

Avaya Solution & Interoperability Test Lab

Application Notes for InteractCRM ProConnect with Avaya Aura® Communication Manager 6.0 and Avaya Aura® Application Enablement Services 5.2.2 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for InteractCRM ProConnect to interoperate with Avaya Aura® Communication Manager and Avaya Aura® Application Enablement Services. ProConnect is an automated progressive dialing solution that allows agents to preview the customer's information while the dialer calls the customer. ProConnect integrates with Application Enablement Services using the Java Telephony Application Programming Interface (JTAPI).

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 InteractCRM ProConnect to interoperate with Avaya Aura® Communication Manager and Avaya Aura® Application Enablement Services. InteractCRM ProConnect is an automated progressive dialing solution that allows agents to preview the customer's information while the dialer calls the customer. ProConnect communicates with Application Enablement Services using the Java Telephony Application Programming Interface (JTAPI) to monitor the agents' telephone extensions. Call classifications were done manually by the agents.

1.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying InteractCRM ProConnect for the following:

- Agent login and logout to ProConnect. Note that ProConnect only controls the agents' phone extensions and does not use the Avaya ACD features.
- Placing outgoing calls automatically after preview timer expires.
- Placing outgoing calls manually before preview timer expires.
- Performing telephony functions such as hold, un-hold, hang up of calls.
- Handling of telephony events such as customer answers, hang up, agent performing hold, un-hold, blind transfer and attended transfer using the phone.

The serviceability testing focused on verifying the ability of InteractCRM ProConnect to recover from adverse conditions, such as disconnecting the Ethernet cables on the ProConnect client PC, ProConnect server and Application Enablement Services server, and rebooting the Communication Manager and ProConnect server.

1.2. Support

Technical support on InteractCRM ProConnect can be obtained through the following:

- Phone: +91-22-40553055
- Email: <u>tcsupport@interactcrm.com</u>

2. Reference Configuration

Figure 1 illustrates a sample configuration consisting of an Avaya S8800 Server running Avaya Aura® Communication Manager, an Avaya G650 Media Gateway, an Avaya Aura® Applicable Enablement Services server and Avaya 9640 IP Telephones. InteractCRM ProConnect server application is installed on a Windows 2003 Server together with Microsoft SQL Server 2005 for database support. InteractCRM ProConnect server communicates with the TSAPI Service on Applicable Enablement Services using JTAPI. The agent PCs are running the ProConnect client application hosted on the ProConnect server using the Microsoft Internet Explorer. The Avaya C364T-PWR Converged Stackable Switch provides Ethernet connectivity to the servers and IP telephones.



Figure 1: Test Configuration

3. Equipment and Software Validated

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

Equipment/Software	Version
Avaya S8800 Server	Avaya Aura® Communication Manager
	6.0
	(Service Pack 00.0.345.0-18567)
Avaya G650 Media Gateway	-
TN2312BP IP Server Interface	HW07, FW049
TN799DP C-LAN Interface	HW01, FW034
TN2302AP IP Media Processor	HW20, FW120
TN2185B BRI Trunk	000004
Avaya Aura® Application Enablement Services	5.2.2
	(r5-2-2-105-0)
	Patch 3
Avaya C364T-PWR Converged Stackable Switch	4.5.18
Avaya 9640 IP Telephones	3.1.1 (H.323)
InteractCRM ProConnect server on	1.4.4
Dell PowerEdge 1950	Microsoft Windows Server 2003, SP2
Additional software components:	
Avaya JTAPI Client	4.2.1 Build 338
Microsoft SQL Server	Microsoft SQL Server 2005, SP3
• Sun Java SE Development Kit (JDK)	Version 6 Update 22
Apache Tomcat	5.5.17
Agent PCs running	Microsoft Windows XP Professional,
InteractCRM ProConnect client (browser-based	SP3
thin client)	Microsoft Internet Explorer 7.0
, ,	1

4. Configure Avaya Aura® Communication Manager

This section provides the procedures for configuring Computer Telephony Integration (CTI) links on Communication Manager. All the configuration changes in Communication Manager are performed through the System Access Terminal (SAT) interface. The highlights in the following screens indicate the values used during the compliance test.

4.1. Configure AES and CTI Links

Applicable Enablement Services forwards CTI requests, responses, and events between InteractCRM ProConnect server and Communication Manager. Applicable Enablement Services communicates with Communication Manager over an AES link. Within the AES link, CTI links may be configured to provide CTI services to CTI applications such as InteractCRM ProConnect. The following steps demonstrate the configuration of the Communication Manager side of the AES and CTI links. See **Section 5** for the details of configuring the Applicable Enablement Services side of the AES and CTI links.

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SPOC 1/27/2011	©2011 Avaya Inc. All Rights Reserved.	ProConnect-AES

