



Avaya Solution & Interoperability Test Lab

Application Notes for VPI EMPOWER Suite with Avaya Proactive Contact 5.1 with CTI and Avaya Aura® Application Enablement Services 6.3 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Voice Print International EMPOWER Suite to interoperate with Avaya Proactive Contact 5.1 with CTI and Avaya Aura® Application Enablement Services 6.3. Voice Print International EMPOWER Suite provides solutions for interaction recording, quality monitoring, performance management, and eLearning. The compliance testing focused on the recording solution.

In the testing, Voice Print International EMPOWER Suite used the Event Services interface from Avaya Proactive Contact and the Telephony Services Application Programmer Interface from Avaya Aura® Application Enablement Services to obtain information on calls and agent states, and used the Multiple Registration feature from the Avaya Aura® Application Enablement Services Device, Media, and Call Control interface to capture the media associated with the monitored agent 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) EMPOWER Suite to interoperate with Avaya Proactive Contact 5.1 with CTI and Avaya Aura® Application Enablement Services 6.3. Voice Print International EMPOWER Suite provides solutions for interaction recording, quality monitoring, performance management, and eLearning. The compliance testing focused on the recording solution.

In the testing, Voice Print International EMPOWER Suite used the Event Services interface from Avaya Proactive Contact and the Telephony Services Application Programmer Interface (TSAPI) from Avaya Aura® Application Enablement Services to obtain information on calls and agent states, and used the Multiple Registration feature from the Avaya Aura® Application Enablement Services Device, Media, and Call Control (DMCC) interface to capture the media associated with the monitored agent stations for call recording.

The Event Services and TSAPI interfaces are used by VPI EMPOWER Suite to monitor the calls and agent states, and the DMCC interface is used by VPI EMPOWER Suite to register a virtual IP softphone against each monitored agent station to pick up the media for call recording. When there is an active call at the monitored agent station, VPI EMPOWER Suite is informed of the call via event reports from the Event Services and/or TSAPI interfaces, and starts the call recording by using the media from the associated virtual IP softphone. The Event Services and/or TSAPI event reports are also used to determine when to stop the call recordings.

This compliance test covered the recording of calls using the Avaya Proactive Contact with CTI deployment option.

2. General Test Approach and Test Results

The feature test cases were performed both automatically and manually. Upon start of the EMPOWER Suite recording application, the application automatically requests monitoring on the agent stations to be recorded using TSAPI, registers the associated virtual IP softphones using DMCC, and obtains current status from Proactive Contact using Event Services.

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 EMPOWER Suite.

The verification of tests included using the EMPOWER Suite logs for proper message exchanges, and using the EMPOWER Suite web-based interface for proper logging and playback of calls.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the following on EMPOWER Suite:

- Handling of Event Services agent states and call events.
- 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 monitoring services and media control events to obtain the media from the virtual IP softphones.
- Proper recording, logging, and playback of calls for agent blending scenarios involving inbound, outbound, agent drop, customer drop, hold, reconnect, simultaneous calls, and transfer.

The serviceability testing focused on verifying the ability of EMPOWER Suite to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet cable to EMPOWER Suite.

2.2. Test Results

All test cases were executed and passed. The following were the observations on EMPOWER Suite from the compliance testing.

- All short connections to phantom CTI stations and announcements were included as separate recording entries.
- Recording entry for transfer of an outbound call included the call progress tones.
- Recordings for conference with supervisor scenarios are not supported in this release of EMPOWER Suite.

2.3. Support

Technical support on EMPOWER Suite can be obtained through the following:

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

3. Reference Configuration

EMPOWER Suite can be configured on a single server or with components distributed across multiple servers. The compliance test used a single server configuration.

The detailed administration of basic connectivity between Communication Manager and Proactive Contact, between Communication Manager and 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, EMPOWER Suite monitored two agent stations with extensions “65001” and “65002” on Communication Manager.

