



Avaya Solution & Interoperability Test Lab

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

The Avaya AES 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 Avaya AES TSAPI interface. VPI Capture Call Logger starts the call recording by using the Single Step Conference feature from the Avaya AES DMCC with call control interface to add a virtual IP softphone to the active call, and using the Media Control Events from the Avaya AES DMCC interface to obtain the media from the virtual IP softphone. The Avaya AES 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 the VPI Capture Call Logger:

- Handling of TSAPI messages in the areas of event notification and value queries.
- Use of Avaya AES DMCC registration services to register and un-register the virtual IP softphones.
- Use of Avaya AES DMCC call control services to activate Single Step Conference for the virtual IP softphones.
- Use of Avaya AES 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 the VPI Capture Call Logger to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet cable to the VPI Capture Call Logger.

1.2. Support

Technical support on the 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 Playback Client application that can be used to review and playback the call recordings. In the compliance testing, the Playback Client application was installed on the VPI Capture Call Logger server.

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

In the compliance testing, the VPI Capture Call Logger monitored three physical station extensions “22721, 26614, and 26619” on Avaya Communication Manager. For the ACD scenarios, the VPI Capture Call Logger also monitored the Skill group extension “28800” in addition to the three physical stations used by the ACD agents.

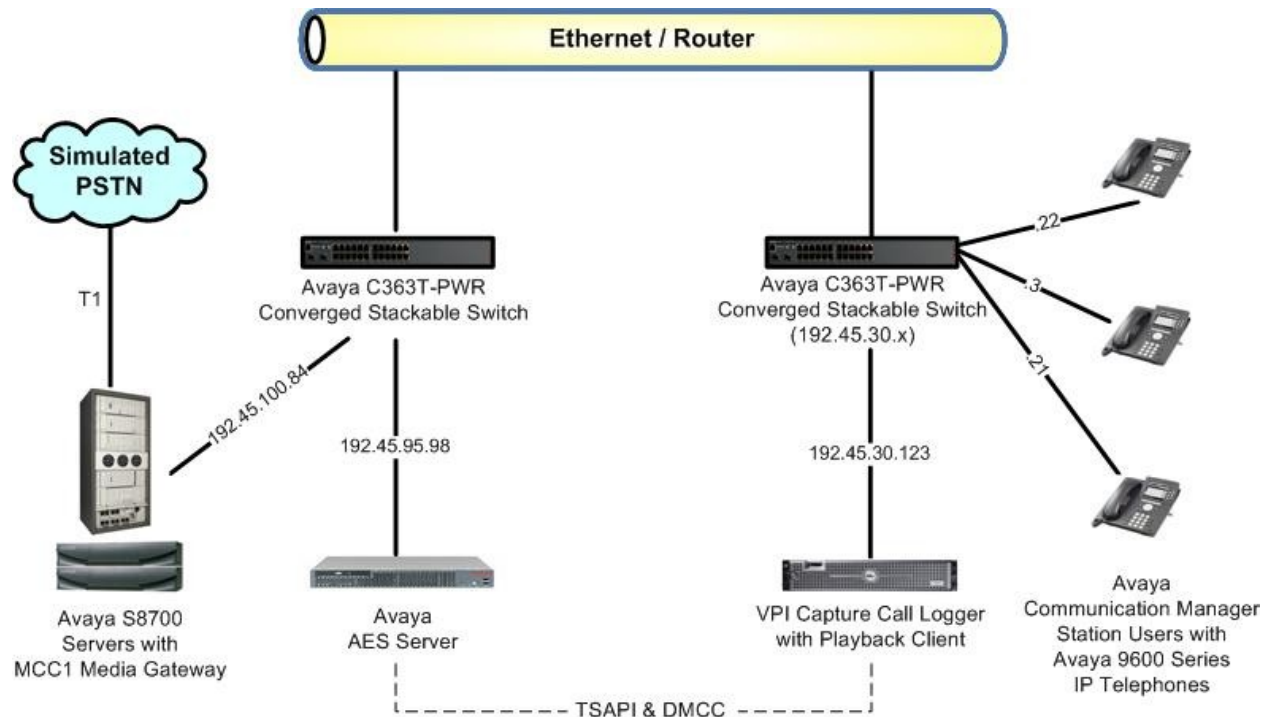


Figure 1: VPI Capture Call Logger with Avaya Communication Manager Using Avaya AES

3. Equipment and Software Validated

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

Equipment	Software
Avaya S8700 Servers	Avaya Communication Manager 5.1.2, R015x.01.2.416.4
Avaya MCC1 Media Gateway <ul style="list-style-type: none">• TN799DP C-LAN Circuit Pack• TN2302AP IP Media Processor	HW01 FW024 HW13 FW116
Avaya Application Enablement Services	4.2
Avaya 9600 Series IP Telephones (H.323)	3.0
VPI Capture Call Logger <ul style="list-style-type: none">• VP Config• Capture• Playback Client	2.8.4.5 4.2.3.8 4.0.14.1

4. Configure Avaya Communication Manager

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

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

4.1. Verify Avaya Communication Manager License

Log in to the System Access Terminal (SAT) to verify that the Avaya 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? y	
Access Security Gateway (ASG)? n	Authorization Codes? y	
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? y	Change COR by FAC? y	
ARS? y	Computer Telephony Adjunct Links? y	
ARS/AAR Partitioning? y	Cvg Of Calls Redirected Off-net? y	
ARS/AAR Dialing without FAC? y	DCS (Basic)? y	
ASAI Link Core Capabilities? y	DCS Call Coverage? y	
ASAI Link Plus Capabilities? y	DCS with Rerouting? y	
Async. Transfer Mode (ATM) PNC? n		

Navigate to **Page 10**, and verify that there are sufficient **IP_Soft** licenses.

