

Avaya Solution & Interoperability Test Lab

Application Notes for IPC Alliance 16 with Avaya Aura® Messaging 6.3 and Avaya Aura® Session Manager 6.3 in a Centralized Messaging Environment – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for IPC Alliance 16 to interoperate with Avaya Aura® Messaging 6.3 and Avaya Aura® Session Manager 6.3 in a centralized messaging environment.

IPC Alliance 16 is a trading communication solution. In the compliance testing, IPC Alliance 16 used SIP trunks to Avaya Aura® Session Manager, for IPC turret users to obtain voice messaging services from Avaya Aura® Messaging. A SIP trunk was used from IPC Alliance 16 to Avaya Aura® Session Manager, and a SIP trunk was used from Avaya Aura® Session Manager to Avaya Aura® Messaging. The Avaya Aura® Messaging system in the Central site supported local subscribers from Avaya Aura® Communication Manager at the Central site, and from IPC turret users at the Remote site.

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 IPC Alliance 16 to interoperate with Avaya Aura® Messaging 6.3 and Avaya Aura® Session Manager 6.3 in a centralized messaging environment.

IPC Alliance 16 is a trading communication solution. In the compliance testing, IPC Alliance 16, more specifically Enterprise SIP Server (ESS), used a SIP trunk to Avaya Aura® Session Manager, for IPC turret users to obtain voice messaging services from Avaya Aura® Messaging. The Avaya Aura® Messaging system in the Central site supported local subscribers from Avaya Aura® Aura® Communication Manager at the Central site, and IPC turret users at the Remote site.

2. General Test Approach and Test Results

The feature test cases were performed manually. Calls were manually established among IPC turret users with Avaya SIP, Avaya H.323, PSTN users, and/or the Avaya Aura® Messaging voicemail pilot to verify various call scenarios. The Avaya Aura® Messaging User Preference Option was used to configure subscriber features such as Personal Operator, Live Attendant, Reach Me (Find Me in Avaya Modular Messaging), and Notify Me (Call Me in Avaya Modular Messaging).

The serviceability test cases were performed manually by disconnecting and reconnecting the cable connection to IPC.

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 included subscriber login, greeting, voice message, message waiting indicator, call forward, multiple call forward, personal operator, live attendant, reach me, notify me, call sender, transfer, and vector.

The serviceability testing focused on verifying the ability of IPC Alliance 16 to recover from adverse conditions, such as disconnecting/reconnecting the cable connection to IPC Alliance 16.

2.2. Test Results

All test cases were executed and passed. The following were the observations from the compliance testing.

- IPC does not offer the Coverage feature, therefore coverage to voicemail for the turret users were accomplished by setting the Avaya Aura® Messaging pilot number as the Call Forwarding destination for the users.
- During the multiple call forward scenario, the call went to Forward-To voicemail.

2.3. Support

Technical support on IPC Alliance 16 can be obtained through the following:

- **Phone:** (800) NEEDIPC, (203) 339-7800
- Email: systems.support@ipc.com

3. Reference Configuration

As shown in the test configuration below, IPC Alliance 16 at the Remote Site consisted of the System Center, ESS, and Turrets. A SIP trunk was used from ESS to Session Manager, and another SIP trunk was used between Session Manager and Avaya Aura® Messaging. In the test configuration, the SIP trunk allowed IPC turret users at the Remote Site to "cover" to Avaya Aura® Messaging at the Central site for voice messaging services.

The configuration of Session Manager is performed via the web interface of System Manager. The detailed administration of basic connectivity among Communication Manager, Session Manager, and Avaya Aura® Messaging is not the focus of these Application Notes and will not be described. These Application Notes will focus on the additional configuration required to support IPC turret users as local subscribers on Avaya Aura® Messaging.

The detailed administration of the SIP trunk between Session Manager and IPC Alliance 16, to enable IPC turret users to reach users on Communication Manager and on the PSTN, is assumed to be in place with details described in [3]. A five digit Uniform Dial Plan (UDP) was used to facilitate dialing between the Central and Remote sites. Unique extension ranges were associated with Communication Manager user(s) at the Central site (7200x), (7202x), and IPC turret users at the Remote site (332xx). The Avaya Aura® Messaging pilot number was 7777.

