

Avaya Solution & Interoperability Test Lab

# Application Notes for Grandsys Technology & Service LOG8000 2.6.1 with Avaya Aura® Communication Manager 6.0.1 and Avaya Aura® Application Enablement Services 6.1.1 - Issue 1.0

#### Abstract

These Application Notes describe the procedures for configuring Grandsys Technology & Service LOG8000 2.6.1 to monitor and record calls placed to and from Avaya IP telephones and agents on Avaya Aura® Communication Manager 6.0.1 using the Telephony Services Application Programming Interface (TSAPI) on Avaya Aura® Application Enablement Services 6.1.1.

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 a compliance-tested configuration comprised of Avaya Aura® Communication Manager 6.0.1, Avaya Aura® Application Enablement Services (AES) 6.1.1 and Grandsys Technology & Service LOG8000 2.6.1.

Grandsys LOG8000 is a call recording solution for the customers of the call center market. Grandsys LOG8000 communicates with AES using the Telephony Services Application Programming Interface (TSAPI) and uses E1 FXS lines as recording channels. When a call starts on an extension to be recorded, the recording channel will be added to the call using the TSAPI Single Step Conference feature. Grandsys LOG8000 will then record the call and save the recording to the database. Detailed call information obtained using TSAPI are also stored for each call along with the recording.

# 2. General Test Approach and Test Results

The general approach was to place various types of calls to and from stations, agents, and Vector Directory Numbers (VDNs), monitor and record the calls using Grandsys LOG8000, and verify the recordings. For feature testing, the types of calls included internal calls, inbound and outbound trunk calls, transferred calls, and conferenced calls. For serviceability testing, failures such as disconnecting the LAN cable to the Grandsys LOG8000 Server and AES Server, and rebooting the Grandsys LOG8000 Server and Communication Manager Server were applied.

#### 2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing. The feature testing evaluated the ability of Grandsys LOG8000 to monitor and record calls placed to and from stations and agents. The serviceability testing introduced failure scenarios to see if Grandsys LOG8000 can resume recording after failure recovery.

#### 2.2. Test Results

All test cases were executed and passed.

### 2.3. Support

For technical support on Grandsys LOG8000, contact Grandsys at:

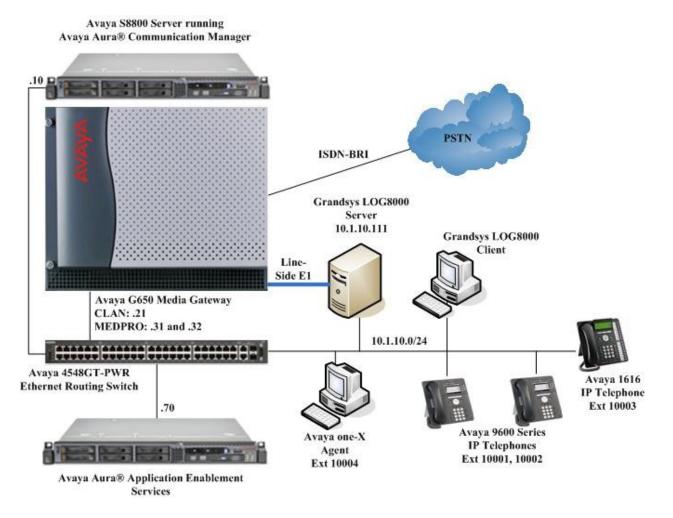
- Phone: +886-2-87682715
- Email: <u>service@grandsys.com</u>

### 3. 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® Application Enablement Services Server, Avaya IP Telephones, a desktop PC running Avaya one-X Agent and a Windows 2003 Server running Grandsys LOG8000. The Grandsys LOG8000 Server connects to Communication Manager using E1 FXS lines for voice recording. The Grandsys LOG8000 Server also monitors the agent extensions using the TSAPI Service to retrieve call related information. The TSAPI Service is provided by the AES Server.

In the compliance testing, LOG8000 monitored or controlled the devices shown below.

Device Type	Extension
Recording Stations	10901 to 10905
Agent Stations	10001 to 10004





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# 4. Equipment and Software Validated

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

Equipment	Version
Avaya S8800 Server	Avaya Aura® Communication Manager
	6.0.1
	Service Pack 5 (00.1.510.1-19303)
Avaya G650 Media Gateway	-
- TN2312BP IP Server Interface	HW07, FW054
- TN799DP C-LAN Interface	HW01, FW040
- TN2602AP IP Media Processor	HW02, FW059
- TN2302AP IP Media Processor	HW20, FW121
- TN2214CP Digital Line	HW08, FW015
- TN2464CP DS1 Interface	HW02, FW024
Avaya S8800 Server	Avaya Aura® Application Enablement
	Services
	6.1.1 Patch 1
Avaya 9600 Series IP Telephones	
- 9630	3.1 SP2 (H.323)
- 9640	3.1 SP2 (H.323)
Avaya 1616 IP Telephone	1.300B (H.323)
Avaya one-X Agent	2.5 Patch 2 (H.323)
Avaya 4548GT-PWR Ethernet Routing Switch	V5.4.0.008
Grandsys LOG8000	2.6.1

# 5. Configure Avaya Aura® Communication Manager

This section provides the procedure for configuring the FXS recording stations on Communication Manager required to interface to the telephony board installed on the Grandsys LOG8000 Server. All the configuration changes in Communication Manager are performed through the System Access Terminal (SAT) interface. The initial configuration of the VDNs, Vectors, Hunt Groups and Agent IDs required for call center function, as well as the AES and Computer Telephony Integration (CTI) links to interface to Application Enablement Services is assumed to be in place and will not be discussed here.