display system-parameters customer-options		Page 10 of 11
MAXIMUM IP REGISTRATIONS BY PRODUCT ID		
Product ID	Rel. Limit	Used
AgentSC	: 12000	0
IP_API_A	: 12000	0
IP_API_B	: 100	0
IP_API_C	: 100	0
IP_Agent	: 12000	0
IP_IR_A	: 100	0
IP_Phone	: 12000	4
IP_ROMax	: 12000	0
IP_Soft	: 12000	0
IP_eCons	: 128	0
oneX_Comm	: 12000	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 17
      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:
      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: 27
```

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

```
change system-parameters features                                     Page 13 of 17
      FEATURE-RELATED SYSTEM PARAMETERS

CALL CENTER MISCELLANEOUS
      Clear Callr-info: next-call
      Allow Ringer-off with Auto-Answer? n
      Service Level Algorithm for SLM: actual
      Reporting for PC Non-Predictive Calls? n

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 15	Page 1 of 3
CTI LINK	
CTI Link: 15	
Extension: 24998	
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 22991		Page 1 of 4
STATION		
Extension: 22991	Lock Messages? n	BCC: 0
Type: 4620	Security Code: 22990	TN: 1
Port: S00147	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: 22991	
Speakerphone: 1-way	Mute Button Enabled? y	
Display Language: english		
Survivable GK Node Name:	Media Complex Ext:	
Survivable COR: internal	IP SoftPhone? y	
Survivable Trunk Dest? y		
	IP Video Softphone? n	

Repeat this section to administer the desired number of virtual softphones, using sequential extension numbers and the same security code for all virtual softphones. For the compliance testing, three virtual softphones were administered to allow for three simultaneous recordings, as shown below.

list station 22991 count 3									
STATIONS									
Ext/ Hunt-to	Port/ Type	Name/ Surv GK NN	Move	Room/ Data Ext	Cv1/ Cv2	COR/ COS	Cable/ Jack		
22991	S00150	VPI Virtual #1				1			
	4620		no			1			
22992	S00153	VPI Virtual #2				1			
	4620		no			1			
22993	S00156	VPI Virtual #3				1			
	4620		no			1			

5. Configure Avaya Application Enablement Services

This section provides the procedures for configuring Avaya AES. The procedures include the following areas:

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

5.1. Verify AES License

Access the AES OAM web-based interface by using the URL “https://ip-address:8443/MVAP” in an Internet browser window, where “ip-address” is the IP address of the AES server. The **Logon** screen is displayed as shown below. Log in with the appropriate credentials.

The image shows a web-based login interface for Avaya Application Enablement Services (AES). At the top, the Avaya logo is displayed in red. Below it, a red banner contains the text "Application Enablement Services" and a "Help" link with a question mark icon. The main area of the page is light gray and contains the text "Please log on." followed by 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.

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

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

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:

- CTI OAM Admin - Use CTI OAM Admin to manage all AE Services that you are licensed to use on the AE Server.
- User Management - Use User Management to manage AE Services users and AE Services user-related resources.
- Security Administration - Use Security Administration to manage Linux user accounts and configure Linux-PAM (Pluggable Authentication Modules for Linux).

Depending on your business requirements, these administrative domains can be served by one administrator for both domains, or a separate administrator for each domain.

The **Welcome to CTI OAM Screens** is displayed next. Verify that AES is licensed for the **DMCC Service** and the **TSAPI Service**, as shown below. If the services are not licensed, contact the Avaya sales team or business partner for a proper license file.

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

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

Welcome to CTI OAM Screens

[craft] Last login: Wed Feb 4 10:34:15 2009 from 192.168.199.73

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

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

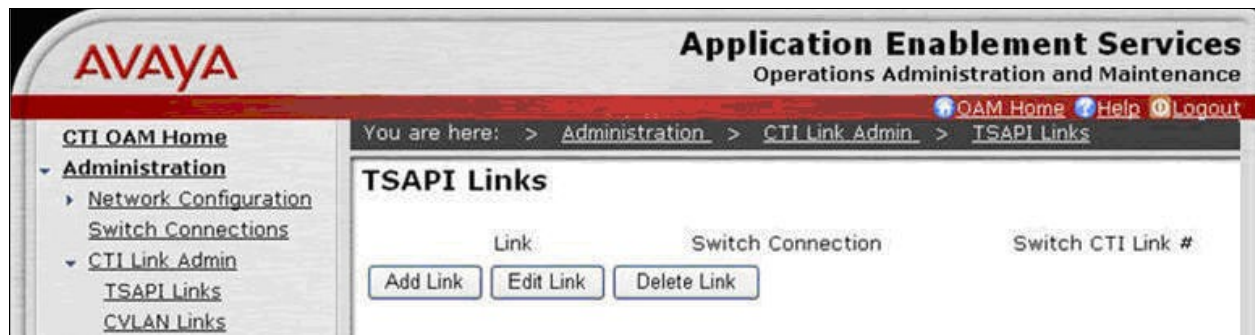
For status on actual services, please use [Status and Control](#).

License Information

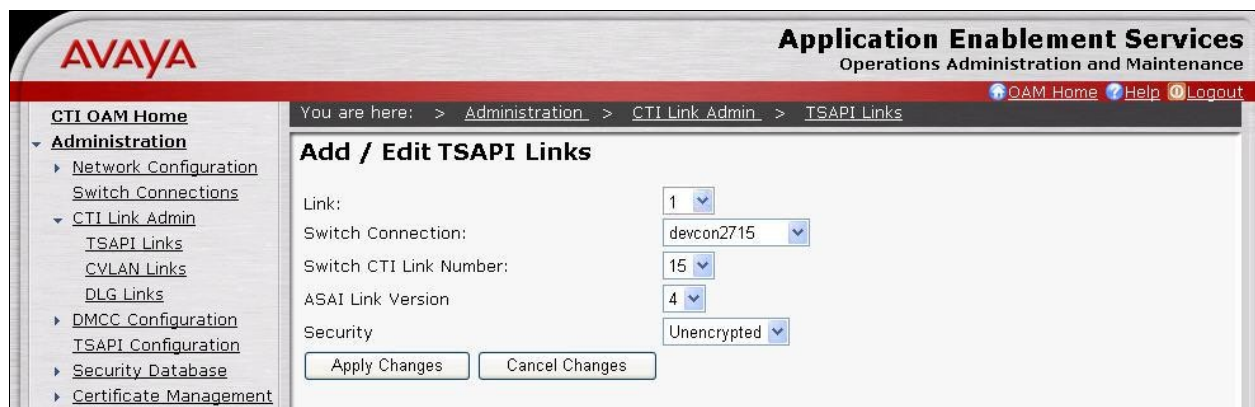
You are licensed to run Application Enablement (CTI) version 4.2.