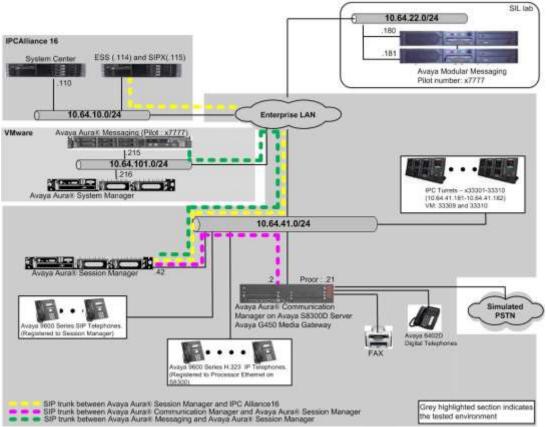


Figure 1: Test Configuration of IPC Alliance 16 with Avaya Aura® Messaging

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4. Equipment and Software Validated

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

Equipment	Software
Avaya Aura® Messaging	MSG-03.0.124.0-321_0103
Avaya Aura® Communication Manager on	6.3 (R016x.03.0.124.0-21754)
Avaya S8300D Server	
Avaya G450 Media Gateway	36.9
Avaya Aura® Session Manager	6.3.9.0.639011
Avaya Aura® System Manager	6.3.9
Avaya 96x0 Series IP Telephone (H.323)	3.2.2
Avaya 96x1 Series IP Telephone (H.323)	6.2.3.13
Avaya 96x0 Series IP Telephone (SIP)	2.6.12
Avaya 96x1 Series IP Telephone (SIP)	6.4.1.25
IPC	
One Management System (OneMS)	16.02.01.09
• Enterprise SIP Server (ESS)	2.01.00-03

5. Configure Avaya Aura® Communication Manager

For the SIP trunk configuration between Session Manager and IPC Alliance 16, please refer to [3].

During the compliance test and when testing REFER for transfers, the following issues were observed.

Call scenario:

- Avaya Aura® Messaging sends REFER to Communication Manager and Communication Manager responds with 202 Accepted. Right after the 202 Accepted message, Communication Manager sends a Notify. In the Notify message, the message "SIP / 2.0 481 Call Transaction does not exist". The result is Communication Manager does not know where to send the call to.
- During a Personal Operator scenario, no RTP was observed between Calling party and Personal Operator.

The following two configuration changes fixed the issues.

- Change the **locations** form
- Change the **trunk-group** form

In the main location, if Communication Manager does not know where to send the call to, Communication Manager will send the call to trunk 92.

chan	ge locati	.ons		Page	1 of 1	
			LOCATIONS			
		ARS Prefix 1 Requi	red For 10-Digit	t NANP Calls? y		
Loc	Name	Timezone DST	City/		Proxy Sel	
No		Offset	Area		Rte Pat	
1	Main	+ 00:00 0			92	

Enable the Build Refer-To URI of REFER from Contact for NCR field.

change trunk-group 92	Page 4 of 21
PROTOCOL VARIATIONS	
Mark Users as Phone?	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Prepend '+' to Calling/Alerting/Diverting/Connected Number?	n
Send Transferring Party Information?	У
Network Call Redirection?	y v
Build Refer-To URI of REFER From Contact For NCR?	V
Send Diversion Header?	n
Support Request History?	У
Telephone Event Payload Type:	
Convert 180 to 183 for Early Media?	n
Always Use re-INVITE for Display Updates?	n
Identity for Calling Party Display:	P-Asserted-Identity
Block Sending Calling Party Location in INVITE?	—
Accept Redirect to Blank User Destination?	
Enable Q-SIP?	n
Interworking of ISDN Clearing with In-Band Tones:	keep-channel-active

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6. Configure Avaya Aura® Messaging

This section provides the procedures for configuring IPC turret users as local subscribers on Avaya Aura® Messaging. The configuration procedures include the following areas:

- Launch messaging administration
- Administer subscriber extension ranges
- Administer subscribers

6.1. Launch Messaging Administration

Access the Avaya Aura® Messaging web interface by using the URL <u>http://ip-address</u> in an Internet browser window, where "ip-address" is the IP address of the Avaya Aura® Messaging server. The **Logon** screen is displayed. Log in using a valid user name and password. The **Password** field will appear after a value is entered into the **Username** field.

