

Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Aura Alliance Client for Skype for Business Deskphone Mode with Avaya Engagement Call Control Snap-in installed on Avaya BreezeTM – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Aura Alliance Client for Skype for Business application to interoperate with Avaya Engagement Call Control Snap-in installed on Avaya BreezeTM.

In the compliance testing, Aura Alliance Client for Skype for Business application used HTTPS protocol to connect to Avaya Engagement Call Control service to get events and monitor a deskphone on Avaya Aura® Communication Manager.

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 configuration steps required for Aura Alliance Client for Skype for Business application to interoperate with Avaya Engagement Call Control Snap-in installed on Avaya BreezeTM.

In the compliance testing, the Aura Alliance Client for Skype for Business is a windows-based application that received call events from Engagement Call Control service to monitor and control a deskphone on Avaya Aura® Communication Manager.

2. General Test Approach and Test Results

The feature test cases were performed manually.

The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet connection to the workstation which Aura Alliance Client application was installed on and restarting the Engagement Call Control service.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing. The feature testing focused on verifying the following on Aura Alliance Client for Skype for Business:

• Monitor and receive call events such as answer incoming call, place outgoing call, put call on hold...etc.

The serviceability testing focused on verifying the ability of Aura Alliance Client for Skype for Business to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet connection from the workstation and restarting the AES server.

2.2. Test Results

All test cases were executed and passed successfully with the following observation.

• For an outbound call via PRI T1 trunk from the agent's deskphone to an external number, the Engagement Call Control snap-in does not get an **EstablishedEvent** from the AES when the external user answers the call. As a result, it was not able to pass this event to Aura Alliance Client for Skype for Business which led to the application not being able to control and monitor the call properly. This issue is being investigated by the Avaya development team.

2.3. Support

Support from Avaya is available by visiting the website <u>http://support.avaya.com</u> and a list of product documentation can be found in **Section 9** of these Application Notes. Technical support for the Aura Alliance Client product can be obtained as follows:

Aura Alliance Limited

Tel: +44 (0)20 3127 7761 http://www.auraalliance.com/global-support/

3. Reference Configuration

Figure 1 illustrates a sample configuration consisting of System Manager, Session Manager, Communication Manager, and Avaya Media Server running on Virtualized Environment. The Avaya G450 Media Gateway registers to Communication Manager and has PRI/T1 trunk to PSTN. The Aura Alliance Client for Skype for Business is running on a Windows 10 PC.

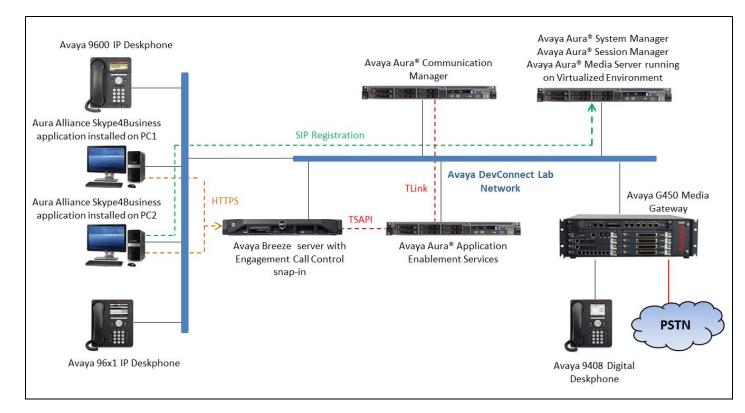


Figure 1: Compliance Testing Configuration

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® Communication Manager running on Virtual Environment	R017x.00.0.441.0 7.0.1.1.0-FP1SP3
Avaya G450 Media Gateway	37.39.0
Avaya Aura® Media Server running on Virtual Environment	7.7.539
Avaya Aura® Application Enablement Services on Virtual Environment	7.0.1.0.3.15
Avaya Aura® System Manager running on Virtualized Environment	7.0.1.2
Avaya Aura® Session Manager running on Virtualized Environment	7.0.1.2
Avaya Breeze [™] running on Virtualized Environment	3.2.0
Engagement Call Control Snap-in	3.2.0.1.320119
Avaya 9611G IP Deskphone (SIP)	Avaya one-X® Deskphone Release 7.0.1.2
Avaya 9641G IP Deskphone (H.323)	Avaya one-X® Deskphone Release 6.6.4
Aura Alliance Client for Skype for Business	3.2.51.1