Step	Description							
1.	Enter the dis	splay syste	m-parameter	s custom	er-option	s comman	d. On Page	3, verify
	that Compu	ter Teleph	ony Adjunct	Links is a	set to y. If	not, conta	ct an author	rized Avaya
	account repr	esentative	to obtain the li	icense.	•	-		2
	display sys	tem-parame	eters custome:	r-option:	3		Page	3 of 11
		-	03	PTIONAL 1	FEATURES		-	
	Abbrevi	ated Dial:	ing Enhanced	List? n		Audible N	Vessare Wa	ting? n
	Acc	ess Secur:	ity Gateway (A	ASG)? n		Autho	prization (Codes? v
	Ana	log Trunk	Incoming Call	l ID? n			CAS BI	ranch? n
	A/D Grp/Sy	s List Dia	aling Start a	t 01? n			CAS	Main? n
	Answer Supe	rvision b	y Call Classi	fier? n		Cha	ange COR by	/ FAC? n
				ARS? y	Computer	Telephony	y Adjunct 1	Links? y
		ARS,	AAR Partitio	ning? y	Cvg Of	Calls Redi	irected Off	f-net? n
	A	RS/AAR Dia	aling without Sama Camabili	FAC? y		DCC	DCS (Ba	asic)? n
	A	SAL LINK (SAT Link 1	Die Capabili Plus Capabili	ties? n		DCS	with Rerou	ting? n
	Asvn	c. Transfe	er Mode (ATM)	PNC? n		DCD	WICH RELO	icing. n
	Async. Tr	ansfer Mod	de (ATM) Trun	king? n	Digita	l Loss Pla	an Modifica	ation? n
	_	ATM WA	N Spare Proces	ssor? n	-		DSI	L MSP? y
			i	ATMS? n		DS1 Ecł	no Cancella	ation? y
		Att	cendant Vecto	ring? n				
						_		
2.	Enter the ad	d cti-link	m command, v	where m 1	s a numbe	er between	1 and 64, 11	nclusive.
	Enter a valid	l Extensio	n under the pro	ovisioned	dial plan	in Commu	nication Ma	anager, set
	the Type fie	ld to ADJ-	IP, and assign	a descrip	tive Nam	e to the CT	ΓI link.	
	• •		, C	1				
	add cti-lin	k 1					Page 1	of 3
				CTI LI	INK			
	CTI Link:	1						
	Extension:	10091						
	Type:	ADJ-IP					(NOD • 1
	Name ·	TSAPT Ser	vices				(JOR. I
	ivanie.	101111 001	1000					
2	Entor the ab	ango in co	muines commo	nd On D	aga 1 aar	figure the	Somuioo Tu	na field to
3.	Enter the ch	ange ip-se			age 1, cor	inguie me	Service Ty	
	AESVCS ar	nd the Ena	bled field to y.	During	the compl	lance test,	the Local I	Node field is
	set to the pro	ocessor Eth	ernet interface	e procr w	hich is IP	address of	the S8800	Server as
	shown in Fi	gure 1. The	e default port 8	8765 was	utilized for	or the Loca	al Port field	1.
			1					
	change ip-s	ervices					Page	1 of 3
	Comisso	Enclaired	I o ==]	IP SER	/ICES	Domoto	Domete	
	Type	perdeura	Node	LOCO	i⊥ -	Node	Remote Port	
	AESVCS	v	procr	876	5	noue	FULC	
		4	<u> </u>					

Step	Description								
	On Page 3, enter the hostname of the Applicable Enablement Services server for the AE Services Server field. The server name may be obtained by logging in to the Applicable Enablement Services server using Secure Shell (SSH), and running the uname -a command. Enter an alpha-numeric password for the Password field and set the Enabled field to y . The same password will be configured on the Applicable Enablement Services server in Section 5.3 Step 2 .								
	change ip-ser	vices			Page	3 of	3		
		i	AE Services Administ	cration					
	Server ID	AE Services Server	Password	Enabled	Status				
	1:	aes1	******	к У					
	2:								
	5.								
4.	Enter the save the configuration	translation com on of Communic	mand to save the chan ation Manager.	ages to the syste	em. This c	omplete	S		

4.2. Configure Universal Call ID

Configure Communication Manager to create a Universal Call ID (UCID) for each call and to send the UCID to InteractCRM ProConnect through Application Enablement Services.

	Description				
1.	Enter the change system-parameters features command. On Page 5, set Create				
	Universal Call ID (UCID) to y and configure a value for UCID Network Node ID,				
	which is set to 1 in this testing.				
	5				
	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				
	MALICIOUS CALL TRACE PARAMETERS				
	Apply MCT Warning Tone? n MCT Voice Recorder Trunk Group:				
	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				
	Preserve previous AUX Work button states after deactivation? n UNIVERSAL CALL ID				
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5. Configure Avaya Aura® Application Enablement Services

This section provides the procedures for configuring Application Enablement Services (AES). The procedures fall into the following areas:

- Verify Application Enablement Services License
- Administer CTI User
- Administer Switch Connection
- Administer TSAPI link
- Administer CTI user permission

5.1. Verify Application Enablement Services License

Step	Description							
1.	Launch a web browser and enter https:// <ip address="" aes="" of="" server=""> to access the</ip>							
	Application Enablement Services Management Console. Log in using an administrative							
	login and password (not shown), and the Welcome To OAM screen will be displayed.							
	AES Management Console - Windows Internet Explorer							
	Certificate Error 😚 💥 GoogleSG							
	Welcome: User craft Last login: Mon Dec 20 10:52:30 2010 from 10.1.10.152 Management Console Walcome: User craft Last login: Mon Dec 20 10:52:30 2010 from 10.1.10.152 HostName/IP: acesi/10.1.10.71 Server Offer Type: TURNKEY SW Version: r5-2-2-105-0							
	Home Home Help Logout							
	 AE Services Communication Manager Interface Licensing Maintenance Networking Security Status User Management Utilities Help Help Welcome to OAM Welcome to OAM The AE Services Operations, Administration, and Management (OAM) Web provides you with tools for managing the AE Server. OAM spans the following administrative domains: AE Services - Use AE Services to manage all AE Services that you are licensed to use on the AE Server. AE Services - Use AE Services to manage the following administrative domains: AE Services - Use AE Services to manage the following administrative domains: AE Services - Use AE Services to manage the following administrative domains: AE Services - Use AE Services to manage the following administrative domains: AE Services - Use AE Services to manage the following administrative domains: AE Services - Use AE Services to manage the following administrative domains: AE Services - Use AE Services to manage the following administrative domains: AE Services - Use AE Services to manage the following administrative domains: AE Services - Use AE Services to manage the following administrative domains and the AE Services user- authorization, configure Linux.PAM (Pluggable Authentication Modules for Linux) and so on. Status - Use Status to obtain serve status informations. User Management - Use Use User Management to manage AE Services users and AE Services user- authorization, configure Linux.PAM (Pluggable Authentication Modules for Linux) and so on. Status - Use Status to obtain a few tips for using the OAM Help system Depending on your business requirements, these administrative domains. Depending on your business requirements, these administrative domains. 							
	© 2009 Avaya, Inc. All Rights Reserved.							
	Done							

