



Avaya Solution & Interoperability Test Lab

Application Notes for Swampfox ICX/DRM with Avaya Aura® Communication Manager, Avaya Aura® Application Enablement Services, and Avaya Experience Portal – Issue 1.0

Abstract

These Application Notes describe the steps required to integrate Swampfox Intelligent Call Experience / Dynamic Route Manager (ICX/DRM) 3.1.2 with Avaya Aura® Communication Manager 8.1, Avaya Aura® Application Enablement Services 8.1, and Avaya Experience Portal 7.2.3. Swampfox ICX/DRM provides the best customer experience possible through intelligent call center routing. It monitors contact center statistics and agents in real-time and connects callers to the best agent based on business rules. Swampfox ICX/DRM provides a differentiated customer experience through dynamic voice (IVR) applications and managing to customers' service levels. Swampfox ICX/DRM interacts with Avaya Experience Portal via a CCXML application and Avaya Aura® Application Enablement Services via a TSAPI link.

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 steps required to integrate Swampfox Intelligent Call Experience / Dynamic Route Manager (ICX/DRM) 3.1.2 with Avaya Aura® Communication Manager 8.1, Avaya Aura® Application Enablement Services 8.1, and Avaya Experience Portal 7.2.3. Swampfox ICX/DRM provides the best customer experience possible through intelligent call center routing. It monitors contact center statistics and agents in real-time and connects callers to the best agent based on business rules. Swampfox ICX/DRM provides a differentiated customer experience through dynamic voice (IVR) applications and managing to customers' service levels. Swampfox ICX/DRM interacts with Avaya Experience Portal via a CCXML application and Avaya Aura® Application Enablement Services via a TSAPI link.

For the compliance test, a sample CCXML application was configured on Avaya Experience Portal, and hosted on the Swampfox ICX/DRM server, that greeted the customer, prompted the customer to enter the department to which to route the call (i.e., sales or service), and then based on the ANI or DNIS, routed the customer's call to the best agent/skill providing either "gold level" or "bronze level" service. While the customer waited to be connected to an agent, the customer received the appropriate Advanced Wait Treatment (e.g., Music on Hold). When the call was being connected to an agent, the agent received Whisper Treatment, which played a message to the agent. In this case, the agent heard the service level of the caller (i.e., "gold" or "bronze" customer). The customer was then connected to the agent. Swampfox ICX/DRM monitored the contact center statistics and agents using a TSAPI link on Avaya Aura® Application Enablement Services (AES). Swampfox ICX/DRM generated call reports and tracked agent status on the Web portal.

Note: The configuration of CCXML application interaction and call flows on Swampfox ICX/DRM are outside the scope of these Application Notes.

2. General Test Approach and Test Results

The interoperability compliance test included feature and serviceability testing. The feature testing focused on placing calls to an application on Experience Portal and verifying that ICX/DRM routed the call to the appropriate agents based on ANI and DNIS.

The serviceability testing focused on verifying that ICX/DRM returned to service after re-connecting the network or rebooting the server.

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 this DevConnect Application Note 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 ICX/DRM did not include use of any specific encryption features as requested by Swampfox.

2.1. Interoperability Compliance Testing

Interoperability compliance testing covered the following features and functionality:

- Use of TSAPI query service to query agent status on agents.
- Use of TSAPI snapshot and monitoring services to monitor calls.
- Use of TSAPI event report service to monitor VDNs and skill groups.
- Use of TSAPI service status service to receive changes in system status.
- Calls from PSTN and internal users to a CCXML application on Experience Portal. Based on the ANI or DNIS, ICX/DRM routed the call the appropriate agent/skill.
- Advanced Wait Treatment for the caller and Whisper Treatment for the agent prior to the customer being connected to agent.
- Proper system recovery after a restart of the ICX/DRM server or loss of network connectivity.

2.2. Test Results

All test cases passed with the following observation:

- The ICX/DRM Dashboard may stop updating agent status. During the compliance test, this issue was observed for an agent logged into an Avaya J100 Series SIP Deskphone, but not with an Avaya 96x1 Series H.323 Deskphone or Avaya Agent for Desktop with SIP interface. Restarting the ICX/DRM server resolved the issue. The issue was reported to Swampfox and they are investigating.

2.3. Support

For Swampfox ICX/DRM technical support, contact Swampfox Support via phone or website.

- **Phone:** +1 (803) 451-4542
- **Web:** <http://support.swampfoxinc.com/contact>

3. Reference Configuration

Figure 1 illustrates a sample configuration with an Avaya Aura® Environment that includes the following products:

- Communication Manager with a G450 Media Gateway and Avaya Aura® Media Server providing media resources.
- Session Manager connected to Communication Manager via a SIP trunk
- Session Manager connected to the PSTN via Avaya Session Border Controller for Enterprise (SBCE).
- Avaya Aura® System Manager used to configure Session Manager and SIP stations on Communication Manager.
- Application Services configured to communicate with Avaya Aura® Communication Manager via TSAPI.
- Experience Portal configured to launch a sample CCXML application that routes callers to the appropriate agent/skill using the Swampfox ICX/DRM routing engine.
- Avaya H.323 / SIP Deskphones and Avaya Agent for Desktop.
- Swampfox ICX/DRM with a TSAPI link to Application Enablement Services and hosting a sample CCXML application.

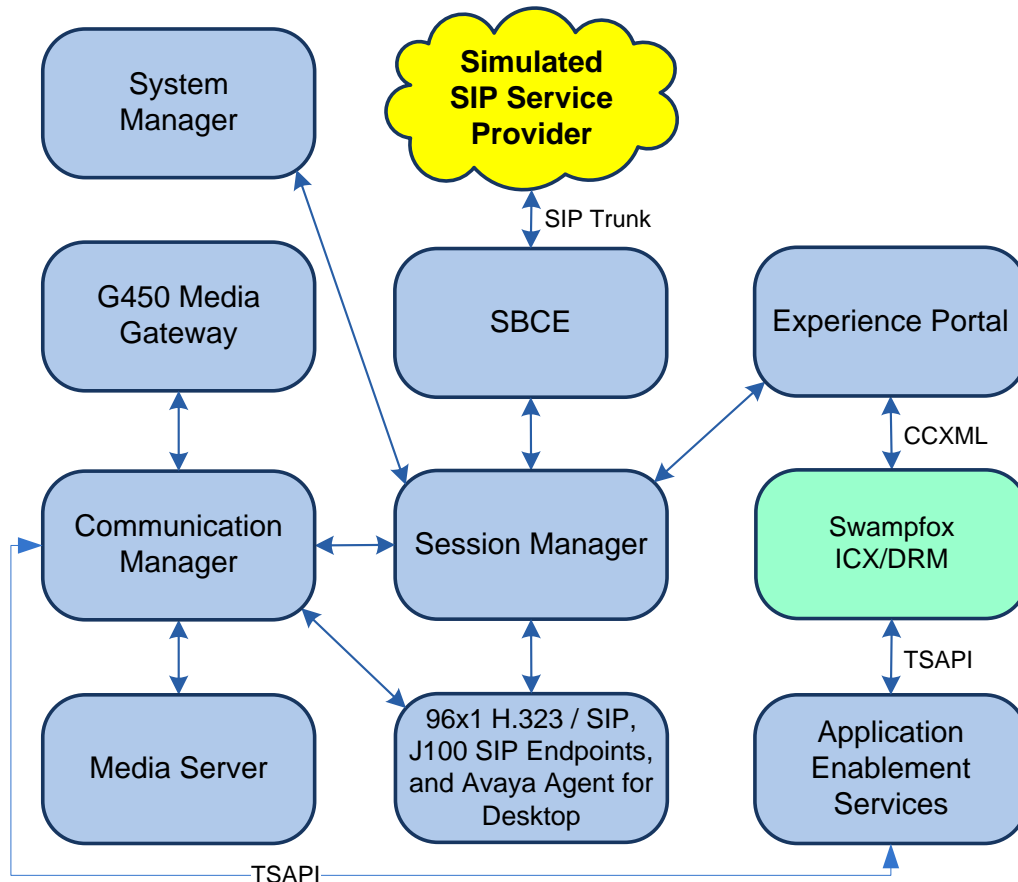


Figure 1: Avaya Aura® Environment with Swampfox ICX/DRM

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	8.1.3.0.1-FP3P1
Avaya G450 Media Gateway	FW 41.24.0
Avaya Aura® Media Server	v.8.0.2.138
Avaya Aura® System Manager	8.1.3.0 Build No. – 8.1.0.0.733078 Software Update Revision No: 8.1.3.0.1012091 Feature Pack 3
Avaya Aura® Session Manager	8.1.3.0.813014
Avaya Session Border Controller for Enterprise	8.1.2.0-31-19809
Avaya Aura® Application Enablement Services	8.1.3.0.0.25-0
Avaya Experience Portal	7.2.3
Avaya 96x1 Series IP Deskphones	6.8502 (H.323) 7.1.11.0.8 (SIP)
Avaya J100 Series SIP Deskphones	4.0.7.1.5
Avaya Agent for Desktop	2.0.6.9.3001
Swampfox ICX/DRM	3.1.2