AVAYA		Avaya Aura [®] Messaging System Management Interface (SMI)
Help Log Off		
-		This Server: server1
		<u>^</u>
Lo	gon	
	1	
	Logon ID:	
	Logon	

The **Messaging Administration** screen appears, as shown below. Navigate to **Administration** → **Messaging** (not shown).

Αναγα	Avaya Aura [®] Messaging System Management Interface (SMI)
Help Lag Of Administration	
	The Server Anno 19
System Mar	nagement Interface
© 2001-2013 Av	aya Inc. All Rights Reserved.
	Copyright
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Unauthorized reproduction, transfer, and or use can	be a criminal, as well as a civil, offense under the applicable law.
Third-	party Components
Party Components"), which may contain terms that expand Information identifying Third Party Components and the Th	oduct may contain software distributed under third party agreements ("Third or limit rights to use certain portions of the Product ("Third Party Terms"), ind Party Terms that apply to them are available on Avaya's web site at: vava.com/ThirdPartyLicense/
1	Irademarks.
Avaya is a f	trademark of Avaya Inc.
Avaya Aura is a reg	istered trademark of Avaya Inc.
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6.2. Administer Subscriber Extension Ranges

Navigate Server Settings (Storage) \rightarrow Networked Servers from the left pane, to display the Manage Networked Servers screen. Select the Avaya Aura® Messaging server from the table listing, and click Edit the Selected Networked Server toward the bottom right of the screen.

Αναγα								Avaya Aura [®] Messaging System Management Interface (SMI)
Help: Log Off	Administration							
Administration / Messaging	2	20 XX						This Server: server1
User Ranagement User Ranagement Class of Service Street		worked Servers rked Servers page is used	to add change	or delete	the Net	worked sen	vers used by	the messaging feature.
Tapology	Server Name	IP Address	Server	Type	ID	[Total	Subs .	
Storage Destinations	server1	10.64.101.215	1 local	51	0	11	-	
System Policies Enfranced List Management								
System Halboose								
System Administration								
Litter Activity Log Configuration Reserves (Strange)								
Ubers								
Sefo Malbonas								
Revicte Users Unizidalized Malticiae								
Logis Failures								
Locket Our Users								
Stat Domant Nabowa								
Pul Valore								
Web Access								
Server Byhamucion	E							
System Status Alarm Sommany								
Voice Channels (Application)								
Cache Statistics (Application)							. 7.	
Cythound Fax (Stimps) Schurg Scittered								
Server Role / ArC Address	Display Report of Se	FURTS		Delets ti	to Relea	ted Networ	had Server	
Server Role / Arc Address Server Secondo (Sicropo) Externel Hatte		concerned where a		[pression		concerning and		T
Esternal Huste	Add a New Network	ed Server		Edit ti	he Selec	ted Networ	ked Server	
Tructed Servers	Display Network Sn	anahot						1
Raduest Remote Update	mapary metwork shi							
Server Settings (Application)	Help							
Dial Rulet	The second se							
Ouster								

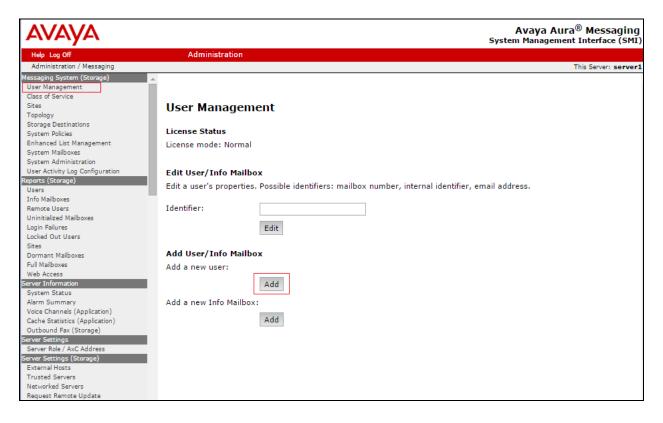
The **Edit Messaging Server** screen is displayed. Select **5** using drop-down menu on the Mailbox Number Length field. In the compliance test, 5 digit extensions were used by Avaya Aura® Messaging.