	Description							
2.	Select AE Services from	the left menu. Fron	n the AE	Service	s page, verify	that		
	Application Enablement S	Services has proper	license fo	or the fe	eature illustrat	ted in these		
	Application Notes by ens	Application Notes by analyzing the License Mode for TSADI Service in NODMAL						
	Application Notes by ensuring the License would for TSAFT Service is NORWAL							
	MODE, as shown below.	. If the ISAPI Servi		ncense	u, then contac	t the Avaya		
	sales team or business partner for the proper license to install onto the WebLM Server.							
	ALS Management Console - Windows Int	ternet Explorer						
	C V V III.10.71/aesvcs/	/view/welcome/ctiWelcomeWarningPa	ge.xh 🔻 😵 Certi	ficate Error 🗸	🕈 🔀 GoogleSG	. ♦		
	🖕 🎄 🏠 🕶 🗟 🔻 📴 🗸	◎ • ② • <u>11</u>						
		ation Enablement S Management Console	Services	Welcome: Use Last login: Mo HostName/IP: Server Offer 1 SW Version: r	er craft in Dec 20 10:52:30 2010 : aes1/10.1.10.71 Type: TURNKEY '5-2-2-105-0	from 10.1.10.152		
	AE Services				Home	Help Logout		
	▼ AE Services							
	► CVLAN	AE Services						
	> DLG							
	> DMCC							
	> DMCC							
	> SMS	IMPORTANT: AE Services must	be restarted for	administrative	e changes to fully take ef	fect.		
	SMS TSAPI Communication Manager	IMPORTANT: AE Services must Changes to the Security Datab	be restarted for ase do not require	administrative e a restart.	e changes to fully take ef	fect.		
	SMS SMS TSAPI Communication Manager Interface	IMPORTANT: AE Services must Changes to the Security Datab	be restarted for ase do not require Status	administrative e a restart. State	e changes to fully take ef	fect. Cause*		
	SMS SMS TSAPI Communication Manager Interface Licensing	IMPORTANT: AE Services must Changes to the Security Datab Service ASAI Link Manager	be restarted for ase do not require Status N/A	administrative e a restart. State Running	e changes to fully take ef License Mode	fect.		
	SMS SMS TSAPI Communication Manager Interface Licensing Maintenance	IMPORTANT: AE Services must Changes to the Security Datab Service ASAI Link Manager CVLAN Service	be restarted for ase do not require Status N/A ONLINE	administrative e a restart. State Running Running	e changes to fully take ef License Mode N/A NORMAL MODE	fect.		
	 > SMS > TSAPI > Communication Manager Interface > Licensing > Maintenance > Networking 	IMPORTANT: AE Services must Changes to the Security Datab Service ASAI Link Manager CVLAN Service DLG Service DMCC Service	be restarted for ase do not requin Status N/A ONLINE OFFLINE ONLINE	administrative e a restart. State Running Running Running	E changes to fully take ef	fect.		
	 > SMS > TSAPI > Communication Manager Interface > Licensing > Maintenance > Networking > Security 	IMPORTANT: AE Services must Changes to the Security Datab Service ASAI Link Manager CVLAN Service DLG Service DMCC Service TSAPI Service	be restarted for ase do not requir N/A ONLINE OFFLINE ONLINE ONLINE	administrative e a restart. State Running Running Running Running Running	e changes to fully take ef License Mode N/A NORMAL MODE N/A NORMAL MODE NORMAL MODE	fect.		
	 > SMS > TSAPI > Communication Manager Interface > Licensing > Maintenance > Networking > Security > Status 	IMPORTANT: AE Services must Changes to the Security Datab Service ASAI Link Manager CVLAN Service DLG Service DMCC Service TSAPI Service Transport Layer Service	be restarted for ase do not requir N/A ONLINE OFFLINE ONLINE ONLINE N/A	administrative e a restart. State Running Running Running Running Running Running	e changes to fully take ef License Mode N/A NORMAL MODE N/A NORMAL MODE NORMAL MODE N/A	fect. N/A N/A N/A N/A N/A N/A N/A		
	 > DMCC > SMS > TSAPI > Communication Manager Interface > Licensing > Maintenance > Networking > Security > Status > User Management > Uter Management 	IMPORTANT: AE Services must Changes to the Security Datab Service ASAI Link Manager CVLAN Service DLG Service DMCC Service TSAPI Service Transport Layer Service For status on actual services please	be restarted for ase do not require N/A ONLINE OFFLINE ONLINE ONLINE N/A	administrative e a restart. State Running Running Running Running Running Running Control	e changes to fully take ef License Mode N/A NORMAL MODE N/A NORMAL MODE NORMAL MODE N/A	fect. N/A N/A N/A N/A N/A N/A N/A		
	 > DMCC > SMS > TSAPI > Communication Manager Interface > Licensing > Maintenance > Networking > Security > Status > User Management > Utilities > Holp 	IMPORTANT: AE Services must Changes to the Security Datab Service ASAI Link Manager CVLAN Service DLG Service DMCC Service TSAPI Service Transport Layer Service For status on actual services, please	be restarted for ase do not requir N/A ONLINE OFFLINE ONLINE ONLINE N/A e use <u>Status and</u> er the Cause, you'll	administrative e a restart. Running Running Running Running Running Control	e changes to fully take ef License Mode N/A NORMAL MODE N/A NORMAL MODE NORMAL MODE N/A	fect. N/A N/A N/A N/A N/A N/A N/A		
	 > SMS > TSAPI > Communication Manager Interface > Licensing > Maintenance > Networking > Security > Status > User Management > Utilities > Help 	IMPORTANT: AE Services must Changes to the Security Datab Service ASAI Link Manager CVLAN Service DLG Service DMCC Service TSAPI Service Transport Layer Service For status on actual services, please * For more detail, please mouse ov	be restarted for ase do not requir N/A ONLINE OFFLINE ONLINE ONLINE N/A e use <u>Status and</u> er the Cause, you'll s	administrative e a restart. Running Running Running Running Running Control see the tooltip, o	e changes to fully take ef License Mode N/A NORMAL MODE N/A NORMAL MODE N/A r go to help page.	fect. N/A N/A N/A N/A N/A N/A N/A		
	 > SMS > TSAPI > Communication Manager Interface > Licensing > Maintenance > Networking > Security > Status > User Management > Utilities > Help 	IMPORTANT: AE Services must Changes to the Security Datab Service ASAI Link Manager CVLAN Service DLG Service DMCC Service TSAPI Service Transport Layer Service For status on actual services, please * For more detail, please mouse ov License Information You are licensed to run Application E	be restarted for ase do not requir N/A ONLINE OFFLINE ONLINE N/A e use <u>Status and</u> er the Cause, you'll s nablement (CTI) vers	administrative e a restart. Running Running Running Running Running Control see the tooltip, o	e changes to fully take ef License Mode N/A NORMAL MODE N/A NORMAL MODE N/A N/A NORMAL MODE N/A	fect. N/A N/A N/A N/A N/A N/A N/A		
	 > SMS > TSAPI > Communication Manager Interface > Licensing > Maintenance > Networking > Security > Status > User Management > Utilities > Help 	IMPORTANT: AE Services must Changes to the Security Datab Service ASAI Link Manager CVLAN Service DMCC Service TSAPI Service Transport Layer Service For status on actual services, please * - For more detail, please mouse ov License Information You are licensed to run Application E	be restarted for ase do not requir N/A ONLINE OFFLINE ONLINE N/A er use <u>Status and</u> er the Cause, you'll s nablement (CTI) vers	administrative e a restart. Running Running Running Running Running Control see the tooltip, o	e changes to fully take ef License Mode N/A NORMAL MODE N/A NORMAL MODE NORMAL MODE N/A r go to help page.	fect. N/A N/A N/A N/A N/A N/A		
	 > SMS > TSAPI > Communication Manager Interface > Licensing > Maintenance > Networking > Security > Status > User Management > Utilities > Help 	IMPORTANT: AE Services must Changes to the Security Datab Service ASAI Link Manager CVLAN Service DLG Service DMCC Service TSAPI Service Transport Layer Service For status on actual services, please * For more detail, please mouse ov License Information You are licensed to run Application E	be restarted for ase do not requir N/A ONLINE OFLINE ONLINE N/A e use <u>Status and</u> er the Cause, you'll s nablement (CTI) vers	administrative e a restart. Running Running Running Running Running Running control see the tooltip, o	e changes to fully take ef License Mode N/A NORMAL MODE N/A NORMAL MODE NORMAL MODE N/A r go to help page.	fect.		
	 > DMCC > SMS > TSAPI > Communication Manager Interface > Licensing > Maintenance > Networking > Security > Status > User Management > Utilities > Help 	IMPORTANT: AE Services must Changes to the Security Datab Service ASAI Link Manager CVLAN Service DMCC Service TSAPI Service Transport Layer Service For status on actual services, please * For more detail, please mouse ow License Information You are licensed to run Application E	be restarted for ase do not requir N/A ONLINE OFFLINE ONLINE N/A e use <u>Status and</u> er the Cause, you'll s	administrative e a restart. Running Running Running Running Running Running See the tooltip, o	e changes to fully take ef License Mode N/A NORMAL MODE N/A NORMAL MODE NORMAL MODE N/A r go to help page.	fect.		
	 > DMCC > SMS > TSAPI > Communication Manager Interface > Licensing > Maintenance > Networking > Security > Status > User Management > Utilities > Help 	IMPORTANT: AE Services must Changes to the Security Datab Service ASAI Link Manager CVLAN Service DMCC Service TGAPI Service Transport Layer Service For status on actual services, please * For more detail, please mouse ow License Information You are licensed to run Application E	be restarted for ase do not requir N/A ONLINE OFFLINE ONLINE N/A e use <u>Status and</u> er the Cause, you'll s nablement (CTI) vers	administrative e a restart. Running Running Running Running Running Running Control see the tooltip, o	e changes to fully take ef License Mode N/A NORMAL MODE N/A NORMAL MODE NORMAL MODE N/A r go to help page.	fect.		