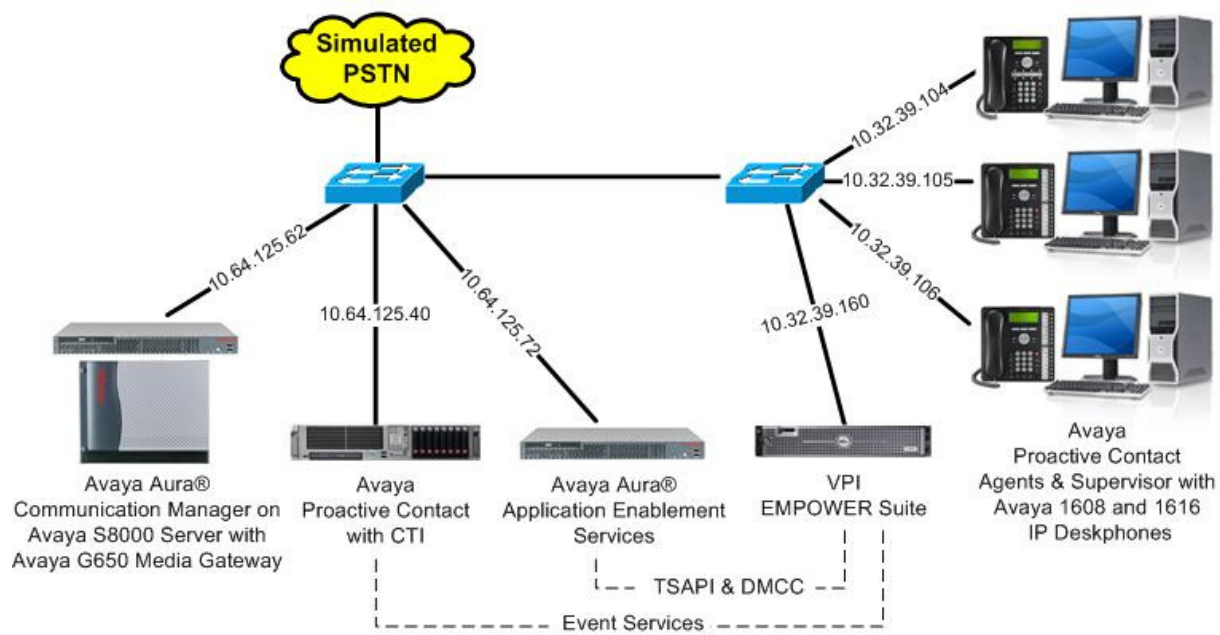


Figure 1: Compliance Testing Configuration

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® Communication Manager on Avaya S8800 Server with Avaya G650 Media Gateway	6.3.2 (R016x.03.0.124.0-21053)
Avaya Aura® Application Enablement Services	6.3.1 (6.3.1.0.19-0)
Avaya Proactive Contact with CTI	5.1
Avaya Proactive Contact Agent	5.1
Avaya Proactive Contact Supervisor	5.1
Avaya 1608 IP Deskphone (H.323)	1.3.4
Avaya 1616 IP Deskphone (H.323)	1.3.4
VPI EMPOWER Suite on Windows Server 2008 <ul style="list-style-type: none">Avaya TSAPI Windows Client (csta32.dll)Avaya DMCC .NET (ServiceProvider.dll)	5.4 SP3 R2 Standard 6.1.0.396 6.1.1.45

5. Configure Avaya Aura® Communication Manager

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

- Verify license
- Administer CTI link
- Administer system parameters features
- Administer stations

5.1. Verify License

Log in to the System Access Terminal 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? 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? y       CAS Main? n
Answer Supervision by Call Classifier? y       Change COR by FAC? n
ARS? y                                         Computer Telephony Adjunct Links? y
ARS/AAR Partitioning? y                      Cvg Of Calls Redirected Off-net? y
ARS/AAR Dialing without FAC? n                DCS (Basic)? y
ASAI Link Core Capabilities? n                DCS Call Coverage? y
ASAI Link Plus Capabilities? n               DCS with Rerouting? y
Async. Transfer Mode (ATM) PNC? n            Digital Loss Plan Modification? y
Async. Transfer Mode (ATM) Trunking? n        DS1 MSP? y
ATM WAN Spare Processor? n                   DS1 Echo Cancellation? y
ATMS? y
Attendant Vectoring? y
```

5.2. 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 2                                                         Page 1 of 3
                                CTI LINK

CTI Link: 1
Extension: 60100
Type: ADJ-IP
COR: 1
Name: AES CTI Link
```

