



Avaya Solution & Interoperability Test Lab

Application Notes for VPI Capture Call Logger with Avaya Aura™ Communication Manager Using Avaya Aura™ Application Enablement Services – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Voice Print International Capture Call Logger to interoperate with Avaya Aura™ Communication Manager using Avaya Aura™ Application Enablement Services. Voice Print International Capture Call Logger is a call recording solution. In the compliance testing, the Voice Print International Capture Call Logger used the Telephony Services Application Programming Interface from Avaya Aura™ Application Enablement Services to monitor stations on Avaya Aura™ Communication Manager, and used the Single Step Conference feature via the Avaya Aura™ Application Enablement Services Device, Media, and Call Control interface to capture the media associated with the monitored stations for call recording.

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 Voice Print International Capture Call Logger to interoperate with Avaya Aura™ Communication Manager using Avaya Aura™ Application Enablement Services. Voice Print International Capture Call Logger is a call recording solution. In the compliance testing, the Voice Print International Capture Call Logger used the Telephony Services Application Programming Interface (TSAPI) from Avaya Aura™ Application Enablement Services to monitor stations on Avaya Aura™ Communication Manager, and used the Single Step Conference feature via the Avaya Aura™ Application Enablement Services Device, Media, and Call Control (DMCC) interface to capture the media associated with the monitored stations for call recording.

The TSAPI interface is used by VPI Capture Call Logger to monitor the stations to be recorded. When there is an active call on the monitored station, the VPI Capture Call Logger is informed of the call via event reports from the TSAPI interface. VPI Capture Call Logger starts the call recording by using the Single Step Conference feature from the DMCC with call control interface to add a virtual IP softphone to the active call, and using the Media Control Events from the DMCC interface to obtain the media from the virtual IP softphone. The TSAPI event reports are also used to determine when to stop the call recordings.

1.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the following on VPI Capture Call Logger:

- Handling of TSAPI messages in the areas of event notification and value queries.
- Use of DMCC registration services to register and un-register the virtual IP softphones.
- Use of DMCC call control services to activate Single Step Conference for the virtual IP softphones.
- Use of DMCC monitoring services and media control events to obtain the media from the virtual IP softphones.
- Proper recording, logging, and playback of calls for scenarios involving inbound, outbound, internal, external, ACD, non-ACD, hold, reconnect, simultaneous, conference, and transfer.

The serviceability testing focused on verifying the ability of VPI Capture Call Logger to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet cable to VPI Capture Call Logger.

1.2. Support

Technical support on VPI Capture Call Logger can be obtained through the following:

- **Phone:** (805) 389-5201
- **Email:** support@vpi-corp.com
- **Web:** <http://www.vpi-corp.com/support.asp>

2. Reference Configuration

VPI Capture Call Logger can be configured on a single server or with components distributed across multiple servers. The compliance test configuration used a single server configuration, as shown in **Figure 1**. VPI Capture Call Logger also has a VPI Playback Client application that can be used to review and playback the call recordings. In the compliance testing, the VPI Playback Client application was installed on the supervisor PC.

The detailed administration of basic connectivity between Avaya Aura™ Communication Manager and Avaya Aura™ Application Enablement Services, and of contact center devices are not the focus of these Application Notes and will not be described.

In the compliance testing, VPI Capture Call Logger monitored the contact center devices shown in the table below.

Device Type	Extension
VDN	65500
Skill Group	65555
Supervisor Station	65000
Agent Station	65001, 65002

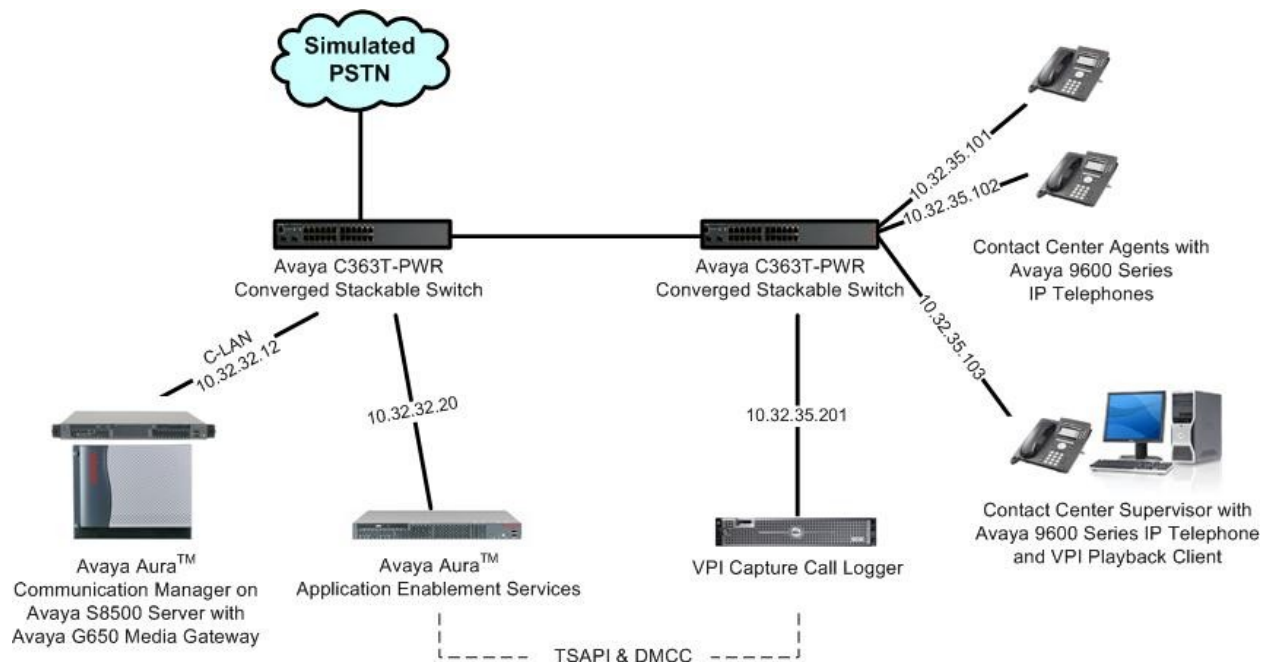


Figure 1: VPI Capture Call Logger with Avaya Aura™ Communication Manager Using Avaya Aura™ Application Enablement Services

3. Equipment and Software Validated

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

Equipment	Software
Avaya Aura™ Communication Manager on Avaya S8500 Servers	R015x.02.0.947.3
Avaya G650 Media Gateway <ul style="list-style-type: none">• TN799DP C-LAN Circuit Pack• TN2302AP IP Media Processor	HW01 FW024 HW20 FW120
Avaya Aura™ Application Enablement Services	4.2.3
Avaya 9600 Series IP Telephones (H.323)	3.0
VPI Capture Call Logger on Windows 2003 Server with Service Pack 2 <ul style="list-style-type: none">• VP Config• Capture• Playback Client• Avaya TSAPI Windows Client	2.8.4.12 4.3.5.7 4.0.20.0 3.1.1.0

4. Configure Avaya Aura™ Communication Manager

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

- Verify Communication Manager License
- Administer system parameters features
- Administer CTI link
- Administer virtual IP softphones

4.1. Verify Communication Manager License

Log in to the System Access Terminal (SAT) to verify that the Communication Manager license has proper permissions for features illustrated in these Application Notes. Use the “display system-parameters customer-options” command to verify that the **Computer Telephony Adjunct Links** customer option is set to “y” on **Page 3**. If this option is not set to “y”, then contact the Avaya sales team or business partner for a proper license file.

display system-parameters customer-options		Page 3 of 11
OPTIONAL FEATURES		
Abbreviated Dialing Enhanced List? y	Audible Message Waiting? n	
Access Security Gateway (ASG)? n	Authorization Codes? n	
Analog Trunk Incoming Call ID? y	CAS Branch? n	
A/D Grp/Sys List Dialing Start at 01? n	CAS Main? n	
Answer Supervision by Call Classifier? n	Change COR by FAC? y	
ARS? y	Computer Telephony Adjunct Links? y	
ARS/AAR Partitioning? y	Cvg Of Calls Redirected Off-net? n	
ARS/AAR Dialing without FAC? y	DCS (Basic)? n	
ASAI Link Core Capabilities? y	DCS Call Coverage? n	
ASAI Link Plus Capabilities? y	DCS with Rerouting? n	
Async. Transfer Mode (ATM) PNC? n		
Async. Transfer Mode (ATM) Trunking? n	Digital Loss Plan Modification? n	
ATM WAN Spare Processor? n	DS1 MSP? y	