5.2. Administer CTI User

Step Description Click User Management, then User Admin > Add User in the left pane. Specify a value 1. for User Id, Common Name, Surname, User Password and Confirm Password. Set CT User to Yes. Use the values for User Id and User Password to configure InteractCRM ProConnect in Section 6 to access the TSAPI Service on Applicable Enablement Services. Scroll down to the bottom of the page and click Apply (not shown). Æ AES Management Console - Windows Internet Explorer 🚱 🕞 👻 https://10.1.10.71/aesvcs/view/usermgmt/createUserPage.xhtml?cid= 🔻 😵 Certificate Error 🍫 🗙 GoogleSG 🖕 🎄 🏠 र 🗟 र 🖶 र 📴 र 🎯 र 🔞 र 🛍 Welcome: User craft Last login: Sion Dec 20 10:52:30 2010 from 10.1.10.152 HostName/IP: aes1/10.1.10.71 Server Offer Type: TURNKEY SW Version: r5-2-2-105-0 Application Enablement Services **Management Console** User Management | User Admin | Add User Home | Help | Logout **AE Services** Communicatio Interface Add User Licensing Fields marked with * can not be empty. Maintenance * User Id proconnect Networking * Common Name InteractCRM Security * Surname ProConnect Status * User Password User Management * Confirm Password Service Admin Admin Note • User Admin Avaya Role None Add User Business Category Change User Password Car License List All Users Modify Default Users CM Home Search Users Css Home Utilities CT User Yes 👻 100% Internet | Protected Mode: On

