



Application Notes for VPI Capture Call Logger with Avaya Proactive Contact with PG230RM and 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 Proactive Contact with PG230RM and 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 Event Services interface from Avaya Proactive Contact and the Telephony Services Application Programmer Interface from Avaya Application Enablement Services to obtain information on agent states and calls, 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 agents 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 Proactive Contact with PG230RM and 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 Event Services interface from Avaya Proactive Contact and the Telephony Services Application Programmer Interface (TSAPI) from Avaya AES to obtain information on agent states and calls, 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 agents on Avaya Communication Manager for call recording.

The Avaya Proactive Contact Event Services interface and the Avaya AES TSAPI interface are used by VPI Capture Call Logger to monitor the states and calls for the agents. When the agent logs into Avaya Proactive Contact or reacquired by Avaya Proactive Contact to service calls, Avaya Proactive Contact establishes a dedicated audio connection to the agent using the E1/T1 trunk between Avaya Proactive Contact and Avaya Communication Manager. The VPI Capture Call Logger is informed of the call from the Avaya AES TSAPI interface, and uses the Single Step Conference feature from the Avaya AES DMCC with call control interface to add a virtual IP softphone to the dedicated audio connection. The dedicated audio connection to the agent stays in place until the agent is released or logged out.

When a call is delivered to the agent from Avaya Proactive Contact, the VPI Capture Call Logger is informed of the call via call events from the Avaya Proactive Contact Event Services interface, and starts the call recording by using the Media Control Events from the Avaya DMCC interface to obtain the media from the connected virtual IP softphone. The Avaya Proactive Contact Event Services call events are also used to determine when to stop the call recordings.

In the event that the agent is released by Avaya Proactive Contact to handle an inbound call under the agent blending scenario, then the VPI Capture Call Logger uses the event reports from the Avaya AES TSAPI interface to trigger the single step conference operation of a virtual IP softphone with the established inbound call.