Click on **Save** at the bottom of the screen.

AVAYA		Avaya Aura [®] Messaging System Management Interface (SMI)
Help Log Off	Administration	
Administration / Messaging		This Server: server1
Messaging System (Storage) User Management	 Edit Messaging Server 	
Class of Service Sites	The Edit Messaging Server allows the chang	ing of the local messaging server.
Topology Storage Destinations System Policies Enhanced List Management System Mailboxes	Server Name server1	Password Confirm Password
System Administration User Activity Log Configuration Reports (Storage)	IP Address 10.64.101.215	Server Type tcpip V
Users Info Mailboxes Remote Users	Mailbox Number Length 5 T	Default 1 T
Uninitialized Mailboxes Login Failures	Updates In 🛛 yes 🔻	Updates Out yes 🔻
Locked Out Users Sites	Remote LDAP Port 56389	Log Updates In 🛛 no 🔻
Dormant Mailboxes Full Mailboxes Web Access Server Information	Back Save Help	

6.3. Administer Subscribers

Select Messaging System (Storage) → User Management from the left pane, to display the User Management screen. Click Add under the Add a new user section.



The User Management > Properties for New User screen is displayed next. Enter the desired string into the First Name, Last Name, and Password fields.

In the compliance testing, the same telephone extensions for the IPC subscribers were used for the **Mailbox number**, **Numeric address**, and **Extension** fields. Select the appropriate **Class Of Service**, and retain the default values in the remaining fields. Scroll down to the bottom of the screen and click **Save**.

AVAVA			Avaya Aura [®] Messaging System Management Interface (SMI
Help Ling Of	Administration		system ranagement interface (SPI
Administration / Messaging			This Server server
Mentero Educate Council User Management Class of Service Stee	User Manageme User Properties	nt > Properties for New User	Help
Tapology Storage Destinations	First name:	33201	
System Policies	Last name:	33201	
Enhanced List Management System Raiboxes	Display name:		
System Administration	ASCII name:		
User Activity Log Califiguration Reports (Charges)	Porses remotes		
Users	01200		
Shfo Malbonat Rentste Users	Site:	Default •	
Uninitialized Mailbowes			
Login Falures Locked Out Upers	Mailbox number:	33201	
Stas	Numeric address:	33201	
Dormant Halboves			
Full Malizover . Web Access		lance 1	
Serve Information	Extension:	33201	
Septem Status Alarm Summary	🧉 Include in Auto Atten	dant directory	
Voice Channels (Application)	Additional extension 1:		
Cache Statistics (Application) Outbound Fax (Storage)			
Server Settings	Additional extension 2:		
Server Aole / AvC Address Server Settings (Secure)	Additional extension 3:		
External Hosts	Additional extension 4:		
Trusted Servers Networked Servers	Additional extension 5;		
Request Remote Update	Additional extension 6:		
Server Servings (Application)	Additional extension 7:		
Cluster	Accidentes excension /1		
System Parameters	12000231000		
Longuagee Log Configuration	Class of Service:	Standard •	
IMAR/SMTP Seconds (Storage)	1		
General Options Hall Options	Pronounceable name:		
2MAD/SMT# Status		1	
Telephony Settings Telephony Integration	MWI enabled:	ByCOS *	
Telephony Domaine	Print distances	BYCOS Y	
Advanced (Application) System Operations	Concernant and the second		
Timetuts	Miscellaneous 1:		
Histofanesus Core Files	Miscellaneous 2:		
Underland	E .		
Hessaging DE Audits (Storage) Start Hessaging	New password:		
Stop Messaging	Confirm password:		
LDAP Status/Restart (Storage)	entitie basende er		
Charge LDAP Password (Storage) CaliPlat Higration			
Octel Aria Migration		ce messaging password at next login	
Administration History	Voice messaging pass		
Administrator	Locked out from voice	messaging	
Alarm Software Management			
Haiotenance		Save	
COLORED F. MARTINET			

Repeat this section to add all IPC subscribers. During the compliance test, 33201 and 33202 were used.