5.3. Administer Switch Connection

Step	Description							
1.	From the left menu, select Communication Manager Interface > Switch Connections .							
	Enter a descriptive nar	Enter a descriptive name for the switch connection and click Add Connection. In this						
	configuration, site1 is	used.						
	Æ AES Management Console - Windows	Internet Explorer						
	🚱 🔾 👻 https://10.1.10.71/aesv	cs/view/switchconn/switchCo	onnsPage.xhtml?cid=62 💌 😵	Certificate Error	✤ X GoogleSG	۶ -		
	👷 🚓 🟠 = 🗟 = 🖶 = 😥	• @• @• 🛍						
	Αναγα Αρρ	lication Enable Management	ement Services	Welcome: Last login HostName Server Of SW Versio	: User craft : Mon Dec 20 10:52:30 2010 :/IP: aes1/10.1.10.71 fer Type: TURNKEY on: r5-2-2-105-0	from 10.1.10.152		
	Communication Manager Interf	ace Switch Connection	s		Home	Help Logout		
	 AE Services Communication Manager Interface Switch Connections 	Switch Connec	ctions			E		
	▶ Dial Plan	site1	Add Connection					
	▶ Licensing	Connection Name	Processor Ethernet	Msg Period	Number of Active Conne	ections		
	Maintenance	◯ site4	Yes	30				
	> Security	◯ site6	Yes	30	1			
	→ Status	Edit Connection	Edit PE/CLAN IPs	Edit H.323 G	atekeeper Delete C	Connection		
	▶ User Management							
	▶ Utilities							
	→ Help					_		
				😝 Internet f	Protected Mode: On	• •		
	<u>.</u>							

)	Description	·. 1 ·	1. 1 1 1 1		
•	The Connection Details -	- site I screen is	displayed. F	or the Switch Password and	
	Confirm Switch Passwo	bra fields, enter	the password	in Section 41 Ster 2 Dath the	CCI
	Communication Manage	r using the IP So	ervices form	In Section 4.1 Step 3. Both the	221
	and Processor Ethernet	fields need to b	e checked. C	lick on Apply.	
	AFS Management Concole - Windows Inte	umet Evolorer		- 0	×
	https://10.1.10./1/aesvcs/v	iew/switchconn/switchPwdPage	xhtml?cid=63 🔻 😵	Certificate Error 🦘 🗙 GoogleSG	<u>v</u> -
	👷 🏘 🙆 🕶 🗟 👻 🖶 🖓 🐨 🤅	ेर 🕢 र 🗓			
		cation Enableme Management Con	ent Services	Welcome: User craft Last login: Mon Dec 20 10:52:30 2010 from 10.1.10.15; HostName/IP: aes1/10.1.10.71 Server Offer Type: TURNKEY SW Version: r5-2-2-105-0	2
	Communication Manager Interfac	ce Switch Connections		Home Help Logou	t
	 AE Services Communication Manager Interface 	Connection Deta	ils - site1		E
	Switch Connections	Switch Password	•••••]	
	Licencing	Confirm Switch Password			
	Maintenance	Msg Period	30	Minutes (1 - 72)	
	Kaintenance Networking	Msg Period SSL	30	Minutes (1 - 72)	
	Heining Maintenance Networking Security	Msg Period SSL Processor Ethernet	30 V V	Minutes (1 - 72)	
	Kitensing Maintenance Networking Security Status	Msg Period SSL Processor Ethernet Apply Cancel	30 V V	Minutes (1 - 72)	
	Kitensing Maintenance Networking Security Status User Management	Msg Period SSL Processor Ethernet Apply Cancel	30 V V	Minutes (1 - 72)	
	 Kleining Maintenance Networking Security Status User Management Utilities 	Msg Period SSL Processor Ethernet Apply Cancel	30 V V	Minutes (1 - 72)	
	 Kleinsing Maintenance Networking Security Status User Management Utilities Help 	Msg Period SSL Processor Ethernet Apply Cancel	30 V V	Minutes (1 - 72)	
	 Kleensing Maintenance Networking Security Status User Management Utilities Help 	Msg Period SSL Processor Ethernet Apply Cancel	30 V V	Minutes (1 - 72)	•

tep	Description						
3.	The Switch Connections s	creen is disp	layed again. S	select the	e new sv	vitch connection	on
	name site1 and click Edit	PE/CLAN I	IPs.				
	🍘 AES Management Console - Windows Internet Explorer						
	A A A A A A A A A A A A A A A A A	ew/switchconn/switchCon	nsPage.xhtml?cid=63 🔻 😵	Certificate Error	🍫 🗙 Goog	leSG	P -
		• • • •					
		ation Enabler Management C	ment Services	Welcome: Last login: HostName Server Of SW Versio	User craft : Mon Dec 20 1 e/IP: aes1/10.1 fer Type: TURN on: r5-2-2-105-	0:52:30 2010 from 10.1.10.1 .10.71 IKEY 0	52
	Communication Manager Interface	Switch Connections				Home Help Logo	ut
	AE Services Communication Manager Interface Switch Connections	Switch Connect	ions				E
	▶ Dial Plan		Add Connection				
	→ Licensing	Connection Name	Processor Ethernet	Msg Period	Number of <i>i</i>	Active Connections	
	▶ Maintenance	ø site1	Yes	30	0		
	▶ Networking	Site4	Yes	30	0		
	SecurityStatus	◯ site6	Yes	30	1		
	▹ User Management	Edit Connection	Edit PE/CLAN IPs	Edit H.323 G	atekeeper	Delete Connection	
	> Utilities						
	▶ Help						-
				😝 Internet F	Protected Mode:	On 🔍 100%	•