5.2. 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**.



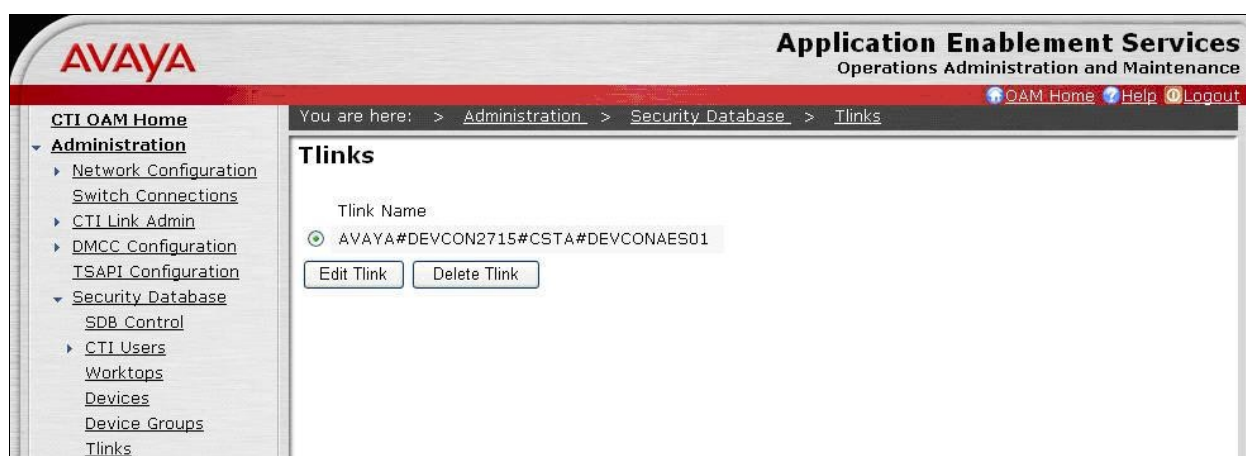
The **Add / Edit TSAPI Links** screen is displayed next. The **Link** field is only local to the AES server, and may be set to any available number. For **Switch Connection**, select the relevant switch connection from the drop-down list. In this case, the existing switch connection “devcon2715” is selected. 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**.



5.3. 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 by the AES server 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 the VPI Capture Call Logger.

In this case, the associated Tlink name is “AVAYA#DEVCON2715#CSTA#DEVCONAES01”. Note the use of the switch connection “DEVCON2715” from **Section 5.2** as part of the Tlink name.



5.4. Obtain 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 Avaya Communication Manager, in this case “devcon2715”, and select the corresponding radio button. Click **Edit H.323 Gatekeeper**.

The screenshot shows the Avaya Application Enablement Services (AES) interface. The left pane contains a navigation menu with the following items: CTI OAM Home, Administration (selected), Network Configuration, Switch Connections (selected), CTI Link Admin, DMCC Configuration, TSAPI Configuration, Security Database, Certificate Management, Dial Plan, Enterprise Directory, Host AA, SMS Configuration, WebLM Configuration, Bridged Alert Config, Status and Control, Maintenance, and Alarms. The main pane displays the 'Switch Connections' screen. At the top, it says 'You are here: > Administration > Switch Connections'. Below this is a table with two columns: 'Connection Name' and 'Number of Active Connections'. The table lists several connections, with 'devcon2715' selected (indicated by a green radio button). Below the table are four buttons: 'Add Connection', 'Edit Connection', 'Edit CLAN IPs', and 'Edit H.323 Gatekeeper' (which is highlighted). The 'Delete Connection' button is also present.

Connection Name	Number of Active Connections
<input type="radio"/> devcon11	0
<input type="radio"/> devcon13	1
<input type="radio"/> devcon14	0
<input type="radio"/> devcon26	2
<input checked="" type="radio"/> devcon2715	2
<input type="radio"/> devcon32	0
<input type="radio"/> devcon33	0
<input type="radio"/> procurementlab	0

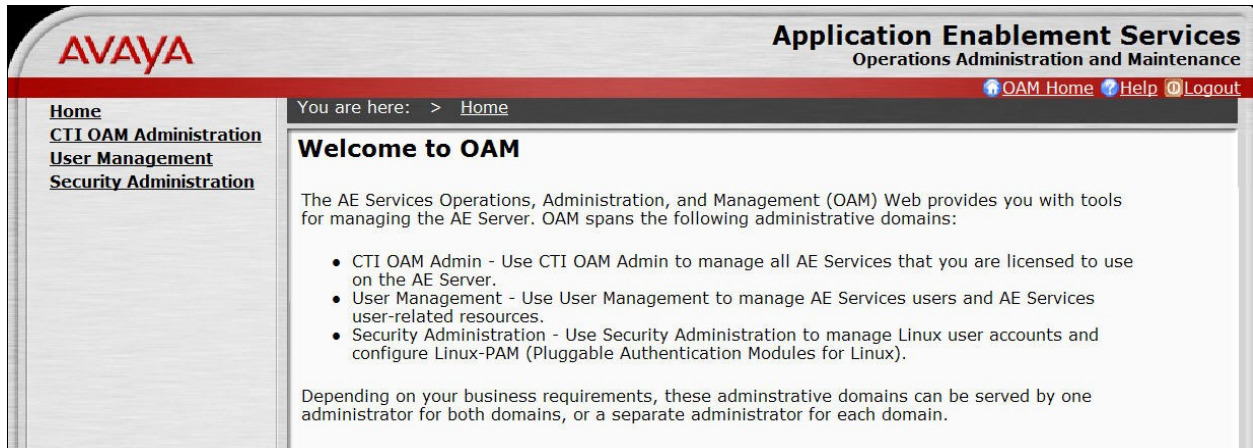
The **Edit H.323 Gatekeeper** screen is displayed. Note the IP address, for this value will be used later for configuring the VPI Capture Call Logger.