5. Configure Avaya Aura® Communication Manager

This section provides the steps for configuring Communication Manager. Administration of Communication Manager was performed using the System Access Terminal (SAT). This covers the following areas:

- Verify License
- Administer AES Connection
- Administer CTI Link
- Administer Vectors and VDNs

5.1. Verify License

Log into the System Access Terminal (SAT) to verify that the Communication Manager license has proper permissions for features illustrated in these Application Notes. Use the **display system-parameters customer-options** command. Navigate to **Page 4** and verify that the **Computer Telephony Adjunct Links** customer option is set to “y”.

The license file installed on the system controls the maximum permitted. If there is insufficient capacity, contact an authorized Avaya sales representative to make the appropriate changes.

```
display system-parameters customer-options                                Page 4 of 12
                                OPTIONAL FEATURES

Abbreviated Dialing Enhanced List? y      Audible Message Waiting? y
Access Security Gateway (ASG)? n           Authorization Codes? y
Analog Trunk Incoming Call ID? y           CAS Branch? n
A/D Grp/Sys List Dialing Start at 01? y    CAS Main? n
Answer Supervision by Call Classifier? y    Change COR by FAC? n
ARS? y      Computer Telephony Adjunct Links? y
ARS/AAR Partitioning? y      Cvg Of Calls Redirected Off-net? y
ARS/AAR Dialing without FAC? n           DCS (Basic)? y
ASAI Link Core Capabilities? y           DCS Call Coverage? y
ASAI Link Plus Capabilities? y           DCS with Rerouting? y
Async. Transfer Mode (ATM) PNC? n        Digital Loss Plan Modification? y
Async. Transfer Mode (ATM) Trunking? n    DS1 MSP? y
ATM WAN Spare Processor? n              DS1 Echo Cancellation? y
ATMS? y
Attendant Vectoring? y

(NOTE: You must logoff & login to effect the permission changes.)
```

Navigate to **Page 7** and verify that the **Vectoring (Basic)** customer option is set to “y”.

```

display system-parameters customer-options
                                Page 7 of 12
                                CALL CENTER OPTIONAL FEATURES

                                Call Center Release: 8.0

                                ACD? y                                Reason Codes? y
                                BCMS (Basic)? y                    Service Level Maximizer? n
                                BCMS/VuStats Service Level? y    Service Observing (Basic)? y
BSR Local Treatment for IP & ISDN? y    Service Observing (Remote/By FAC)? y
                                Business Advocate? n            Service Observing (VDNs)? y
                                Call Work Codes? y                Timed ACW? y
                                DTMF Feedback Signals For VRU? y    Vectoring (Basic)? y
                                Dynamic Advocate? n                Vectoring (Prompting)? y
                                Expert Agent Selection (EAS)? y    Vectoring (G3V4 Enhanced)? y
                                EAS-PHD? y                        Vectoring (3.0 Enhanced)? y
                                Forced ACD Calls? n                Vectoring (ANI/II-Digits Routing)? y
                                Least Occupied Agent? y            Vectoring (G3V4 Advanced Routing)? y
                                Lookahead Interflow (LAI)? y        Vectoring (CINFO)? y
Multiple Call Handling (On Request)? y    Vectoring (Best Service Routing)? y
                                Multiple Call Handling (Forced)? y    Vectoring (Holidays)? y
                                PASTE (Display PBX Data on Phone)? y    Vectoring (Variables)? y
                                (NOTE: You must logoff & login to effect the permission changes.)

```

5.2. Administer AES Connection

In the **IP Services** form, add an entry for AES. On Page 1, configure the following fields:

- **Service Type:** Set to *AESVCS*.
- **Enabled:** Set to y.
- **Local Node:** Set to *procr* for the Processor Ethernet interface.
- **Local Port:** Use the default of 8765.

change ip-services					Page	1 of 3
IP SERVICES						
Service Type	Enabled	Local Node	Local Port	Remote Node	Remote Port	TLS Encryption
AESVCS	y	procr	8765			

On Page 4 of the **IP Services** form, configure the following fields:

- **AE Services Server:** Set to the AES server hostname from the **IP Node Names** form (not shown).
- **Password:** Set to a password to be administered on AES in **Section 6.3**.
- **Enabled:** Set to *y*.

change ip-services				Page	3 of	3
AE Services Administration						
Server ID	AE Services Server	Password	Enabled	Status		
1:	devcon-aes	*	y	in use		

5.3. Administer CTI Link

Add a CTI link using the **add cti-link** command. Enter an available extension number in the **Extension** field. Note that the CTI link number and extension number may vary. Enter *ADJ-IP* in the **Type** field, and a descriptive name in the **Name** field. Default values may be used in the remaining fields.

CTI Link: 1		COR: 1
Extension: 77700		
Type: ADJ-IP		
Name: AES TSAPI Link		
Unicode Name? n		

5.4. Configure Contact Center

To support the sample contact center used in the compliance test, the following Hunt Groups, VDNs and Vectors were configured. The actual configuration screens will not be included in these Application Notes, because the configuration was basic and straightforward. Customers should configure them to meet their business needs. They are being listed here to provide context for the ICX/DRM configuration in **Section 7**.

5.4.1. Hunt Groups

Administer four Hunt Groups for Sales Gold, Sales Bronze, Service Gold and Service Bronze. Agents logged into each of the skill groups.

Hunt Group Number	Hunt Group Extension	Purpose
81	77801	Skill for Sales Gold Group.
82	77802	Skill for Sales Bronze Group.
83	77803	Skill for Service Gold Group.
84	77804	Skill for Service Bronze Group.

5.4.2. Vectors and VDNs

Administer four VDNs and four Vectors for Sales Gold, Sales Bronze, Service Gold and Service Bronze. The Vectors queued the call to the appropriate skill in **Section 5.4.1**.

VDN	Vector	Purpose
77811	81	VDN & Vector for Sales Gold Group.
77812	82	VDN & Vector for Sales Bronze Group.
77813	83	VDN & Vector for Service Gold Group.
77814	84	VDN & Vector for Service Bronze Group.

6. Configure Avaya Aura® Application Enablement Services

This section provides the steps for configuring Application Enablement Services. The procedures include the following areas:

- Launch OAM Interface
- Verify License
- Administer Switch Connection
- Administer TSAPI Link
- Restart Service
- Obtain Tlink Name
- Administer User
- Verify Security Database

6.1. Launch OAM Interface

Access the OAM web-based interface by using the URL “https://<ip-address>” in an Internet browser window, where <ip-address> is the IP address of the Application Enablement Services server. The login screen is displayed. Log in using the appropriate credentials.



Application Enablement Services Management Console

Help

Please login here:


Username

Continue

Copyright © 2009-2020 Avaya Inc. All Rights Reserved.

6.2. Verify License

Select **Licensing** → **WebLM Server Access** in the left pane to display the **Web License Manager** pop-up screen (not shown). Log in using the appropriate credentials.