Navigate to **Page 10**, and verify that there are sufficient **IP_API_A** licenses. Note that VPI Capture Call Logger can only work with the **IP_API_A** license.

display system-parameters customer-options		Page 10 of 11
MAXIMUM IP REGISTRATIONS BY PRODUCT ID		
Product ID	Rel. Limit	Used
AgentSC	: 0	0
IP_API_A	: 50	0
IP_API_B	: 0	0
IP_API_C	: 0	0
IP_Agent	: 50	0
IP_IR_A	: 0	0
IP_Phone	: 18000	3
IP_ROMax	: 18000	0
IP_Soft	: 0	0
IP_eCons	: 5	0
oneX_Comm	: 18000	0
	: 0	0

4.2. Administer System Parameters Features

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

```
change system-parameters features                               Page 5 of 18
                        FEATURE-RELATED SYSTEM PARAMETERS

SYSTEM PRINTER PARAMETERS
  Endpoint:                               Lines Per Page: 60

SYSTEM-WIDE PARAMETERS
                                Switch Name: S8500-SAL
      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:
      Delay Sending RElease (seconds)? 0

SEND ALL CALLS OPTIONS
      Send All Calls Applies to: station      Auto Inspect on Send All Calls? n

UNIVERSAL CALL ID
      Create Universal Call ID (UCID)? y      UCID Network Node ID: 1
```

Navigate to **Page 13**, and enable **Send UCID to ASAI**. This parameter allows for the universal call ID to be sent to VPI Capture Call Logger.

```
change system-parameters features                               Page 13 of 18
                        FEATURE-RELATED SYSTEM PARAMETERS

CALL CENTER MISCELLANEOUS
                                Clear Callr-info: next-call
      Allow Ringer-off with Auto-Answer? n

      Reporting for PC Non-Predictive Calls? n

                                Interruptible Aux Notification Timer (sec): 3
                                Interruptible Aux Deactivation Threshold (%): 95

ASAI
      Copy ASAI UII During Conference/Transfer? y
      Call Classification After Answer Supervision? y
                                Send UCID to ASAI? y
```

4.3. Administer CTI Link

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

add cti-link 1		Page 1 of 3
CTI LINK		
CTI Link: 1		
Extension: 60100		
Type: ADJ-IP		
Name: VPI CTI Link		COR: 1

4.4. Administer Virtual IP Softphones

Add a virtual softphone using the “add station n” command, where “n” is an available extension number. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Type:** “4620”
- **Name:** A descriptive name.
- **Security Code:** A desired value.
- **IP SoftPhone:** “y”

add station 65991		Page 1 of 5
STATION		
Extension: 65991	Lock Messages? n	BCC: 0
Type: 4620	Security Code: 65990	TN: 1
Port: IP	Coverage Path 1:	COR: 1
Name: VPI Virtual #1	Coverage Path 2:	COS: 1
	Hunt-to Station:	
STATION OPTIONS		
Loss Group: 19	Time of Day Lock Table:	
	Personalized Ringing Pattern: 1	
	Message Lamp Ext: 65991	
Speakerphone: 2-way	Mute Button Enabled? y	
Display Language: english	Expansion Module? n	
Survivable GK Node Name:	Media Complex Ext:	
Survivable COR: internal	IP SoftPhone? y	
Survivable Trunk Dest? y		
	IP Video Softphone? n	
	Customizable Labels? y	

Repeat this section to administer the desired number of virtual softphones, using sequential extension numbers and the same security code for all virtual softphones. In the compliance testing, three virtual softphones were administered as shown below, to allow for simultaneous recording of all three monitored stations in **Section 2**.

list station 65991 count 3									
STATIONS									
Ext/ Hunt-to	Port/ Type	Name/ Surv GK NN	Move	Room/ Data Ext	Cv1/ Cv2	COR/ COS	Cable/ Jack		
65991	S00002	VPI Virtual #1			1				
	4620		no		1				
65992	S00005	VPI Virtual #2			1				
	4620		no		1				
65993	S00008	VPI Virtual #3			1				
	4620		no		1				

5. Configure Avaya Aura™ Application Enablement Services

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

- Verify TSAPI license
- Launch OAM interface
- Administer TSAPI link
- Obtain Tlink name
- Administer H.323 gatekeeper
- Administer VPI user
- Restart TSAPI service

5.1. Verify TSAPI License

Access the Web License Manager interface by using the URL “https://ip-address/WebLM/index.jsp” in an Internet browser window, where “ip-address” is the IP address of the Application Enablement Services server.

The **Web License Manager** screen is displayed. Log in using the appropriate credentials.

The image shows a web browser window displaying the Avaya Web License Manager (WebLM v4.5.5) login page. The page has a white background with a red header bar at the top. The header bar contains the Avaya logo in red and the text "Web License Manager (WebLM v4.5.5)" in white. Below the header, the word "Logon" is centered in bold black text. Underneath "Logon", there are two input fields: "User Name:" and "Password:". To the right of the "Password:" field is a small gray button with a white right-pointing arrow. The entire form is enclosed in a light gray border.

The **Web License Manager** screen below is displayed next. Select **Application_Enablement** in the left pane, to display the **Licensed Features**.

Feature (Keyword)	Expiration Date	Licensed	Acquired
Application Enablement Connections (VALUE_AEC_CONNECTIONS)	permanent	16	1
CVLAN ASAI (VALUE_CVLAN_ASAI)	permanent	50	0
CVLAN Proprietary Links (VALUE_PROPRIETARY_LINKS)	permanent	8	0
TSAPI Version (VALUE_TSAPI_VERSION)	permanent	4.2	Not counted
DMCC DMC (VALUE_DMCC_DMC)	permanent	50	0

Scroll down the screen, and verify that there is sufficient license for **TSAPI Simultaneous Users**, as shown below.

TSAPI Simultaneous Users (VALUE_TSAPI_USERS)	permanent	1000	0
Unified CC API Desktop Edition (VALUE_AEC_UNIFIED_CC_DESKTOP)	permanent	1000	0
AES ADVANCED MEDIUM SWITCH (VALUE_AEC_MEDIUM_ADVANCED)	permanent	3	0
CVLAN (VALUE_CVLAN)	permanent	1	0

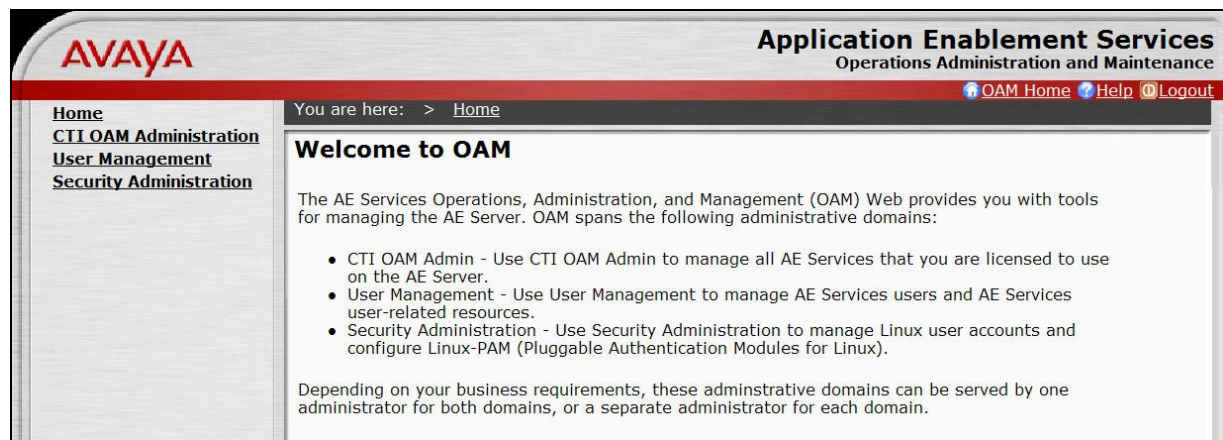
5.2. Launch OAM Interface

Access the OAM web-based interface by using the URL “https://ip-address/MVAP/ index.jsp” in an Internet browser window, where “ip-address” is the IP address of the Application Enablement Services server.

