls" set to "2". Below this are two radio button options: "All Calls can be either inbound or outbound" (selected) and "Configure number of inbound and outbound calls allowed". The "SRTP" section contains several configuration options: "Enable:" (Yes selected, No unselected), "Encryption Algorithm:" (AES_CM_128 selected, NONE unselected), "Authentication Algorithm:" (HMAC_SHA1_80 selected, HMAC_SHA1_32 unselected), "RTCP Encryption Enabled:" (Yes unselected, No selected), and "RTP Authentication Enabled:" (Yes selected, No unselected). An "Add" button is located to the right of the RTP Authentication Enabled option. Below the SRTP configuration is a "Configured SRTP List" section with a text area containing the string "SRTP-Yes,AES_CM_128,HMAC_SHA1_80,RTCP Encryption-No,RTP Authentication-Yes" and a "Remove" button to its right.

5.2. Administer Speech Server

5.2.1. 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 Nuance speech server in **Network Address**. In **Base Port**, fill in “5060” for **TCP** and “5061” for **TLS**, in this case the port “5060” was used for TCP. Enter appropriate value in **Total Number of Licensed ASR Resources**, set **New Connection per Session** to **No** set **Languages** to **English(USA) en-US**. In the **MRCP** section, select **MRCP V2** in the **Protocol** dropdown menu, select **TCP** in the **Transport Protocol** dropdown menu and enter the port “5060” in the **Listener Port** field.

You are here: [Home](#) > [System Configuration](#) > [Speech Servers](#) > Add ASR Server

Add ASR Server

Use this page to configure Experience Portal to communicate with a new ASR server.

Name:

Enable: Yes No

Engine Type:

Network Address:

Base Port:

Total Number of Licensed ASR Resources:

New Connection per Session: Yes No

Languages:

English(Australia) en-AU
English(UK) en-GB
English(India) en-IN
English(Singapore) en-SG
English(South_Africa) en-ZA
English(USA) en-US

MRCP

Ping Interval: seconds

Response Timeout: seconds

Protocol:

Transport Protocol:

Listener Port:

5.2.2. 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 Nuance speech TTS in **Network Address**. In **Base Port**, fill in **5060**, enter appropriate value in **Total Number of Licensed ASR Resources**, set **New Connection per Session** to **No**, set **Voices** to **English(USA) en-US Jill F**. In the MRCP section, select “MRCP V2” and “TCP” in the **Protocol** and **Transport Protocol** dropdown menu, enter “5060” in the **Listener Port** field and keep other values at default.

You are here: [Home](#) > [System Configuration](#) > [Speech Servers](#) > Add TTS Server

Add TTS Server

Use this page to configure Experience Portal to communicate with a new TTS server.

Name:

Enable: Yes No

Engine Type:

Network Address:

Base Port:

Total Number of Licensed TTS Resources:

New Connection per Session: Yes No

Voices:

English(USA) en-US Ethan M
English(USA) en-US Evan M
English(USA) en-US Evelyn F
English(USA) en-US Jennifer F
English(USA) en-US Jill F
English(USA) en-US Kate F

MRCP

Ping Interval: seconds

Response Timeout: seconds

Protocol:

Transport Protocol:

Listener Port:

5.3. 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** (not shown) and in the **Applications** page click **Add** button (not shown). Below is a ample of application used during the compliance test. In the **Speech Server** section, select the ASR and TTS servers as configured in **Section 5.2**.

You are here: [Home](#) > [System Configuration](#) > [Applications](#) > Add Application