**Application Enablement Services**
Management Console

Welcome: User cust
Last login: Tue Feb 9 14:33:49 2021 from 192.168.100.250
Number of prior failed login attempts: 0
HostName/IP: devcon-aes/10.64.102.119
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.1.3.0.0.25-0
Server Date and Time: Tue Feb 16 11:07:47 EST 2021
HA Status: Not Configured

Licensing[Home](#) | [Help](#) | [Logout](#)

▶ AE Services
▶ Communication Manager
Interface
High Availability
▼ **Licensing**
WebLM Server Address
WebLM Server Access
Reserved Licenses
▶ Maintenance
▶ Networking
▶ Security

Licensing

If you are setting up and maintaining the WebLM, you need to use the following:

- WebLM Server Address

If you are importing, setting up and maintaining the license, you need to use the following:

- WebLM Server Access

If you want to administer TSAPI Reserved Licenses or DMCC Reserved Licenses, you need to use the following:

- Reserved Licenses

NOTE: Please disable your pop-up blocker if you are having difficulty with opening this page

The **Web License Manager** screen below is displayed. Select **Licensed Products** → **APPL_ENAB** → **Application Enablement** in the left pane to display the **Application Enablement (CTI)** screen in the right pane.

Verify that there are sufficient licenses for **TSAPI Simultaneous Users** (**VALUE_AES_TSAPI_USERS**) as shown below.

WebLM Home

Install license

Licensed products

APPL_ENAB

▼ Application_Enablement

View license capacity

View peak usage

ASBCE

►Session_Border_Controller_E_AE

COMMUNICATION_MANAGER

►Call_Center

►Communication_Manager

MESSAGING

►Messaging

MSR

►Media_Server

OL

►OL

SYSTEM_MANAGER

►System_Manager

SessionManager

►SessionManager

VDIA

►VDIA

VSS

►Voice_Portal

Application Enablement (CTI) - Release: 8 - SID: 10503000

Standard License

You are here: Licensed Products > Application_Enablement > View License Capacity

License installed on: June 28, 2019 11:26:36 AM -05:00

License File Host IDs: V7-94-F5-41-87-5E-01

Licensed Features


13 Items Show All ▼

Feature (License Keyword)	Expiration date	Licensed capacity
Device Media and Call Control VALUE_AES_DMCC_DMC	permanent	10000
AES ADVANCED LARGE SWITCH VALUE_AES_AEC_LARGE_ADVANCED	permanent	16
AES HA LARGE VALUE_AES_HA_LARGE	permanent	1
AES ADVANCED MEDIUM SWITCH VALUE_AES_AEC_MEDIUM_ADVANCED	permanent	16
Unified CC API Desktop Edition VALUE_AES_AEC_UNIFIED_CC_DESKTOP	permanent	10000
CVLAN ASAI VALUE_AES_CVLAN_ASAI	permanent	16
AES HA MEDIUM VALUE_AES_HA_MEDIUM	permanent	1
AES ADVANCED SMALL SWITCH VALUE_AES_AEC_SMALL_ADVANCED	permanent	16
DLG VALUE_AES_DLG	permanent	16
TSAPI Simultaneous Users VALUE_AES_TSAPI_USERS	permanent	10000
CVLAN Proprietary Links VALUE_AES_PROPRIETARY_LINKS	permanent	16

Scroll down to see the rest of the licenses. Note that the ICX/DRM solution uses **VALUE_AES_TSAPI_USERS** license as shown in the **Acquired Licenses** section below.


Product Notes VALUE_NOTES	permanent	SmallServerTypes: s8300c;s8300d;icc;premio;tn8400;laptop;CtiS MediumServerTypes: ibmx306;ibmx306m;dell1950;xen;hs20;hs20_ LargeServerTypes: isp2100;ibmx305;dl380g3;dl385g1;dl385g2;u TrustedApplications: IPS_001, BasicUnrestricted, DMCUnrestricted; 1XP_001, BasicUnrestricted, DMCUnrestricted; 1XM_001, BasicUnrestricted, DMCUnrestricted; PC_001, BasicUnrestricted, , DMCUnrestricted; CIE_001, BasicUnrestricted, DMCUnrestricted; OSPC_001, BasicUnrestricted, DMCUnrestricted; VP_001, BasicUnrestricted, , DMCUnrestricted; SAMETIME_001, VALUE_AEC CCE_001, BasicUnrestricted, AdvancedUnrestricted, CSI_T1_001, BasicUnrestricted, AdvancedUnrestricted, CSI_T2_001, BasicUnrestricted, AdvancedUnrestricted, AVAYAVERINT_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted; CCT_ELITE_CALL_CTRL_001, AdvancedUnrestricted, DMCUnrestricted, AgentEvents; BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted, UNIFIED_DESKTOP_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted, AgentEvents; AACC_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted; CE_AEC_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted, TP_CLIENT_001, BasicUnrestricted, , , AgentEvents; AgentEvents; EXT_CLIENT_002, , , , AgentEvents; AgentEvents; EXT_CLIENT_004, , , , AgentEvents; AgentEvents; EXT_CLIENT_006, , , , AgentEvents; AgentEvents; EXT_CLIENT_008, , , , AgentEvents; AgentEvents; EXT_CLIENT_010, , , , AgentEvents; AAWFO_SELECT_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted, AgentEvents; OFFICELINUX_001, AdvancedUnrestricted, DMCUnrestricted, AgentEvents; BasicUnrestricted, , DMCUnrestricted, AgentEvents; BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted, ECD_001, , AdvancedUnrestricted, , AgentEvents; VERINT_ESSENTIAL_001, BasicUnrestricted, AdvancedUnrestricted, DMCUnrestricted;
AES HA SMALL VALUE_AES_HA_SMALL	permanent	1

Acquired Licenses

1 Item  Show All ▼			
Feature	Acquired by	Acquirer ID	Count
VALUE_AES_AEC_MEDIUM_ADVANCED	TSAPI (devcon-aes)	devcon-aes:1612892496:8549:-164894784:0000	1

6.3. Administer Switch Connection

To administer a **Switch Connection** for Communication Manager, navigate to **Communication Manager Interface** → **Switch Connections** and enter a name for the new switch connection and click the **Add Connection** button. This was previously configured as *devcon* as shown below.

**Application Enablement Services**
Management Console

Welcome: User cust
Last login: Tue Feb 9 14:33:49 2021 from 192.168.100.250
Number of prior failed login attempts: 0
HostName/IP: devcon-aes/10.64.102.119
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.1.3.0.0.25-0
Server Date and Time: Tue Feb 16 10:55:53 EST 2021
HA Status: Not Configured

Communication Manager Interface | Switch ConnectionsHome | Help | Logout

▶ AE Services

▼ Communication Manager Interface

Switch Connections

▶ Dial Plan

High Availability


▶ Licensing

▶ Maintenance

Switch Connections

Connection Name	Processor Ethernet	Msg Period	Number of Active Connections
<input checked="" type="radio"/> devcon	Yes	30	1

Click **Edit Connection** button to configure the connection details. Enter the **Switch Password** and check the **Processor Ethernet** box, if using the **procr** interface, as shown below. The password must match the one configured when adding AESVCS connection in Communication Manager in **Section 5.2**.

**Application Enablement Services**
Management Console

Welcome: User cust
Last login: Tue Feb 9 14:33:49 2021 from 192.168.100.250
Number of prior failed login attempts: 0
HostName/IP: devcon-aes/10.64.102.119
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.1.3.0.0.25-0
Server Date and Time: Tue Feb 16 10:58:10 EST 2021
HA Status: Not Configured

Communication Manager Interface | Switch ConnectionsHome | Help | Logout

▶ AE Services

▼ Communication Manager Interface

Switch Connections

▶ Dial Plan

High Availability

▶ Licensing

▶ Maintenance

▶ Networking

▶ Security

▶ Status

Connection Details - devcon

Switch Password

.....

Confirm Switch Password

.....

Msg Period

30

Minutes (1 - 72)

Provide AE Services certificate to switch

☐

Secure H323 Connection

☐


Processor Ethernet

☒

Enable TLS Certificate Hostname Validation

☐

Click **Edit PE/CLAN IPs** on the **Switch Connection** page and configure the **procr** or **CLAN IP** address of Communication Manager and click **Add/Edit Name or IP**.