The **Please log on** screen is displayed next. Log in using the appropriate credentials.

The image shows a login screen for Avaya Application Enablement Services. At the top, the Avaya logo is in red, followed by the text "Application Enablement Services" and a "Help" link. Below this, the text "Please log on." is centered. There are two input fields: "Logon:" and "Password:". A "Login" button is located at the bottom right of the form.

The **Welcome to OAM** screen is displayed. Select **CTI OAM Administration** from the left pane.

The image shows the "Welcome to OAM" screen. The top header includes the Avaya logo, "Application Enablement Services", and "Operations Administration and Maintenance". A navigation bar contains links for "OAM Home", "Help", and "Logout". On the left, a sidebar menu lists "Home", "CTI OAM Administration", "User Management", and "Security Administration". The main content area is titled "Welcome to OAM" and contains a description of the OAM web interface, followed by a bulleted list of administrative domains: CTI OAM Admin, User Management, and Security Administration. It also mentions that these domains can be managed by one or multiple administrators.

The **Welcome to CTI OAM Screens** is displayed next.

AVAYA **Application Enablement Services**
Operations Administration and Maintenance

[CTI OAM Home](#) [Help](#) [Logout](#)

You are here: > [CTI OAM Home](#)

Welcome to CTI OAM Screens

[craft] Last login: Fri Oct 16 13:29:47 2009 from 10.32.35.20

IMPORTANT: AE Services must be restarted for administrative changes to fully take effect.
Changes to the Security Database do not require a restart.

Service	Controller Status	Licenses Purchased
ASAI Link Manager	Running	N/A
DMCC Service	Running	Yes
CVLAN Service	Running	Yes
DLG Service	Running	Yes
Transport Layer Service	Running	N/A
TSAPI Service	Running	Yes
SMS	N/A	Yes

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

License Information

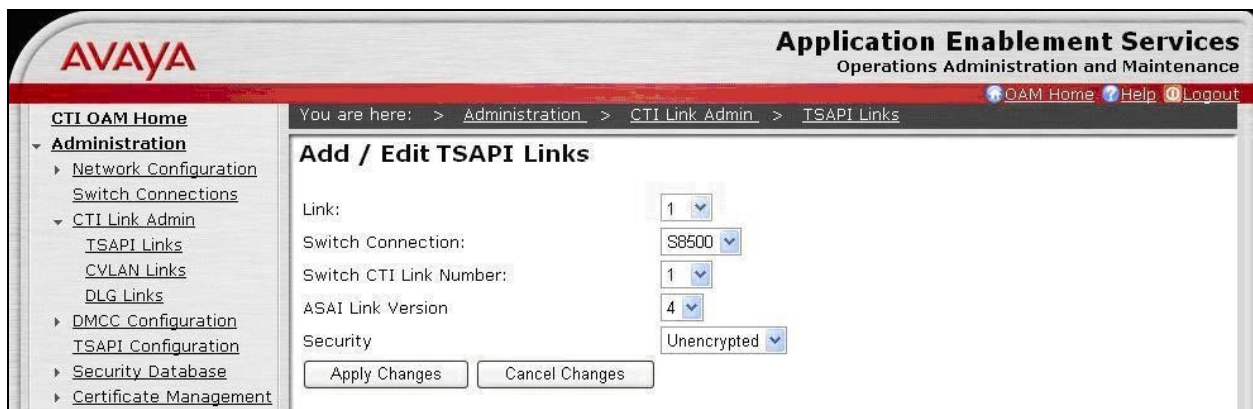
You are licensed to run Application Enablement (CTI) version 4.2.

5.3. Administer TSAPI Link

To administer a TSAPI link, select **Administration > CTI Link Admin > TSAPI Links** from the left pane. The **TSAPI Links** screen is displayed, as shown below. Click **Add Link**.



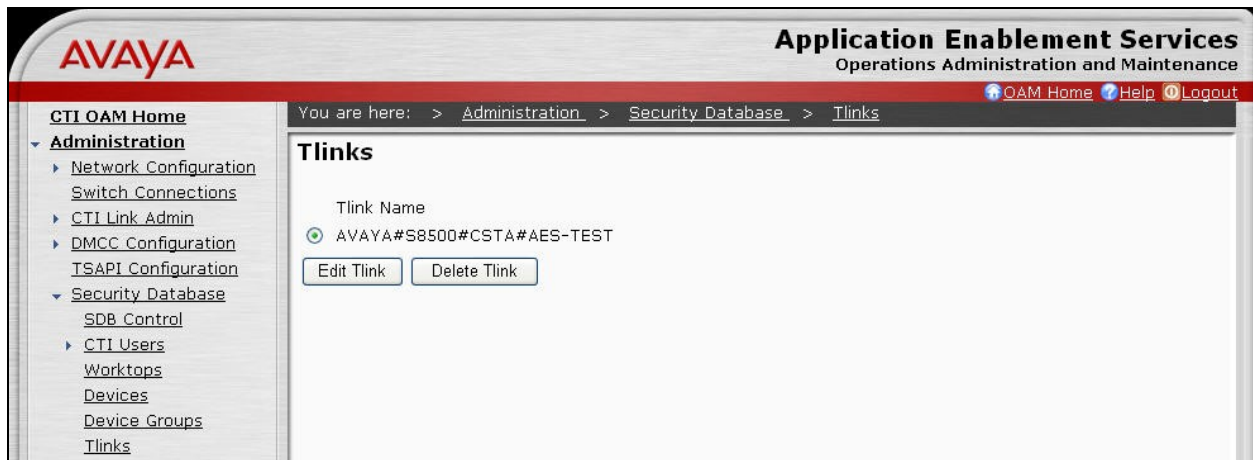
The **Add / Edit TSAPI Links** screen is displayed next. The **Link** field is only local to the AES server, and may be set to any available number. For **Switch Connection**, select the relevant switch connection from the drop-down list. In this case, the existing switch connection "S8500" is selected. For **Switch CTI Link Number**, select the CTI link number from **Section 4.3**. Retain the default values in the remaining fields, and click **Apply Changes**.



5.4. Obtain Tlink Name

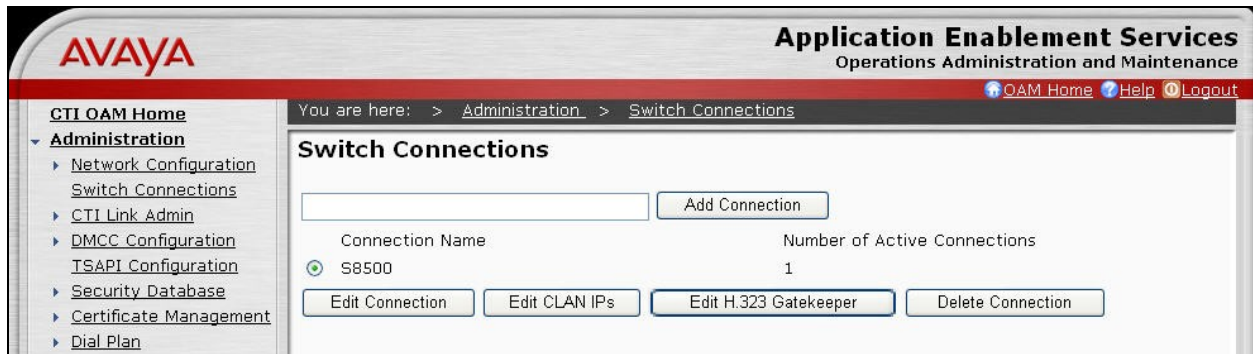
Select **Administration > Security Database > Tlinks** from the left pane. The **Tlinks** screen shows a listing of the Tlink names. A new Tlink name is automatically generated for the TSAPI service. Locate the Tlink name associated with the relevant switch connection, which would use the name of the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

In this case, the associated Tlink name is “AVAYA#S8500#CSTA#AES-TEST”. Note the use of the switch connection “S8500” from **Section 5.3** as part of the Tlink name.