This compliance test covered the recording of calls using the Avaya Proactive Contact with PG230RM deployment option. The results should be applicable to the Avaya Proactive Contact Standalone deployment option.

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 real-time event reports from Avaya AES TSAPI.
- Handling of real-time agent states and call events from Avaya Proactive Contact.
- 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, agent drop, customer drop, hold, reconnect, simultaneous calls, conference, transfer, unsupervised forward work, agent blending, and call blending scenarios.

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 Proactive Contact, 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 extensions “22721, 26614, and 26619” on Avaya Communication Manager. Extensions “22721” and “26614” are the physical telephone extensions for the agents, and extension “26619” is the physical telephone extension for the supervisor.

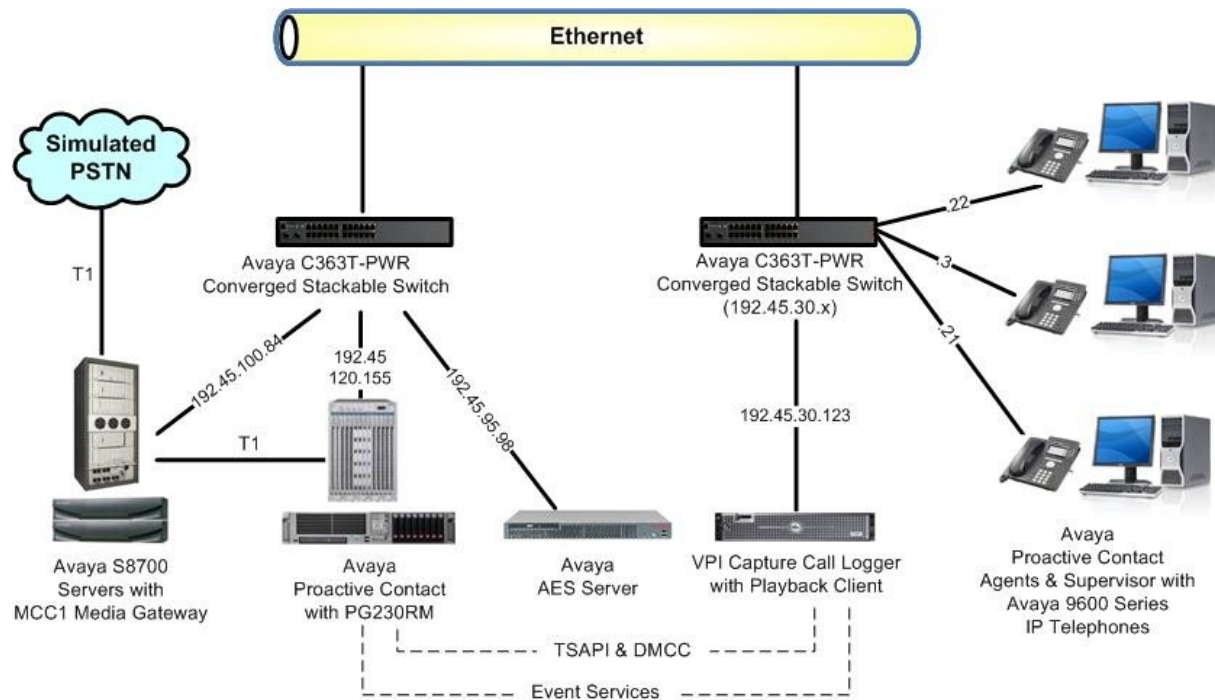


Figure 1: VPI Capture Call Logger with Avaya Proactive Contact with PG230RM and Avaya AES

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 PackTN2302AP IP Media Processor	HW01 FW024 HW13 FW116
Avaya Application Enablement Services	4.2
Avaya Proactive Contact with PG230RM	4.0.1
Avaya Proactive Contact Agent	4.0.1
Avaya Proactive Contact Supervisor	4.0.1
Avaya 9600 Series IP Telephones (H.323)	3.0
VPI Capture Call Logger <ul style="list-style-type: none">VP ConfigCapturePlayback Client	2.8.4.6 4.2.4.6 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
```

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	
Speakerphone: 1-way	Message Lamp Ext: 22991	
Display Language: english	Mute Button Enabled? y	
Survivable GK Node Name:		
Survivable COR: internal	Media Complex Ext:	
Survivable Trunk Dest? y	IP SoftPhone? 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

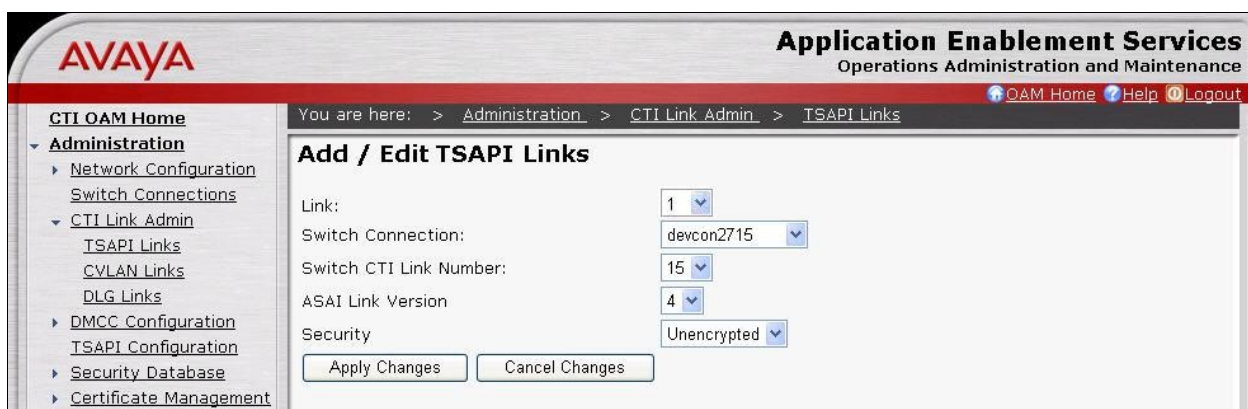
You are licensed to run Application Enablement (CTI) version 4.2.

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**.



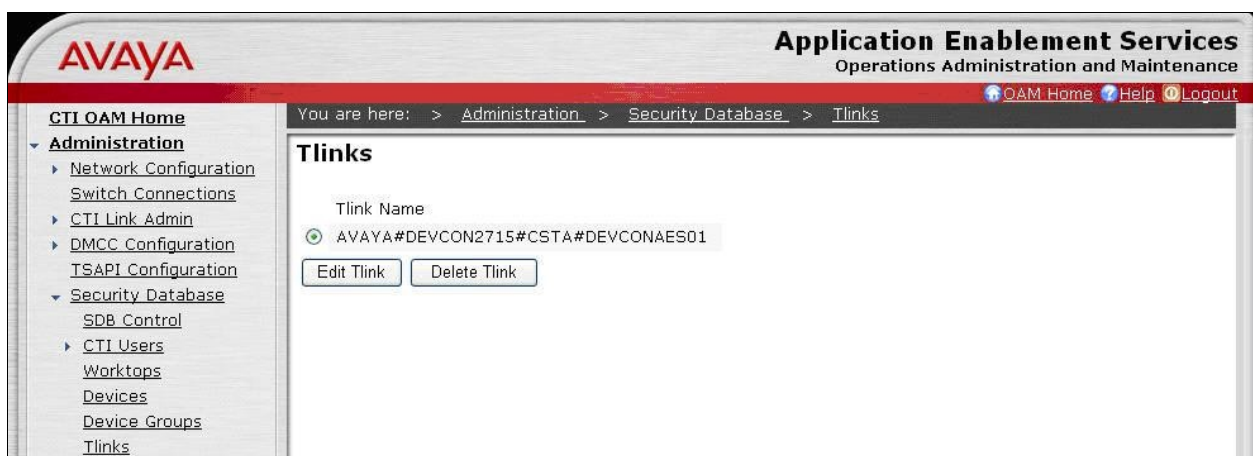
The **Add / Edit TSAPI Links** screen is displayed next. The **Link** field is only local to the AES server, and may be set to any available number. For **Switch Connection**, select the relevant switch connection from the drop-down list. In this case, the existing switch connection “devcon2715” is selected.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

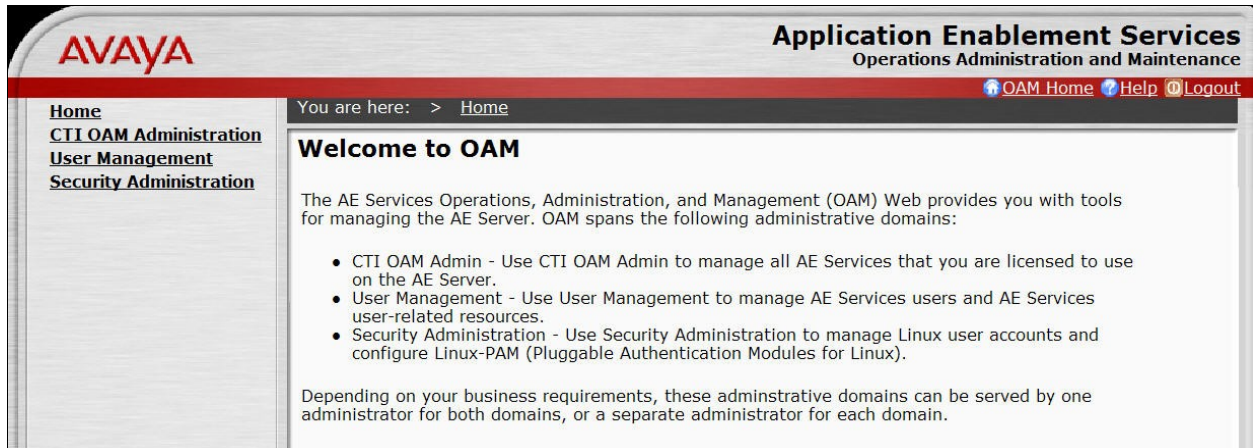
The **Edit H.323 Gatekeeper** screen is displayed. Note the IP address, for this value will be used later for configuring the VPI Capture Call Logger.