#### 5.1. Recording Stations

The recording stations in this configuration are E1 FXS stations configured as **DS1FD** type of stations.

Step	Description				
1.			ere $\mathbf{n}$ is the board location, to configure the		
		-	LOG8000. Enter a descriptive Name, set		
		, 0	aling Mode to CAS, Interconnect to pbx		
			to <b>111111111</b> and <b>CRC</b> to <b>n</b> . The remaining	g fields (	can
	be left at the default value	ue.			
	add ds1 1a08		Page	1 of	1
	add dS1 1400		DS1 CIRCUIT PACK	1 01	1
	Location:	01A08	Name: LOG8000		
	Bit Rate:	2.048	Line Coding: hdb3		
	Signaling Mode:	CAS			
	Interconnect:	pbx	Country Protocol: 1		
	Interface Companding: Idle Code:		CRC? n		
	Slip Detection?	n	Near-end CSU Type: other		
	Echo Cancellation?	n			

2. Enter the **add station n** command, where **n** is an extension valid under the provisioned dial plan. On Page 1, set **Type** to **DS1FD**, **Port** to the first port of the DS1 board configured in **Step 1** and enter a descriptive **Name**. Repeat this as necessary to configure additional FXS stations. For the compliance test, stations from 10901 to 10905 were created for the purpose of recording. The remaining fields can be left at their defaults.

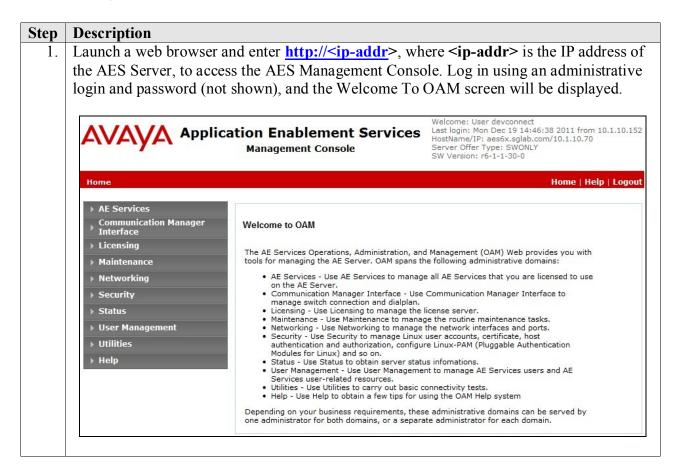
add station 10901			Page	1 of	4
	:	STATION			
Extension: 10901		Lock Messages? n		BCC:	0
Type: DS1FD		Security Code:		TN:	
Port: 01A0801		Coverage Path 1:		COR:	1
Name: <b>LOG8000 #1</b>		Coverage Path 2:		COS:	1
		Hunt-to Station:		Tests?	У
STATION OPTIONS					
		Time of Day Lock	Table:		
Loss Group:	4				
Off Premises Station?	У				
R Balance Network?	n				
	1				
Survivable COR: Survivable Trunk Dest?					
Survivable Trunk Dest?	T				

### 6. Configure Avaya Aura® Application Enablement Services

This section provides the procedure for configuring Avaya Aura® Application Enablement Services. The initial configuration of the Switch Connection and TSAPI link to interface to Communication Manager is assumed to be in place and will not be discussed here. The procedure falls into the following areas:

- Verify Avaya Application Enablement Services License
- Administer CTI User
- Administer Devices and Device Group
- Administer CTI user permission
- Obtain TSAPI Link

#### 6.1. Verify Application Enablement Services License



Step	Description					
2.	Select AE Services from	m the left menu. From	the AE Se	ervices p	age, verify th	nat
	Application Enablemen			-	• • •	
	Application Notes by en	1 1				
	11 2	ē				
	MODE, as shown below					
	sales team or business p	partner to purchase a fi	cense to ir	istan on	to the webly	vi Server.
		cation Enablement	Services	Last login: Mo	er devconnect n Dec 19 16:40:48 20:	11 from 10.1.10.15
	AVA(yA) Appli	Management Console		Server Offer 1	Type: SWONLY	.10.70
		inanagainant compose		SW Version: r	6-1-1-30-0	
	AE Services				Hon	ie   Help   Logou
	AL SCIENCES				non	
	▼ AE Services					
	> CVLAN	AE Services				
	DLG					
	▶ DMCC					
	▶ SMS	IMPORTANT: AE Services must Changes to the Security Datab			e changes to fully take	effect.
	► TSAPI					
	> TWS	Service	Status	State	License Mode	Cause*
	Communication Manager	ASAI Link Manager	N/A	Running	N/A	N/A
	Interface	CVLAN Service	ONLINE	Running	NORMAL MODE	N/A
	► Licensing	DLG Service	OFFLINE	Running	NORMAL MODE	N/A N/A
	Maintenance	TSAPI Service	ONLINE	Running	NORMAL MODE	N/A
	▶ Networking	Transport Layer Service	N/A	Running	N/A	N/A
	▹ Security	<u> </u>				
	▶ Status	For status on actual services, please	use Status and	Control		
	▶ User Management	* For more detail, please mouse ov	er the Cause, you'll s	see the <mark>toolt</mark> ip, o	r go to help page.	
	- ▶ Utilities	License Information		1010 M 2010 M		
	- → Utilities → Help	License Information You are licensed to run Application E	nablement (CTI) relea	ase 6.x		