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

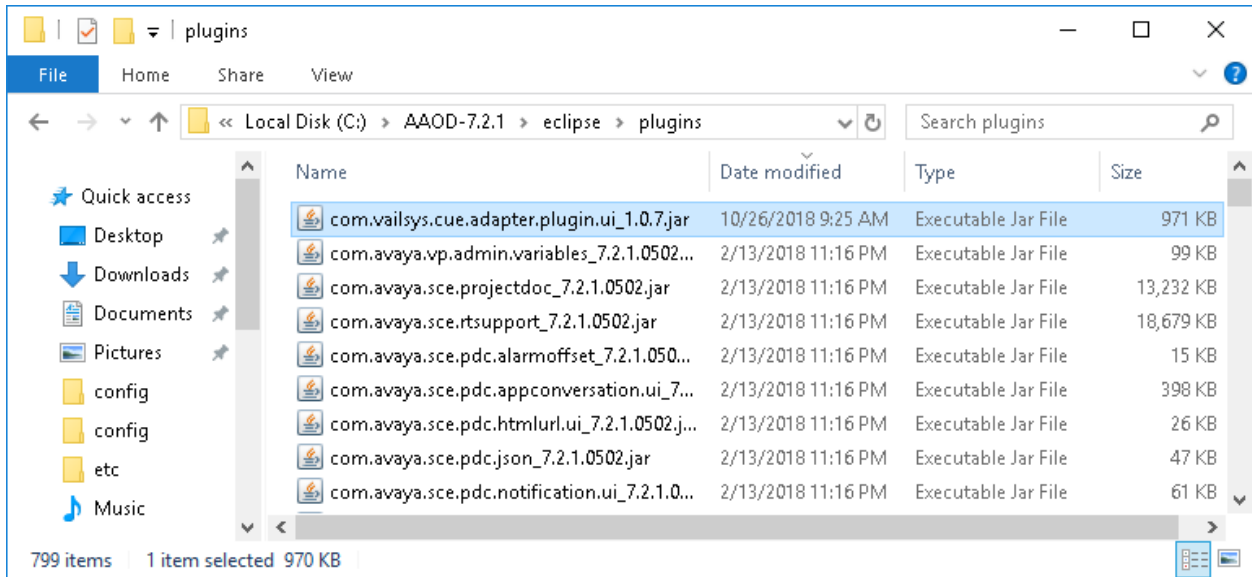
Called Number:

Speech Parameters ▶
Reporting Parameters ▶
Advanced Parameters ▶

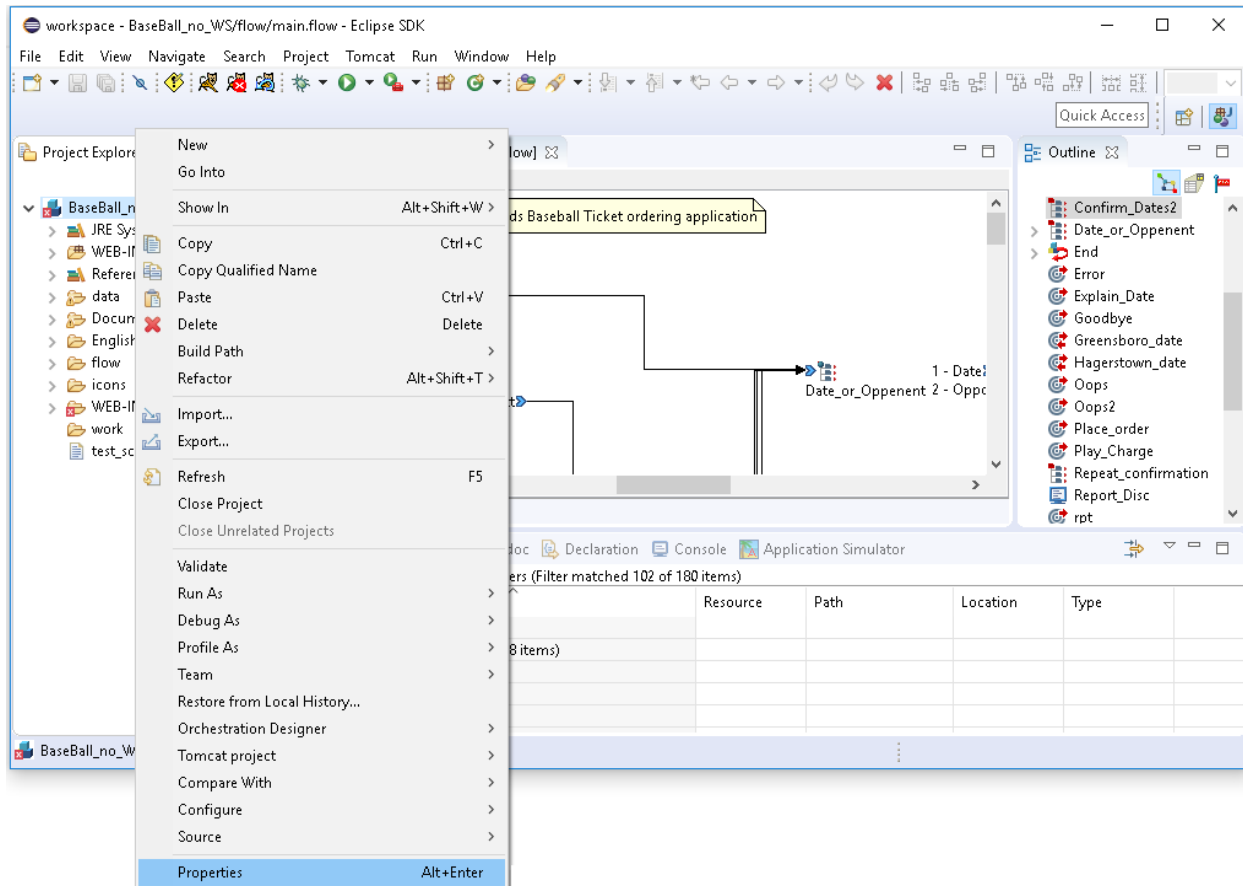
6. Configure Avaya Aura® Orchestration Designer