5. Configure Avaya Aura® Communication Manager

This section provides the procedures for configuring Communication Manager. The procedures include the following areas:

- Verify license
- Administer CTI link
- Administer System Parameters Features
- Administer AE Services

5.1. Verify License

Log in to the System Access Terminal to verify that the Communication Manager license has appropriate permissions for features illustrated in these Application Notes. Use the "display system-parameters customer-options" command to verify that the **Computer Telephony Adjunct Links** customer option is set to "y" on **Page 4**. If this option is not set to "y", then contact the Avaya sales team or business partner for an appropriate license file.

```
display system-parameters customer-options
                                                                    4 of 12
                                                             Page
                               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
                                                                 CAS Main? n
A/D Grp/Sys List Dialing Start at 01? y
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? n
                                                       DCS Call Coverage? y
         ASAI Link Plus Capabilities? n
                                                       DCS with Rerouting? y
```

5.2. Administer CTI Link

Add a CTI link using the "add cti-link n" command, where "n" is an available CTI link number. 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.

add cti-lin	nk 1			Page	1 of	3
		CTI	LINK			
CTI Link:	1					
Extension:	3332					
Type:	ADJ-IP					
					COR:	1
Name:	AES70					

5.3. Administer System Parameters Features

Use the "change system-parameters features" command to enable **Create Universal Call ID** (UCID), which is located on **Page 5**. For UCID Network Node ID, enter an available node ID.

```
change system-parameters features
                                                             Page
                                                                    5 of 19
                       FEATURE-RELATED SYSTEM PARAMETERS
SYSTEM PRINTER PARAMETERS
 Endpoint: Lines Per Page: 60
SYSTEM-WIDE PARAMETERS
                                    Switch Name:
           Emergency Extension Forwarding (min): 10
          Enable Inter-Gateway Alternate Routing? n
Enable Dial Plan Transparency in Survivable Mode? n
                             COR to Use for DPT: station
               EC500 Routing in Survivable Mode: dpt-then-ec500
MALICIOUS CALL TRACE PARAMETERS
               Apply MCT Warning Tone? n
                                          MCT Voice Recorder Trunk Group:
      Delay Sending RELease (seconds): 0
SEND ALL CALLS OPTIONS
     Send All Calls Applies to: station
                                         Auto Inspect on Send All Calls? n
              Preserve previous AUX Work button states after deactivation? n
UNIVERSAL CALL ID
    Create Universal Call ID (UCID)? y
                                          UCID Network Node ID: 01
    Copy UCID for Station Conference/Transfer? y
```

Navigate to **Page 13**, and enable **Send UCID to ASAI**. This parameter allows for the universal call ID to be sent to ASAI and it will be used by the Engagement Call Control application.

```
change system-parameters features
                                                              Page 13 of
                                                                            20
                        FEATURE-RELATED SYSTEM PARAMETERS
CALL CENTER MISCELLANEOUS
          Callr-info Display Timer (sec): 10
                         Clear Callr-info: next-call
       Allow Ringer-off with Auto-Answer? n
   Reporting for PC Non-Predictive Calls? n
           Agent/Caller Disconnect Tones? n
          Interruptible Aux Notification Timer (sec): 3
             Zip Tone Burst for Callmaster Endpoints: double
 ASAI
                   Copy ASAI UUI During Conference/Transfer? y
               Call Classification After Answer Supervision? y
                                          Send UCID to ASAI? y
                 For ASAI Send DTMF Tone to Call Originator? y
         Send Connect Event to ASAI For Announcement Answer? n
 Prefer H.323 Over SIP For Dual-Reg Station 3PCC Make Call? n
```

5.4. Administer AE Services

To administer the transport link to AES, use the command "**change ip-services**". On Page 1, add an entry with the following values. Service Type should be selected as **AESVCS**, enter "y" under **Enabled**, "procr" for the **Local Node** and "8765" as the **Local Port**.