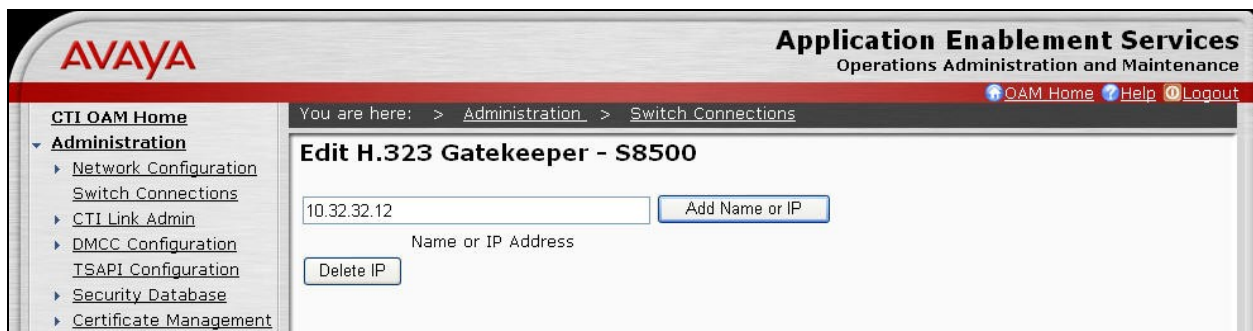


5.5. Administer H.323 Gatekeeper

Select **Administration > Switch Connections** from the left pane. The **Switch Connections** screen shows a listing of the existing switch connections. Locate the connection name associated with the relevant Communication Manager, in this case “S8500”, and select the corresponding radio button. Click **Edit H.323 Gatekeeper**.

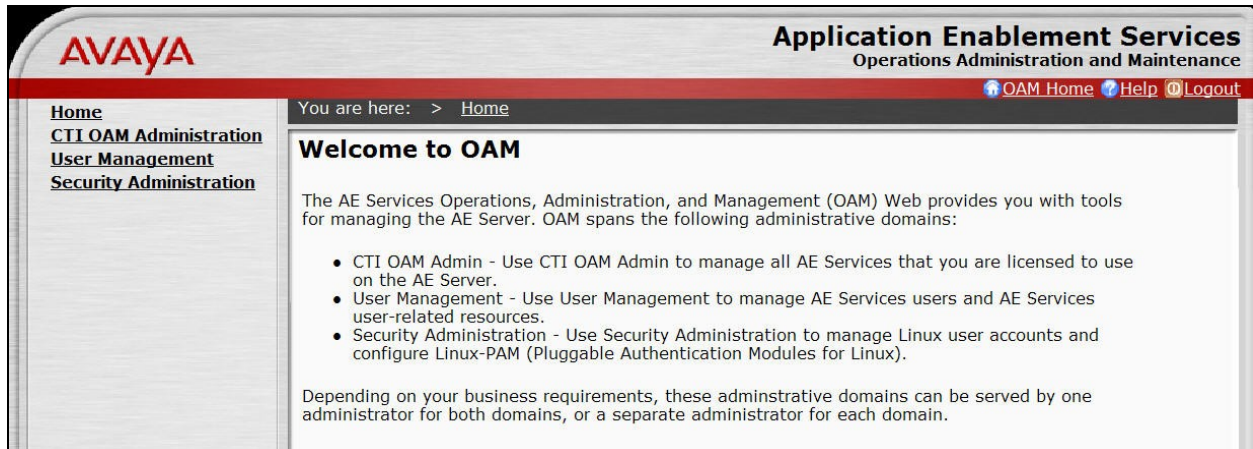


The **Edit H.323 Gatekeeper** screen is displayed. Enter the IP address of a C-LAN circuit pack or the Processor C-LAN on Communication Manager to be used as H.323 gatekeeper, in this case “10.32.32.12” as shown below. Click **Add Name or IP**.



5.6. Administer VPI User

Administer a new user account for VPI, which is created from the User Management web pages. Select **OAM Home**, located at the upper right corner of the screen, to display the **Welcome to OAM** screen below. Select **User Management** from the left pane.



The **Welcome to the User Management home page** screen is displayed, as shown below.



Select **User Management > Add User** from the left pane. In the **Add User** screen shown below, enter descriptive values for the **User Id**, **Common Name**, **Surname**, **User Password**, and **Confirm Password** fields. For the **CT User** field, select “Yes” from the drop-down list. Retain the default value in the remaining fields. Click **Apply** at the bottom of the screen (not shown below).

AVAYA **Application Enablement Services**
Operations Administration and Maintenance

You are here: > [User Management](#) > [Add User](#)

User Management Home

- User Management**
 - [List All Users](#)
 - [Add User](#)
 - [Search Users](#)
 - [Modify Default User](#)
 - [Change User Password](#)
- Service Management**
- Help**

Add User

Fields marked with * can not be empty.

* User Id

* Common Name

* Surname

* User Password

* Confirm Password

Admin Note

Avaya Role

Business Category

Car License

CM Home

Cms Home

CT User

Department Number

5.7. Restart TSAPI Service

Return to the CTI OAM Administration web pages by selecting **OAM Home**, located at the upper right corner of the screen, to display the **Welcome to OAM** screen (shown in [Section 5.3](#)), and selecting **CTI OAM Administration** from the left pane to display the **Welcome to CTI OAM Screens** (shown in [Section 5.2](#)).

Select **Maintenance > Service Controller** from the left pane. The **Service Controller** screen is displayed, and shows a listing of the services and associated status. Check the **TSAPI Service**, and click **Restart Service**.

AVAYA **Application Enablement Services**
Operations Administration and Maintenance

[OAM Home](#) [Help](#) [Logout](#)

You are here: > [Maintenance](#) > [Service Controller](#)

CTI OAM Home

- Administration
- Status and Control
- Maintenance**
 - [Service Controller](#)
 - [Backup Database](#)
 - [Restore Database](#)
 - [Import SDB](#)
- Alarms
- Logs
- Utilities
- Help

Service Controller

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

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

[Start](#) [Stop](#) [Restart Service](#) [Restart AE Server](#) [Restart Linux](#)

6. Configure VPI Capture Call Logger

This section provides the procedures for configuring VPI Capture Call Logger. The procedures include the following areas:

- Launch Voice Print Server Configuration
- Administer TSAPI
- Administer software RTP
- Administer start/stop events
- Administer channels
- Launch Digital Call Logger

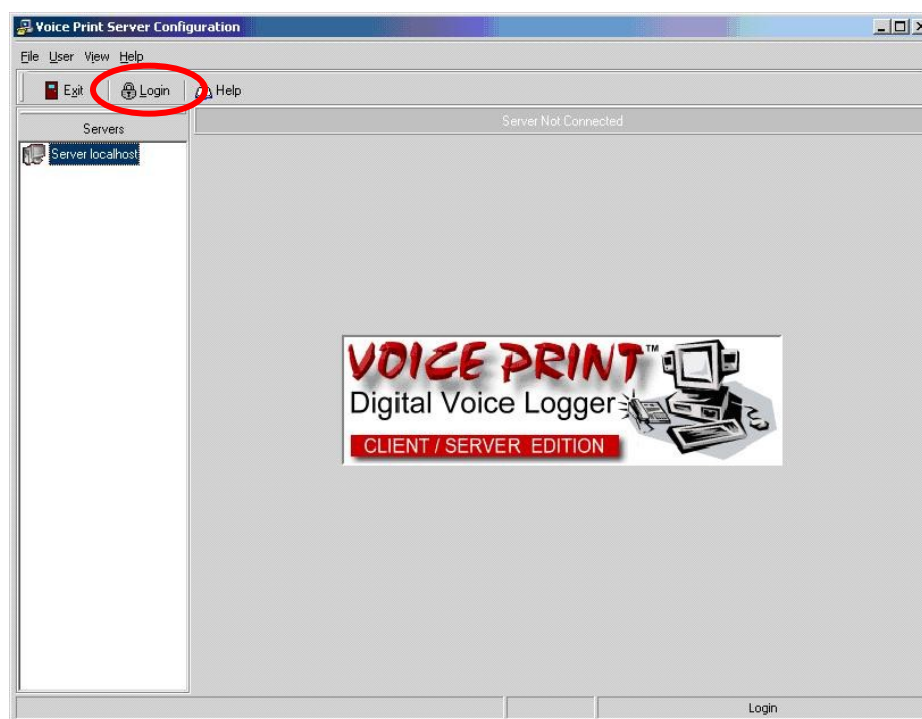
The configuration of VPI Capture Call Logger is performed by VPI installers. The procedural steps are presented in these Application Notes for informational purposes.