5.3. 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 20
      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
      EC500 Routing in Survivable Mode: dpt-then-ec500
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
      Preserve previous AUX Work button states after deactivation? 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 EMPOWER Suite.

```
change system-parameters features                                     Page 13 of 20
      FEATURE-RELATED SYSTEM PARAMETERS

CALL CENTER MISCELLANEOUS
      Callr-info Display Timer (sec): 10
      Clear Callr-info: next-call
      Allow Ringer-off with Auto-Answer? n

      Reporting for PC Non-Predictive Calls? n

      Agent/Caller Disconnect Tones? n
      Interruptible Aux Notification Timer (sec): 3
      Zip Tone Burst for Callmaster Endpoints: double

ASAI
      Copy ASAI UII During Conference/Transfer? y
      Call Classification After Answer Supervision? y
      Send UCID to ASAI? y
      For ASAI Send DTMF Tone to Call Originator? y
      Send Connect Event to ASAI For Announcement Answer? n
```


5.4. Administer Stations

Use the “change station n” command, where “n” is the first agent station extension from **Section 3. Enable IP SoftPhone**, to allow for a virtual IP softphone to be registered against the station. Note the value of **Security Code**, which will be used later to configure EMPOWER Suite.

```
change station 65001
```

Page 1 of 4

STATION

Extension: 65001	Lock Messages? n	BCC: 0
Type: 1608	Security Code: 65001	TN: 1
Port: S00006	Coverage Path 1: 1	COR: 1
Name: VPI Station #1	Coverage Path 2:	COS: 1
	Hunt-to Station:	Tests? y

STATION OPTIONS

Loss Group: 19	Time of Day Lock Table:
	Personalized Ringing Pattern: 1
	Message Lamp Ext: 65001
Speakerphone: 2-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
	Short/Prefixed Registration Allowed: default

Repeat this section to administer all stations to be monitored. In the compliance testing, two agent stations were administered as shown below.

```
list station 65001 count 2
```

STATIONS									
Ext/ Hunt-to	Port/ Type	Name/ Surv GK NN	Move	Room/ Data Ext	Cv1/ Cv2	COR/ COS	Cable/ TN Jack		
65001	S00006	VPI Station #1			1	1			
	1608		no			1	1		
65002	S00049	VPI Station #2			1	1			
	1616		no			1	1		

6. Configure Avaya Aura® Application Enablement Services

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

- Launch OAM interface
- Verify license
- Administer TSAPI link
- Administer H.323 gatekeeper
- Disable security database
- Restart services
- Obtain Tlink name
- Administer VPI user
- Enable ports

6.1. Launch OAM Interface

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

The **Please login here** screen is displayed. Log in using the appropriate credentials.



The screenshot shows the Avaya Application Enablement Services Management Console login interface. At the top left is the Avaya logo. To its right, the text "Application Enablement Services" and "Management Console" is displayed. A red horizontal bar spans the width of the page, with a "Help" link on the right. In the center, there is a login box with the text "Please login here:". Below this text are two input fields: "Username" and "Password". At the bottom of the login box are two buttons: "Login" and "Reset". A red horizontal bar is at the bottom of the page, and below it, the copyright notice "Copyright © 2009-2013 Avaya Inc. All Rights Reserved." is displayed.

The **Welcome to OAM** screen is displayed next.

The screenshot shows the Avaya Application Enablement Services Management Console. The top header includes the Avaya logo, the title "Application Enablement Services Management Console", and a welcome message for the user. The left sidebar contains a navigation menu with options like AE Services, Communication Manager Interface, High Availability, Licensing, Maintenance, Networking, Security, Status, User Management, Utilities, and Help. The main content area displays the "Welcome to OAM" message, explaining that the OAM Web provides tools for managing the AE Server and listing the administrative domains: AE Services, Communication Manager Interface, High Availability, Licensing, Maintenance, Networking, Security, Status, User Management, Utilities, and Help. It also notes that these domains can be served by one administrator for all domains or a separate administrator for each domain.