Step	Description			
4.	In the Edit Processor Ethe Communication Manager corresponds to the IP add Name or IP.	ernet IP – site1 screen, enter processor Ethernet. In this c ress of the S8800 Server as s	the host name or IP add ase, 10.1.10.10 is used, hown in Figure 1 . Click	ress of the which x Add/Edit
	Æ AES Management Console - Windows Inter Console - Windows Inter Console - Windows Inter Response - Windows Inter Console - Windows Inter Response - Windows Inter Console	net Explorer sw/switchClansPage.xhtml?cid=65 💌 😒 Cr	ertificate Error 🌆 🗙 GoogleSG	
		· • •		
		ation Enablement Services Management Console	Welcome: User craft Last login: Mon Dec 20 10:52:30 2010 from HostName/IP: aes1/10.1.10.71 Server Offer Type: TURNKEY SW Version: r5-2-2-105-0	10.1.10.152
	Communication Manager Interface	e Switch Connections	Home He	lp Logout
	→ AE Services	Edit Processor Ethernet IP - site1		E
	Dial Plan	10.1.10.10 Add/Edit Name or IP		
	Licensing Maintenance	Back		
	▶ Networking			
	▹ Security			
	▶ Status			
	User Management			
	▶ Utilities			
	→ Help			-
			Internet Protected Mode: On	€ 100% ▼

5.4. Administer TSAPI Link

Step	Description						
1.	To administer a TSAPI Link, select AE Services > TSAPI > TSAPI Links from the left						
	menu. Click Add Link.						
	AES Management Console - Windows Inter	rnet Explorer				x	
	🕒 🗸 💌 https://10.1.10.71/aesvcs/vi	iew/tsapi/TSAPILinksPage.xhtml?cid=65	👻 😵 Certificate Erro	or 🍫 💥 GoogleSG		₽ -	
	🚖 🎄 🙆 • 🗟 • 🖶 • 📴 • 🤅	} - @- ≝					
		cation Enablement S Management Console	Services Welcome Last logir HostNam Server C SW Vers	:: User craft n: Mon Dec 20 10:52:30 20 e/IP: aes1/10.1.10.71 iffer Type: TURNKEY ion: r5-2-2-105-0	10 from 10.1.10.152		
	AE Services TSAPI TSAPI Link	c		Hor	ne Help Logout	1	
	▼ AE Services					=	
	> CVLAN	TSAPI Links					
	> DLG	Link Switch Connection	Switch CTI Link #	ASAT Link Version	Security		
	> SMS		1		Both		
	▼ TSAPI	C site6	1	5	Both		
	TSAPI Links			5	boun		
	Communication Manager	Add Link Edit Link De					
	▶ Licensing						
	▶ Maintenance				@ 1000/	-	
	Done		😝 Interne	t Protected Mode: On	€ 100%		
	Done		Interne	t Protected Mode: On	€1	.00%	

	Description									
2.	In the Add TSAPI Links	screen, select the following v	/alues:							
	 Link: Switch Connection: Switch CTI Link N ASAI Link Version Security: 	Select an available I Select the switch con umber: Corresponding CTI Set to 5 . Set to Both so that b TSAPI Links can be Link is used for this to enable encrypted transmission.	 Select the following values. Select the switch connection in Section 5.3 Step 1. Corresponding CTI link number in Section 4.1 Step 2. Set to 5. Set to Both so that both encrypted and unencrypted TSAPI Links can be used. Note that unencrypted TSAPI Link is used for this testing. For deployment, consult [1] to enable encrypted TSAPI Link for secured transmission. 							
	Note that the actual value	rnet Explorer iew/tsapi/addTsapiLinksPage.xhtml?cid=65 • 🐼 C	ertificate Error & X GoogleSG							
		cation Enablement Services Management Console	Welcome: User craft Last login: Mon Dec 20 10:52:30 2010 from 10.1.10.152 HostName/IP: aes1/10.1.10.71 Server Offer Type: TURNKEY SW Version: 75-2-2:105-0							
	AE Services TSAPI TSAPI Link AE Services CVLAN CVLAN DLG DMCC SMS TSAPI TSAPI Links TSAPI Properties Communication Manager Interface Licensing	Add TSAPI Links Link 1 • Switch Connection site1 • Switch CTI Link Number 1 • ASAI Link Version 5 • Security Both • Apply Changes Cancel Changes	Home Help Logout							

2 10.1.10.152
2 10.1.10.152
2 10.1.10.152
2 10.1.10.152
n 10.1.10.152
10.1.10.152
n 10.1.10.152
elp Logout
-
€ <u>100%</u> ▼
P ▼
2 0 × 10.1.10.152
om 10.1.10.152
0m 10.1.10.152
om 10.1.10.152
om 10.1.10.152
om 10.1.10.152
n the

Step	Description						
5.	Click Restart to confirm	the restart.					
	Æ AES Management Console - Windows Interr	net Explorer					
	C	nfirmationPage.xhtml?cid=66 🛛 👻 😵 C	certificate Error 🍫 💥 GoogleSG				
		ation Enablement Services Management Console	Welcome: User craft Last login: Mon Dec 20 10:52:30 2010 from 10.1.10.152 HostName/IP: aes1/10.1.10.71 Server Offer Type: TURNKEY SW Version: r5-2-2-105-0				
	Maintenance Service Controller		Home Help Logout				
	AE Services Communication Manager Interface Licensing	Restart Service					
	✓ Maintenance	Warning! Are you sure you want to restart? Restarting will cause all existing connections to be o	dropped and associations lost.				
	Date Time/NTP Server	Restart Cancel					
	Security Database						
	Service Controller		-				
	Done		Generation (Protected Mode: On € 100% ▼ 100% ■				