The screenshot shows the 'Edit H.323 Gatekeeper - devcon2715' screen. The left pane is the same as in the previous screenshot. The main pane displays the 'Edit H.323 Gatekeeper - devcon2715' screen. At the top, it says 'You are here: > Administration > Switch Connections'. Below this is a form with a 'Name or IP Address' field containing the value '192.45.100.84'. There is a 'Delete IP' button and an 'Add Name or IP' button.

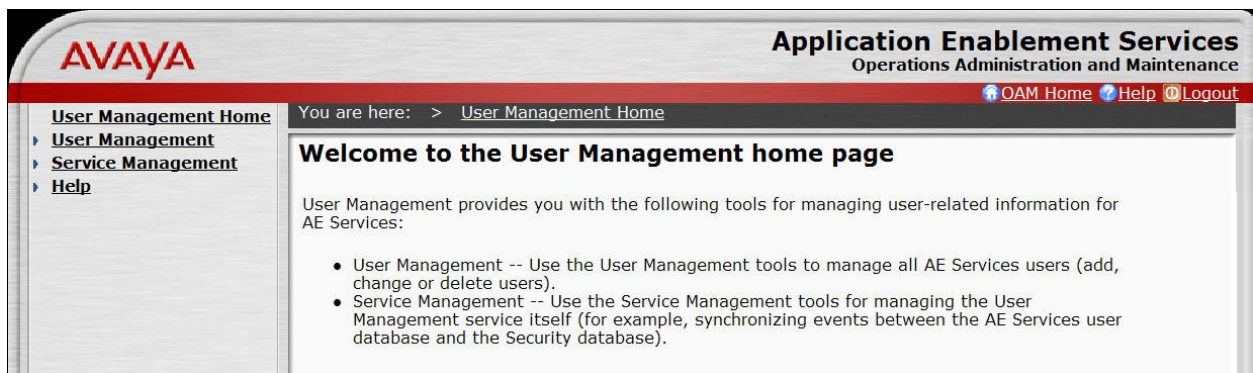
Name or IP Address
<input checked="" type="radio"/> 192.45.100.84

5.5. Administer VPI User

Administer a new user account for VPI, which is created from the AES 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

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

Csm Home

CT User

Department Number

5.6. Restart TSAPI Service

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

You are here: > Maintenance > Service Controller

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](#).

6. Configure VPI Capture Call Logger

This section provides the procedures for configuring the 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

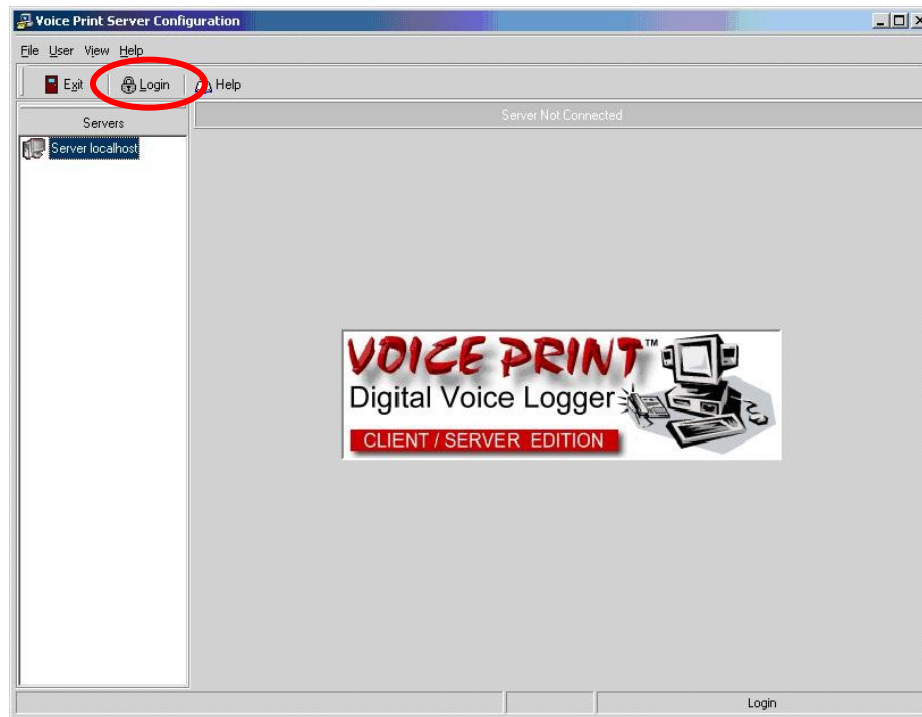
The configuration of the VPI Capture Call Logger is performed by VPI installers. The procedural steps are presented in these Application Notes for informational purposes.

6.1. Launch Voice Print Server Configuration

From the VPI Capture Call Logger server, double-click on the **VPConfig** 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 with 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 5.3**.
- **Tsapi Device:** The IP address of the Avaya AES server.
- **Application Username:** The VPI user credentials from **Section 5.5**.
- **Application Password:** The VPI user credentials from **Section 5.5**.
- **Switch Type:** “Avaya / Lucent”
- **ACD Groups:** The group 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:** The IP address of the Avaya AES server.
- **Switch (CLAN) Address:** The IP address of the H.323 gatekeeper from **Section 5.4**.