Application Enablement Services
Management Console

Welcome: User cust
 Last login: Tue Feb 9 14:33:49 2021 from 192.168.100.250
 Number of prior failed login attempts: 0
 HostName/IP: devcon-aes/10.64.102.119
 Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
 SW Version: 8.1.3.0.0.25-0
 Server Date and Time: Tue Feb 16 10:59:17 EST 2021
 HA Status: Not Configured

Communication Manager Interface | Switch Connections
Home | Help | Logout


- ▶ AE Services
- ▼ Communication Manager Interface
 - Switch Connections
 - ▶ Dial Plan
 - High Availability
 - ▶ Licensing
 - ▶ Maintenance

Edit Processor Ethernet IP - devcon

Name or IP Address	Status
10.64.102.115	In Use

6.4. Administer TSAPI Link

Select **AE Services** → **TSAPI** → **TSAPI Links** from the left pane of the **Management Console** to administer a TSAPI link. The **TSAPI Links** screen is displayed as shown below. Click **Add Link**.



Application Enablement Services
Management Console

Welcome: User cust
 Last login: Tue Feb 9 14:33:49 2021 from 192.168.100.250
 Number of prior failed login attempts: 0
 HostName/IP: devcon-aes/10.64.102.119
 Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
 SW Version: 8.1.3.0.0.25-0
 Server Date and Time: Tue Feb 16 11:17:34 EST 2021
 HA Status: Not Configured

AE Services | TSAPI | TSAPI Links
Home | Help | Logout

- ▼ AE Services
 - ▶ CVLAN
 - ▶ DLG
 - ▶ DMCC
 - ▶ SMS
 - ▼ TSAPI
 - TSAPI Links
 - TSAPI Properties
 - ▶ TWS

TSAPI Links

Link	Switch Connection	Switch CTI Link #	ASAI Link Version	Security
1	devcon	1	10	Unencrypted

The **Add TSAPI Links** screen is displayed next. The **Link** field is only local to the Application Enablement Services server and may be set to any available number. For **Switch Connection**, select the relevant switch connection from the drop-down list. In this case, the existing switch connection *devcon* is selected. For **Switch CTI Link Number**, select the CTI link number from **Section 5.3**. Retain the default values in the remaining fields.

AVAYA Application Enablement Services
Management Console

Welcome: User cust
Last login: Mon Mar 29 11:57:56 2021 from 192.168.100.250
Number of prior failed login attempts: 0
HostName/IP: devcon-aes/10.64.102.119
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.1.3.0.0.25-0
Server Date and Time: Mon Mar 29 12:21:42 EDT 2021
HA Status: Not Configured

AE Services | TSAPI | TSAPI LinksHome | Help | Logout

▼ AE Services

▶ CVLAN

▶ DLG

▶ DMCC

▶ SMS

▼ TSAPI

▪ TSAPI Links

▪ TSAPI Properties

▶ TWS

Edit TSAPI Links

Link1

Switch Connectiondevcon ▼

Switch CTI Link Number1 ▼


ASAI Link Version12 ▼

SecurityUnencrypted ▼

Apply ChangesCancel ChangesAdvanced Settings

6.5. Restart Service

Select **Maintenance** → **Service Controller** from the left pane to display the **Service Controller** screen in the right pane. Check **TSAPI Service**, as shown below, and click **Restart Service**.

 **Avaya** Application Enablement Services
Management Console

Welcome: User cust
Last login: Tue Feb 9 14:33:49 2021 from 192.168.100.250
Number of prior failed login attempts: 0
HostName/IP: devcon-aes/10.64.102.119
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.1.3.0.0.25-0
Server Date and Time: Tue Feb 16 11:18:37 EST 2021
HA Status: Not Configured

Maintenance | Service ControllerHome | Help | Logout

▶ AE Services

▶ Communication Manager Interface

High Availability

▶ Licensing

▼ Maintenance

Date Time/NTP Server

▶ Security Database

Service Controller

▶ Server Data

▶ Networking

▶ Security

▶ Status

▶ User Management

▶ Utilities

▶ Help

Service Controller

Service	Controller Status
<input type="checkbox"/> ASAI Link Manager	Running
<input type="checkbox"/> DMCC Service	Running
<input type="checkbox"/> CVLAN Service	Running
<input type="checkbox"/> DLG Service	Running
<input type="checkbox"/> Transport Layer Service	Running
<input checked="" type="checkbox"/> TSAPI Service	Running


For status on actual services, please use [Status and Control](#)

StartStopRestart ServiceRestart AE ServerRestart LinuxRestart Web Server

6.6. Obtain Tlink Name

Select **Security** → **Security Database** → **Tlinks** from the left pane. The **Tlinks** screen shows a listing of Tlink names. A new Tlink name is automatically generated for the TSAPI service. Locate the Tlink name associated with the relevant switch connection, which would use the name of the switch connection as part of the Tlink name. Make a note of the associated Tlink name to be used later for configuring ICX/DRM.

In this case, the associated Tlink name is “AVAYA#DEVCON#CSTA#DEVCON-AES.” Note the use of the switch connection “DEVCON” from **Section 6.3** as part of the Tlink name.

 **Application Enablement Services**
Management Console

Welcome: User cust
Last login: Tue Feb 9 14:33:49 2021 from 192.168.100.250
Number of prior failed login attempts: 0
HostName/IP: devcon-aes/10.64.102.119
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.1.3.0.0.25-0
Server Date and Time: Tue Feb 16 11:19:45 EST 2021
HA Status: Not Configured

Security | Security Database | TlinksHome | Help | Logout

- ▶ AE Services
- ▶ Communication Manager Interface
- ▶ High Availability
- ▶ Licensing
- ▶ Maintenance
- ▶ Networking
- ▼ **Security**
 - ▶ Account Management
 - ▶ Audit
 - ▶ Certificate Management
 - Enterprise Directory
 - ▶ Host AA
 - ▶ PAM
 - ▼ **Security Database**
 - Control
 - ▣ CTI Users
 - Devices
 - Device Groups
 - **Tlinks**
 - Tlink Groups
 - Worktops

Tlinks

Tlink Name

☒ AVAYA#DEVCON#CSTA#DEVCON-AES

6.7. Administer User

Select **User Management** → **User Admin** → **Add User** from the left pane to display the **Add User** screen in the right pane.

Enter desired values for **User Id**, **Common Name**, **Surname**, **User Password**, and **Confirm Password**. For **CT User**, select “Yes” from the drop-down list. Retain the default value in the remaining fields.

AVAYA Application Enablement Services
Management Console

Welcome: User cust
Last login: Mon Mar 29 11:57:56 2021 from 192.168.100.250
Number of prior failed login attempts: 0
HostName/IP: devcon-aes/10.64.102.119
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.1.3.0.0.25-0
Server Date and Time: Mon Mar 29 12:23:46 EDT 2021
HA Status: Not Configured

User Management | User Admin | Add UserHome | Help | Logout

▶ AE Services

▶ Communication Manager Interface

▶ High Availability

▶ Licensing

▶ Maintenance

▶ Networking

▶ Security

▶ Status

▼ User Management

▶ Service Admin

▼ User Admin

■ Add User

■ Change User Password

■ List All Users

■ Modify Default Users

■ Search Users

▶ Utilities

▶ Help

Add User

Fields marked with * can not be empty.

* User Idswampfox

* Common Nameswampfox

* Surnameswampfox

* User Password*****

* Confirm Password*****

Admin Note

Avaya RoleNone

Business Category

Car License

CM Home

Css Home

CT UserYes

Department Number

Display Name


Employee Number

Employee Type

6.8. Verify Security Database

Select **Security** → **Security Database** → **Control** from the left pane to display the **SDB Control for DMCC, TSAPI, JTAPI and Telephony Web Services** screen in the right pane.

Verify that **Enable SDB for TSAPI Service, JTAPI and Telephony Web Services** is unchecked. In the event that security database is used by the customer with this parameter already enabled, then follow [2] to configure access privileges for the user from **Section 6.7**.