Step	Description									
6.	Navigate to the Tlinks scr	een by selecting Security >	Security Database > Tlinks f	ìrom						
	the left menu. Note the va	lue of the Tlink Name, as the	his will be needed to configure	the						
	InteractCRM ProConnect	Server in Section 6 In this	configuration the unencrypted							
	Tlink Nome AVAVA#SI	TE1#CSTA#AES1 is used	configuration, the uneffect sprea							
	1 Intratic AVALA#OTTE1#COTA#ALOT IS USCU.									
				×						
	ALS Management Console - Windows Intern	et Explorer								
	• https://10.1.10.71/aesvcs/view	w/sdb/tlinksPage.xhtml?cid=65 🔹 👻 C	Certificate Error 🦘 🔀 GoogleSG	<u> </u>						
	🚖 🏘 🐴 ד 🗟 ד 🖶 ד 🔂 🗸	• @								
		ation Enablement Services Management Console	Welcome: User craft Last login: Mon Dec 20 10:52:30 2010 from 10.1.10.15; HostName/IP: aes1/10.1.10.71 Server Offer Type: TURNKEY SW Version: r5-2-2-105-0	2						
	Security Security Database Tlin	ks	Home Help Logou	t						
	AE Services Communication Manager									
	Interface	Tlinks		-						
	► Licensing	Tlink Name		-						
	Maintenance Notworking	AVAYA#SITE1#CSTA#AES1								
	* Security	AVAYA#SITE1#CSTA-S#AES1								
		AVAYA#SITE4#CSTA#AES1								
	► Audit	AVAYA#SITE4#CSTA-S#AES1								
	Certificate Management	AVAYA#SITE6#CSTA#AES1								
	Enterprise Directory	O AVAYA#SITE6#CSTA-S#AES1								
	► Host AA	Edit Tlink Delete Tlink								
	▶ PAM									
	▼ Security Database									
	Control									
	Devices									
	Device Groups Tlinks									
	T'L C			-						
			😌 Internet Protected Mode: On 🔍 100%	·						

5.5. Administer CTI User Permission

1.	Description Select Security > Security Database > CTI Users > List All Users from the left menu.											
	Select the User ID created in Section 5.2 and click Edit.											
	School and esser 12 choused in Section 212 and onlok Early.											
	🍘 AES Management Console - Windows Internet Explorer											
	A https://10.1.10.71/aesvcs/vi	Northight https://10.1.10.71/aesurs/view/sdh/listCtillsersDane.vhtml?cid=71										
		F										
	Communication Manager Interface	CTI Users										
	▶ Licensing											
	▶ Maintenance	<u>User ID</u>	Common Name	<u>Worktop Name</u>	Device ID							
	▶ Networking	craft	craft	NONE	NONE							
	▼ Security	proconnect	ProConnect	NONE	NONE	-						
	Account Management			none	lione							
	▶ Audit	Edit List All										
	Certificate Management											
	Enterprise Directory					_						
	▶ Host AA											
	▶ PAM											
	▼ Security Database											
	Control											
	CTI Users List All Users											
				-		-						
				Internet Protected Mode: C)n 🔍 10	J0% -						

Step	Description											
2.	Assign access rights and	Assign access rights and call/device privileges according to customer requirements. For										
	simplicity in configuration, Unrestricted Access was enabled during compliance testing.											
	If Unrestricted Access is not desired, then consult [1] for guidance on configuring the											
	call/device privileges as well as devices and device groups. Click Apply Changes.											
	AES Management Console - Windows Internet Explorer											
	C 🗸 🗸 👻 https://10.1.10.71/aesvcs/vi	ew/sdb/editCtiUserPage.xhtml?cid=7	72 👻 Certificato	e Error 🍫 🗙 GoogleSG	◄ ٩							
	Welcome: User craft Last login: Mon Dec 20 10:52:30 2010 from 10.1.10.152 HostName/IP: aest/10.1.10.71 Server Offer Type: TURNKEY SW Version: r5-2-2-105-0											
	Security Security Database CT	T Users List All Users		Home	Help Logout							
	AE Services Communication Manager Interface	Edit CTI User			E							
	Maintenance	User Profile:	User ID	proconnect								
	▶ Networking		Common Name Worktop Name	NONE -								
	▼ Security		Unrestricted Access									
	Account Management Audit	Call Origination and Terminati	on / Device Status	None 🔻								
	Enterprise Directory	Call and Device Monitoring:	Device	None 🔻								
	Host AA		Call / Device	None 🔻								
	► PAM		Call	V								
	Security Database Control CTI Users List All Users	Routing Control: Apply Changes	Allow Routing on Listed De	evices None 🔻								
	Search Users		International In	ternet Protected Mode: On								
	Solution internet Protected Mode: On 🔍 100% 👻											
3.	Click Apply to apply the changes.											
	Æ AES Management Console - Windows Inter	met Explorer										
	C v kttps://10.1.10.71/aesvcs/vi	ew/sdb/editCtiUserConfirmationPag	e.xhtml?cid= 🔻 😵 Certificate	e Error 🍫 🔀 GoogleSG	۶ ج							
	🚖 🚸 🐴 + 🖻 + 🖶 + 🕞 + 🤅											
		ation Enablement Management Consolo	Services Services Services	ome: User craft login: Mon Dec 20 10:52:30 2010 fro Varne/IP: aes1/10.1.10.71 er Offer Type: TURNKEY /ersion: r5-2-2-105-0	om 10.1.10.152							
	Security Security Database Cl	T Users List All Users		Home	Help Logout 📃							
	 > AE Services > Communication Manager Interface > Licensing > Maintenance > Networking ~ Security 	Apply Changes to C Warning! Are you sure you wa Apply Cancel	TI User Properties nt to apply the changes?									
	Done		😜 Int	ernet Protected Mode: On	€ 100% -							

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6. Configure InteractCRM ProConnect

This section provides the procedures to configure InteractCRM ProConnect server. InteractCRM ProConnect server is deployed on a Windows 2003 Server running Apache Tomcat 5.5.17.