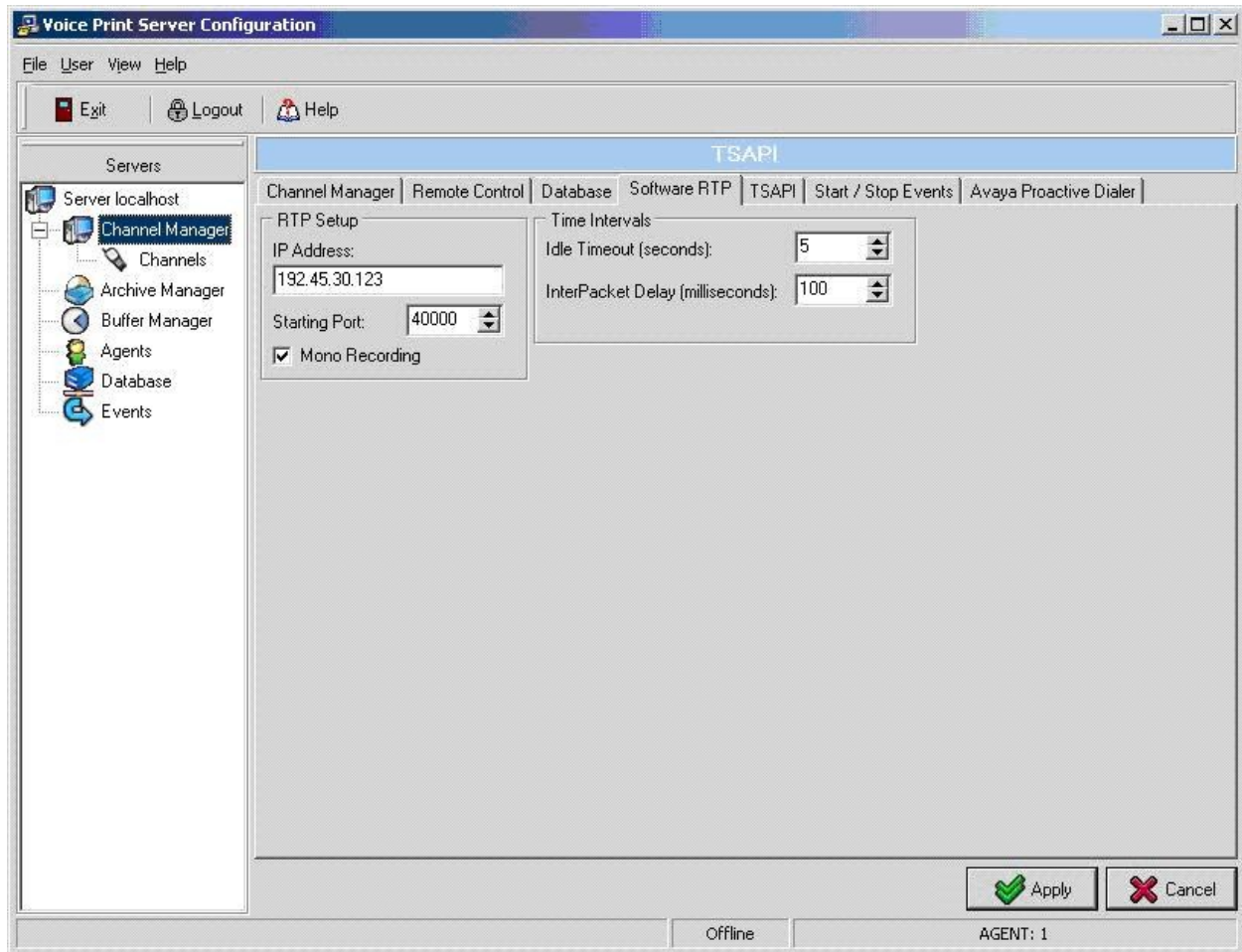
The screenshot shows the 'Voice Print Server Configuration' window with the 'TSAPI' tab selected. The left pane shows a tree view with 'Server localhost' expanded, and 'Channel Manager' selected. The main pane contains the following fields and options:

- TSapi Server Setup:**
 - Server 1 Machine: A#DEVCONAES01
 - Server 2 Machine: (empty)
 - Tsapi Device: 192.45.95.98
 - Application Username: vpi
 - Application Password: VPIvpi123#
 - ☐ Fail to VOX
 - ☐ Save All ANI
- General Options:**
 - ☒ Record All Agents
 - ☐ Lock Status Lights
 - ☐ Use Tsapi Time Stamp
- Additional Monitors:**
 - ACD Groups: 28800
 - Trunks: (empty)
- Service Observe Options:**
 - ☐ Monitor Agent Mode Change
 - Feature Code: (empty)
- CMAPI (AES) Options:**
 - ☒ Enable
 - First Extension: 22991
 - Extension Password: *****
 - Server IP Address: 192.45.95.98
 - Server Port: 4721
 - Switch (CLAN) Address: 192.45.100.84
- Switch Type:**
 - ☐ CSTA Compliant
 - ☒ Avaya / Lucent
 - ☐ Nortel Meridian
 - ☐ Aspect
 - ☐ NEC

At the bottom right, there are 'Apply' and 'Cancel' buttons. At the bottom center, there is an 'Offline' button. At the bottom right, there is a status bar showing 'AGENT: 1'.