change ip-s	services					Page	1 of	4
change ip .	JCIVICCD					rage	I UI	Т
			IP S	SERVICES				
Service	Enabled	Local		Local	Remote	Remote	2	
Туре		Node]	Port	Node	Port		
AESVCS	у р	rocr	1	3765				

Go to **Page 4.** The password entered for the **Password** field must match the password on the AES server in the Switch Connection as specified in **Section 6.3**. The **AE Services Server** should match with the host name of the AES server. To obtain the host name of AES server, use the command "**uname** -n" in the Linux command prompt.

change ip-ser	vices			Page	4 of	4
AE Services Administration						
Server ID	AE Services Server	Password	Enabled	Status		
1:	aes70	*	У	in use		

6. Configure Avaya Aura® Application Enablement Services

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

- Launch OAM interface
- Verify license
- Administer Switch Connection
- Administer TSAPI Link
- Administer CTI User
- Configure Security Database
- Administer Ports
- Restart Services

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 **Please login here** screen is displayed. Log in using the appropriate credentials.

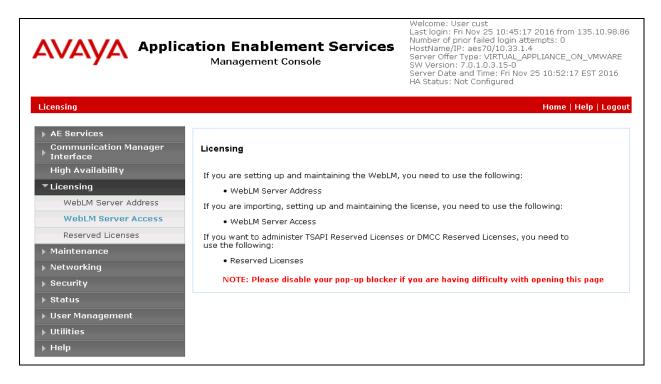
🗲 🛈 🔒 https://10.33.1.4/aesvcs/login.xhtml	C Q Search	☆	ê 🛡	+	Â	Ξ
Αναγα	Application Enablement Services Management Console					
	Please login here: Username cust					
	Password ••••••					
	Login					
	Copyright © 2009-2016 Avaya Inc. All Rights Reserved.					

The Welcome to OAM screen is displayed next.

	Application Enablement Services Management Console	Welcome: User cust Last login: Thu Nov 24 09:28:54 2016 from 135.10.98.86 Number of prior failed login attempts: 0 HostName/IP: aes70/10.33.1.4 Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE SW Version: 7.0.1.0.3.15-0 Server Date and Time: Fri Nov 25 10:45:34 EST 2016 HA Status: Not Configured Home Help Logout
 AE Services Communication Manage Interface High Availability Licensing Maintenance Networking Security Status User Management Utilities Help 	 Welcome to OAM The AE Services Operations, Administration, and Management (OAM) Server. OAM spans the following administrative domains: AE Services - Use AE Services to manage all AE Services that Communication Manager Interface - Use Communication Man- dialplan. High Availability - Use High Availability to manage AE Services Licensing - Use Licensing to manage the license server. Maintenance - Use Maintenance to manage the network interfar Security - Use Networking to manage the network interfar Security - Use Security to manage Linux user accounts, certifi configure Linux-PAM (Pluggable Authentication Modules for Linux Status - Use Status to obtain server status informations. User Management - Use User Management to manage AE Sec resources. Unlihes - Use Utilities to carry out basic connectivity tests. Help - Use Help to obtain a few tips for using the OAM Help so Depending on your business requirements, these administrative dor domains, or a separate administrator for each domain.) Web provides you with tools for managing the AE you are licensed to use on the AE Server. ager Interface to manage switch connection and . HA. tenance tasks. ces and ports. case, host authentication and authorization, nux) and so on. rvices users and AE Services user-related ystem
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6.2. Verify License

Select Licensing \rightarrow WebLM Server Access in the left pane to display the applicable WebLM server login screen (not shown). Log in using the appropriate credentials and navigate to display installed licenses (not shown).