From the InteractCRM ProConnect server, edit the file **TSAPI.PRO** located in the folder **Apache Tomcat>\webapps\TCServer\WEB-INF\classes** using Notepad. Specify the IP address of the Application Enablement Services Server by inserting the following entry as shown below. Note that **450** is the default port number of the TSAPI Service running on Application Enablement Services.

• 10.1.10.71=450

📕 TSAPI.PRO - Notepad
Eile Edit Format View Help
tsapi.pro
This file must be located in one of the directories found in CLASSPATH
<pre># This is a list of the servers offering Telephony Services via TCP/IP. # Either domain name or IP address may be used; default port number is 450 # The form is: host_name=port_number For example: #</pre>
tserver.mydomain.com=450 # 127.0.0.1=450
(Remove the '#' when creating actual server entries.) #[Telephony Servers]
#AES 5.2 10.1.10.71=450

Edit the file **ts.properties** located in the folder **<Apache Tomcat>\webapps\TCServer\WEB-INF\classes** using Notepad. Enter the following values for the fields below, and retain the default values for the remaining fields.

- ts.login: CTI User created in Section 5.2, in this case is "proconnect".
- **ts.password**: Password of CTI User created in Section 5.2.
- **ts.link**: Tlink Name as shown in **Section 5.4 Step 6**.



7. General Test Approach and Test Results

The feature test cases were performed manually. Outbound campaigns were created on InteractCRM ProConnect and agents were assigned to them. When agents logged in to ProConnect, customer call records were delivered to the agents' screen before ProConnect placed the call to the customers. Telephony functions were performed using the ProConnect client such as place call, hang up, hold and un-hold. Other telephony functions not supported by the ProConnect client such as blind transfer and attended transfer were also performed using the phone.

The serviceability test cases were performed manually by disconnecting the Ethernet cables on the ProConnect server, ProConnect client PC and Application Enablement Services server, rebooting of Communication Manager and ProConnect Server.

• All feature and serviceability test cases were executed and passed.

8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Communication Manager, Application Enablement Services and InteractCRM ProConnect.

8.1. Verify Communication Manager

Verify the status of the administered TSAPI CTI link by using the **status aesvcs cti-link** command. The **Service State** field should display **established**.

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	5	no	aes1	established	47	53

8.2. Verify Application Enablement Services

From the Application Enablement Services Management Console, verify the status of the TSAPI Link by selecting **Status > Status and Control > TSAPI Service Summary** from the left menu. The **Status** field for the TSAPI Link should display **Talking** and the **State** field show **Online**.

Æ AES Management Console - Windows Intern	et Explor	er											9 X
← ← ← https://10.1.10.71/aesvcs/view	w/statcnt	rl/ctiLir	nkDetPage.xht	tml?cid=73			•	▼ Sertificate Error Sertificate Error Sertificate Error Sertificate Error					<mark>,</mark>
👷 🏘 🖄 ד 🖻 ד 🖶 ד 📴 ד 🎯	• (?) •	12											
Application Enablement Services Management Console Welcome: User craft Last login: Thu Jan 13 11:17:49 2011 from 10.1.10 HotsName/Pr sest/10.1.10.71 Server Offer Type: TURNKEY SW Version: r5-2-2-105-0										10.1.10.1	52		
Status Status and Control TSAF	91 Servi	ce Su	mmary								lomo Ho	la I Logo	
 AE Services Communication Manager Interface Licensing Maintenance 	AE Services Communication Manager Interface Licensing Licensing Enable page refresh every 60												
▶ Networking▶ Security		Link	Switch Name	Switch CTI Link ID	Status	Since	State	Switch Version	Associations	Msgs to Switch	Msgs from Switch	Msgs Period	
▼ Status	۲	1	site1	1	Talking	Thu Jan 13 11:56:02 2011	Online	16	0	15	15	30	
Alarm Viewer	0	4	site4	1	Switch Down	Mon Nov 15 11:51:29 2010	Online	16	0	0	0	30	
Status and Control	0	6	site6	1	Talking	Wed Jan 12 13:30:52 2011	Online	15	0	15	15	30	
 CVLAN Service Summary DLG Services Summary 	Onli	ne	Offline			·							
DMCC Service Summary DMCC Service Summary Switch Conn Summary TSAPI Service Status TSAPI Service Status TSAPI Service Status													
E ISEL MANAGEMENT								😜 Int	ternet Protected	Mode: On		۹ 100	% 🔻

8.3. Verify InteractCRM ProConnect

Launch Internet Explorer and log into ProConnect. Verify that the agent desktop is populated with a new customer call record and the outgoing call is placed successfully after the preview timer expires.

9. Conclusion

These Application Notes describe the configuration steps required for InteractCRM ProConnect to interoperate with Avaya Aura® Communication Manager 6.0 and Avaya Aura® Application Enablement Services 5.2.2 using the Java Telephony Application Programming Interface (JTAPI). All feature and serviceability test cases were completed successfully.

10. Additional References

This section references the Avaya and InteractCRM documentations that are relevant to these Application Notes.

The following Avaya product documentations can be found at http://support.avaya.com.
[1] Avaya Aura® Application Enablement Services Administration and Maintenance Guide, Release 5.2, Document ID 02-300357, Issue 11, November 2009.
[2] Avaya Aura® Communication Manager Feature Description and Implementation, Release 6.0, Issue 8.0, June 2010, Document Number 555-245-205.

The following product documentations are available from InteractCRM upon request.

[3] InteractCRM ProConnect Installation Guide, Release 1.4.4, June 2010.

[4] InteractCRM ProConnect User Manual, Release 1.4.4, June 2010.

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