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.

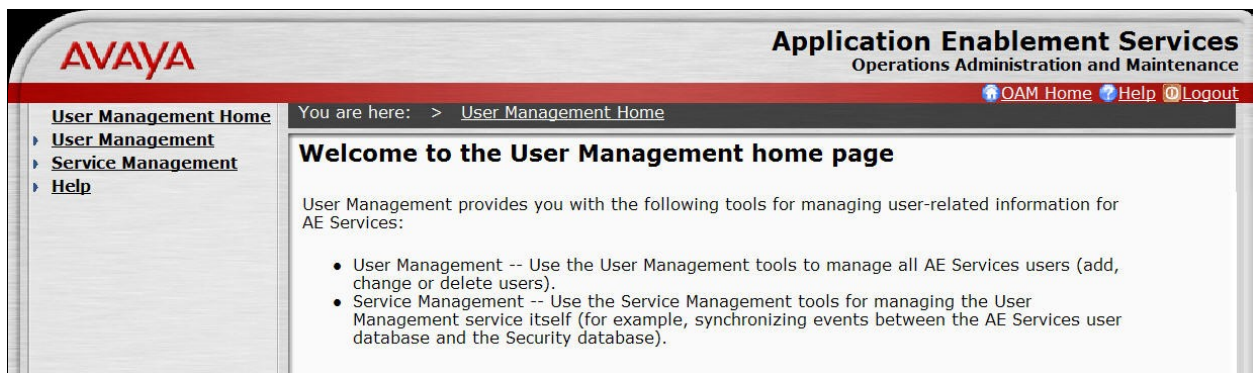
Name or IP Address
<input checked="" type="radio"/> 192.45.100.84

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 Avaya Proactive Contact

This section provides the procedures for configuring Avaya Proactive Contact.

6.1. Obtain Host Name

Log in to the Linux shell of the Avaya Proactive Contact server. Use the “uname -a” command to obtain the host name, which will be used later for configuring VPI Capture Call Logger. In the compliance testing, the host name of the Avaya Proactive Contact server is “lzpds4b”, as shown below.

```
$ uname -a
Linux lzpds4b 2.6.9-42.0.10.ELsmp #1 SMP Fri Feb 16 17:17:21 EST 2007 i686 athlon i386
GNU/Linux
LZPDS4B(admin)@/opt/avaya/pds [4]
$
```

7. 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 software RTP
- Administer TSAPI
- Administer start/stop events
- Administer proactive dialer
- Administer channels
- Launch Digital Call Logger

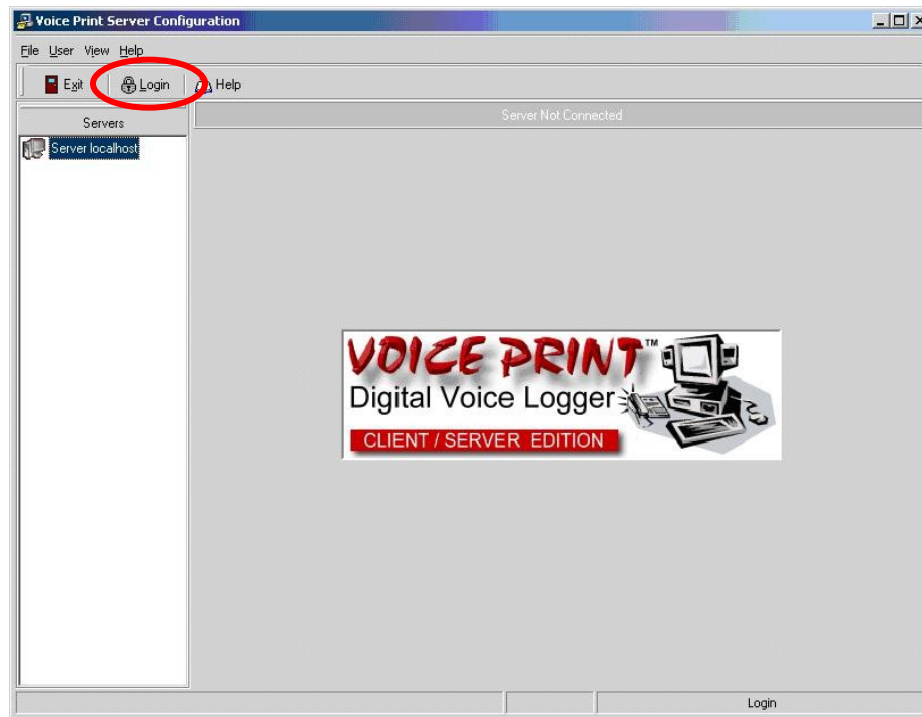
The configuration of the VPI Capture Call Logger is performed by VPI installers. The procedural steps are presented in these Application Notes for informational purposes.

7.1. 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.