Solution & Interoperability Test Lab Application Notes ©2017 Avaya Inc. All Rights Reserved. 10 of 23 AACS4B-BREEZE Select Licensed products \rightarrow APPL_ENAB \rightarrow 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, as shown below.

[®] System Manager 7.0			Last Logged on at November				
me Licenses X							
WebLM Home	Application Enablement (CTI) - R	telease: 7 - SI	D: 10503000 Stand				
Install license	You are here: Licensed Products > Application	Enablement > Viev	w License Capacity				
Licensed products		and installed one Osteber 10, 2015 2:21:40 DM, 05:00					
APPL_ENAB	License installed on: October 12, 201	5 2:21:49 PM -0	05:00				
 Application_Enablement 							
View license capacity	License File Host IDs: V1-19-37-	80-8F-BF					
View peak usage							
COMMUNICATION_MANAGER	Licensed Features						
Communication_Manager			1				
▶Call_Center	10 Items 💸 Show All 🔽						
Configure Centralized Licensing	Feature (License Keyword)	Expiration date	Licensed capacity				
MSR	CVLAN ASAI VALUE_AES_CVLAN_ASAI	permanent	16				
▶Media_Server	Unified CC API Desktop Edition VALUE_AES_AEC_UNIFIED_CC_DESKTOP	permanent	1000				
SessionManager	AES ADVANCED SMALL SWITCH						
►SessionManager	VALUE_AES_AEC_SMALL_ADVANCED	permanent	3				
Uninstall license	CVLAN Proprietary Links VALUE AES PROPRIETARY LINKS	permanent	16				
Server properties Shortcuts Help for Installed Product	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; IXM_001, BasicUnrestricted DMCUnrestricted; ICM_01, BasicUnrestricted DMCUnrestricted; OSPC_001, BasicUnrestricted, DMCUnrestricted; OSPC_001, BasicUnrestricted, DMCUnrestricted; OSPC_001, BasicUnrestricted, DMCUnrestricted; OSPC_001, BasicUnrestricted, DMCUnrestricted; SAMETIME_001, VALUE_AE CCE_001, BasicUnrestricted, AdvancedUnre SI_T2_001, BasicUnrestricted, AdvancedUnr AVAYAVERINT_001, BasicUnrestricted, AdvancedUnr BasicUnrestricted; CCT_ELITE_CALL_CTRL_001 AdvancedUnrestricted, DMCUnrestricted, Agen BasicUnrestricted, AdvancedUnrestricted, Agen BasicUnrestricted, AdvancedUnrestricted, AdvancedUnrestricted; Agen BasicUnrestricted; AdvancedUnrestricted; Agen BasicUnrestricted; AdvancedUnrestricted; Agen				
	AES ADVANCED LARGE SWITCH VALUE_AES_AEC_LARGE_ADVANCED TSAPI Simultaneous Users	permanent	3				
	VALUE_AES_TSAPI_USERS	permanent	1000				
	DLG VALUE_AES_DLG	permanent	16				
	Device Media and Call Control VALUE_AES_DMCC_DMC	permanent	1000				
	AES ADVANCED MEDIUM SWITCH VALUE_AES_AEC_MEDIUM_ADVANCED	permanent	3				

6.3. Administer Switch Connection

Select Communication Manager Interface \rightarrow Switch Connections from the left pane of the Management Console, enter a name in Switch Connection box and click Add button (not shown). Enter the password as configured in Section 5.4 in the Switch Password and Confirm Switch Password fields and select the Processor Ethernet checkbox if the Processor Ethernet is used in Communication Manager. Click Apply button to save the configuration.

	pplication Enablement S Management Console	Services	Welcome: User cust Last login: Fri Nov 25 10:50:11 2016 from 135.10.98.0 Number of prior failed login attempts: 0 HostName/IP: aes70/10.33.1.4 Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE SW Version: 7.0.1.0.3.15-0 Server Date and Time: Fri Nov 25 11:12:37 EST 2016 HA Status: Not Configured		
Communication Manager Interfac	ce Switch Connections		Home Help Logout		
▶ AE Services					
Communication Manager Interface	Connection Details - interopCM				
Switch Connections	Switch Password	•••••			
▶ Dial Plan	Confirm Switch Password	•••••			
High Availability	Msg Period	30	Minutes (1 - 72)		
 Licensing 	Provide AE Services certificate to switch				
Maintenance	Secure H323 Connection				
Networking	Processor Ethernet	\checkmark			
Security	Apply Cancel				
Status					
User Management					
Utilities					
▶ Help					