#### 6.2. Administer CTI User

Click User Management  $\rightarrow$  User Admin  $\rightarrow$  Add User in the left pane. Specify a value 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 Grandsys LOG8000 in Section 7.2 Step 4 to access the TSAPI Service on the AES server. Scroll down to the bottom of the page and click Apply (not shown).

AVAYA Applica Enabler Mana	ntion ment Services agement Console	Last login: Mo from 10.1.10 HostName/IP aes6x.sglab.o	: com/10.1.10.70 Type: SWONLY
User Management   User Admin	Add User		Home   Help   Logout
AE Services			
Communication Manager Interface	Add User		
▶ Licensing	Fields marked with * can i		
▶ Maintenance	* User Id	log8000	
▶ Networking	* Common Name	LOG8000	
▶ Security	* Surname	Grandsys	
▶ Status	* User Password * Confirm Password		
▼ User Management	Admin Note		
Service Admin	Avaya Role	None	-
👻 User Admin	Business Category		
Add User	Car License		
<ul> <li>Change User Password</li> </ul>	CM Home		
List All Users	Css Home		
<ul> <li>Modify Default Users</li> <li>Search Users</li> </ul>	CT User	Yes 👻	
- Search Osers	Department Number		

#### 6.3. Administer Devices and Device Group

Step	Description				
1.	To administer the devices to Security Database $\rightarrow$ Dev Section 3, e.g. 10901, and $\alpha$	ices from the	left menu. En		-
		tion Enable s Management Co		Welcome: User devconnec Last login: Tue Dec 20 14: 10.1.10.152 HostName/IP: aes6x.sglab Server Offer Type: SWON SW Version: r6-1-1-30-0	40:23 2011 from
	Security   Security Database   De	evices			Home   Help   Logou
	<ul> <li>AE Services</li> <li>Communication Manager</li> <li>Interface</li> </ul>	Devices			
	▶ Licensing				
	▶ Maintenance	Upload device	s from file	Browse	pload
	▶ Networking	10901	Add Devi	ce	
	▼ Security	Device ID	Tlink Group	Device Type	Location
	Account Management     Audit	① 10001	Any	PHONE	
	Certificate Management	0 10002	Any	PHONE	
	Enterprise Directory	O 10003	Any	PHONE	
	▶ Host AA	0 13001	Any	ACD	
	▶ PAM		Any	ACD	
	Security Database	O 13002			
	<ul> <li>Control</li> <li></li></ul>	0 14001	Any	VDN	
	Devices	O 14002	Any	VDN	
	Device Groups     Tlinks	Edit Device	Delete Device		

Step	Description		
2.	In the Add Device screen, se	elect the following values a	nd click Apply Changes. Click
	Apply (not shown) to confin	m.	
	• Device Type: Select	he appropriate type, e.g. P	HONE in this case.
	• Tlink Group: Select	Any.	
	-		
1		tion Enablement	Welcome: User devconnect Last login: Tue Dec 20 14:40:23 2011 from 10.1.10.152
	AVAYA Service		HostName/IP: aes6x.sglab.com/10.1.10.70 Server Offer Type: SWONLY
		lanagement Console	SW Version: r6-1-1-30-0
	Security   Security Database   D	avicos.	Home   Help   Logout
	Security   Security Database   D	EVICES	nome   neip   Logout
	▶ AE Services		
	Communication Manager Interface	Add Device	
	▶ Licensing	Device ID 10901	]
	Maintenance	Location	
	▶ Networking	Device Type PHONE	
	▼ Security	Tlink Group Any	
	Account Management	Apply Changes Cancel Chang	es
	► Audit		
l			
3.	Repeat Step 1 and 2 to add	all the devices from the tab	le in Section 3.

Step	Description		
4.	To administer a Device Grou	up, select Security → Se	curity Database → Device Groups
	from the left menu. Enter the	e name of the device grou	up, e.g. LOG8000, and click Add
	Device Group.		
		ntion Enablement S Management Console	Welcome: User devconnect Last login: Tue Dec 20 14:40:23 2011 from 10.1.10.152 HostName/IP: aes6x.sglab.com/10.1.10.70 Server Offer Type: SWONLY SW Version: r6-1-1-30-0
	Security   Security Database   D	evice Groups	Home   Help   Logout
	AE Services		
	Communication Manager Interface	Device Groups	
	▶ Licensing	LOG8000 Add D	evice Group
	▶ Maintenance	Device Group	Exception Group?
	▶ Networking	ACD1	N
	▼ Security		
	Account Management	Edit Device Group Delete [	Device Group
	▶ Audit		
	Certificate Management		
	Enterprise Directory		
	Host AA		
	▶ PAM		
	* Security Database		
	Control		
	Devices     Device		
	Device Groups		