6.1. Launch Voice Print Server Configuration

From the VPI Capture Call Logger server, double-click on the **VPCConfig** icon shown below, which is created as part of the installation.



The **Voice Print Server Configuration** screen is displayed. Click on **Login**, as shown below.



The **Voice Print Login** screen is displayed next. Log in using the appropriate credentials.



6.2. Administer TSAPI

The **Voice Print Server Configuration** screen is displayed again. Select **Server localhost > Channel Manager** in the left pane, to display the **TSAPI** screen. Select the **TSAPI** tab in the right pane. Enter the following values for the specified fields, and retain the default values for the remaining fields. Click **Apply**.

- **Server 1 Machine:** The Tlink name from **Section 5.4**.
- **Tsapi Device:** IP address of Application Enablement Services server.
- **Application Username:** The VPI user credentials from **Section 5.6**.
- **Application Password:** The VPI user credentials from **Section 5.6**.
- **Switch Type:** “Avaya / Lucent”
- **ACD Groups:** The group extensions to be monitored from **Section 2**.
- **VDNs:** The VDN extensions to be monitored from **Section 2**.
- **Monitor Agent Mode Change:** Uncheck this field.
- **Enable:** Check this field.
- **First Extension:** The starting virtual softphone extension from **Section 4.4**.
- **Extension Password:** The password for the virtual softphones from **Section 4.4**.
- **Server IP Address:** IP address of Application Enablement Services server.
- **Switch (CLAN) Address:** The IP address of the H.323 gatekeeper from **Section 5.5**.
- **Session User:** The VPI user credentials from **Section 5.6**.
- **Password:** The VPI user credentials from **Section 5.6**.

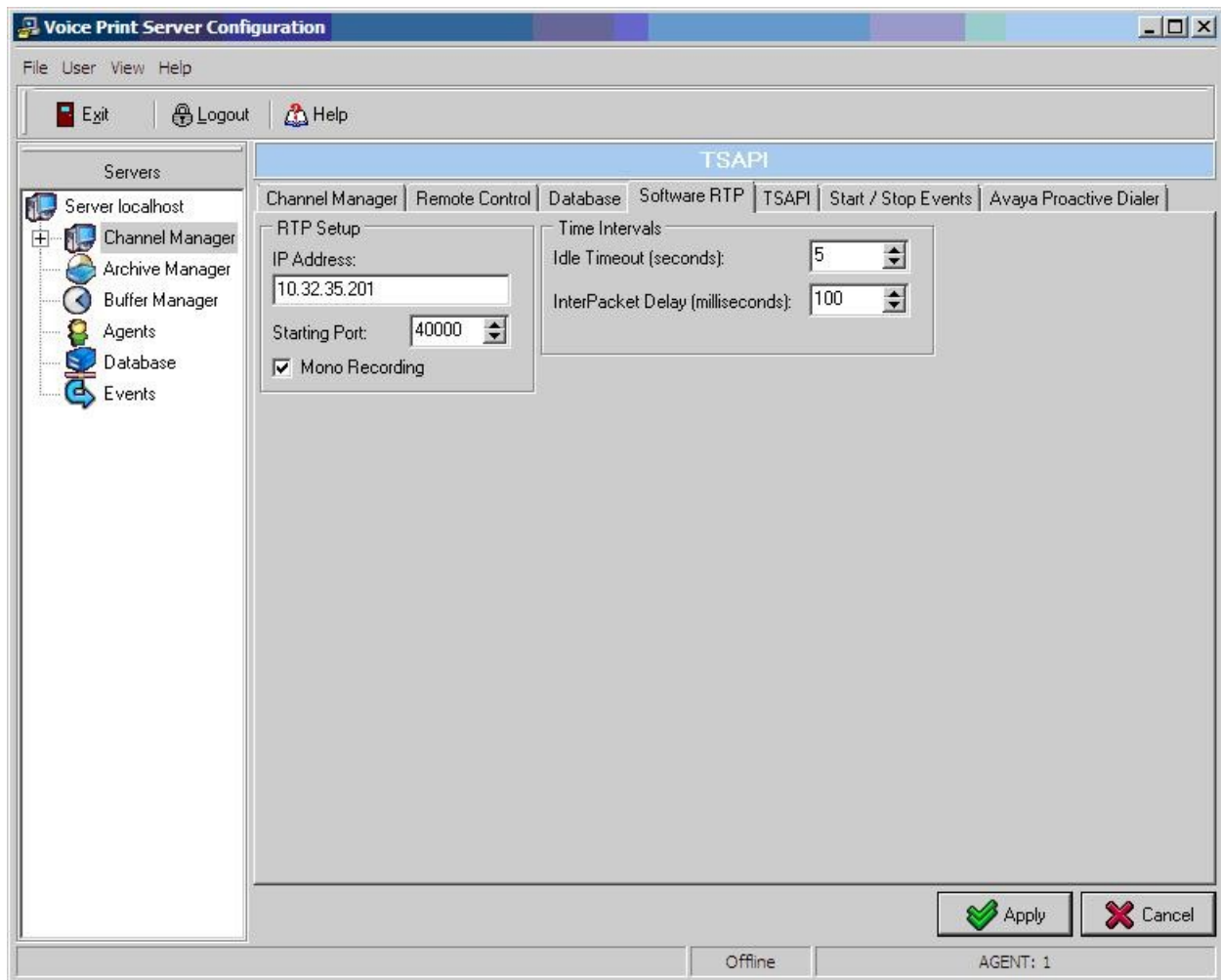
The screenshot shows the 'Voice Print Server Configuration' window with the 'TSAPI' tab selected. The left pane shows a tree view with 'Server localhost' expanded, and 'Channel Manager' selected. The main area contains several configuration sections:

- TSapi Server Setup:**
 - Server 1 Machine: AVAYA#S8500#CSTA#
 - Server 2 Machine: (empty)
 - Tsapi Device: 10.32.32.20
 - Application Username: vpi
 - Application Password: (masked)
 - ☐ Fail to VDX
 - ☒ Save All ANI
- General Options:**
 - ☒ Record All Agents
 - ☐ Lock Status Lights
 - ☐ Use Tsapi Time Stamp
- Additional Monitors:**
 - ACD Groups: 65555
 - Trunks: (empty)
 - VDNs: 65500
 - ☐ Disable recording of calls when SPLIT is empty
 - ☐ Disable recording of calls when DISTRIBUTING VND is empty
- Service Observe Options:**
 - ☐ Monitor Agent Mode Change
 - Feature Code: (empty)
- Switch Type:**
 - ☐ CSTA Compliant
 - ☒ Avaya / Lucent
 - ☐ Nortel Meridian
 - ☐ Aspect
 - ☐ NEC
- CMAPI (AES) Options:**
 - ☒ Enable
 - First Extension: 65991
 - Extension Password: (masked)
 - Server IP Address: 10.32.32.20
 - Server Port: 4721
 - Switch (CLAN) Address: 10.32.32.12
 - Session User: vpi
 - Password: (masked)

At the bottom right are 'Apply' and 'Cancel' buttons. The status bar at the bottom shows 'Offline' and 'AGENT: 1'.