Select the **interopCM** switch connection that was added above, select **Edit PE/CLAN IPs** to add the IP address for the switch connection.

	plication Enable Management	Last lo Numbe HostN Server SW Ve Server	me: User cust gin: Fri Nov 25 10:50:11 2016 from 135.10.98.86 er of prior failed login attempts: 0 ame/IP: aes70/10.33.1.4 · Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE rsion: 7.0.1.0.3.15-0 · Date and Time: Fri Nov 25 11:19:55 EST 2016 tus: Not Configured	
Communication Manager Interface AE Services Communication Manager 	Switch Connections			Home Help Logout
Interface Switch Connections		Add Connection		
▶ Dial Plan	Connection Name	Processor Ethernet	Msg Period	Number of Active Connections
High Availability	CLAN1	No	30	1
▶ Licensing	interopCM	Yes	30	1
Maintenance				-
▶ Networking	○ server1	Yes	30	0
▶ Security	Edit Connection Edit	t PE/CLAN IPs Edit H.323	Gatekeeper Del	ete Connection Survivability Hierarchy
▶ Status				
User Management				
▶ Utilities				
) Help				

Enter the IP address of the Processor Ethernet of Communication Manager in the box and click the **Add/Edit Name of IP** button to add the IP.

Communication Manager Interface	Switch Connections		Home Help Logo
AE Services			
Communication Manager	Edit Processor I	Ethernet IP - interopCM	
Switch Connections	10.33.1.6	Add/Edit Name or IP	
Dial Plan		Name or IP Address	Status
High Availability	10.33.1.6		In Use
▶ Licensing	Back		
Maintenance			
▶ Networking			
▶ Security			

Select **Edit H.323 Gatekeeper** button to add an IP address of the gatekeeper, the Gatekeeper IP address in this case is also the Processor Ethernet.

Communication Manager Interface	Switch Connections Ho	me Help Logout
 AE Services Communication Manager Interface Switch Connections 	Edit H.323 Gatekeeper - interopCM	
▶ Dial Plan High Availability ▶ Licensing	Name or IP Address 10.33.1.6 Delete IP Back	
Maintenance		

6.4. Administer TSAPI Link

Select AE Services \rightarrow TSAPI \rightarrow 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.

avaya	Application E	ication Enablement Services Management Console Management Console Mana				
AE Services TSAPI	TSAPI Links				Home	Help Logout
▼ AE Services						
▶ CVLAN	TSAPI Lin	iks				
▶ DLG	Link	Switch Connection	Switch	CTI Link #	ASAI Link Version	Security
► DMCC	Add Link	Edit Link Delete Link	A			
▶ SMS						
TSAPI						
 TSAPI Links TSAPI Properties 	25					

Solution & Interoperability Test Lab Application Notes ©2017 Avaya Inc. All Rights Reserved. The Add TSAPI Links screen is displayed on the right side. 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 "interopCM", which was added in the step above, is selected. For Switch CTI Link Number, select the CTI link number from Section 5.2. Select Both in the Security dropdown menu to support both unencrypted and encrypted TSAPI links. Retain the default values in the remaining fields.

AE Services TSAPI TSAPI Links		Home Help Logout
AE Services CVLAN	Add TSAPI Links	
DLG DMCC SMS	Link 2 Switch Connection interopCM Switch CTI Link Number 1 ASAI Link Version 7	
TSAPI Links TSAPI Properties TWS Communication Manager Interface	Security Both - Apply Changes Cancel Changes	
High Availability		

6.5. Administer CTI User

Select User Management \rightarrow User Admin \rightarrow Add User from the left pane, to display the Add User screen in the right pane (the below screen displays the Edit User screen for an existing user). Enter the 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.