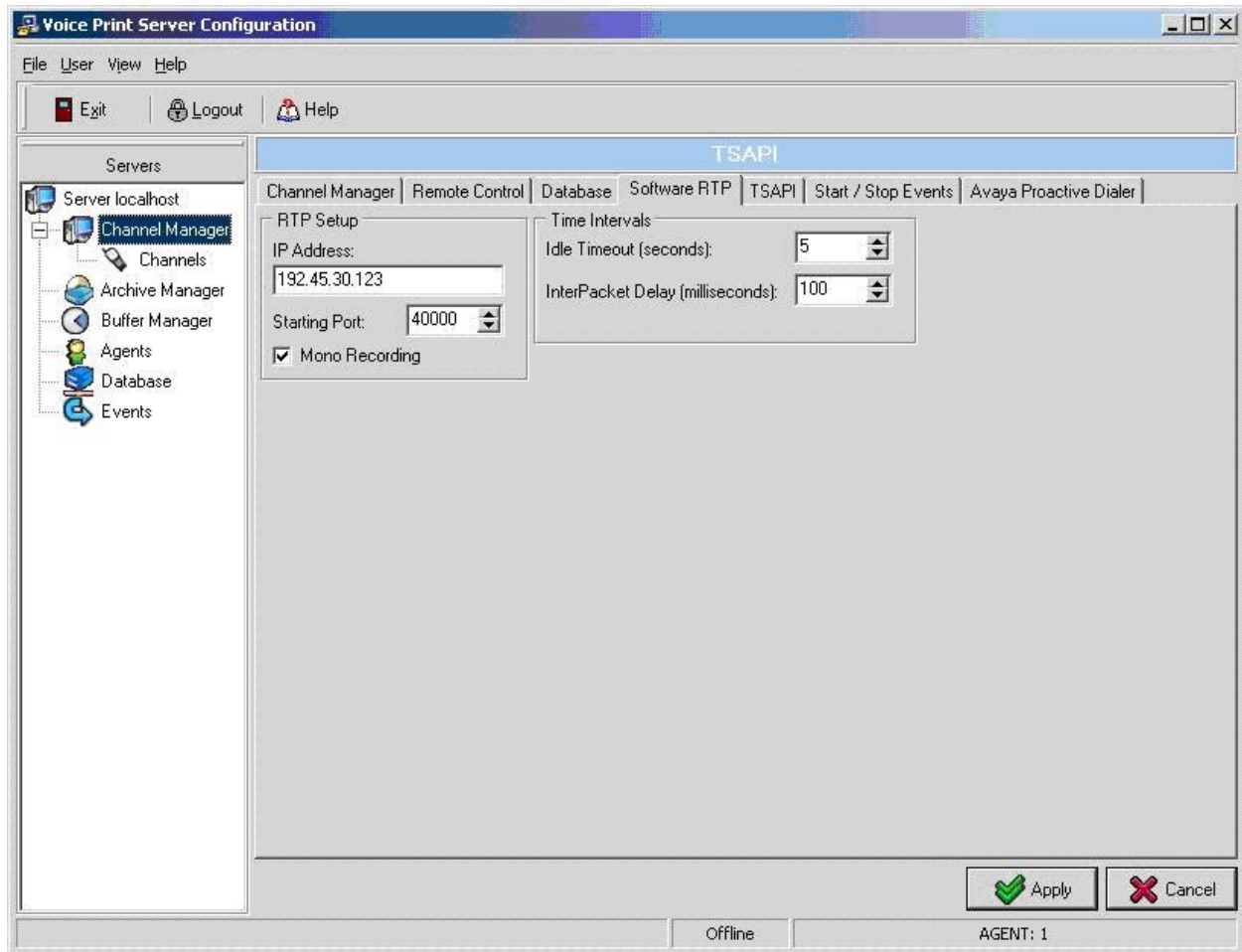


The **Voice Print Login** screen is displayed next. Log in with the appropriate credentials.



7.2. 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**.



7.3. 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”
- **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:

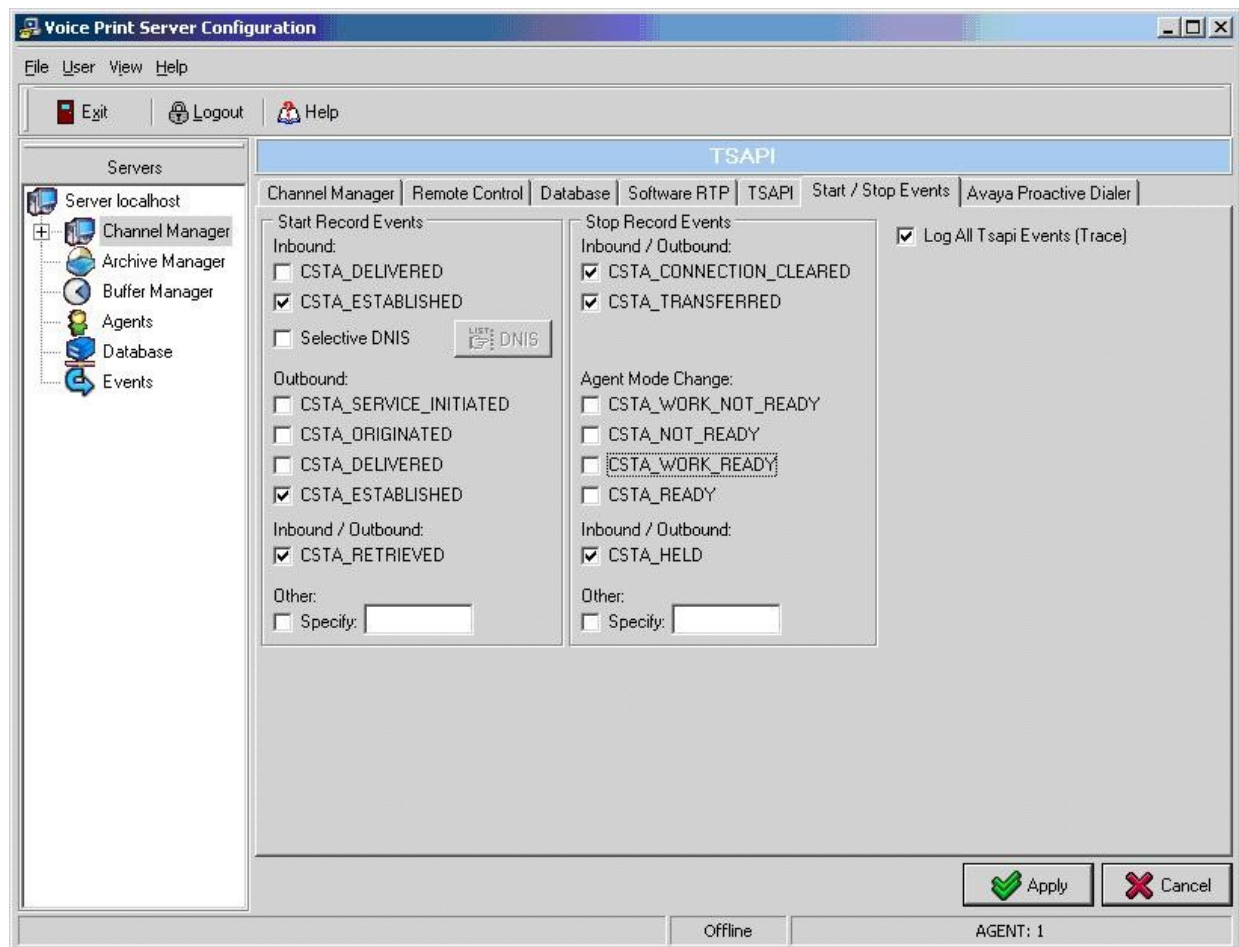
- TSAPI Server Setup:**
 - Server 1 Machine: A#DEVCONAES01
 - Server 2 Machine: (empty)
 - Tsapi Device: 192.45.95.98
 - Application Username: vpi
 - Application Password: VPIvpi123#
 - ☐ Fail to VOX
 - ☐ Save All ANI
 - Switch Type:
 - ☐ CSTA Compliant
 - ☒ Avaya / Lucent
 - ☐ Nortel Meridian
 - ☐ Aspect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

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'.

7.4. 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 from the TSAPI events. 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**.

Note that there is no comparable configuration for triggering of call recordings from the Event Services events.



7.5. Administer Proactive Dialer