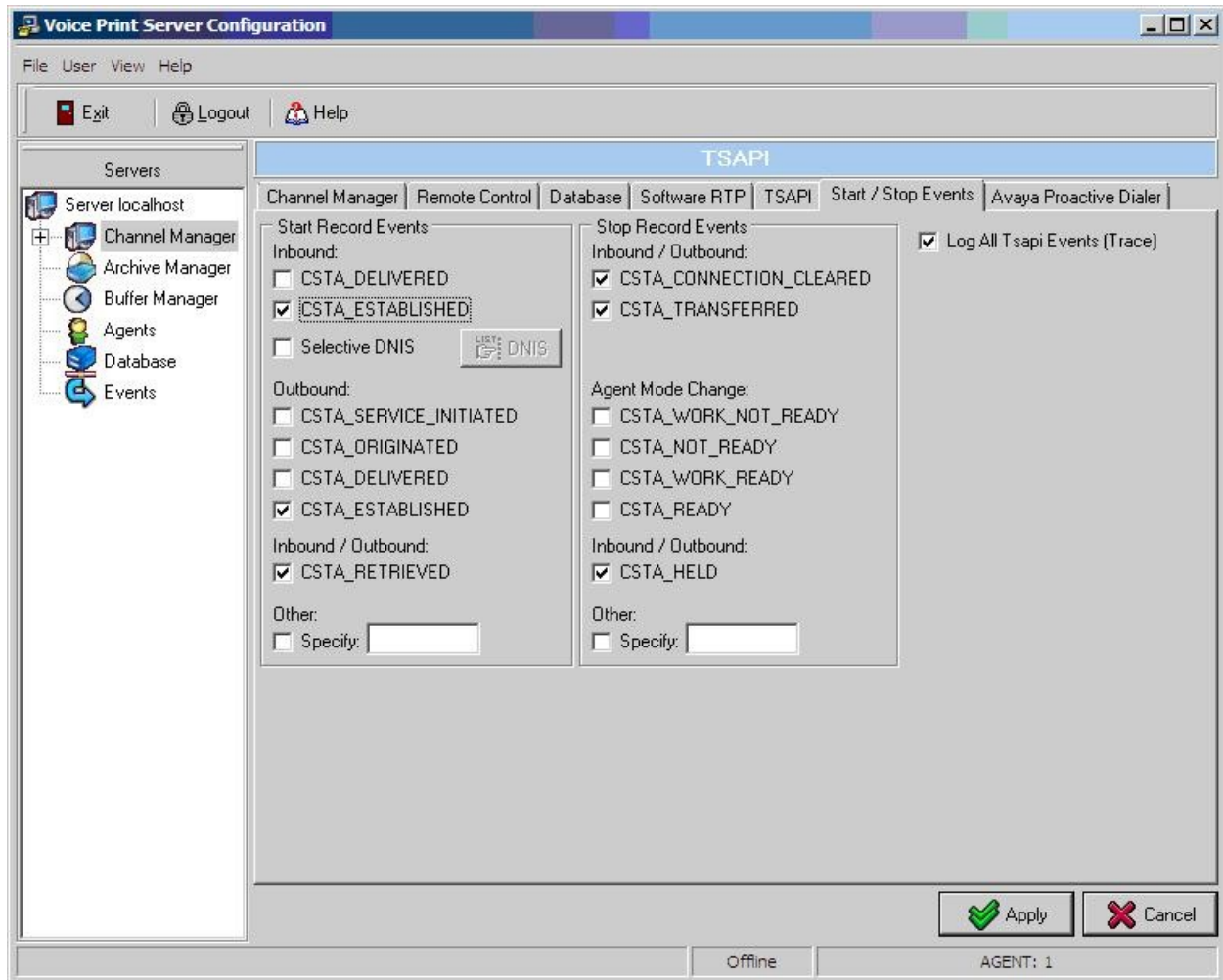
6.3. Administer Software RTP

Select the **Software RTP** tab in the right pane. For **IP Address**, enter the IP address of the VPI Capture Call Logger server, in this case “10.32.35.201”. Retain the default values in the remaining fields, and click **Apply**.



6.4. Administer Start/Stop Events

Select the **Start / Stop Events** tab in the right pane. Check the desired events to trigger the start and stop of call recordings. The screen below shows the selections used for the compliance testing. The **Log All Tsapi Events (Trace)** field was checked in the compliance testing for event verification purposes. Click **Apply**.



6.5. Administer Channels

Select **Server localhost > Channel Manager > Channels** in the left pane, to display the **Channel Properties** screen. Select the first available channel from the left portion of the **Channel Properties** screen, and enter the following values for the specified fields in the right portion of the screen. Retain the default values for the remaining fields.

- **Name / Description:** A desired name for the station to be monitored.
- **Use Channel:** Check this field.
- **Extension:** The extension of a station to be monitored from **Section 2**.

Repeat this section to administer a channel for each station to be monitored from **Section 2**, and click **Apply**.

The screenshot shows the 'Voice Print Server Configuration' window with the 'Channel Properties' tab selected. The left pane shows a tree view under 'Servers' with 'Server localhost' expanded, showing 'Channel Manager' and 'Channels' (selected). The main area displays a table of channels and configuration options for the selected channel, 'Agent1'.

#	Name / Description	Ext.
1	Agent1	65001
2	Agent2	65002
3	Supervisor	65000
4	Channel 4	0
5	Channel 5	0

Configuration for Agent1:

- ☒ **Use Channel**
- ☐ Disable Live Monitoring
- ☐ Use Alert Tone when Recording
- ☐ Always Record (VOX Emulation)

Details (Overrides Agent Settings):

Extension:	Dept. ID:	Desk Location:
65001	0	
Group ID:	Class of Service:	
0	Not Used (Default)	

Buttons: Apply, Cancel, Advanced

Status bar: Offline, AGENT: 1

6.6. Launch Digital Call Logger

From the VPI Capture Call Logger server, double-click on the **Activ! Voice** icon shown below to start the application. Note that the icon is created as part of the installation.



The **VPI – Digital Call Logger** screen is displayed. Select **Server Status** from the top portion of the screen. In the **Channel Manager** section, verify that the **Channels Recording** entry has the yellow status, and that all other entries have the green status, as shown below.

VPI - Digital Call Logger (v4.3.5.7 b4.3.5.7), ID: 1		
<div>Home Channels Buffer Devices Archive Devices</div> <div>Login Shutdown Exit Event Log Server Status Environment</div> <div>Server Support System Information</div>		
Process	Status	
Channel Manager		5
TSAPI	Link OK, Manager Idle.	
Channels Recording	0	
Channels Idle	3	
Channels Reporting Errors	0	
Channels Enabled	3	
Buffer Manager		3
Primary Buffer 1	79% Free for use	
Overflow Buffer 1	89% Free for use	
LTS Buffer 1	77% Free for use	
Database Manager		1
Firebird 2.0.3.12981	Collecting Data... Store @ 9:23:58 AM	
Archive Manager		1
Network Mass Storage	Next Archive Session @ 9:48:51 AM	
Archive Devices		1
Archive Device 1, Media ID: 1	97.13% Free. Process Idle.	
Clients		0

7. General Test Approach and Test Results

The feature test cases were performed both automatically and manually. Upon start of the VPI Capture Call Logger application, the application automatically registers the virtual IP softphones to Avaya AuraTM Communication Manager using Avaya AuraTM Application Enablement Services DMCC, and requests monitoring on the stations to be recorded using Avaya AuraTM Application Enablement Services TSAPI.

For the manual part of the testing, each call was handled manually on the station user with generation of unique audio content for the recordings. Necessary user actions such as hold and reconnect were performed from the user telephones to test the different call scenarios.

The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet cable to VPI Capture Call Logger.

The verification of tests included using the VPI Capture Call Logger logs for proper message exchanges, and using the VPI Playback Client application for proper logging and playback of the calls.

All test cases were executed and passed. The one observation noted from the compliance test is that the application can only work with the IP_API_A license from Communication Manager, and not the new DMCC license from Application Enablement Services, due to the registration method used for registering softphones.

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 VPI Capture Call Logger.