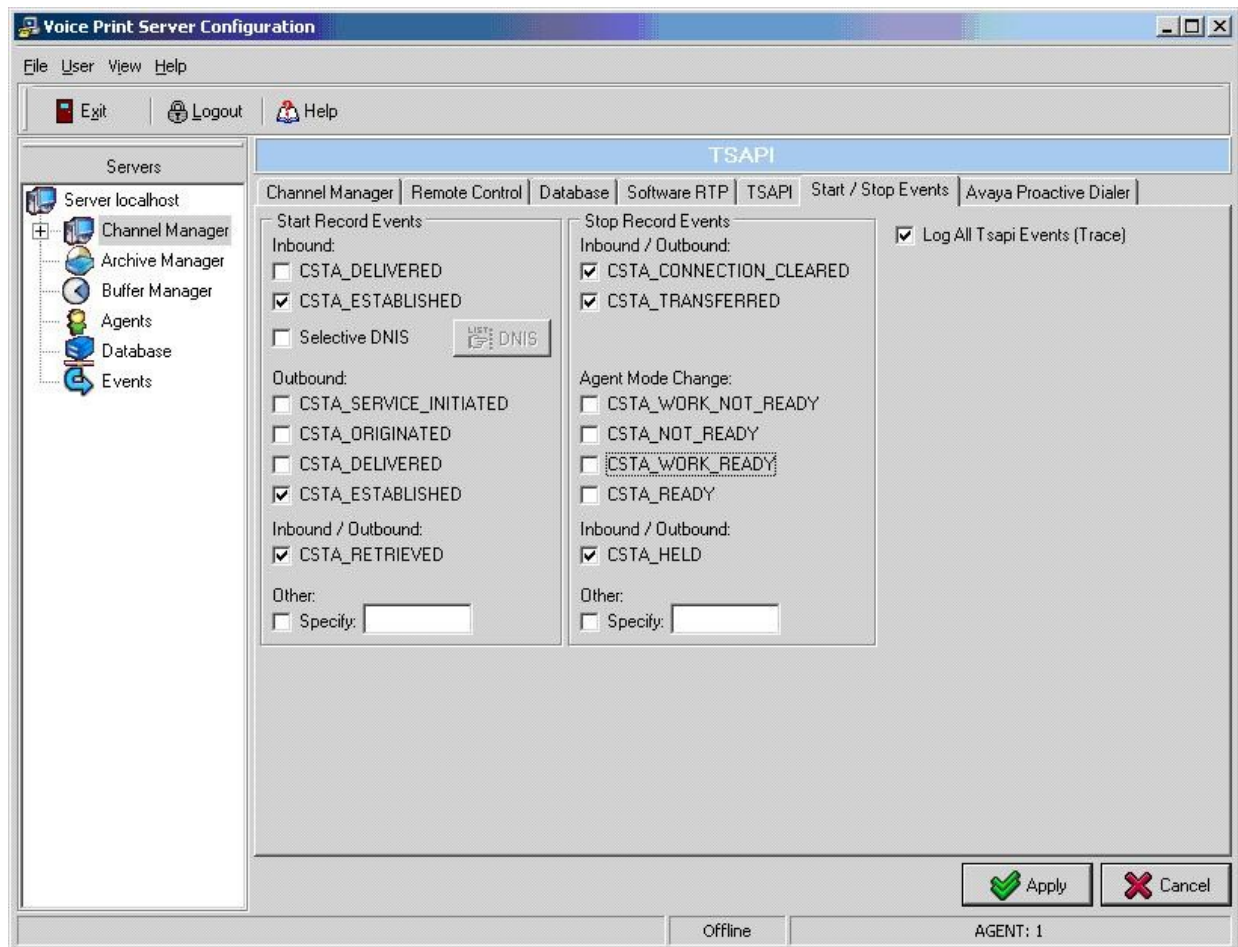
6.3. Administer Software RTP

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 “192.45.30.123”. 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**.