**Application Enablement Services**
Management Console

Welcome: User cust
Last login: Tue Feb 9 14:33:49 2021 from 192.168.100.250
Number of prior failed login attempts: 0
HostName/IP: devcon-aes/10.64.102.119
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.1.3.0.0.25-0
Server Date and Time: Tue Feb 16 11:27:05 EST 2021
HA Status: Not Configured

Security | Security Database | Control

Home | Help | Logout

▶ AE Services

▶ Communication Manager Interface

▶ High Availability

▶ Licensing

▶ Maintenance

▶ Networking

▼ Security

▶ Account Management

▶ Audit

▶ Certificate Management

Enterprise Directory

▶ Host AA

▶ PAM

▼ Security Database

▪ Control

CTI Users

SDB Control for DMCC, TSAPI, JTAPI and Telephony Web Services

☐ Enable SDB for DMCC Service

☐ Enable SDB for TSAPI Service, JTAPI and Telephony Web Services

Apply Changes

7. Configure Avaya Experience Portal

This section covers the configuration of a sample CCXML application in Experience Portal using the Experience Portal Manager (EPM) web interface.

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

The image shows a web browser window displaying the Avaya Aura Experience Portal 7.2.3 login page. At the top, the Avaya logo is in red. Below it, a red banner contains the text "Avaya Aura® Experience Portal 7.2.3 (ExperiencePortal)". The main area is light gray and contains a "User Name:" label followed by a white text input field. Below the input field is a dark gray "Submit" button. At the bottom left, there is a link labeled "Change Password".

The main page of the EPM web interface is displayed as shown below.

AVAYA Welcome, epadmin
Last logged in yesterday at 2:14:16 PM PST

Avaya Aura® Experience Portal 7.2.3 (ExperiencePortal) Home Help Logoff

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

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.

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.

Legal Notice

AVAYA GLOBAL SOFTWARE LICENSE TERMS
REVISED: May 22, 2019

THESE GLOBAL SOFTWARE LICENSE TERMS ("SOFTWARE LICENSE TERMS") GOVERN THE USE OF PROPRIETARY SOFTWARE AND THIRDPARTY PROPRIETARY SOFTWARE LICENSED THROUGH AVAYA. READ THESE SOFTWARE LICENSE TERMS CAREFULLY, IN THEIR ENTIRETY, BEFORE INSTALLING, DOWNLOADING OR USING THE SOFTWARE (AS DEFINED IN SECTION A BELOW). BY INSTALLING, DOWNLOADING OR USING THE SOFTWARE, OR AUTHORIZING OTHERS TO DO SO, YOU, ON BEHALF OF YOURSELF AND THE ENTITY FOR WHOM YOU ARE DOING SO (HEREINAFTER REFERRED TO INTERCHANGEABLY AS "YOU," "YOUR," AND "END USER"), AGREE TO THESE SOFTWARE LICENSE TERMS AND CONDITIONS AND CREATE A BINDING CONTRACT BETWEEN YOU AND AVAYA INC. OR THE APPLICABLE AVAYA AFFILIATE ("AVAYA"). IF YOU ARE ACCEPTING THESE SOFTWARE LICENSE TERMS ON BEHALF OF A COMPANY OR OTHER LEGAL ENTITY, YOU REPRESENT THAT YOU HAVE THE AUTHORITY TO BIND

On the left pane, navigate to **System Configuration → Applications**. The **Applications** page is displayed (not shown). Click **Add**. In the **Add Application** page shown below, configure the application. For the compliance test, a CCXML applications was configured as shown below.

- **Name:** Provide a descriptive name (e.g., *Swampfox Test*).
- **Enable:** Set to **Yes** to enable the application.
- **Type:** Set to *CCXML*.
- **CCXML URL:** Specify the CCXML application URL. Click **Verify** to check application accessibility.
- **ASR Speech Servers:** Not required.
- **TTS Speech Servers:** Not required.
- **Application Launch:** Set the **Called Number** (e.g., *78560*) associated with the application and click **Add**.

AVAYA Welcome, epadmin
Last logged in Mar 22, 2021 at 8:46:34 AM PDT

Avaya Aura® Experience Portal 7.2.3 (ExperiencePortal) Home ? Help Logoff

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

Change Application

Use this page to change the configuration of an application.

Name: Swampfox Test

Enable: ☒ Yes ☐ No

Type: CCXML

Reserved SIP Calls: ☒ None ☐ Minimum ☐ Maximum

Requested:

URI

☒ Single ☐ Fail Over ☐ Load Balance

CCXML URL: **Verify**

Mutual Certificate Authentication: ☐ Yes ☒ No

Basic Authentication: ☐ Yes ☒ No

ASR Speech Servers ▶

TTS Speech Servers ▶

Application Launch ▼

☒ Inbound ☐ Inbound Default ☐ Outbound

☒ Number ☐ Number Range ☐ URI

Called Number: **Add**

Remove

SIP Header Source: Any

Scroll down and expand the **Advanced Parameters** section and configure the following parameters:

- **Generate UCID:** Set to *Yes*.
- **Operation Mode:** Set to *Shared UII*.
- **Transport UCID in Shared Mode:** Set to *Yes*.
- **Maximum UII Length:** Use default value of *128*.

The screenshot shows the Avaya Aura Experience Portal 7.2.3 (ExperiencePortal) configuration interface. The top navigation bar includes the Avaya logo, the user name 'Welcome, epadmin', and the last login time 'Last logged in Mar 22, 2021 at 8:46:34 AM PDT'. The left sidebar contains a tree view of configuration categories: User Management, Real-time Monitoring, System Maintenance, System Management, System Configuration, Security, Reports, and Multi-Media Configuration. The 'Advanced Parameters' section is expanded, and a red box highlights the following settings:

- Generate UCID: ☒ Yes ☐ No
- Operation Mode:
- Transport UCID in Shared Mode: ☒ Yes ☐ No
- Maximum UII Length:

Other visible settings include:

- Support Remote DTMF Processing: ☐ Yes ☒ No
- DTMF Type Ahead Enabled: ☒ Yes ☐ No
- Converse-On: ☐ Yes ☒ No
- Network Media Service: ☐ Yes ☒ No
- Early Media: ☐ Yes ☒ No
- Sync FROM and PAI Headers: ☐ Yes ☒ No
- Dialog URL Pattern:
- VoiceXML Event Handler:
- CCXML Event Handler:
- Fax Detection Enabled: ☐ Yes ☒ No
- Fax Phone Number:
- Video Enabled: ☐ Yes ☒ No
- Video Screen Format:
- Video Minimum Picture Interval:

At the bottom of the configuration panel are buttons for 'Save', 'Apply', 'Cancel', and 'Help'.

8. Configure Swampfox ICX/DRM

This section provides steps for configuring Swampfox ICX/DRM. Configuration of Swampfox ICX/DRM is performed via Swampfox DRM web interface and covers the following areas:

- Log into Swampfox DRM Web Interface
- Administer Transfer VDN and Skills
- Administer Call Routing based on ANI or DNIS
- Administer ICX/DRM for AES/TSAPI Connectivity
- Synchronize Data

Note: The configuration of Routing Rules, including Call Flows, Entries/Intents, and Functions are outside the scope of these Application Notes. However, the Transfer VDNs and Skills configured under Functions will be covered. In addition, the configuration of Snapshots, which contains its own set of routing rules, functions, exits, call flows, and segments will also not be covered, except for the routing based on ANI and DNIS. Refer to [3] or [4] for information on configuring the following aspects of Routing Rules and Snapshots not covered in these Application Notes.

Component	Item	Purpose
Routing Rules	Call Flows	Configures Advanced Wait Treatment for the customer, which plays music on hold while waiting to be connected to agent, and Agent Whisper , which plays an announcement to the agent indicating “Gold Customer” or “Bronze Customer.”
	Entries/Intents	Provides Entries/Intents for “Gold” and “Bronze” customers calling the Sales or Service departments.
	Functions	Specifies a Region , such as AVAYA, which groups like functions, assigns wait treatment and agent whisper flows to the region, specifies entries/intents for “Gold” and “Bronze” customers for Sales and Service departments, and configures the Exits, which specify the Transfer VDNs and Skills as configured in Section 8.3 .
Snapshots	Application Groups	Application Groups are associated using ANI or DNIS as shown in Section 8.4 .
	Region	Configures the region, such as AVAYA.
	Function Groups	Used to segment calls for the <i>Sales</i> and <i>Service</i> departments.
	Call Types	Classification under which the call will be processed (e.g., <i>gold</i> or <i>bronze</i>).
	Transfer Points	Specifies the contact center or ACD to which the call will be routed or queued (e.g., <i>AVAYA CM</i>).