Step	Description			
5.	1	,	tes from the table in Section 3, es. Click Apply (not shown) to	
	AVAYA Service	ation Enablement es Management Console	Welcome: User devconnect Last login: Tue Dec 20 14:40:23 2011 from 10.1.10.152 HostName/IP: aes6x.sglab.com/10.1.10.70 Server Offer Type: SWONLY SW Version: r6-1-1-30-0	
	Security   Security Database   D	evice Groups	Home   Help   Logo	ut
	<ul> <li>Communication Manager Interface</li> <li>Licensing</li> <li>Maintenance</li> <li>Networking</li> <li>Security</li> <li>Account Management</li> <li>Audit</li> <li>Certificate Management</li> <li>Enterprise Directory</li> <li>Host AA</li> <li>PAM</li> <li>Security Database</li> <li>Control</li> </ul>	Add Device Group         Device Group         Exception Group         Devices         ♥ 10001         ♥ 10002         ♥ 10003         ♥ 10901         ♥ 10902         ♥ 10903         ♥ 10903         ♥ 10904         ♥ 10905         □ 13001		
	<ul> <li>CTI Users</li> <li>Devices</li> <li>Device Groups</li> <li>Tlinks</li> <li>Tlink Groups</li> </ul>	13002     14001     14002     Apply Changes Select All	Deselect All Cancel Changes	

#### 6.4. Administer CTI User Permission

Step	Description				
1.	Select Security $\rightarrow$ Security menu. Select the User ID cr				om the left
		tion Enablem s Janagement Conso		/elcome: User devconnect ast login: Tue Dec 20 14:4 0.1.10.152 ostName/IP: aes6x.sglab. erver Offer Type: SWONL W Version: r6-1-1-30-0	0:23 2011 from com/10.1.10.70
	Security   Security Database   CT	T Users   List All User	rs	Ho	ome   Help   Logout
	<ul> <li>AE Services</li> <li>Communication Manager Interface</li> </ul>	CTI Users			
	▶ Licensing	User ID	Common Nan	ne Worktop Name	Device ID
	Maintenance	O devconnect	devconnect	NONE	NONE
	▶ Networking				
	▼ Security	🖸 log8000	LOG8000	NONE	NONE
	Account Management	Edit List All			
	▶ Audit	-			
	> Certificate Management				
	Enterprise Directory				
	Host AA				
	▶ PAM				
	Security Database				
	Control CTT Users List All Users Control Users				

p	Description			
2.	In the Edit CTI User scr	een, select the f	following values:	
	• Call Origination/T	armination		
	Call Origination/T and Device Status:		Salast the device group f	tom Soution ( )
			Select the device group fi	
	• Device Monitoring	,	Select the device group fi	
	• Calls On A Device	Monitoring:	Select the device group fi	rom Section 6.3.
	<ul> <li>Call Monitoring:</li> </ul>		Checked.	
	Consult Reference [1] f	for guidance on	configuring the call/devic	e privileges as well as
	devices and device grou	ps. Click Apply	v Changes.	
		r ····· rr,	3	
		1010 ACC	Welcome: Use	
		ation Enablen	nent Services Last login: Tue	e Dec 20 14:40:23 2011 from 10.1.10.1 aes6x.sglab.com/10.1.10.70
	FIVEIJE			ype: SWONLY
		Management Co		
		Management Co	onsole Server Offer T SW Version: re	6-1-1-30-0
	Security   Security Database   C	Management Co	onsole Server Offer T SW Version: re	
		Management Co	onsole Server Offer T SW Version: re	6-1-1-30-0
	Security   Security Database   C	Management Co	onsole Server Offer T SW Version: re	6-1-1-30-0
	Security   Security Database   C > AE Services _ Communication Manager	Management Co TI Users   List All Use	onsole Server Offer T SW Version: re	6-1-1-30-0
	Security   Security Database   C  AE Services Communication Manager Interface	Management Co TI Users   List All User Edit CTI User	User ID Common Name	6-1-1-30-0 Home   Help   Logo log8000 LOG8000
	Security   Security Database   C > AE Services Communication Manager > Interface > Licensing	Management Co TI Users   List All User Edit CTI User	User ID Common Name Worktop Name	6-1-1-30-0 Home   Help   Logo log8000 LOG8000 NONE 💌
	Security   Security Database   C > AE Services > Communication Manager > Interface > Licensing > Maintenance	Management Co TI Users   List All User Edit CTI User	User ID Common Name	6-1-1-30-0 Home   Help   Logo log8000 LOG8000
	Security   Security Database   C > AE Services > Communication Manager Interface > Licensing > Maintenance > Networking	Management Co TI Users   List All User Edit CTI User	User ID Common Name Worktop Name Unrestricted Access	6-1-1-30-0 Home   Help   Logo log8000 LOG8000 NONE 💌
	Security   Security Database   C > AE Services Communication Manager > Interface > Licensing > Maintenance > Networking ~ Security	Management Co TI Users   List All User Edit CTI User User Profile:	User ID Common Name Unrestricted Access	Home   Help   Logo
	Security   Security Database   C > AE Services > Communication Manager > Interface > Licensing > Maintenance > Networking < Security > Account Management	Management Co TI Users   List All User Edit CTI User User Profile:	Server Offer T SW Version: rd       rs       User ID Common Name Worktop Name Unrestricted Access       trol:     Call Origination/Termination and Device Status       itoring:     Device Monitoring	Home   Help   Logo
	Security   Security Database   C AE Services Communication Manager Interface Licensing Maintenance Networking Security Account Management Audit	Management Co	Server Offer T SW Version: rd       rs       User ID Common Name Worktop Name Unrestricted Access       trol:     Call Origination/Termination and Device Status       itoring:     Device Monitoring Calls On A Device Monitoring	Home   Help   Logo
	Security   Security Database   C AE Services Communication Manager Interface Licensing Maintenance Networking Security Account Management Audit Certificate Management	Management Co	Server Offer T SW Version: rd       rs       User ID Common Name Worktop Name Unrestricted Access       trol:     Call Origination/Termination and Device Status       itoring:     Device Monitoring	Home   Help   Logo
	Security   Security Database   C AE Services Communication Manager Interface Licensing Maintenance Networking Security Account Management Audit Certificate Management Enterprise Directory	Management Co	Server Offer T SW Version: rd       rs       User ID Common Name Worktop Name Unrestricted Access       trol:     Call Origination/Termination and Device Status       itoring:     Device Monitoring Calls On A Device Monitoring	Home   Help   Logo
	Security   Security Database   C AE Services Communication Manager Interface Licensing Maintenance Networking Security Account Management Audit Certificate Management Enterprise Directory Host AA	Management Co	Server Offer T SW Version: rd       rs       User ID Common Name Worktop Name Unrestricted Access       trol:     Call Origination/Termination and Device Status       trol:     Call Origination/Termination and Device Status       itoring:     Device Monitoring Calls On A Device Monitoring Call Monitoring	Home   Help   Logo