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7. Configure Avaya Aura® Session Manager

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

- Launch System Manager
- Administer dial patterns

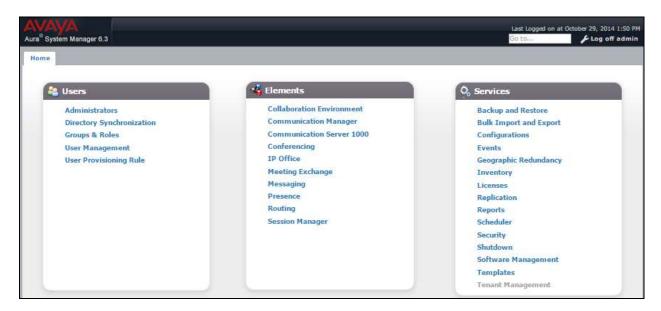
7.1. Launch System Manager

Access the System Manager Web interface by using the URL <u>http://ip-address</u> in an Internet Browser window, where "ip-address" is the IP address of the System Manager server. Log in using the appropriate credentials.

Note: During the compliance the System Manager was installed onto a VMware.

Recommended access to System Manager is via FQDN. So to central login for Single Sign-On	User ID:
If IP address access is your only option, then note that authentication will fail in the following cases:	Password:
 First time login with "admin" account Expired/Reset passwords 	Log On Cancel
Jse the "Change Password" hyperlink on this page to change he password manually, and then login.	Change Password
Also note that single sign-on between servers in the same security domain is not supported when accessing via IP address.	9 Supported Browsers: Internet Explorer 8.x, 9.x or 10.x or Firefox 26.0, 27.0 and 28.0.
This system is restricted solely to authorized users for legitimate business purposes only. The actual or attempted unauthorized access, use, or modification of this system is strictly prohibited.	

The Main screen is displayed. Navigate to **Elements** \rightarrow **Routing**



The Introduction to Network Routing Policy screen is displayed next. Navigate to Routing \rightarrow Dial Patterns from the left pane.

System Manager 6.3	Last Logged on at October 2 Go to	9, 2014 1:50 F Log off admi
ne Routing X		
outing	Home / Elements / Routing	
Domains		Help ?
Locations	Introduction to Network Routing Policy	
Adaptations	Network Routing Policy consists of several routing applications like "Domains", "Locations", "SIP Entities", etc.	
SIP Entities	The recommended order to use the routing applications (that means the overall routing workflow) to configure your network con is as follows:	nfiguration
Entity Links	Step 1: Create "Domains" of type SIP (other routing applications are referring domains of type SIP).	
Time Ranges	Step 2: Create "Locations"	
Routing Policies	Step 3: Create "Adaptations"	
Dial Patterns	Step 4: Create "SIP Entities"	
Regular Expressions	- SIP Entities that are used as "Outbound Proxies" e.g. a certain "Gateway" or "SIP Trunk"	
	- Create all "other SIP Entities" (Session Manager, CM, SIP/PSTN Gateways, SIP Trunks)	
	- Assign the appropriate "Locations", "Adaptations" and "Outbound Proxies"	
	Step 5: Create the "Entity Links"	
	- Between Session Managers	
	- Between Session Managers and "other SIP Entities"	
	Step 6: Create "Time Ranges"	

7.2. Administer Dial Patterns

On the **Dial Pattern Details** screen, click **New** in the subsequent screen (not shown) to add a new dial pattern for Avaya Aura® Messaging to reach IPC turret users.

The **Dial Pattern Details** screen is displayed. In the **General** sub-section, enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Pattern:** A dial pattern to match.
- **Min:** The minimum number of digits to be matched.
- Max: The maximum number of digits to be matched.
- **SIP Domain:** Select the applicable domain for the relevant Communication Manager.
- Notes: Any desired description.