Welcome: User
Last login: Mon Oct 21 07:26:14 2013 from 10.32.39.20
Number of prior failed login attempts: 0
HostName/IP: aes_125_72/10.64.125.72
Server Offer Type: VIRTUAL_APPLIANCE_ON_SP
SW Version: 6.3.1.0.19-0
Server Date and Time: Mon Oct 21 10:38:03 MDT 2013
HA Status: Not Configured

Home | Help | Logout

AE Services
Communication Manager Interface
High Availability
Licensing
Maintenance
Networking
Security
Status
User Management
Utilities
Help

Welcome to OAM

The AE Services Operations, Administration, and Management (OAM) Web provides you with tools for managing the AE Server. OAM spans the following administrative domains:

- AE Services - Use AE Services to manage all AE Services that you are licensed to use on the AE Server.
- Communication Manager Interface - Use Communication Manager Interface to manage switch connection and dialplan.
- High Availability - Use High Availability to manage AE Services HA.
- Licensing - Use Licensing to manage the license server.
- Maintenance - Use Maintenance to manage the routine maintenance tasks.
- Networking - Use Networking to manage the network interfaces and ports.
- Security - Use Security to manage Linux user accounts, certificate, host authentication and authorization, configure Linux-PAM (Pluggable Authentication Modules for Linux) and so on.
- Status - Use Status to obtain server status infomations.
- User Management - Use User Management to manage AE Services users and AE Services user-related resources.
- Utilities - Use Utilities to carry out basic connectivity tests.
- Help - Use Help to obtain a few tips for using the OAM Help system

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

6.2. Verify License

Select **Licensing** → **WebLM Server Access** in the left pane, to display the **Web License Manager** pop-up screen (not shown), and log in using the appropriate credentials.

The screenshot shows the Avaya Application Enablement Services Management Console with the "Licensing" section selected in the left sidebar. The main content area displays the "Licensing" page, which provides instructions on how to set up and maintain the WebLM, including the need to use the WebLM Server Address, WebLM Server Access, and Reserved Licenses. The left sidebar also shows the "WebLM Server Access" option under the "Licensing" section.

Welcome: User
Last login: Mon Oct 21 07:26:14 2013 from 10.32.39.20
Number of prior failed login attempts: 0
HostName/IP: aes_125_72/10.64.125.72
Server Offer Type: VIRTUAL_APPLIANCE_ON_SP
SW Version: 6.3.1.0.19-0
Server Date and Time: Mon Oct 21 10:38:03 MDT 2013
HA Status: Not Configured

Licensing | Home | Help | Logout

AE Services
Communication Manager Interface
High Availability
Licensing
Maintenance
Networking

Licensing

If you are setting up and maintaining the WebLM, you need to use the following:

- WebLM Server Address

If you are importing, setting up and maintaining the license, you need to use the following:


- WebLM Server Access

If you want to administer TSAPI Reserved Licenses or DMCC Reserved Licenses, you need to use the following:

- Reserved Licenses

The **Web License Manager** screen below is displayed. Select **Licensed products** → **APPL_ENAB** → **Application_Enablement** in the left pane, to display the **Application Enablement (CTI)** screen in the right pane.

Verify that there are sufficient licenses for **TSAPI Simultaneous Users** and **Device Media and Call Control**, as shown below. Note that the TSAPI license is used for device monitoring, and the DMCC license is used for the virtual IP softphones.


Web License Manager (WebLM v6.3)
Help | About | Change Password

WebLM Home
Install license
Licensed products
APPL_ENAB
▼ Application_Enablement
View license capacity
View peak usage
Uninstall license
Server properties
Manage users
Shortcuts
Help for Installed Product

Application Enablement (CTI) - Release: 6 - SID: 10503000
Standard License file

You are here: Licensed Products > Application_Enablement > View License Capacity
License installed on: May 11, 2012 7:07:47 PM -04:00