8.1. Verify Avaya Aura™ Communication Manager

On Communication Manager, verify the status of the administered CTI link by using the “status aesvcs cti-link” command. Verify that the **Service State** is “established” for the CTI link number administered in **Section 4.3**, as shown below.

```
status aesvcs cti-link
```

AE SERVICES CTI LINK STATUS						
CTI Link	Version	Mnt Busy	AE Services Server	Service State	Msgs Sent	Msgs Rcvd
1	4	no	AES-Test	established	15	15

Verify the registration status of the virtual softphones by using the “list registered-ip-stations” command. Verify that all extensions from **Section 4.4** are displayed, as shown below.

```
list registered-ip-stations
```

REGISTERED IP STATIONS					
Station Ext or Orig Port	Set Type/ Net Rgn	Prod ID/ Release	TCP Skt	Station IP Address/ Gatekeeper	IP Address
65000	9640	IP_Phone	y	10.32.35.105	
	1	3.0020		10.32.32.12	
65001	9650	IP_Phone	y	10.32.35.101	
	1	3.0020		10.32.32.12	
65002	9640	IP_Phone	y	10.32.35.106	
	1	3.0020		10.32.32.12	
65991	4620	IP_API_A	y	10.32.32.20	
	1	3.2040		10.32.32.12	
65992	4620	IP_API_A	y	10.32.32.20	
	1	3.2040		10.32.32.12	
65993	4620	IP_API_A	y	10.32.32.20	
	1	3.2040		10.32.32.12	

8.2. Verify Avaya Aura™ Application Enablement Services

On Application Enablement Services, verify the status of the TSAPI link by selecting **Status and Control > Services Summary** from the left pane. Click on **TSAPI Service**, followed by **Details** (not shown below). The **TSAPI Link Details** screen is displayed. Verify the **Conn Status** is “Talking” for the TSAPI link administered in **Section 5.3**, as shown below.

The screenshot shows the Avaya Application Enablement Services (AES) interface. The top header displays the Avaya logo and the title "Application Enablement Services" with the subtitle "Operations Administration and Maintenance". A navigation bar includes links for "OAM Home", "Help", and "Logout". The left sidebar contains a tree view with categories: "CTI OAM Home", "Administration", "Status and Control" (expanded), "Maintenance", "Alarms", "Logs", "Utilities", and "Help". Under "Status and Control", the following links are visible: "Switch Conn Summary", "Services Summary", "Maintenance", "Alarms", "Logs", "Utilities", and "Help". The main content area shows the breadcrumb "You are here: > Status and Control > Services Summary" and the title "TSAPI Link Details". Below the title is a table with the following data:

Link	Switch Conn Name	Switch CTI Link Number	Conn Status	Since	Service State	Switch Version	Number of Associations	ASAI Message Rate
	1	S8500	Talking	2009-10-19 14:13:42.0	Online	15	5	15

Verify the status of the DMCC link by selecting **Status and Control > Services Summary** from the left pane. Click on **DMCC Service**, followed by **Details** (not shown below). The **DMCC Service Summary – Session Summary** screen is displayed. In the lower portion of the screen, verify that the **User** column shows an active session with the VPI user name from **Section 5.6**, and that the **# of Associated Devices** column reflects the number of virtual softphones from **Section 4.4**.

The screenshot shows the Avaya Application Enablement Services (AES) interface. The top header displays the Avaya logo and the title "Application Enablement Services" with the subtitle "Operations Administration and Maintenance". A navigation bar includes links for "OAM Home", "Help", and "Logout". The left sidebar contains a tree view with categories: "CTI OAM Home", "Administration", "Status and Control" (expanded), "Maintenance", "Alarms", "Logs", "Utilities", and "Help". Under "Status and Control", the following links are visible: "Switch Conn Summary", "Services Summary", "Maintenance", "Alarms", "Logs", "Utilities", and "Help". The main content area shows the breadcrumb "You are here: > Status and Control > Services Summary" and the title "DMCC Service Summary - Session Summary". Below the title are two tabs: "Session Summary" (selected) and "Device Summary". The "Session Summary" tab displays the following information:

Generated on Wed, Oct 21, 2009 11:45:18 AM EDT

Service Uptime: 1 days, 21:31 hours
Number of Active Sessions: 1
Number of Sessions Created Since Service Boot: 8
Number of Existing Devices: 3
Number of Devices Created Since Service Boot: 14

Below this information is a table with the following data:

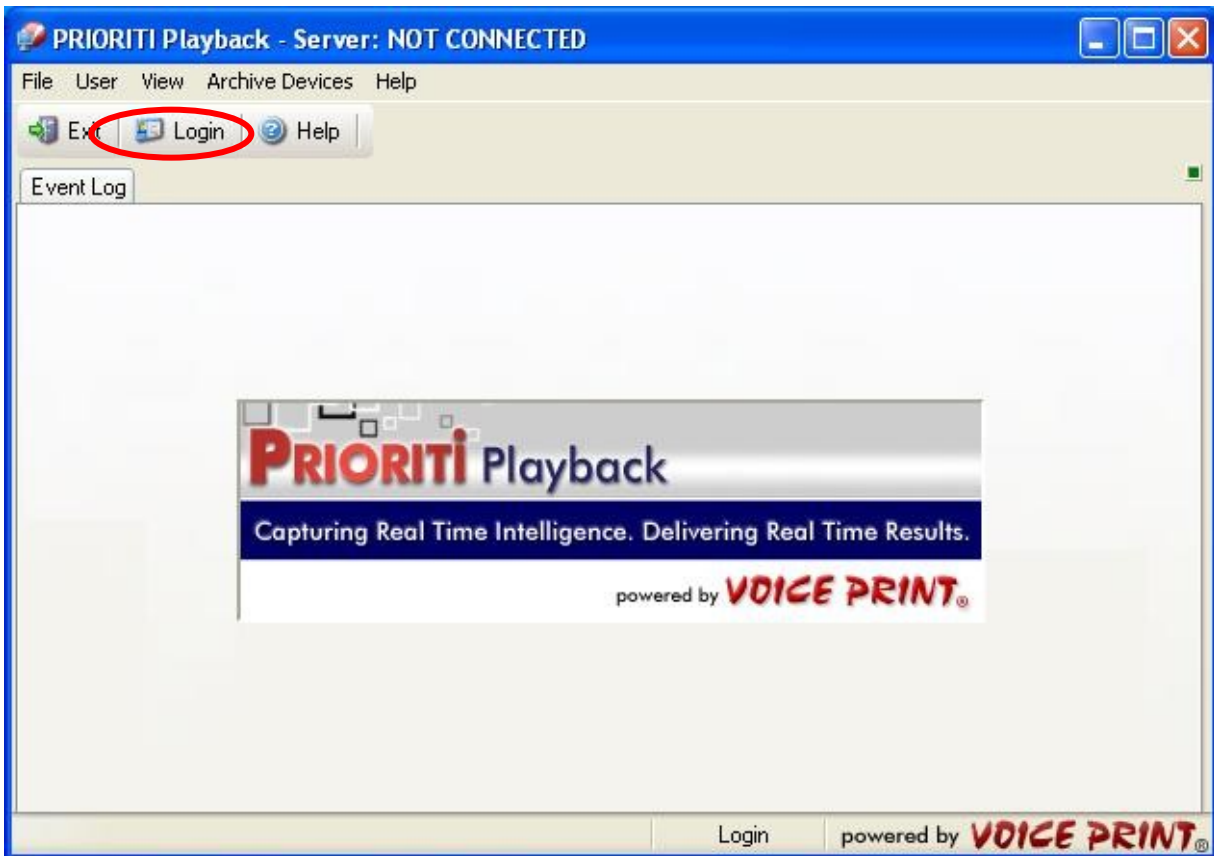
Session ID	User	Application	Far-end Identifier	Connection Type	# of Associated Devices
<input type="checkbox"/> 0D87DF47D25D3948C	vpi	VoicePrintServer	10.32.35.201	XML	3
<input type="checkbox"/> 238C7529E52DD3D-11				Unencrypted	

At the bottom of the table are two buttons: "Terminate Sessions" and "Show Terminated Sessions".

8.3. Verify VPI Capture Call Logger

Log an agent in to the Skill group to handle and complete an ACD call. From the PC running the VPI Client Playback application, select **Start > Programs > VPI > VPI Playback Client** to launch the **VPI Playback Client** application.