Select the **Avaya Proactive Dialer** tab in the right pane. Enter the following values for the specified fields, and retain the default values for the remaining fields. Click **Apply**.

- **Enable:** Check this field.
- **Log All Events (Trace):** Checked during compliance testing for verification purposes.
- **Naming Service Host:** The host name of Avaya Proactive Contact from **Section 6.1**.
- **Port:** “23201”
- **Secure Connection (SSL):** Check this field.
- **ORB Service Config:** The location of the installed CORBA_SV.CON file.
- **Local Host:** The IP address of the VPI Capture Call Logger.
- **Port:** “8100”
- **Span:** “1”
- **Dialer:** The host name of Avaya Proactive Contact from **Section 6.1**.
- **Username:** Name of the Avaya Proactive Contact Event Service client.
- **Password:** Password of the Avaya Proactive Contact Event Service client.
- **Headset Ext Is:** “Extension”

The screenshot shows the 'Voice Print Server Configuration' window with the 'TSAPI' tab selected. Within the 'TSAPI' tab, the 'Avaya Proactive Dialer' sub-tab is active. The configuration fields are as follows:

- Avaya Proactive Dialer Options:**
 - ☒ Enable
 - ☒ Log All Events (Trace)
 - ☐ Log All CORBA ORB Events (Deep Trace)
- Naming Service:**
 - Host: lzpds4b
 - Port: 23201
 - ☒ Secure Connection (SSL)
 - IOR File: (empty)
 - ORB Service Config: C:\CLOGGER\CERTIFIC\CORBA_SV.CON
- Local Host:**
 - Host: 192.45.30.123
 - Port: 8100
 - Span: 1
- Dialer Options:**
 - Dialer: lzpds4b
 - Idle Interval: 30 secs
 - Username: client1
 - Keepalive Interval: 5 secs
 - Password: server1
 - Headset Ext Is: Extension

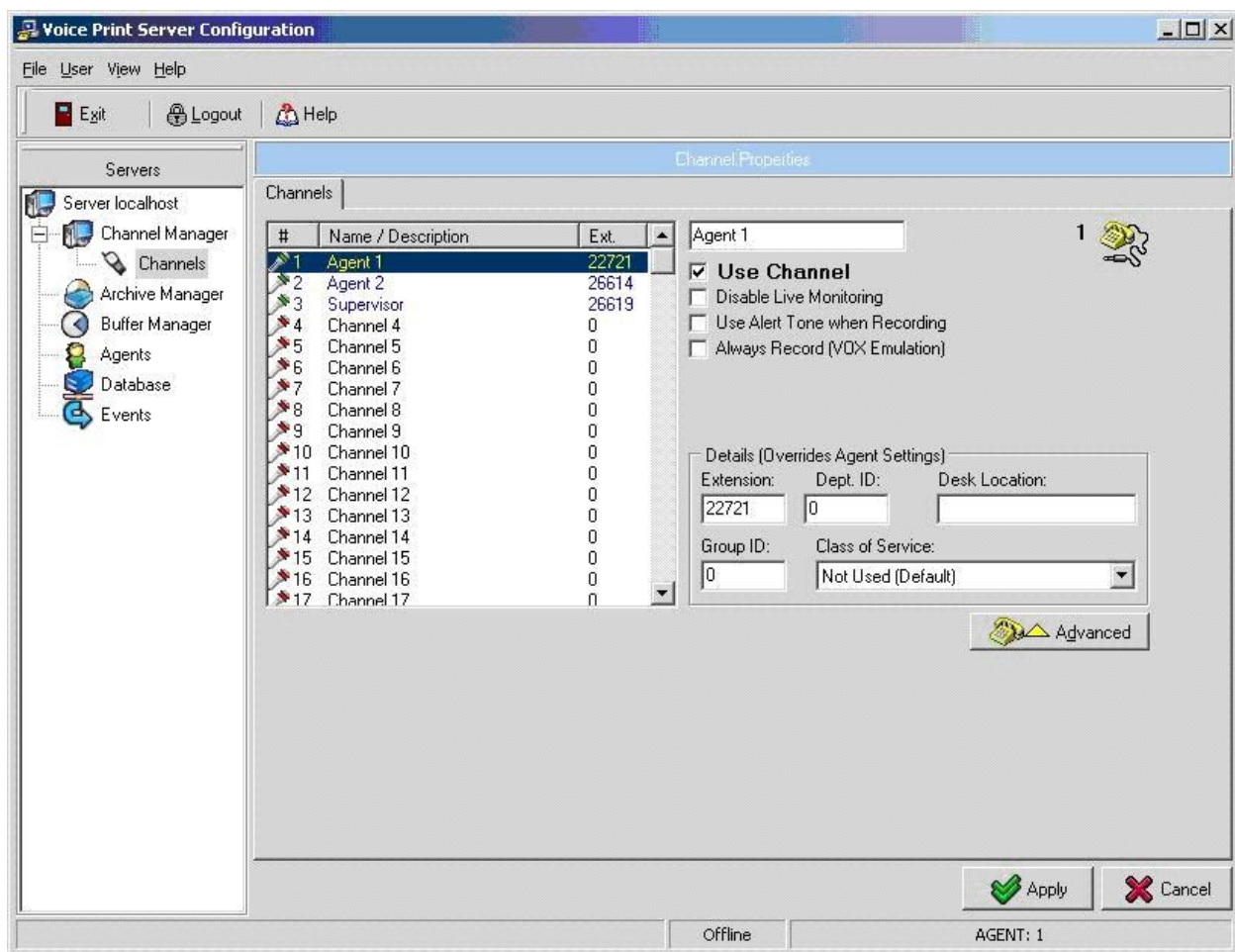
The status bar at the bottom shows 'Offline' and 'AGENT: 1'.

7.6. 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.

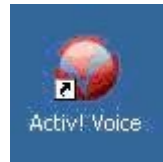
- **Name / Description:** A desired name for the extension to be monitored.
- **Use Channel:** Check this field.
- **Extension:** An extension to be monitored from **Section 2**.

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

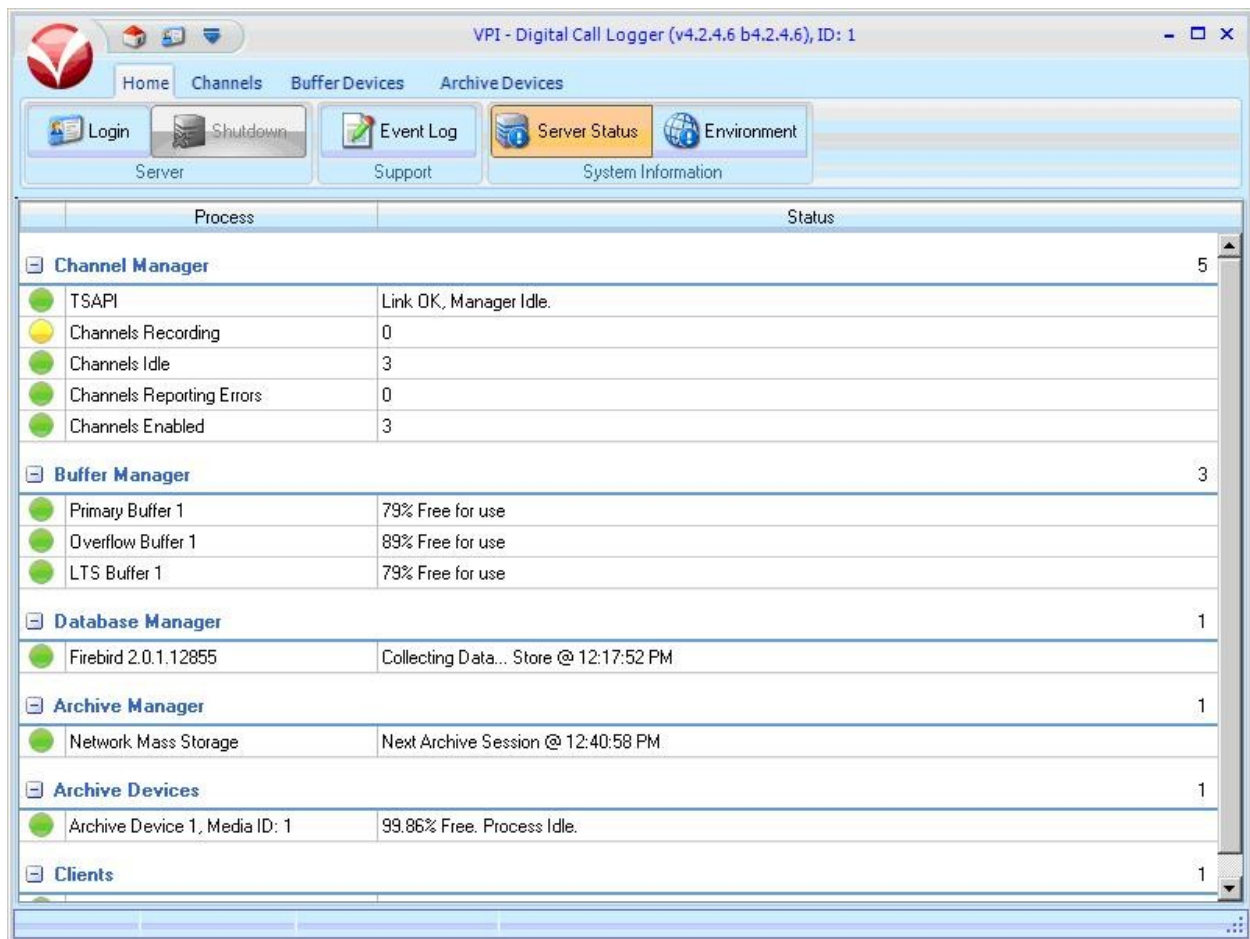


7.7. Launch Digital Call Logger

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.