License File Host IDs: 00-16-3E-48-ED-82

Licensed Features

10 Items
Show ALL

Feature (License Keyword)	Expiration date	Licensed capacity
CVLAN ASAI VALUE_AES_CVLAN_ASAI	permanent	16
Unified CC API Desktop Edition VALUE_AES_AEC_UNIFIED_CC_DESKTOP	permanent	10000
AES ADVANCED SMALL SWITCH VALUE_AES_AEC_SMALL_ADVANCED	permanent	16
CVLAN Proprietary Links VALUE_AES_PROPRIETARY_LINKS	permanent	16
Product Notes VALUE_NOTES	permanent	SmallServerTypes: s8300c;s8300d;icc;premio;tn8400;laptop;CtiS MediumServerTypes: ibmx306;ibmx306m;dell1950;xen;hs20;hs20_ LargeServerTypes: isp2100;ibmx305;dl380g3;dl385g1;dl385g2;u TrustedApplications: IPS_001, BasicUnrestrict DMCUnrestricted; 1XP_001, BasicUnrestricted DMCUnrestricted; 1XM_001, BasicUnrestricted DMCUnrestricted; PC_001, BasicUnrestricted DMCUnrestricted; CIE_001, BasicUnrestricted DMCUnrestricted; OSPC_001, BasicUnrestrict DMCUnrestricted; VP_001, BasicUnrestricted, DMCUnrestricted; SAMETIME_001, VALUE_AES_UNIFIED_CC_DESKTOP,,, CCE_ AdvancedUnrestricted, DMCUnrestricted; CSI AdvancedUnrestricted, DMCUnrestricted; CSI AdvancedUnrestricted, DMCUnrestricted; AVA BasicUnrestricted, AdvancedUnrestricted, DMC CCT_ELITE_CALL_CTRL_001, BasicUnrestrict DMCUnrestricted, AgentEvents;
AES ADVANCED LARGE SWITCH VALUE_AES_AEC_LARGE_ADVANCED	permanent	16
TSAPI Simultaneous Users VALUE_AES_TSAPI_USERS	permanent	10000
DLG VALUE_AES_DLG	permanent	16
Device Media and Call Control VALUE_AES_DMCC_DMC	permanent	10000
AES ADVANCED MEDIUM SWITCH VALUE_AES_AEC_MEDIUM_ADVANCED	permanent	16

6.3. Administer TSAPI Link

To administer a TSAPI link, select **AE Services** → **TSAPI** → **TSAPI Links** from the left pane of the **Management Console**. The **TSAPI Links** screen is displayed, as shown below. Click **Add Link**.

The screenshot shows the Avaya Management Console interface. The top header includes the Avaya logo, the title "Application Enablement Services Management Console", and a welcome message for the user. The left navigation pane shows a tree structure with "AE Services" expanded, and "TSAPI" selected. Under "TSAPI", "TSAPI Links" is highlighted. The main content area displays the "TSAPI Links" screen, which includes a table with columns: "Link", "Switch Connection", "Switch CTI Link #", "ASAI Link Version", and "Security". Below the table are buttons for "Add Link", "Edit Link", and "Delete Link".

The **Add TSAPI Links** screen is displayed next.

The **Link** field is only local to the Application Enablement Services 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 "S8800" is selected. For **Switch CTI Link Number**, select the CTI link number from **Section 5.2**. Retain the default values in the remaining fields.

The screenshot shows the "Add TSAPI Links" screen in the Avaya Management Console. The left navigation pane is the same as in the previous screenshot, but "Communication Manager Interface" is also visible under "TSAPI". The main content area displays the "Add TSAPI Links" form, which includes fields for "Link", "Switch Connection", "Switch CTI Link Number", "ASAI Link Version", and "Security". Each field has a dropdown menu. The "Link" field is set to "1", "Switch Connection" is set to "S8800", "Switch CTI Link Number" is set to "2", "ASAI Link Version" is set to "6", and "Security" is set to "Unencrypted". Below the fields are buttons for "Apply Changes" and "Cancel Changes".

6.4. Administer H.323 Gatekeeper

Select **Communication Manager Interface** → **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 “S8800”, and select the corresponding radio button. Click **Edit H.323 Gatekeeper**.