8.1. Log into Swampfox DRM Web Interface

Access the Swampfox DRM web interface by using the URL “<http://<ip-address>:8080/drm>” in an internet browser, where <ip-address> is the IP address of the Swampfox IXC/DRM server. Log in using appropriate credentials.



Swampfox DRM

Username


Password

Login

Version 3.1.2

The Swampfox DRM Dashboard is displayed as shown below.

Swampfox Dynamic Route Manager



[Dashboard](#)
[Routing Rules](#)
[Scripting Resources](#)
[Recordings](#)
[Vectors](#)
[Staging](#)
[Settings](#)
[Utilities](#)

DevConnect (Active - Priority 1)
[Logout](#)

DRM Server Status													
	Server	State	Health	Active Calls	Holding Calls	Rates (per minute)					Latencies (ms)		
						Received	Routed	Delivered	Other	WS Request	DRM Routing	Database	Connector
II	SWAMPFOX	RUNNING	HEALTHY	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.510	0.000

Last Updated 03/25/2021 11:37:11 AM

Snapshot Status									
		Name	Regions	Entries	Functions	Exits	Call Rate (per minute)	Calls Today	Status
Manage	Sync	DevConnect	1	4	2	4	0.000	0	Synchronized
Manage	Sync	DevConnectAcme	1	4	2	4	0.000	0	Synchronized

Function Summaries

Today

Regions

Function Types

⌵

Function Summaries

Function Details

Function Name	State	Agents Staffed	Agents Available	Holding Calls	EWT	Calls Routed	% Calls Routed
▶ Q DevConnect.Sales	--				00	0	0%
▶ Q DevConnect.Service	--				00	0	0%
▶ Q DevConnectAcme.Sales	--				00	0	0%
▶ Q DevConnectAcme.Service	--				00	0	0%

Last Updated 03/25/2021 11:41:26 AM

JAO; Reviewed:
SPOC 4/22/2021

Solution & Interoperability Test Lab Application Notes
©2021 Avaya Inc. All Rights Reserved.

27 of 42
SwampICX-Aura


8.2. Create Snapshot

A snapshot contains its own routing rules, functions, exits, call flows, and segments. Functions are the key collection of routing and scripting elements, the Function **Entry** is the index point to what snapshot and function is used.

For the compliance test, Functions called “Sales Gold” and “Sales Bronze” will have entries of VDN 77811, and VDN 77812, respectively. These are collected in snapshots.

From the DRM Dashboard, navigate to **Settings → Snapshot**. The configuration of the Snapshots is outside the scope of these Application Notes. For details on configuring the Snapshots, including their associated Application Groups, Regions, Function Groups, Call Types, and Transfer Points, Refer to [4].

Swampfox Dynamic Route Manager



Dashboard

Routing Rules

Scripting Resources

Recordings

Vectors

Staging

Settings

Utilities

DevConnect (Active - Priority 1)

Logout

Application Groups

Regions

Function Groups

Call Types

Transfer Points

Transfer Group Mappings

Subscriber Attributes

Application Groups

Clear All Filters

Add

Name	Resource Constraint	Search Order	Enable	Actions
SFPower_bronze		2	✓	View Delete
SFPower_gold		1	✓	View Delete

8.3. Administer Transfer VDNs and Skills

This section covers the configuration of the transfer VDNs and skills used for this sample contact center and call flows. From the DRM Dashboard, navigate to **Routing Rules → Functions**. The list of **Functions** will be displayed as shown below. It is assumed that the Functions have already been configured. For the compliance test, two Functions were created for *Sales* and *Service*. Click **View** associated with one of the existing Functions, such as *Sales*. The same procedure would be used for the *Service* Function, except that the call type and transfer VDNs would be different.

Swampfox Dynamic Route Manager

DashboardRouting RulesScripting ResourcesRecordingsVectorsStagingSettingsUtilities

DevConnect (Active - Priority 1)Logout

Functions

Clear All FiltersAdd

Region	Function Name	Group	Actions
AVAYA	Sales	Sales	View Delete
AVAYA	Service	Service	View Delete

In the subsequent screen (not shown), click on **Exits** in the left pane. Exits specify where to route the call in a contact center. In this example, **Exits** are used to route calls to a transfer VDN that will connect the caller to an agent serving “Gold” or “Bronze” customers.

In the **AVAYA → Sales Exits** page shown below, click **Add**.

Swampfox Dynamic Route Manager

DashboardRouting RulesScripting ResourcesRecordingsVectorsStagingSettingsUtilities

DevConnect (Active - Priority 1)Logout

Details
Entries/Intents
Exits

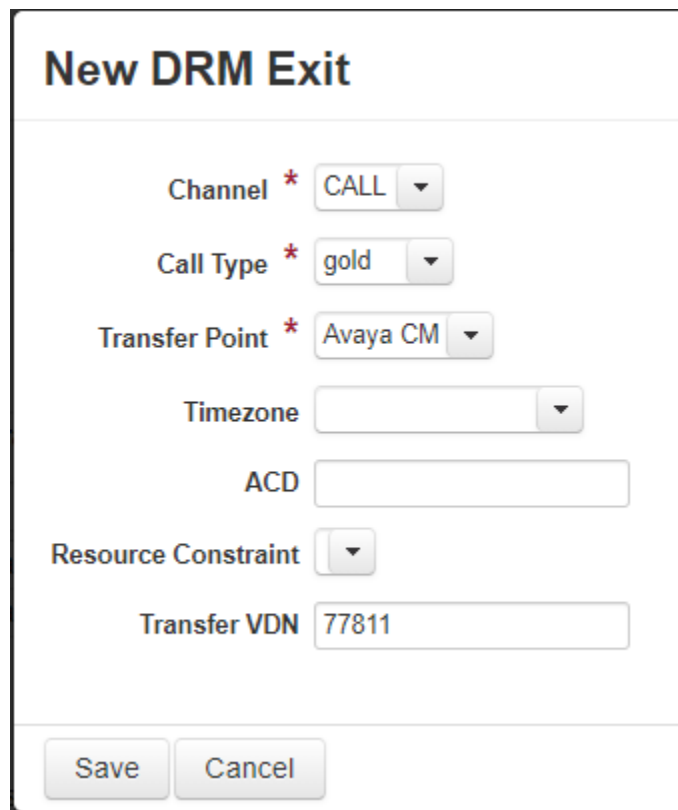
AVAYA→Sales
Exits

Return to Function List
Clear All FiltersAdd

Channel	Call Type	Transfer Point	Transfer VDN	Timezone	Calendar	Schedule	Actions
CALL	bronze	Avaya CM	77812				View Delete
CALL	gold	Avaya CM	77811				View Delete

The **New DRM Exit** dialog box is displayed as shown below. To add an exit for “Gold” customer, configure the following parameters:

- **Channel:** Select *Call*.
- **Call Type:** Select a call type, such as *gold*, which was configured under **Settings → Snapshots**.
- **Transfer Point:** Select a transfer point, such as Avaya CM, which was configured under **Settings → Snapshots**.
- **Transfer VDN:** Set to the transfer VDN associated with “Gold” customers (e.g., 77811). Refer to **Section 5.4.2** for the VDN list relevant to this example call flow.



New DRM Exit

Channel * CALL ▼

Call Type * gold ▼

Transfer Point * Avaya CM ▼

Timezone ▼

ACD

Resource Constraint ▼

Transfer VDN 77811

Save Cancel

Repeat the procedure above to add an exit for “Bronze” customers. The **Transfer VDN** for Sales Bronze customers is 77812.

The following **Avaya → Sales Exit** page lists the Transfer VDNs for Sales Gold and Sales Bronze customers.