#### 6.5. Obtain TSAPI Link

Navigate to the Tlinks screen by selecting Security  $\rightarrow$  Security Database  $\rightarrow$  Tlinks from the CTI OAM Home menu. Note the value of the Tlink Name, as this will be needed to configure the Grandsys LOG8000 Server in Section 7.2 Step 4. In this configuration, the unencrypted Tlink AVAYA#SITE1#CSTA#AES6X is being used.

	ation Enablement Services Management Console	Welcome: User devconnect Last login: Tue Dec 20 14:40:23 2011 from 10.1.10.152 HostName/IP: aes6x.sglab.com/10.1.10.70 Server Offer Type: SWONLY SW Version: r6-1-1-30-0
Security   Security Database	Tlinks	Home   Help   Logout
AE Services		
Communication Manager Interface	Tlinks	
▶ Licensing	Tlink Name	
▶ Maintenance	AVAYA#SITE1#CSTA#AES6X	
▶ Networking	O AVAYA#SITE1#CSTA-S#AES6X	
▼ Security	Delete Tlink	
Account Management		
Audit		
Certificate Management		
Enterprise Directory		
Host AA		
> PAM		
Security Database		
<ul> <li>Control</li> <li>CTI Users</li> <li>Devices</li> <li>Device Groups</li> <li>Tlinks</li> </ul>		

# 7. Configure Grandsys LOG8000

Grandsys installs, configures, and customizes the Grandsys LOG8000 application for their end customers. This section only describes the configuration of Grandsys LOG8000 required to communicate with Application Enablement Services and Communication Manager. For detail information on configuring Grandsys LOG8000, refer to **Reference [3]** and **[4]**.

#### 7.1. Install Avaya AE Services TSAPI Client 6.1.1 Software

Grandsys LOG8000 uses the Avaya AE Services TSAPI Client software to communication with the TSAPI Service on the AES server. The Avaya AE Services TSAPI Client 6.1.1 software will be provided by Grandsys, or it can also be downloaded from Avaya Support website (http://support.avaya.com).

The installation runs through the following steps:

- a. A welcome window will be displayed. Click Next to continue.
- b. In the Host Name or IP Address field, enter the IP address of the AES server and click Add to List. In this configuration, enter 10.1.10.70. Click Next.
- c. At the Ready to Install window, click **Install** to start the installation.
- d. At the end of installation process click Finish.