The screenshot shows the Avaya Application Enablement Services Management Console. The left navigation pane is expanded to 'Communication Manager Interface' and 'Switch Connections'. The main content area displays a table of switch connections. The table has four columns: Connection Name, Processor Ethernet, Msg Period, and Number of Active Connections. There is one entry with Connection Name 'S8800', Processor Ethernet 'No', Msg Period '30', and Number of Active Connections '1'. Below the table are buttons for 'Edit Connection', 'Edit PE/CLAN IPs', 'Edit H.323 Gatekeeper', 'Delete Connection', and 'Survivability Hierarchy'. The top right corner shows user information: 'Welcome: User', 'Last login: Mon Oct 28 10:30:12 2013 from 10.32.39.20', 'Number of prior failed login attempts: 0', 'HostName/IP: aes_125_72/10.64.125.72', 'Server Offer Type: VIRTUAL_APPLIANCE_ON_SP', 'SW Version: 6.3.1.0.19-0', 'Server Date and Time: Mon Oct 28 12:04:20 MDT 2013', and 'HA Status: Not Configured'.

Connection Name	Processor Ethernet	Msg Period	Number of Active Connections
S8800	No	30	1

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 the H.323 gatekeeper, in this case “10.64.125.32” as shown below. Click **Add Name or IP**.

The screenshot shows the 'Edit H.323 Gatekeeper - S8800' screen. The left navigation pane is the same as the previous screenshot. The main content area has a title 'Edit H.323 Gatekeeper - S8800'. Below the title is a text input field containing '10.64.125.32' and a button 'Add Name or IP'. Below the input field is the label 'Name or IP Address'. At the bottom are two buttons: 'Delete IP' and 'Back'. The top right corner shows the same user information as the previous screenshot.

6.5. Disable Security Database

Select **Security** → **Security Database** → **Control** from the left pane, to display the **SDB Control for DMCC, TSAPI, JTAPI and Telephony Web Services** screen in the right pane. Uncheck both fields below.

The screenshot displays the Avaya Application Enablement Services Management Console. The top header includes the Avaya logo, the title "Application Enablement Services Management Console", and a welcome message for the user. The main navigation bar shows "Security | Security Database | Control" as the active path, with links for "Home | Help | Logout". The left sidebar contains a tree view of the console's sections, with "Security Database" expanded and "Control" selected. The main content area, titled "SDB Control for DMCC, TSAPI, JTAPI and Telephony Web Services", contains two unchecked checkboxes: "Enable SDB for DMCC Service" and "Enable SDB for TSAPI Service, JTAPI and Telephony Web Services". An "Apply Changes" button is located below these options.

Welcome: User
Last login: Mon Oct 21 07:26:14 2013 from 10.32.39.20
Number of prior failed login attempts: 0
HostName/IP: aes_125_72/10.64.125.72
Server Offer Type: VIRTUAL_APPLIANCE_ON_SP
SW Version: 6.3.1.0.19-0
Server Date and Time: Mon Oct 21 10:38:03 MDT 2013
HA Status: Not Configured

Security | Security Database | Control [Home](#) | [Help](#) | [Logout](#)

- ▶ AE Services
- ▶ Communication Manager Interface
- ▶ High Availability
- ▶ Licensing
- ▶ Maintenance
- ▶ Networking
- ▼ **Security**
 - ▶ Account Management
 - ▶ Audit
 - ▶ Certificate Management
 - ▶ Enterprise Directory
 - ▶ Host AA
 - ▶ PAM
 - ▼ **Security Database**
 - **Control**

SDB Control for DMCC, TSAPI, JTAPI and Telephony Web Services


☐ Enable SDB for DMCC Service

☐ Enable SDB for TSAPI Service, JTAPI and Telephony Web Services

[Apply Changes](#)

6.6. Restart Services

Select **Maintenance** → **Service Controller** from the left pane, to display the **Service Controller** screen in the right pane. Check **DMCC Service** and **TSAPI Service**, and click **Restart Service**.



Application Enablement Services
Management Console

Welcome: User
Last login: Mon Oct 21 07:26:14 2013 from 10.32.39.20
Number of prior failed login attempts: 0
HostName/IP: aes_125_72/10.64.125.72
Server Offer Type: VIRTUAL_APPLIANCE_ON_SP
SW Version: 6.3.1.0.19-0
Server Date and Time: Mon Oct 21 10:38:03 MDT 2013
HA Status: Not Configured

Maintenance | Service Controller

Home | Help | Logout

▶ AE Services

▶ Communication Manager Interface

▶ High Availability

▶ Licensing

▼ Maintenance

▶ Date Time/NTP Server

▶ Security Database

▶ Service Controller

▶ Server Data

▶ Networking

▶ Security

▶ Status

▶ User Management

Service Controller

Service	Controller Status
<input type="checkbox"/> ASAI Link Manager	Running
<input checked="" 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

Restart Web Server

6.7. Obtain Tlink Name

Select **Security** → **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 EMPOWER Suite.