Swampfox Dynamic Route Manager
swampfox

Dashboard
Routing Rules
Scripting Resources
Recordings
Vectors
Staging
Settings
Utilities
DevConnect (Active - Priority 1)
Logout

Details
Entries/Intents
Exits

AVAYA→Sales Exits
Return to Function List
Clear All Filters
Add

Channel	Call Type	Transfer Point	Transfer VDN	Timezone	Calendar	Schedule	Actions
CALL	bronze	Avaya CM	77812				View Delete
CALL	gold	Avaya CM	77811				View Delete

Next, click on **View** associated with one of the Exits, such as *gold*. Scroll down to the **Skills / DRM-To-DRM** section and click **Add** to configure the **Skill** and **Skill Extension** per **Section 5.4.1**. Ensure the **Queuing VDNs** is also set correctly per **Section 5.4.2**.

Skills / DRM-To-DRM
Add

Skill / DRM-To-DRM Entry	Skill Extension	Order	Threshold Vector Variable (Skill Only)	Consider Expression (Skill Only)	Actions
81	77801				View Delete

Queuing VDNs
Add

VDN	Actions
77811	View Delete

8.4. Administer Call Routing based on ANI or DNIS

Incoming customer calls can be routed to appropriate agents/skills based on ANI or DNIS. For this compliance test, the ANI or DNIS was used to route calls to agents serving “Gold” or “Bronze” customers.

Under **Application Groups** within the **Settings** → **Snapshot**, specify whether to route calls based on ANI or DNIS. In the **Application Groups** page shown below, there are entries for “Gold” and “Bronze” customers. Click **View** associated with “Gold” customers.

Swampfox Dynamic Route Manager

DashboardRouting RulesScripting ResourcesRecordingsVectorsStagingSettingsUtilities

DevConnect (Active - Priority 1)Logout

Application GroupsRegionsFunction GroupsCall TypesTransfer PointsTransfer Group MappingsSubscriber Attributes

Application Groups

Name	Resource Constraint	Search Order	Enable	Actions
SFPower_bronze		2	✓	View Delete
SFPower_gold		1	✓	View Delete

Scroll down to the **Locator** section, and add an entry that routes based on ANI. In this example, the **Name** would be set to *aniRegex.1* and **Value** would be set to the matching ANI, such as *7324441000*. This would allow incoming calls with a matching ANI to route to agents serving “Gold” customers via the transfer VDN. Alternatively, the Value field could be set to a wild card (i.e., *.**), which would match all ANIs.

Swampfox Dynamic Route Manager

DashboardRouting RulesScripting ResourcesRecordingsVectorsStagingSettingsUtilities

DevConnect (Active - Priority 1)Logout

Application GroupsRegionsFunction GroupsCall TypesTransfer PointsTransfer Group MappingsSubscriber Attributes

Application Group

Details

Name *SFPower_gold

Resource Constraint

Search Order1

Enabled✓

Locator

Locator Type

Name	Value
aniRegex.1	7324441000

To route calls based on DNIS, set the **Name** field to *dnisRegex.1* and the **Value** field to a matching dialed number. Again, the wild card (e.g., *.**) may be used to match all DNIS as shown below. For the compliance test, a matching ANI or DNIS would be routed to agent serving “Gold” customers and all other customers were routed to agents serving “Bronze” customers.

Locator

Locator Type

Name	Value
aniRegex.1	.*

8.5. Administer ICX/DRM for AES/TSAPI Connectivity

From the DRM Dashboard, navigate to **Settings** → **Global** and click on **AES Connections** in the left pane. From the **AES Connections** page shown below, click **Add**.

Swampfox Dynamic Route Manager

Dashboard
Routing Rules
Scripting Resources
Recordings
Vectors
Staging
Settings
Utilities
DevConnect (Active - Priority 1)
Logout

General
Resource Constraints
EWT Monitor
AES Connections
CMS Connections
Polling Connections
Virtual Hold
Vector Variables
Data Sources

AES Connections
Clear All Filters
Add

Name	AES Server	TLINK	ACD	CTI Login	CM Server	CM Log
AvayaAes	10.64.102.119	AVAYA#DEVCON#CSTA#DEVCON-AES	1	swampfox		

In the **New AES Connection** dialog box, configure the following parameters:

- **Name:** Provide a descriptive name (e.g., *AvayaAes*).
- **Enabled:** Select the checkbox.
- **AES Server:** Set to the AES IP address (e.g., *10.64.102.119*).
- **TLINK:** Set to the TLINK name from **Section 6.6** (e.g., *AVAYA#DEVCON#CSTA#DEVCON-AES*).
- **ACD:** Set to an available ACD number (e.g., *1*).
- **CTI Login:** Set to the AES user configured in **Section 6.7** (e.g., *Swampfox*).
- **CTI Password:** Set to the AES user password configured in **Section 6.7**.

New AES Connection

Name *


Enabled ☒

AES Server *

TLINK *


ACD *

CTI Login *

CTI Password * 

CM Login


CM Server

CM Password 

8.6. Synchronize Data


Not all configuration is automatically live once changes are made. To push new data to the ICX/DRM server, synchronize the snapshot. Go to the Dashboard and click **Sync** by the snapshot.

Swampfox Dynamic Route Manager



[Dashboard](#) [Routing Rules](#) [Scripting Resources](#) [Recordings](#) [Vectors](#) [Staging](#) [Settings](#) [Utilities](#)

DevConnect (Active - Priority 1) [Logout](#)

DRM Server Status													
	Server	State	Health	Active Calls	Holding Calls	Rates (per minute)					WS Request	DRM Routing	Database
						Received	Routed	Delivered	Other				
	SWAMPFOX	RUNNING	HEALTHY	0.000	0.000	0.049	0.171	0.099	0.000	0.000	17.178	1.68	

Last Updated 03/29/2021 12:14:26 PM

Snapshot Status									
		Name	Regions	Entries	Functions	Exits	Call Rate (per minute)	Calls Today	Status
Manage	Sync	DevConnect	1	4	2	4	0.000	7	Out of sync!
Manage	Sync	DevConnectAcme	1	4	2	4	0.000	0	Synchronized

9. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Aura® Communication Manager, Avaya Aura® Application Enablement Services, Avaya Experience Portal, and Swampfox ICX/DRM.

9.1. Verify Avaya Aura® Communication Manager

On Communication Manager, verify the status of the AES connection using the `status aesvcs` command.

```
status aesvcs interface
```

AE SERVICES INTERFACE STATUS			
Local Node	Enabled?	Number of Connections	Status
procr	yes	1	listening

Verify communication between Communication Manager and AES using the `status aesvcs link` command.

```
status aesvcs link
```

AE SERVICES LINK STATUS						
Srvr/ Link	AE Services Server	Remote IP	Remote Port	Local Node	Msgs Sent	Msgs Rcvd
01/01	devcon-aes	10.64.102.119	49786	procr	628	614

Verify the status of the CTI link between Communication Manager and AES using the `status aesvcs cti-link` command. Verify the **Service State** is *established*.

```
status aesvcs cti-link
```

AE SERVICES CTI LINK STATUS						
CTI Link	Version	Mnt Busy	AE Services Server	Service State	Msgs Sent	Msgs Rcvd
1	10	no	devcon-aes	established	15	15

9.2. Verify Avaya Aura® Application Enablement Services

On Application Enablement Services, navigate to **Status** → **Status and Control** → **Switch Conn Summary**. Verify the Switch Connection to Communication Manager is **Talking** and **Online**.



Application Enablement Services Management Console

Welcome: User cust
Last login: Tue Feb 16 10:53:54 2021 from 192.168.100.251
Number of prior failed login attempts: 0
HostName/IP: devcon-aes/10.64.102.119
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.1.3.0.0.25-0
Server Date and Time: Tue Feb 16 11:44:18 EST 2021
HA Status: Not Configured

Status | Status and Control | Switch Conn Summary

Home | Help | Logout


- ▶ AE Services
- ▶ Communication Manager Interface
- ▶ High Availability
- ▶ Licensing
- ▶ Maintenance
- ▶ Networking
- ▶ Security
- ▼ Status
 - Alarm Viewer
 - ▶ Logs
 - ▶ Log Manager
 - ▼ Status and Control
 - CVLAN Service Summary
 - DLG Services Summary
 - DMCC Service Summary
 - **Switch Conn Summary**
 - TSAPI Service Summary

Switch Connections Summary

☐ Enable page refresh every seconds

	Switch Conn	Conn State	Processor Ethernet	Since	Online/Offline	Active/Standby/Admin'd AEP Conns	Num of TCI Conns	SSL	Msgs To Switch	Msgs From Switch	Msg Period
<input checked="" type="radio"/>	devcon	Talking	Yes	Thu Feb 11 13:42:12 2021	Online	1 / 0 / 1	2	Enabled	614	629	30

Navigate to **Status** → **Status and Control** and select **TSAPI Service Summary** in the left pane. Verify the TSAPI link is **Talking** and **Online**.