#### 7.2. Configure Grandsys LOG8000

Step	Description
1.	On the Grandsys LOG8000 Server, click Start $\rightarrow$ Control Panel $\rightarrow$ SmartControl to
	match the DST board setting configured in Section 5.1 Step 1.
	AudioCodes USA Inc SmartWORKS
	Sustain Board CDM Devenders District Metures
	Board Number 0 🚔 PCI Bus No: 4 PCI Slot No: 14
	On the Grandsys LOG8000 Server, click Start → Control Panel → SmartControl to configure the E1 board. Click on the Board tab and set TDM Encoding to A-law to match the DS1 board setting configured in Section 5.1 Step 1.  AudioCodes USA Inc SmartWORKS  System Board CPM Parameters Digital Network  Select Board
	Information For Board 0
	Serial Number 20KV
	TDM EncodingBoard Switch ID
	1. On the Grandsys LOG8000 Server, click Start → Control Panel → SmartControl to configure the E1 board. Click on the Board tab and set TDM Encoding to A-law to match the DS1 board setting configured in Section 5.1 Step 1.          AudioCodes USA Inc SmartWORKS       ? ×         System       Doard         Board Number       ? ×         System       Doard         Board Number       ? ×         PCI Bus No: 4       PCI Stot No: 14         Information For Board 0       Board Type         Board Type       SmartTERM DT3209TE Single E1         Total Channels       32         Serial Number       20KV         DateCode       1044         Firmware Version       05.03.00         Build       1032         OEM Info       AudioCodes USA, Inc.         Copyright       Copyright © 2007 AudioCodes USA, Inc. All Rights Reserved.         T1E1Option       E1         TDM Encoding       Board Switch ID         0       0         C1 Bus Type       Elaw         C1 Mode       Master         C1 Mode       Slave
	Board Type SmartTERM DT3209TE Single E1 Total Channels 32 Serial Number 20KV DateCode 1044 Firmware Version 05.03.00 Build 1032 OEM Info AudioCodes USA, Inc. Copyright Copyright © 2007 AudioCodes USA, Inc. All Rights Reserved. T1E1 Option E1 TDM Encoding Board Switch ID 00 CT Bus Type C H.100 C MVIP CT Mode CT Mo
	Defaults
	C Master A C MasterB
	Crandsys LOG8000 Server, click Start → Control Panel → SmartControl to ure the E1 board. Click on the Board tab and set TDM Encoding to A-law to the DS1 board setting configured in Section 5.1 Step 1.   HioCodes USA Inc SmartWORKS   Stem Board   Stem Board   CPM Parameters   Digital Network   Pol Bus No: 4 PCI Bus No: 4 PCI Stot No: 14 Information For Board 0 Board Type SmartTERM DT3209TE Single E1 Total Channels 32 Serial Number Serial Number 20KV DateCode 1044 Firmware Version 05.03.00 Build 1032 OEM Info AudioCodes USA, Inc. Copyright Copyrig

Step	Description
2.	Click on the Digital Network tab. Set T1E1 Option to E1, Framing to Basic G.704,
	Line Coding to HDB3 and LBO to 120 ohm. These settings must match the DS1 board
	setting configured in Section 5.1 Step 1. Click Apply to save the settings and click OK.
	Restart the server to effect the changes to the E1 board.
	AudioCodes USA Inc SmartWORKS
	System Board CPM Parameters Digital Network
	BoardT1E1 Option
	Board 0, SmartTERM DT3209TE Single E1 C T1 C E1
	Trunk Settings
	Trunk Framing Line Coding LBO ZCS
	0 Basic G.704 V HDB3 V 120 ohm V
	Protocol Settings
	Trunk Signaling Protocol Variant
	0 NONE Advanced
	1 Advanced
	NFAS Settings
	Trunk NFAS Index Trunk Index Trunk Type
	Apply OK Cancel

Step	Description								
3.	Launch Microsoft Internet Explorer and enter <u>http://<ip-addr>/WebSetup/login.aspx</ip-addr></u> , where < <b>ip-addr</b> > is the IP address of the Grandsys LOG8000 server, to access the Grandsys LOG8000 web based interface. Log in using an administrative login and password (not shown) and the following screen will be displayed.								
	Grandays Log8000 Print   Help   Logout								
	LOG8000 Main List Sub-menu								
	Employee   Users   Permission Group     System   Application Settings   Search								
	Line Monitor System Service Monitor License Backup Service Monitor File Converter Reports								

Step	Description					
4.	Click System $\rightarrow$ Ser expand Servers $\rightarrow$ I T_Server. On the rig select the TSAPI Lin Password to the Use Select AVAYA AES Mode. The rest of the	DefaultSite → CTI ght-most pane, enter ak noted down in Se er Id and User Pass S for Type, Avaya S the fields are left at th	Service → CT a descriptive v ction 6.5 for th word configure SSC for AppNa	I_S in the center p ralue for T_Server e Connect String ed in Section 6.2 r ame and SSC for I	ane and click on r Name and . Set Login and espectively. Recording	
	Grandsy	S LOG8000			<u>Print   Help   Logout</u>	
	LOG8000 Main List	Server	T_Server	_	Add Cancel	
	Employee System Servers Parameters Application Settings Search Line Monitor	Servers  DefaultSite  CTI Service  CTI Service CTI Service CTI Service CTI Service CTI Service	Settings T_Server Code T_Server Name Connect String Login Password Version Type AppName Skill(use comma[,] to separate different skills) Pickup Delay	AES_S AVAYA#SITE1#CSTA ✓ log8000 •••••• TS1-2 AVAYA AES Avaya SSC		
	System Service Monitor License	Converting Service	Timeout Device Type	2000		
	Backup Service Monitor File Converter Reports	CTI Line Search	Recording Mode	● SSC ○ Wiring (TDM recor	ding)	