In the **Originating Locations and Routing Policies** sub-section, click **Add** and create a new policy for reaching IPC turret users with extensions 332xx. In the compliance testing, the policy allowed for call origination from location "Apply The Selected Routing Policies to All Originating Locations", and the destination is "Route2Alliance system", as shown below. Retain the default values in the remaining fields. Avaya Aura® Messaging will dial out to IPC turret users for features such as Call Sender. The SIP call will be delivered from Aura® Messaging to Session Manager The SIP call is then delivered from Session Manager to IPC Alliance 16

AVAVA Aura [®] System Manager 0.3							Go te	on at Juniary 21, 2012 4:10 1
Hume Routing *							- 0	
- Houting	e Home	/ Elements / Routing / Olal Path	mis					
Domains						and the second s		Help 7
Locations	Dial I	Pattern Details				Commit Can	cel	
Adaptations.	Gen	loval						
51P Entities	Gen	ciai	* Pattern: 33	ac.				
Entity Links				2.				
Time Ranges			* Min: 5					
Routing Policies			* Max: 5					
Dial Patterns		Em	ergency Call: 🗐					
Regular Expressions		Emerge	ency Priority: 1					
Defaults		Enre	rgency Type:					
			SIP Domain:	4L- •				
			Notes: To	Alliance16 using St	p			
				and a second state of the second s				
	Orio	inating Locations and Ro	utina Policies					
	Add	Remove	ŝ.					
	Depart.	m 2						Filter: Enable
	4		riginating Location of the	n Routing Policy Name	Rank	Routing Policy Disabled	Routing Policy Destination	Routing Pulicy Notes
	8	-ALL-		Route2Aliance system	0	0	Aliance	- J.
	Selec	t : All, Nome		Tellini'				

The following screen shows the dial pattern details. 7777 is the pilot number for Avaya Aura® Messaging.

AVAVA Aura [®] System Manager 6.2								Cent Logged a	n at January 21, 2013 4:10 🖌 Log off admi
Home Bouting #									
- Rmilling	Hume / Elements / Rou	ling / Dial Pa	tterms						
Domains							Help 7		
Locations	Dial Pattern Details						Cell		
Adaptations	General								
STP Entities	General		* Pattern:	7777	82				
Entity Links		* Min:							
Time Ranges									
Routing Policies			* Max:						
Dial Patterns	Emergency Call: Emergency Priority: 1								
Regular Expressions									
Defaults	Emergency Type:								
	SIP Domain: av				a.com 🔻				
	Originating Locations and Routing Policies Add Remove								
	3 Items 🤤 Filter: Ena								
	Originating Loca	tion Name -	Originating Local Notes	tion	Routing Pulicy Name	Rank	Routing Policy Disabled	Routing Policy Destination	Routing Policy Notes
	∰ -ALL-				Route2MM	0	×.	Modular Messaging	
	111 -ALL-			Route2AAH63- VMware	0		aaM63-VHware		
	III -ALL-				Route2AAM63-V5P	Ð	×.	AAM63-VSP	
	Select : All, None								

8. Configure IPC Alliance 16

For the compliance test, no special configuration is needed for the IPC Alliance 16. For a SIP trunk configuration between Session Manager and IPC Alliance 16, please refer to [3].

9. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Aura® Communication Manager, Avaya Aura® Messaging, Avaya Aura® Session Manager, and IPC Alliance 16.

Place a call from an IPC turret user to the Avaya Aura® Messaging pilot number. Verify that Avaya Aura® Messaging recognizes the calling party as a local subscriber.

10. Conclusion

These Application Notes describe the configuration steps required for IPC Alliance 16 to successfully interoperate with Avaya Aura® Messaging 6.3 and Avaya Aura® Session Manager 6.3 in a centralized messaging environment using SIP trunks. All feature and serviceability test cases were completed with an observation noted in **Section 2.2**.

11. Additional References

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

- **1.** *Administering Avaya Aura*® *Communication Manager*, Document 03-300509, Release 6.3, Issue 10, June 2014, available at <u>http://support.avaya.com</u>.
- **2.** Avaya Aura® Communication Manager Screen Reference, Document 03-602878, Release 6.3, Issue 8, December 2014, available at http://support.avaya.com.
- **3.** Application Notes for IPC Alliance 16 with Avaya Aura® Session Manager 6.3 using SIP *Trunks*, Issue 1.0, available at http://support.avaya.com.

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