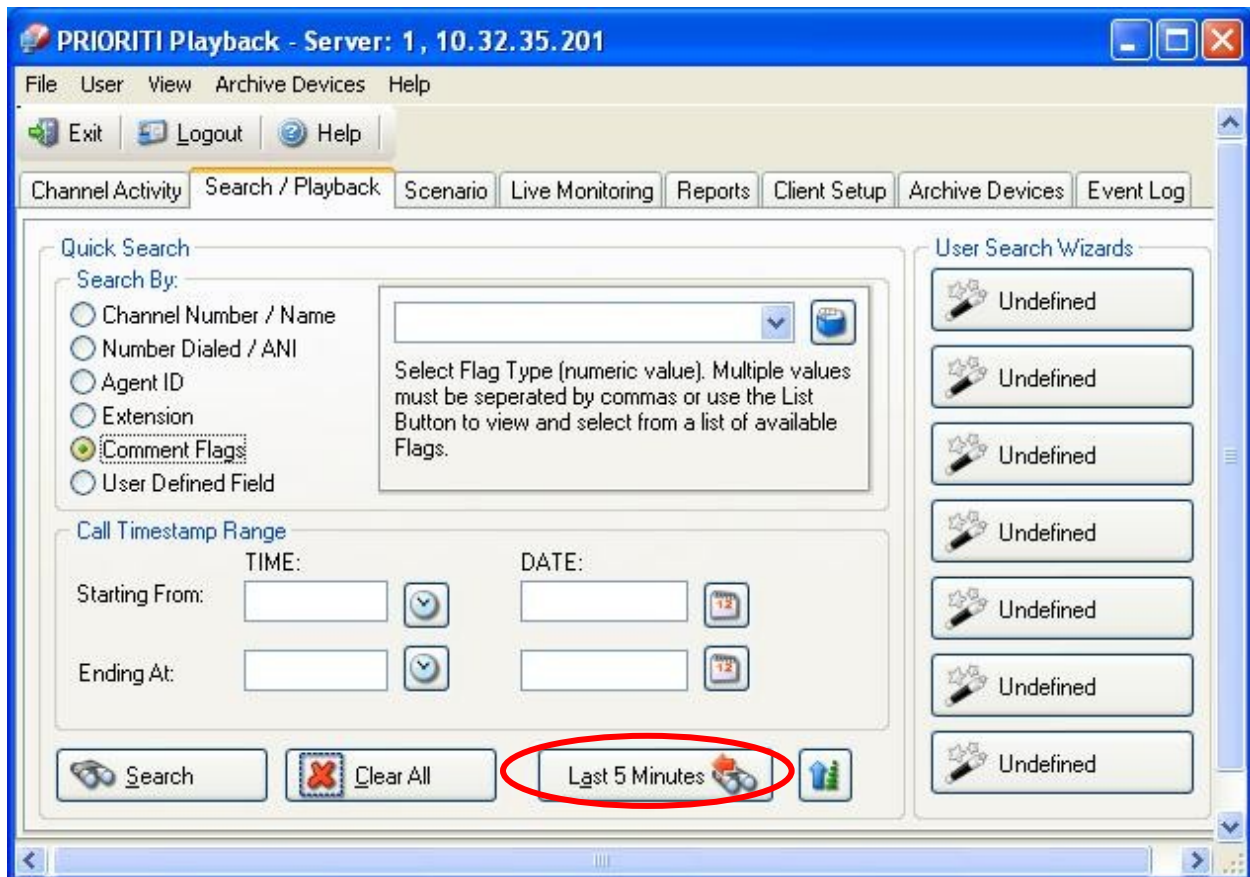
The **PRIORITI Playback** screen is displayed. Click Login.



The **Voice Print Login** screen is displayed next. Retain the default value in the **Connect to** field, and enter the appropriate credentials to log in.



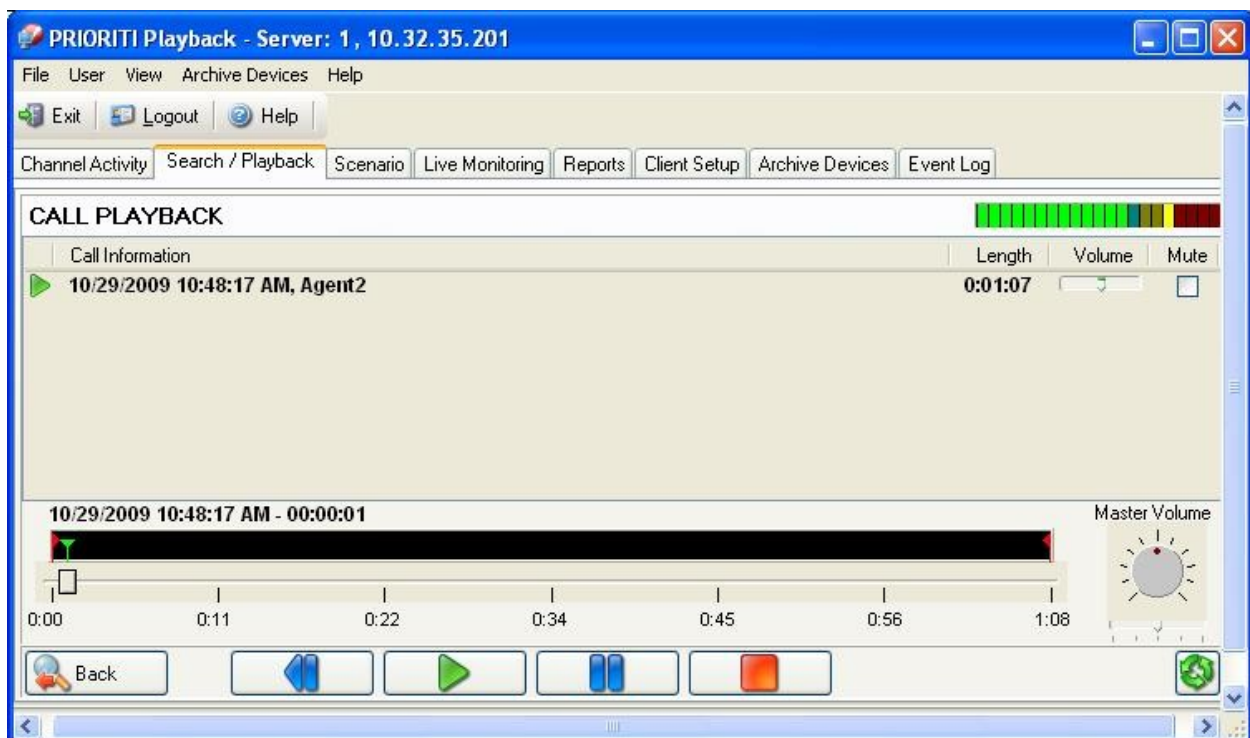
The **PRIORITI Playback** screen is displayed again and updated. Select the **Search / Playback** tab. Retain the default values, and click on **Last 5 Minutes**. If more than five minutes have elapsed since the call, then select the appropriate values for **Call Timestamp Range** and click **Search**.



The **PRIORITI Playback** screen is updated with a list of the call recordings from the last five minutes. Verify that there is an entry reflecting the last call, with proper values in the relevant fields. Double click on the entry to listen to the playback.



Verify that the screen is updated and that the call recording is played back.



9. Conclusion

These Application Notes describe the configuration steps required for VPI Capture Call Logger to successfully interoperate with Avaya Aura™ Communication Manager using Avaya Aura™ Application Enablement Services. All feature and serviceability test cases were completed with one observation noted in **Section 7**.

10. Additional References

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

1. *Administrator Guide for Avaya Aura™ Communication Manager*, Document 03-300509, Issue 5.0, Release 5.2, May 2009, available at <http://support.avaya.com>.
2. *Avaya MultiVantage Application Enablement Services Administration and Maintenance Guide*, Release 4.2, Document ID 02-300357, Issue 10, May 2008, available at <http://support.avaya.com>.
3. *VPI Activ! Voice Configuration Guide (VPConfig)*, Version 4.0, available on the VPI Capture Call Logger server as part of installation.

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