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 @ 12:17:52 PM
Archive Manager 1	
Network Mass Storage	Next Archive Session @ 12:40:58 PM
Archive Devices 1	
Archive Device 1, Media ID: 1	99.86% Free. Process Idle.
Clients 1	

8. 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, requests monitoring on the extensions using Avaya AES TSAPI, and obtains the current status on Avaya Proactive Contact using Event Services. Upon notification of agents logged in and acquired by Avaya Proactive Contact, then VPI Capture Call Logger uses Avaya AES DMCC with call control to join virtual IP softphones to the dedicated audio connections between the agents and Avaya Proactive Contact.

For the manual part of the testing, each call was handled manually on the agent with generation of unique audio content for the recordings. Necessary user actions such as hold and reconnect were performed from the Avaya Proactive Contact Agent application 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.

9. Verification Steps

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

9.1. 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 Rgn	Gatekeeper 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

9.2. Verify Avaya Proactive Contact

Log in to the Linux shell of the Avaya Proactive Contact server, and issue the “netstat | grep enserver” command. Verify that there is an entry showing an **ESTABLISHED** connection between the Avaya Proactive Contact Event Server and the VPI Capture Call Logger, as shown below.

tcp	0	0	lzpds4b:enserver_ssl	192.45.30.123:3120	ESTABLISHED
tcp	0	0	lzpds4b:enserver_ssl	lzpds4b:41781	ESTABLISHED

9.3. 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 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 Help. The main content area is titled 'Application Enablement Services - Operations Administration and Maintenance'. Below the breadcrumb '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	2009-04-09 16:05:38.0	Online	15	27	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 5.5**, and that the **# of Associated Devices** column reflects the number of monitored extensions from **Section 2**.

The screenshot shows the Avaya AES interface. The left navigation pane is the same as in the previous screenshot. The main content area is titled 'Application Enablement Services - Operations Administration and Maintenance'. Below the breadcrumb 'You are here: > Status and Control > Services Summary', the 'DMCC Service Summary - Session Summary' section is displayed. It includes a 'Session Summary' link and a 'Device Summary' link. The text 'Generated on Tue, Apr 28, 2009 01:15:13 PM EDT' is shown. The following statistics are listed:

- Service Uptime: 28 days, 21:54 hours
- Number of Active Sessions: 1
- Number of Sessions Created Since Service Boot: 56
- Number of Existing Devices: 3
- Number of Devices Created Since Service Boot: 168

Below the statistics is a table with the following data:

Session ID	User	Application	Far-end Identifier	Connection Type	# of Associated Devices
5281BF69B488D2047 9AD539C111D6DDE-66	vpi	VoicePrintServer	192.45.30.123	XML Unencrypted	3

At the bottom of the table, there are two buttons: 'Terminate Sessions' and 'Show Terminated Sessions'.

9.4. Verify VPI Capture Call Logger

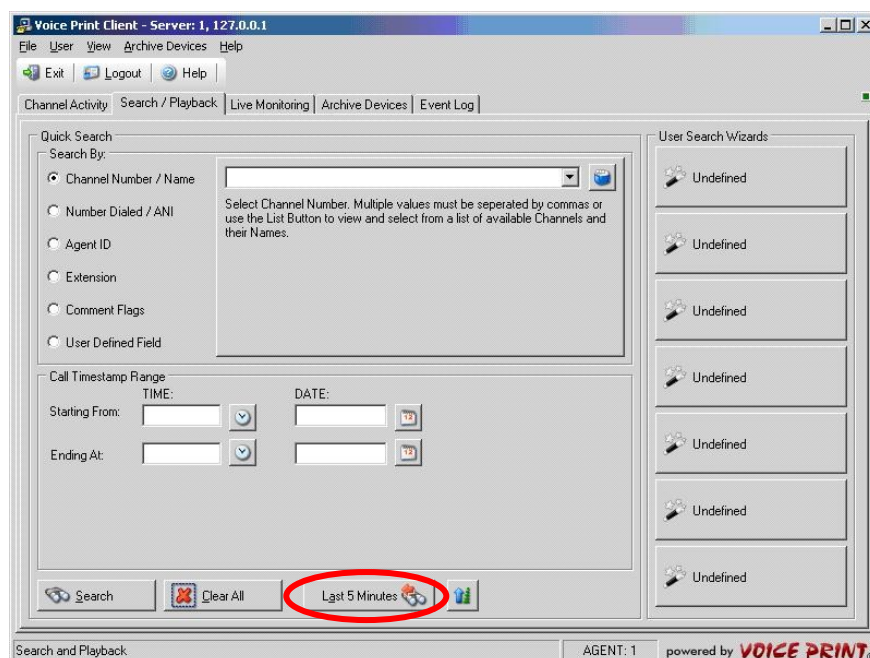
Start a job on Avaya Proactive Contact, and log an agent in to handle and complete the call. From the PC running the VPI Client Playback application, double-click on the **VP Playback Client** icon shown below, which is created as part of installation.