AE Services Communication Manager Interface Edit User High Availability * User Id ctiuser Licensing * Common Name CTI User Maintenance * Surname CTI User Networking User Password ••••••••
Interface High Availability * User Id Licensing * Common Name Maintenance * Surname
Licensing * Common Name CTI User Maintenance * Surname CTI User
Maintenance Surname CTI User
Maintenance
Vetworking User Password
Confirm Password
Status
Avaya Role None
User Management Business Category
Service Admin Car License
CM Home
Add User Css Home
■ Change User Password CT User Yes ▼
List All Users Department Number
Modify Default Users Display Name
Search Users Employee Number
Utilities Employee Type
Help Enterprise Handle

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6.6. Configure Security Database

Select Security \rightarrow Security Database \rightarrow Control from the left pane to display the SDB Control for DMCC, TSAPI, JTAPI and Telephony Web Services screen in the right pane. Uncheck both fields below.

Security Security Database Contro	I Home Help Logo
 AE Services Communication Manager Interface 	SDB Control for DMCC, TSAPI, JTAPI and Telephony Web Services
High Availability	Enable SDB for DMCC Service
 Licensing Maintenance 	Enable SDB for TSAPI Service, JTAPI and Telephony Web Services Apply Changes
▶ Networking	
 Security Account Management 	
Audit Certificate Management	
Enterprise Directory	
▶ Host AA	
Security Database Control	

Select Security \rightarrow Security Database \rightarrow CTI Users \rightarrow List All Users and select the CTI user which is created in Section 6.5 i.e., "ctiuser" and select the Edit button (not shown). In the Edit CTI User screen, select the check box Unrestricted Access and click Apply Changes to save the configuration.

Security Security Database CTI	Users List All Users		
▶ AE Services			
Communication Manager Interface	Edit CTI User		
High Availability	User Profile:	User ID	ctiuser
▶ Licensing		Common Name	CTI User
		Worktop Name	NONE -
Maintenance		Unrestricted Access	
▶ Networking	· · · · · · · · · · · · · · · · · · ·		
▼ Security	Call and Device Control:	Call Origination/Termination and Device Status	None 👻
Account Management	Call and Device Monitoring:	Device Monitoring	None 🔻
▶ Audit	2	Calls On A Device Monitoring	None -
Certificate Management		_	None ·
		Call Monitoring	
Enterprise Directory			
▶ Host AA	Routing Control:	Allow Routing on Listed Devices	None 👻
▶ PAM	Apply Changes Cancel Changes		
Security Database			
Control			
CTI Users			
List All Users			

6.7. Administer Ports

Select Networking \rightarrow Ports from the left pane, to display the Ports screen in the right pane. In the TSAPI Ports section select the Enabled radio button for TSAPI Service Port 450 and in the DMCC Server Ports section select the Enabled radio button for Unencrypted Port 4721 as shown below. Retain the default values in the remaining fields.

Management Console Welcome: User cust Last login: Fri Nov 25 10:50:11 2016 fr Number of prior failed login attempts: I HostName/IP: aes70/10.33.1.4 Management Console Server Offer Type: VIRTUAL_APPLIANCI SW Version: 7.0.1.0.3.15-0 Networking IPorts Host						
▶ AE Services						
Communication Manager Interface	Ports					
High Availability	CVLAN Ports			Enabled Disabled		
▶ Licensing		Unencrypted TCP Port	9999	•		
► Maintenance		Encrypted TCP Port	9998	•		
▼Networking AE Service IP (Local IP)	DLG Port	TCP Port	5678			
Network Configure	TSAPI Ports			Enabled Disabled		
Ports		TSAPI Service Port	450	•		
TCP/TLS Settings Security		Local TLINK Ports TCP Port Min TCP Port Max Unencrypted TLINK Ports	1024 1039			
▶ Status		TCP Port Min	1050			
User Management		TCP Port Max	1065			
Utilities		Encrypted TLINK Ports TCP Port Min	1066			
▶ Help		TCP Port Miri	1080			
		Tor Forchax	1001			
	DMCC Server Ports			Enabled Disabled		
		Unencrypted Port	4721	•		
		Encrypted Port	4722	• •		
		TR/87 Port	4723	•		

6.8. Restart Services

Select Maintenance \rightarrow Service Controller from the left pane to display the Service Controller screen in the right pane. Click Restart AE Server.