This document assumes the installation and basic configuration of Orchestration Designer are already in place, this section describes steps of how to configure the CUE Pluggable Data Connector used for creating a speech application.

1. Download and copy the CUE Pluggable Data Connector “**com.vailsys.cue.adapter.plugin.ui_1.0.7.jar**” file into the Eclipse plugins directory as shown in the picture below.

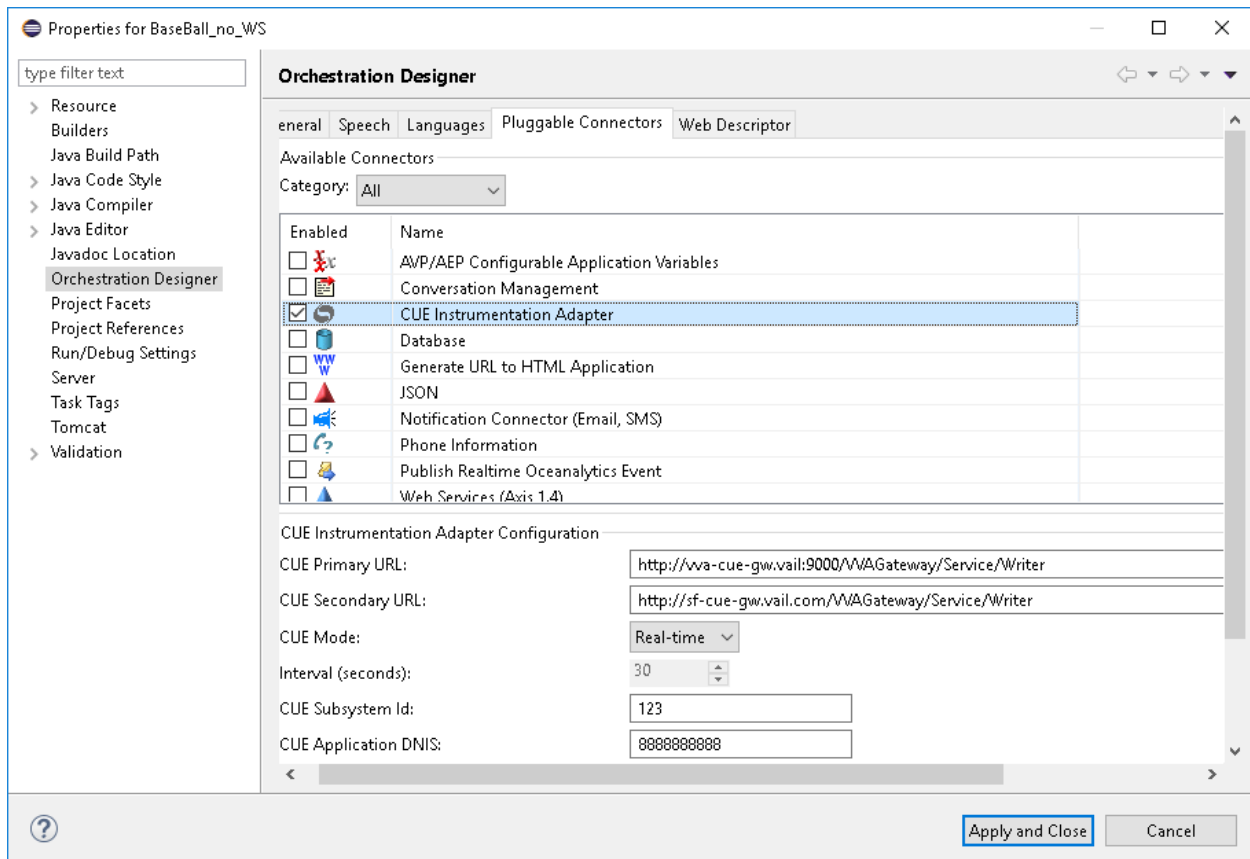


1. Plugin Activation: Create a speech project. During compliance testing, “Baseball” speech project was used. Do a right click on the “BaseBall” speech application in the Project Explorer and select **Properties** in the context menu as shown below.



The Properties for BaseBall speech application is opened. From the left navigation menu, select **Orchestration Designer** → **Pluggable Connectors**. Under the **Available Connectors** section, enable the **CUE Instrumentation Adapter** and enter the **CUE Instrumentation Adapter Configuration** parameters as below:

- **CUE Primary URL** – <http://vva-cue-gw.vail:9000/VVAGateway/Service/Writer>
- **CUE Secondary URL** – <http://vva-cue-gw.vail:9000/VVAGateway/Service/Writer>
- **CUE Mode** – select “Real-time” from the dropdown menu
- **Interval (seconds)** – Retain default value
- **CUE Subsystem Id** – Defined by the customer but not used by CUE. Customers tend to use the System or App ID used internally.
- **CUE Application DNIS** – 10-digit unique numeric identifier (to be approved by Versay)