р	Desci								
5.	To co	onfigure the extension	ons to be recorded, ex	pand Servers → DefaultS	ite → CTI				
	Service $\rightarrow$ CTI S $\rightarrow$ T Server $\rightarrow$ <name 4="" created="" in="" of="" server="" step="" t=""> in the center</name>								
	pane	and click on ExtLin	nes. On the right-mos	t pane, enter the following	values:				
	•	Line Name: Ente	r a descriptive name						
	•	Extension: Phone	e extension to be reco	rded					
	•	Start Mode → A	PI: Check						
	•	Start Mode → T							
	•			onfigured in Grandsys LOC	38000 or leave				
		blank.							
	•		while conversation is	held: Check (recording sto	ops when the call				
			resumes when unhol	· · ·					
	•	Enable: Check		(4)					
	-	Lindble. Check							
	Click	Add Reneat this st	en for all extensions	to be recorded. In this conf	iguration				
				to be recorded. In this com	iguration,				
	ovton								
	exten	sions 10001 to 1000	)4 are configured.						
	exten		J4 are configured.						
	exten	Sions 10001 to 1000	ExtLines		Clear Add				
		Server			Clear Add				
		Server Bervers			Clear Add				
		Server Servers DefaultSite	ExtLines Line Code	10001	Clear Add Start				
		Server Servers DefaultSite	ExtLines						
		Server Servers DefaultSite	ExtLines Line Code	10001					
		Server Servers DefaultSite	ExtLines Line Code Line Name	10001 Number					
		Server Bervers DefaultSite CefaultSite Centity Host Config Service	ExtLines Line Code Line Name Extension	10001 Number 10001					
		Server Bervers DefaultSite Craftity Host Config Service Config Service	ExtLines Line Code Line Name Extension Start Mode	10001 Number 10001					
		Server	ExtLines Line Code Line Name Extension Start Mode Agent ID	10001 Number 10001					
		Server Servers DefaultSite Config Service Config Service CTI Service CTI Service CTI_S CTI_S CTI_S	ExtLines Line Code Line Name Extension Start Mode Agent ID Line Group	10001 Number 10001					
		Server	ExtLines Line Code Line Name Extension Start Mode Agent ID Line Group Recording Schedule Remark	10001 Number 10001 I API I TSAPI					
		Server DefaultSite Config Service Config Service CTI Service CTI Server CTI Server	ExtLines Line Code Line Name Extension Start Mode Agent ID Line Group Recording Schedule Remark Stop recording when	10001 Number 10001 I API I TSAPI					
		Server DefaultSite Config Service Config Service CTI Service CTI Service CTI Server AES_8 ExtLines LineGroups - Index Service - Network Service	ExtLines Line Code Line Name Extension Start Mode Agent ID Line Group Recording Schedule Remark	10001 Number 10001 I API I TSAPI					
		Server Bervers DefaultSite Centity Host Config Service Config Service CTI Service CTI_S CTI_S CTI_S CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_Server CTI_	ExtLines Line Code Line Name Extension Start Mode Agent ID Line Group Recording Schedule Remark I Stop recording when I Enable	10001 Number 10001 I API I TSAPI I I I I SAPI					
		Server DefaultSite Config Service Config Service CTI Service CTI Service CTI Server AES_8 ExtLines LineGroups - Index Service - Network Service	ExtLines Line Code Line Name Extension Start Mode Agent ID Line Group Recording Schedule Remark I Stop recording when I Enable	10001 Number 10001 I API I TSAPI I I I I SAPI					

Step	Description				
6.	<ul> <li>Service → Rec_S in the following values:</li> <li>Line Name: I</li> <li>Extension: E</li> <li>Channel: Ent Section 5.1 S</li> <li>TServer: Sel</li> <li>Enable: Check</li> <li>Click Add. Repeat the section 5.1 S</li> </ul>	the center pane an Enter a descriptive xtension of recordi ter a value from 1 t <b>tep 2</b> . ect the TServer cor ck	ing station configured in to 30 which correspond nfigured in <b>Step 4</b> . e recording stations. In t	n the right-m n <b>Section 5.1</b> to the <b>Port</b> c	Step 2.
	recording stations 10				<u>Print   Help   Logout</u>
	LOG8000 Main List	Server	Channels	Clear	Default Add
	Employee System	Servers DefaultSite FEntity Host Recording Service Rec_S Channels LineGroups	Settings Detail		
				2014 40	
			Line Code Line Name	20KV10 10901	
	Servers			10901	
	Parameters		Extension	10901	
			Board	20KV	•
		Config Service	Channel	1	
	Application Settings	- Index Service	Last Applied Template		
	Search	- Network Service	Line Template		-
	1	Communication Se	Board Type	SmartTERM DT32	D9TE Si
	Line Monitor	Web Service	Agent Name		Agent
	System Service Monitor	- Backup Service	Line Group		•
	License	Converting Service	TServer	CTI_S-AES_S	•
	Backup Service Monitor	- Recording Line Search	Recording Schedule		
		CTI Line Search	Remark		
	File Converter	Schedule1	🗹 Enable		

## 8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Aura® Communication Manager, Avaya Aura® Application Enablement Services and Grandsys LOG8000.