Maintenance Service Controller					Home Help Log
 AE Services Communication Manager Interface 	Service Controller				
High Availability	Service C	ontroller Status			
Licensing	🔲 ASAI Link Manager 🛛 Ru	unning			
▼ Maintenance		unning unning			
Date Time/NTP Server	DLG Service Ru	unning			
Security Database	Transport Layer Service Ru	unning			
Service Controller		unning			
▶ Server Data					
▶ Networking	For status on actual services, pleas	e use <u>Status and Control</u>			
Security	Start Stop Restart Ser	vice Restart AE Server	Restart Linux	Restart Web Server	

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7. Configure Avaya Breeze[™] and Engagement Call Control Service

This document assumes Avaya Breeze and Engagement Call Control snap-in are already in place and configured. The procedure for how to install and configure the Avaya Engagement Call Control snap-in on Avaya Breeze is referenced in **Section 11[2]**.

8. Configure Aura Alliance Client for Skype for Business

This section provides steps to configure the Aura Alliance Client application. During the compliance test, the installation and configuration of Aura Alliance Client application was performed by an Aura Alliance engineer. This section describes the initial and basic configuration of the Aura Alliance Client application.

From the PC where Aura Alliance Client for Skype for Business application is installed, run the application from the Start menu. Enter the signalling IP address of Session Manager in the **Server** field, the SIP user extension in the **User** field and the password if the SIP user extension in the **Password** field.

Note 1: Aura Alliance Client for Skype for Business has two modes: Softphone and Deskphone, the client requires the signalling IP address of Session Manager, a SIP user and its password to log in to the Softphone mode first then the user can switch to Deskphone mode.

Note 2: In order for the Aura Alliance Client for Skype for Business to control a SIP deskphone, ensure that the SIP deskphone has **Type of 3PCC Enabled** set to **Avaya** and uses the TLS protocol to register to Session Manager.

AL	
Aura Alliance, Au	a Alliance Client for Skype for Business
reproduction or d	rotected by copyright law and international treaties. Unauthorized istribution of this program or any portion of it may result in severe civil and and will be prosecuted to the maximum extent possible under the law.
	(32Bit) Version: 3.2.51.1
Server:	10.33.1.12
User:	3401
Password:	••••
	Save User / Password Cancel Open

Solution & Interoperability Test Lab Application Notes ©2017 Avaya Inc. All Rights Reserved. The Aura Alliance Client for Skype for Business application appears in the system tray, right click on the application and select the **Deskphone** mode.

Dialpad				
Call History				
Address Book				
Change Telephony Mode	•		Softphone	
Settings			Deskphone	
Debug				
Other Services	•			
About				
Exit		_		4:15 AN

Navigate to **Settings** from the context menu above and select the **Deskphone** tab. In the **Account settings** window enter an extension of a deskphone that the application wants to monitor and control, e.g. "3302". Enter the IP address of Engagement Call Control service in the **Server** field and keep the other fields at default. Click **Save** button to save changes.

🖻 General 🔳 Deskphone 💻 Softphone	
Account Account settings	
↓iii Dialing Rules Extension Call Forwarding Extension	
Server 10.33.1.36	
Port 443	
✓ Use HTTPS	
Local Port 5169	
Save Cancel	

9. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Aura Alliance Client for Skype for Business and Avaya Engagement Call Control service on Avaya Breeze.

9.1. Verify Avaya Aura® Communication Manager

On Communication Manager, verify the status of the administered CTI link by using the "**status aesvcs cti-link**" command. Verify that the **Service State** is "established" for the CTI link number administered in **Section 5.2**, as shown below.

statu	s aesvcs	cti-li	nk			
			AE SERVICES	CTI LINK STAT	US	
CTI Link	Version	Mnt Busy	AE Services Server	Service State	Msgs Sent	Msgs Rcvd
1	7	no	aes70	established	15	15

9.2. Verify Avaya Aura® Application Enablement Services

Verify the status of the DMCC Services Summary service by selecting Status \rightarrow Status and Control \rightarrow DMCC Service Summary from the left pane. The DMCC Service Summary – Session Summary screen is displayed.