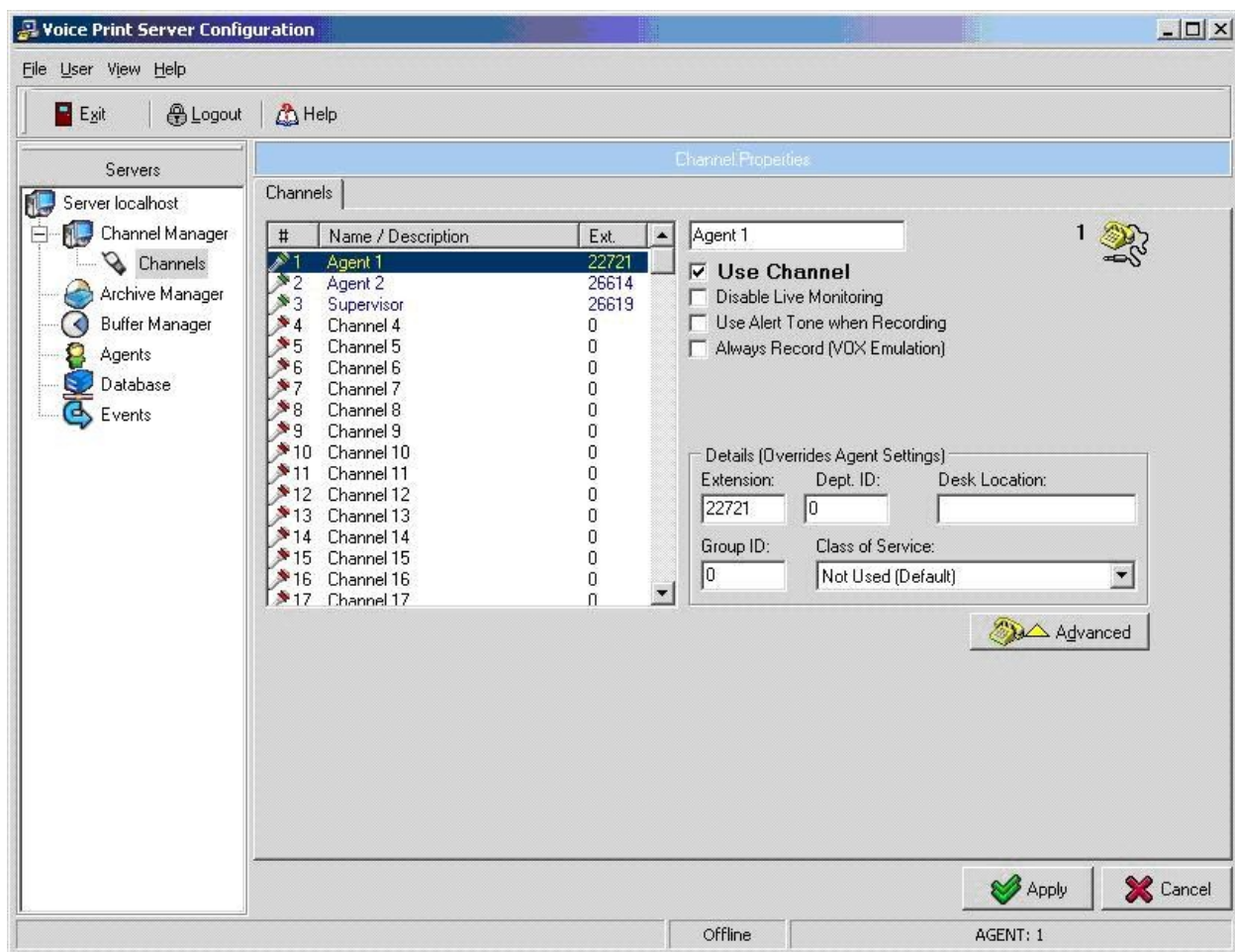


6.5. Administer Channels

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.

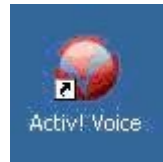
- **Name / Description:** A desired name for the station to be monitored.
- **Use Channel:** Check this field.
- **Extension:** The extension of a station to be monitored from **Section 2**.

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



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 (v4.2.3.8 b4.2.3.8), ID: 1

Home Channels Buffer Devices Archive Devices

Login Shutdown Event Log Server Status Environment

Server Support System Information

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	79% Free for use
Database Manager 1	
Firebird 2.0.1.12855	Collecting Data... Store @ 1:13:08 PM
Archive Manager 1	
Network Mass Storage	Sweep Session @ 1:13:31 PM
Archive Devices 1	
Archive Device 1, Media ID: 1	99.93% 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 Communication Manager using Avaya AES DMCC, and requests monitoring on the stations to be recorded using Avaya AES 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 the VPI Capture Call Logger.

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

All test cases were executed and passed.

8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Communication Manager, Avaya AES, and VPI Capture Call Logger.

8.1. Verify Avaya Communication Manager

On Avaya 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
15	4	no	devconaes01	established	23	24

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/ Orig Port	Set Type	Product ID	Prod Rel	Station IP Address	Net Gatekeeper Rgn IP Address	TCP Skt
22721		9630	IP_Phone	3.0000	192.45.30.220	7 192.45.100.84	y
22991		4620	IP_API_A	3.2040	192.45.95.98	7 192.45.100.84	y
22992		4620	IP_API_A	3.2040	192.45.95.98	7 192.45.100.84	y
22993		4620	IP_API_A	3.2040	192.45.95.98	7 192.45.100.84	y
26614		9630	IP_Phone	3.0000	192.45.30.221	7 192.45.100.84	y
26619		9630	IP_Phone	3.0000	192.45.30.141	7 192.45.100.84	y

8.2. Verify Avaya Application Enablement Services

On Avaya AES, 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 5.2**, as shown below.

The screenshot shows the Avaya AES web interface. The left navigation pane includes links for CTI OAM Home, Administration, Status and Control (with sub-links for Switch Conn Summary, Services Summary, Maintenance, Alarms, Logs, Utilities, and Help), and Maintenance. The main content area is titled 'Application Enablement Services' and 'Operations Administration and Maintenance'. A breadcrumb trail indicates the current location: 'You are here: > Status and Control > Services Summary'. The 'TSAPI Link Details' section displays 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	devcon2715	15	Talking	2009-03-13 07:07:44.0	Online	15	29	23

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 5.5**, and that the **# of Associated Devices** column reflects the number of monitored stations from **Section 2**.

The screenshot shows the Avaya AES web interface. The left navigation pane is the same as in the previous screenshot. The main content area is titled 'Application Enablement Services' and 'Operations Administration and Maintenance'. A breadcrumb trail indicates the current location: 'You are here: > Status and Control > Services Summary'. The 'DMCC Service Summary - Session Summary' section displays session summary information:

Session Summary [Device Summary](#)
Generated on Mon, Mar 30, 2009 10:59:49 AM EDT

Service Uptime: 32 days, 0:42 hours
Number of Active Sessions: 1
Number of Sessions Created Since Service Boot: 2
Number of Existing Devices: 3
Number of Devices Created Since Service Boot: 6

Session ID	User	Application	Far-end Identifier	Connection Type	# of Associated Devices
<input type="checkbox"/> 4E0CBB0B1833B0949 010CEE8DCBBD7DD-1	vpi	VoicePrintServer	192.45.30.123	XML Unencrypted	3

Buttons:

8.3. Verify VPI Capture Call Logger

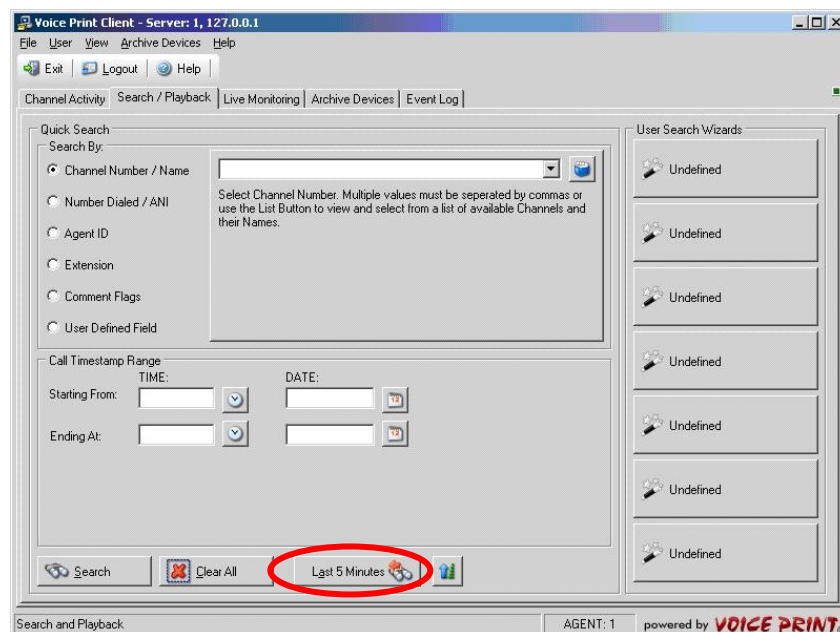
Log an agent in to the Skill group to handle and complete an ACD call. From the PC running the VPI Client Playback application, double-click on the **VP Playback Client** icon shown below, which is created as part of installation.