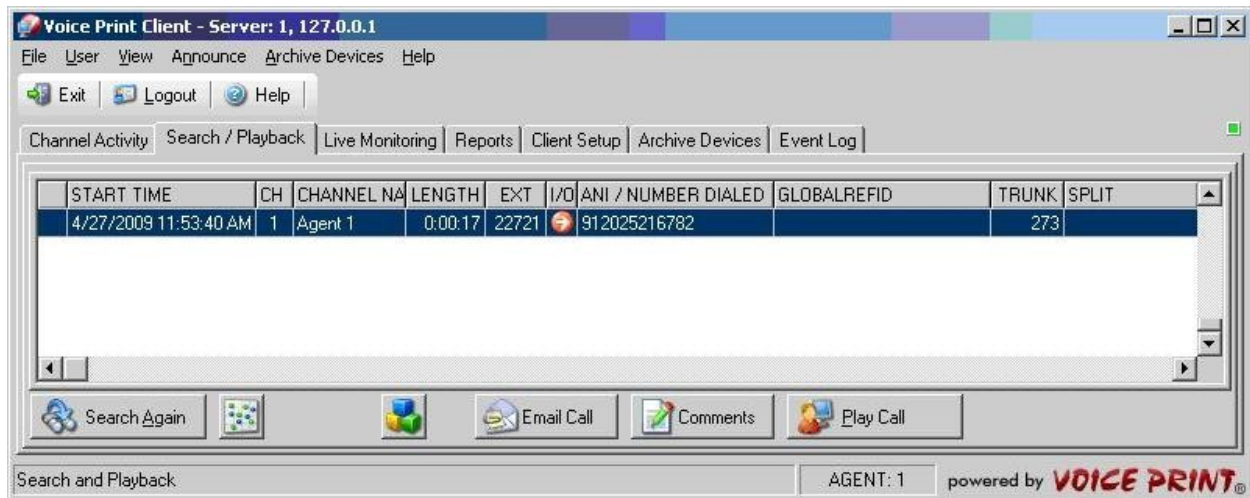
The **Voice Print Login** screen is displayed. Retain the default value in the **Connect to** field, and enter the appropriate credentials to log in.



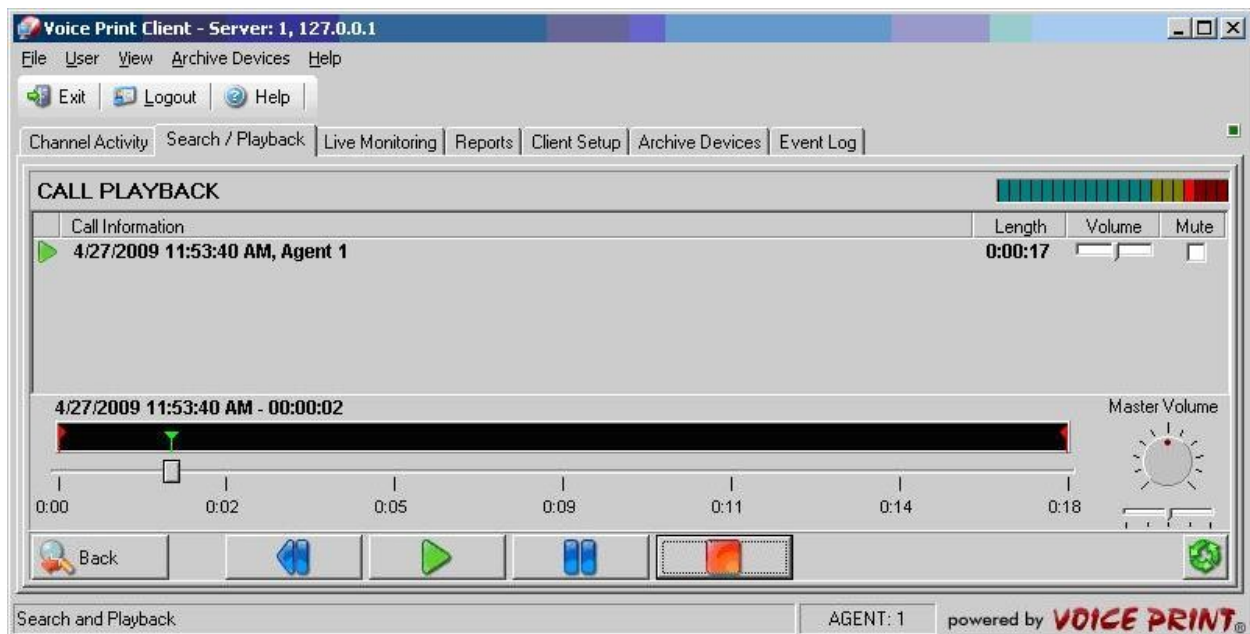
The **Voice Print Client** screen is displayed. Select the **Search / Playback** tab. Retain the default values, and click on **Last 5 Minutes**.



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.



10. Conclusion

These Application Notes describe the configuration steps required for VPI Capture Call Logger to successfully interoperate with Avaya Proactive Contact with PG230RM and Avaya AES. All feature and serviceability test cases were completed.

11. 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. *Avaya Proactive Contact Release 4.0 Administering Avaya Proactive Contact*, January 2008, available at <http://support.avaya.com>.
4. *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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