Verify that the **Session ID** is associated with the CTI user "ctiuser" and the **Far-end Identifier** is being used by the Engagement Call Control service.

Status Status and Control DMCC	Service Summary					Home Help Logout
 AE Services Communication Manager Interface High Availability Licensing 	DMCC Service Summary - Session Sum Please do not use back button	mary				
 Maintenance Networking Security Status Alarm Viewer 	□ Enable page refresh every <u>60</u> v seconds Session Summary <u>Device Summary</u> Generated on Wed Feb 22 12:16:15 EST 2017 Service Uptime: Number of Active Sessions: Number of Sessions Created Since Service Number of Existing Devices: Number of Devices Created Since Service	1 Boot: 2 3	: days, 1 hours 3 minute	es		
▹ Log Manager ▶ Logs	Session ID	<u>User</u>	<u>Application</u>	<u>Far-end</u> <u>Identifier</u>	<u>Connection</u> <u>Type</u>	<u># of Associated</u> <u>Devices</u>
Status and Control	7932F35168B2E87FC E5CD4C1E17C84A5-1	ctiuser	Khepri Call Server Connector	10.33.1.36	XML Encrypted	3
 CVLAN Service Summary DLG Services Summary DMCC Service Summary Switch Conn Summary TSAPI Service Summary 	Terminate Sessions Show Terminated	Sessions				

9.3. Verify Aura Alliance Client Skype for Business

Place a call to the extension of the deskphone that the Aura Alliance Client Skype for Business application monitors, e.g. 3302. The **Calls** window of the Skype for Business application will popup to alert an incoming call. Answer the incoming call on the deskphone by selecting the **Answer** button on the **Calls** window.

Calls				-	□ ×
	1	2abc	3 _{def}		
	4ghi	5 jkl	6 mno		
	7 pqrs	8 tuv	9 _{wxyz}		
	*	0+	#		
	Redial 🔻	Cal	I		
(Alerting) 34	00 JP		(0	
(Adenting)					

Verify call states on the deskphone and the **Calls** window of Skype for Business application are synchronized.

1 co 2atc 3def 4 ghi 5 jkl 6 mno 7 pqrs 8 tuv 9 woyz ★ 0 + # Redial ▼ Call 3400 SIP © ⊙ ⊙ ⊙ Duration: 0003:50	Calls				-		×
4ghi 5jki 6mno 7 pqrs 8 tuv 9 vogz ★ 0 + # Redial ▼ Call 3400 SIP							
7 pqrs 8 tuv 9 woyz * 0 + # Redial Call		1	2abc	Bdef			
* 0+ # Redial • Call 3400 SIP () () () () () () () () () () () () () (4ghi	5 jkl	6 mno			
Redial Call		7 pqrs	8 tuv	9 _{wxyz}			
AC 3400 SIP		*	0+	#			
\square	Redial 🔻 Call			II			
1	Ċ,				3	6)

10. Conclusion

These Application Notes describe the configuration steps required for Aura Alliance Client Skype for Business to successfully interoperate with Avaya BreezeTM via Engagement Call Control service. All feature and serviceability test cases were completed successfully with observations noted in **Section 2.2**.

11. Additional References

This section references the product documentation that is relevant to these Application Notes. Documentation for Avaya products may be obtained via <u>http://support.avaya.com</u>

- [1] Administering Avaya Aura® Communication Manager, Release 7.0.3, Document 03-300509, Issue 10, June 2016.
- [2] Avaya Engagement Call Control Snap-in Reference.
- [3] Administering Avaya BreezeTM, Release 3.2, Issue1, October 2016
- [4] Avaya Aura® Application Enablement Services Administration and Maintenance Guide, Release 7.0, Document 02-300357, Jan 2016.

Documentation related to Aura Alliance may directly be obtained from Aura Alliance.

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