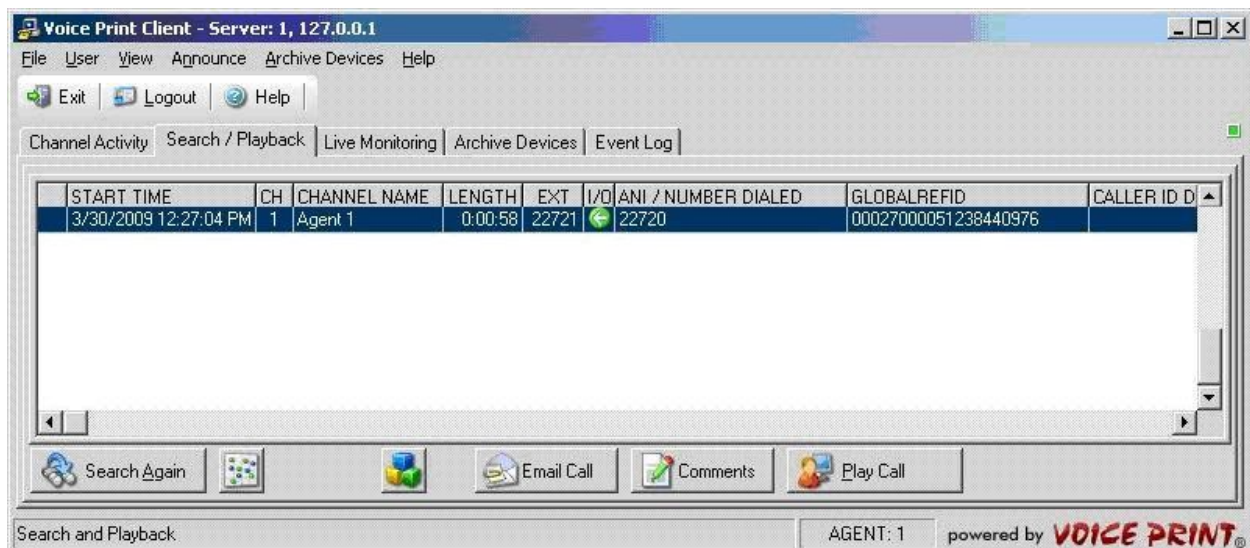
The **Voice Print Login** screen is displayed. Retain the default value in the **Connect to** field, and enter the appropriate credentials to log in.



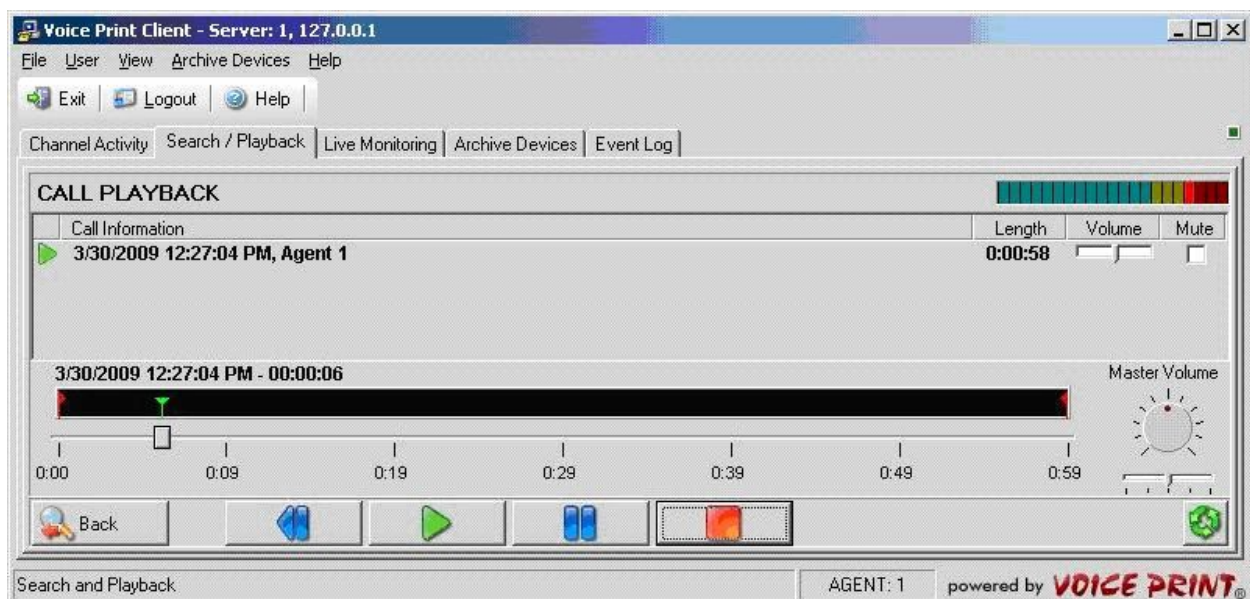
The **Voice Print Client** screen is displayed. Select the **Search / Playback** tab. Retain the default values, and click on **Last 5 Minutes**. If more than five minutes have elapsed since the call, then select the appropriate values for **Call Timestamp Range** and click **Search**.



The **Voice Print Client** 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 Communication Manager using Avaya AES. All feature and serviceability test cases were completed.

10. Additional References

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

1. *Administrator Guide for Avaya Communication Manager*, Document 03-300509, Issue 4.0, Release 5.0, January 2008, 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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