- **CUE API Key** (not shown) – as generated from key generation.
- **CUE App ID** (not shown) - Defined by the customer and provided to Versay



7. Configure Versay CUE Analytics System

The configuration of Versay CUE Analytics system is done by Versay engineer and is outside of the scope of these Application Notes. To obtain further information on Versay CUE system configuration please contacts an authorized Versay representative.

8. Verification Steps

This section provides the verification steps that may be performed to verify that Avaya Aura® Experience Portal and Versay CUE Analytics using CUE pluggable adaptor.

1. From the EPM web interface, verify that the MPP servers are online and running. On the left pane, navigate to **System Management** → **MPP Manager**.

You are here: [Home](#) > System Management > MPP Manager

MPP Manager (May 11, 2017 7:38:27 AM PDT)

This page displays the current state of each MPP in the Experience Portal system. To enable the state and mode commands, select one or more MPPs. To enable the mode commands, the selected MPPs must also be stopped.

Last Poll: May 11, 2017 7:38:21 AM PDT

	Server Name	Mode	State	Config	Auto Restart	Restart Schedule		Active Calls	
						Today	Recurring	In	Out
<input type="checkbox"/>	mpp		Online Running	Restart needed	Yes	No	None	0	0

State Commands

Restart/Reboot Options

One server at a time
 All servers

Mode Commands

[Help](#)

2. 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**.