Application Enablement Services

Management Console

Welcome: User cust
 Last login: Mon Mar 29 12:20:38 2021 from 192.168.100.250
 Number of prior failed login attempts: 0
 HostName/IP: devcon-aes/10.64.102.119
 Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
 SW Version: 8.1.3.0.0.25-0
 Server Date and Time: Mon Mar 29 12:38:17 EDT 2021
 HA Status: Not Configured

Status | Status and Control | TSAPI Service Summary
Home | Help | Logout

- ▶ AE Services
- ▶ Communication Manager Interface
- ▶ High Availability
- ▶ Licensing
- ▶ Maintenance
- ▶ Networking
- ▶ Security
- ▼ **Status**
 - Alarm Viewer
 - ▶ Logs
 - ▶ Log Manager
 - ▼ **Status and Control**
 - CVLAN Service Summary
 - DLG Services Summary
 - DMCC Service Summary
 - Switch Conn Summary
 - **TSAPI Service Summary**


TSAPI Link Details

☐ Enable page refresh every 60 seconds

	Link	Switch Name	Switch CTI Link ID	Status	Since	State	Switch Version	Associations	Msgs to Switch	Msgs from Switch	Msgs Period
<input checked="" type="radio"/>	1	devcon	1	Talking	Mon Mar 22 16:08:51 2021	Online	18	9	2917	2976	30

For service-wide information, choose one of the following:

Continuing from above, select **User Status**. Verify the swampfox user is connected to AES.



Application Enablement Services

Management Console

Welcome: User cust
 Last login: Mon Mar 29 12:20:38 2021 from 192.168.100.250
 Number of prior failed login attempts: 0
 HostName/IP: devcon-aes/10.64.102.119
 Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
 SW Version: 8.1.3.0.0.25-0
 Server Date and Time: Mon Mar 29 12:39:08 EDT 2021
 HA Status: Not Configured

Status | Status and Control | TSAPI Service Summary
Home | Help | Logout

- ▶ AE Services
- ▶ Communication Manager Interface
- ▶ High Availability
- ▶ Licensing
- ▶ Maintenance
- ▶ Networking
- ▶ Security
- ▼ **Status**
 - Alarm Viewer
 - ▶ Logs
 - ▶ Log Manager
 - ▼ **Status and Control**
 - CVLAN Service Summary
 - DLG Services Summary
 - DMCC Service Summary
 - Switch Conn Summary
 - **TSAPI Service Summary**

CTI User Status

☐ Enable page refresh every 60 seconds

CTI Users All Users

Open Streams 1

Closed Streams 13

Open Streams

Name	Time Opened	Time Closed	Tlink Name
swampfox	Mon 29 Mar 2021 11:57:40 AM EDT		AVAYA#DEVCON#CSTA#DEVCON-AES

9.3. Verify Swampfox ICX/DRM

Verify that ICX/DRM Dashboard reflects the accurate agent states as shown below.

Swampfox Dynamic Route Manager

DashboardRouting RulesScripting ResourcesRecordingsVectorsStagingSettingsUtilities

DevConnect (Active - Priority 1)Logout

Function Summaries

TodayRegionsFunction Types

Function SummariesFunction Details

Function Name	State	Agents Staffed	Agents Available	Holding Calls	EWT	Calls Routed	% Calls Routed
▼ Q DevConnect.Sales	--				00	0	0%
📞 bronze.Avaya CM	OPEN	1	1	0	00	0	0%
📞 gold.Avaya CM	OPEN	1	1	0	00	0	0%
▼ Q DevConnect.Service	--				00	0	0%
📞 bronze.Avaya CM	OPEN	1	1	0	00	0	0%
📞 gold.Avaya CM	OPEN	1	1	0	00	0	0%
▶ Q DevConnectAcme.Sales	--				00	0	0%
▶ Q DevConnectAcme.Servic	--				00	0	0%

Last Updated 03/29/2021 11:59:25 AM

Place a call to the Experience Portal application and route the call to an agent. Verify in the ICX/DRM report that the call was handled as expected. Navigate to **Utilities** → **Reporting** and then click **Build Report** to generate a report with recent call log.

Swampfox Dynamic Route Manager

Dashboard
Routing Rules
Scripting Resources
Recordings
Vectors
Staging
Settings
Utilities
DevConnect (Active - Priority 1)
Logout

Reports

Just-In-Time

Custom Reports

Settings

Report Templates

Report Jobs

Report Images

Report Run History

Just-In-Time Reporting

Time: Last 15 Minutes

Snapshot

App Group

Region Code

Function Group

Function Name

Transfer Point

Build Report (Show Advanced Filter Options)

7 Records Shown

Clear All Filters Save As Excel

	Time DRM Received	DRM Server	UCID	Entry/Intent	DNIS	ANI	Account Number	Snapshot Name	App Group	Region Code
Details	03/29/2021 12:11:05 PM	swampfox	00027072551617034265	sales_bronze	78560	7324441001		DevConnect	SFPower_bronze	AV
Details	03/29/2021 12:09:35 PM	swampfox	00027072531617034175	sales_bronze	78559	40000		DevConnect	SFPower_bronze	AV
Details	03/29/2021 12:08:57 PM	swampfox	00027072511617034136	service_bronze	78560	40000		DevConnect	SFPower_bronze	AV
Details	03/29/2021 12:08:07 PM	swampfox	00027071841617034086	sales_bronze	78560	40000		DevConnect	SFPower_bronze	AV
Details	03/29/2021 12:07:20 PM	swampfox	00027071811617034040	sales_bronze	78560	40000		DevConnect	SFPower_bronze	AV
Details	03/29/2021 12:06:49 PM	swampfox	00027071781617034008	service_gold	78560	7324441000		DevConnect	SFPower_gold	AV
Details	03/29/2021 12:06:25 PM	swampfox	00027071761617033984	sales_gold	78560	7324441000		DevConnect	SFPower_gold	AV

10. Conclusion

These Application Notes describe the steps required to integrate Swampfox ICX/DRM with Avaya Aura® Communication Manager, Avaya Aura® Application Enablement Services, and Avaya Experience Portal. Customer calls were routed to the appropriate agents/skill groups based on the ANI or DNIS by Swampfox ICX/DRM. All tests passed with observations noted in **Section 2.2**.

11. Additional References

This section references the product documentation relevant for these Application Notes.

- [1] *Administering Avaya Aura® Communication Manager*, Release 8.1.x, Issue 2, July 2019, available at <http://support.avaya.com>.
- [2] *Administering and Maintaining Avaya Aura® Application Enablement Services*, Release 8.1.x, Issue 2, August 2019, available at <http://support.avaya.com>.
- [3] *Administering Avaya Aura® Experience Portal*, Release 7.2.3, Issue 1, September 2019, available at <http://support.avaya.com>.
- [4] *Swampfox Intelligent Customer Experience / Dynamic Route Manager User Support Manual*, Software Version 3.1, Version 3.0, available from Swampfox.
- [5] *Swampfox Dynamic Route Manager User Support Manual*, May 2017, Version 1.3, available from Swampfox.

©2021 Avaya Inc. All Rights Reserved.

Avaya and the Avaya Logo are trademarks of Avaya Inc. All trademarks identified by ® and ™ are registered trademarks or trademarks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. The information provided in these Application Notes is subject to change without notice. The configurations, technical data, and recommendations provided in these Application Notes are believed to be accurate and dependable, but are presented without express or implied warranty. Users are responsible for their application of any products specified in these Application Notes.

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at devconnect@avaya.com.