#### 8.1. Verify Avaya Aura® Communication Manager

Verify the status of the administered recording stations by using the **status station n** command, where **n** is the recording station extension. The **Service State** field should display **in-service/on-hook** when idle, and **in-service/off-hook** when recording is in progress.

```
status station 10901
                                                                    1 of
                                                                           4
                                                              Page
                            GENERAL STATUS
                             Service State: in-service/on-hook
    Administered Type: DS1FD
       Connected Type: N/A
           Extension: 10901
         Port:01A0801Parameter Download: not-applicableCall Parked? noSAC Activated? no
    Ring Cut Off Act? no
Active Coverage Option: 1
                                 one-X Server Status: N/A
        EC500 Status: N/A Off-PBX Service State: N/A
  Message Waiting:
  Connected Ports:
 Limit Incoming Calls? no
User Cntrl Restr: none
                                             HOSPITALITY STATUS
Group Cntrl Restr: none
                                          Awaken at:
                                           User DND: not activated
                                          Group DND: not activated
                                        Room Status: occupied
```

#### 8.2. Verify Avaya Aura® Application Enablement Services

From the CTI OAM Admin web pages, verify the status of the TSAPI Service by selecting Status  $\rightarrow$  Status and Control  $\rightarrow$  TSAPI Service Summary from the left menu. The Status and State fields should display Talking and Online respectively.

AVAYA	Applica	pplication Enablement Services Management Console						Welcome: User devconnect Last login: Thu Dec 22 16:28:58 2011 from 192.168.10 HostName/IP: aes6x.sglab.com/10.1.10.70 Server Offer Type: SWONLY SW Version: r6-1-1-30-0				
Status   Status and Control	TSAPI Servi	ce Sun	nmary							H	lome   He	lp   Logou
<ul> <li>AE Services</li> <li>Communication Manager</li> <li>Interface</li> <li>Licensing</li> </ul>			Details le refresh even	ry 60 💌	seconds							
<ul> <li>Maintenance</li> <li>Networking</li> <li>Security</li> </ul>		Link Switch Switch CTI Name Link ID Status Since Sta					State	Switch Version	Associations	Msgs to Switch	Msgs from Switch	Msgs Period
▼ Status Alarm Viewer → Logs	 On	1 line	SITE1 Offline	3	Talking	Fri Dec 16 16:04:30 2011	Online	16	2	79	139	30
<ul> <li>Status and Control</li> <li>CVLAN Service Summar</li> <li>DLG Services Summar</li> <li>DMCC Service Summar</li> <li>Switch Conn Summary</li> <li>TSAPI Service Summar</li> </ul>	y y ry		de information, vice Status	, choose one TLink S		owing: User Status						

### 8.3. Verify Grandsys LOG8000

Step	Description
1.	Launch Microsoft Internet Explorer and log in to the Grandsys LOG8000 web based
	interface. Select Line Monitor $\rightarrow$ By Recorder on the left pane and click Connect on the
	right pane.
	Grandays Log8000
	LOG8000 Main List Line Monitor
	Employee Site DefaultSite Recording Rec_S Sort ExtNo. Connect Stop Help
	System
	Application Settings
	Search
	Line Monitor
	By Recorder
	System Service Monitor
2.	Place a test call to an extension being recorded and verify that one of the recording
	stations on Grandsys LOG8000 becomes active as it records the call.
	Crancays LOG8000
	LOG8000 Main List Line Monitor
	Ranlovee
	System Site DefaultSite  Recording Server Rec_S Sort ExtNo. Disconnect Detail Stop
	Application Settings
	CH1 CH2 CH3 CH4 CH5 66:32:37 CH4 CH5 66:32:06
	Line Monitor 10901 10902 10903 10904 10905
	By Recorder

Step	Description								
3.	Query for the recorrectly.	ecording of the t	test call	. Verify that the r	ecording can	be play	yed ba	.ck	
	Grandsy LOG8000 Main List	<b>TS LOG8000</b> Recording Search				_	Print	<u>Help</u>	Logout
	Employee	StartTime 2011-12-19 00:00:00 2011-12-19 23:59:59 () () () () () () () () () () () () () (	Results	Detail					1
	System			PID	StartTime	Length	Direct C	CallNo	ExtNo
	Application Settings		V 1 📝	20KV0024EEEB1C08750000002	12/19/2011 11:38:40 AM	00:01:30		10014	10002
	Search	Ø	🗆 2 🍞	20KV0014EEEACCF5150000002	12/19/2011 11:17:35 AM	00:00:03	inbound	10014	10002
	Recording Search								
	System Log								
	Statistical Diagram								
	Batch Index Update								

# 9. Conclusion

These Application Notes illustrate the procedures for configuring Grandsys Technology & Service LOG8000 2.6.1 to monitor and record calls placed to and from stations, and calls routed via VDNs on Avaya Aura® Communication Manager 6.0.1. In the configuration described in these Application Notes, Grandsys LOG8000 uses the Single Step Conference feature of the TSAPI Service of Avaya Aura® Application Enablement Services 6.1.1 to perform recording. All test cases were completed successfully.

# 10. Additional References

This section references the Avaya and Grandsys documentation that are relevant to these Application Notes.

The following Avaya product documentation can be found at <u>http://support.avaya.com</u>. [1] *Avaya Aura*® *Application Enablement Services Administration and Maintenance Guide*, Release 6.1, Issue 2, February 2011.

[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 documentation was provided by Grandsys during the testing. [3] *Grandsys LOG8000 System Installation Manual*, Version 2.6.01, July 2011. [4] *Grandsys LOG8000 System Operation Manual*, Version 2.6.01, July 2011.

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