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

Port Distribution Report (28-Nov-2018 08:04:08 PST)

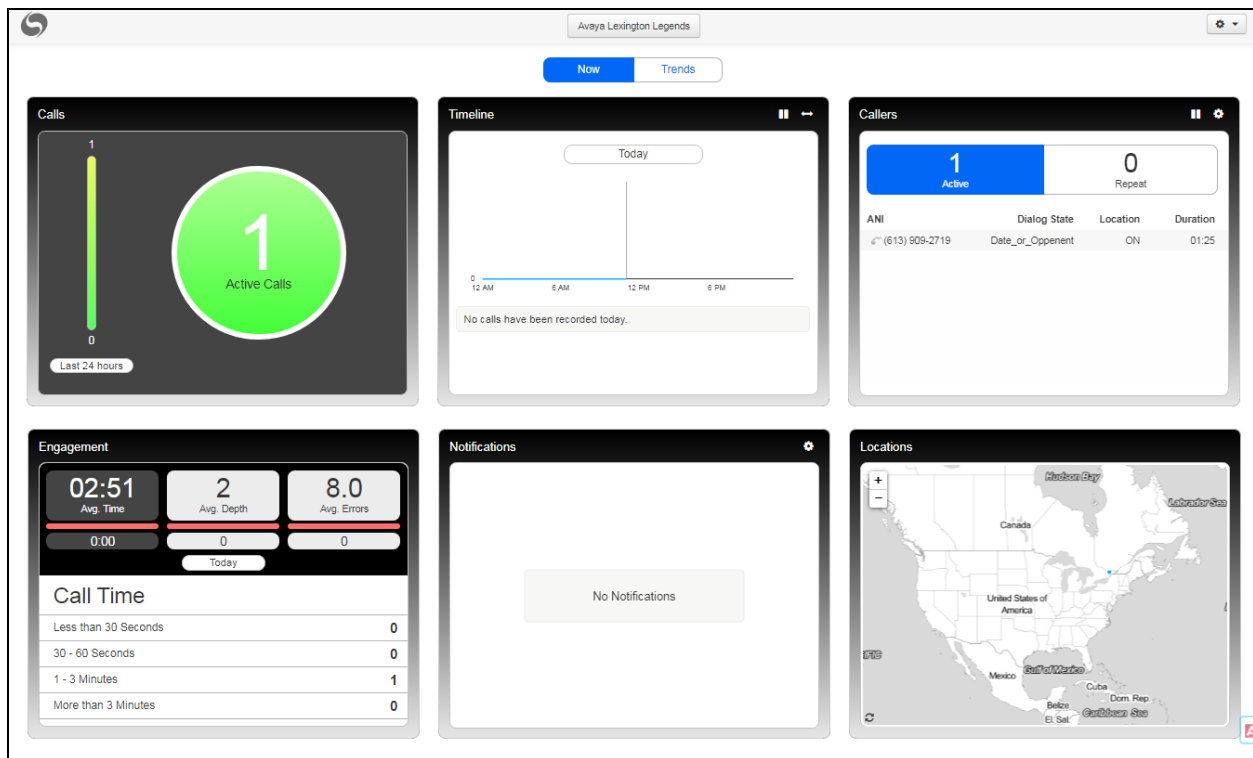
This page displays information about how the telephony resources have been distributed to the MPPs. You configure the telephony resources on the VoIP Connections page.

Total Ports: 10

Last Poll: 28-Nov-2018 08:03:55 PST

Port	Mode	State	Port Group	Protocol	Current Allocation	Base Allocation
10	Online	In service	Aavaya-SM	SIP_Trunk	mpp72	

- Open Firefox or Google Chrome browser to launch the URL <https://app.cuedashboard.com/>, enter an appropriate username and password provided by Versay to log in the CUE dashboard. The CUE dashboard is displayed; select **Now** tab to check real-time information from the dashboard. Place a call to the number for the application as configured in the Experience Portal, the CUE dashboard shows the call information in the real time with 6 widgets: **Calls**, **Timeline**, **Callers**, **Engagement**, **Notifications** and **Locations**.



9. Conclusion

These Application Notes describe the configuration steps required to integrate Versay CUE Pluggable Data Adapter with Avaya Aura® Orchestration Designer. All feature and serviceability test cases were completed successfully.

10. 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® Session Manager, Release 8.0, Issue 7, August 2018
- [2] Administering Avaya Aura® Experience Portal, Release 7.2, May 2016
- [3] Getting Started with Avaya Aura® Orchestration Designer, Release 7.2.1, March 2018

Versay CUE Analytics documentation is always available from <http://www.versay.com/cue-analytics>

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