In this case, the associated Tlink name is “AVAYA#S8800#CSTA#AES_125_72”. Note the use of the switch connection “S8800” from **Section 6.3** as part of the Tlink name.

The screenshot displays the Avaya Application Enablement Services Management Console. The top header includes the Avaya logo, the title "Application Enablement Services Management Console", and a welcome message for the user. The main navigation bar shows "Security | Security Database | Tlinks" and links for "Home | Help | Logout". The left sidebar contains a tree view of the application's structure, with "Security" expanded to show "Security Database" and "Tlinks" selected. The main content area, titled "Tlinks", shows a single Tlink entry with the name "AVAYA#S8800#CSTA#AES_125_72" and a "Delete Tlink" button.

Welcome: User
Last login: Mon Oct 28 10:30:12 2013 from 10.32.39.20
Number of prior failed login attempts: 0
HostName/IP: aes_125_72/10.64.125.72
Server Offer Type: VIRTUAL_APPLIANCE_ON_SP
SW Version: 6.3.1.0.19-0
Server Date and Time: Mon Oct 28 12:05:15 MDT 2013
HA Status: Not Configured

Security | Security Database | Tlinks Home | Help | Logout

AE Services
Communication Manager Interface
High Availability
Licensing
Maintenance
Networking
Security
Account Management
Audit
Certificate Management
Enterprise Directory
Host AA
PAM
Security Database
Control
CTI Users
Devices
Device Groups
Tlinks

Tlinks
Tlink Name
AVAYA#S8800#CSTA#AES_125_72
Delete Tlink

6.8. Administer VPI User

Select **User Management** → **User Admin** → **Add User** from the left pane, to display the **Add User** screen in the right pane.

Enter desired values for **User Id**, **Common Name**, **Surname**, **User Password**, and **Confirm Password**. For **CT User**, select “Yes” from the drop-down list. Retain the default value in the remaining fields.

The screenshot displays the Avaya Application Enablement Services Management Console. The top header includes the Avaya logo, the title 'Application Enablement Services Management Console', and a welcome message for the user. The left navigation pane shows a tree structure with 'User Management' expanded, leading to 'User Admin' and then 'Add User'. The main content area is titled 'Add User' and contains a form with the following fields:

- * User Id: vpi
- * Common Name: vpi
- * Surname: vpi
- * User Password: [masked]
- * Confirm Password: [masked]
- Admin Note: [text area]
- Avaya Role: None (dropdown)
- Business Category: [text field]
- Car License: [text field]
- CM Home: [text field]
- Css Home: [text field]
- CT User: Yes (dropdown)
- Department Number: [text field]
- Display Name: [text field]
- Employee Number: [text field]
- Employee Type: [text field]
- Enterprise Handle: [text field]

Fields marked with * can not be empty.

6.9. Enable Ports

Select **Networking** → **Ports** from the left pane, to display the **Ports** screen in the right pane.

In the **DMCC Server Ports** section, select the radio button for **Unencrypted Port** under the **Enabled** column, as shown below. Retain the default values in the remaining fields.

AVAYA

Application Enablement Services
Management Console

Welcome: User
Last login: Mon Oct 21 07:26:14 2013 from 10.32.39.20
Number of prior failed login attempts: 0
HostName/IP: aes_125_72/10.64.125.72
Server Offer Type: VIRTUAL_APPLIANCE_ON_SP
SW Version: 6.3.1.0.19-0
Server Date and Time: Mon Oct 21 10:38:03 MDT 2013
HA Status: Not Configured

Networking | Ports

Home | Help | Logout

▶ AE Services

▶ Communication Manager Interface

▶ High Availability

▶ Licensing

▶ Maintenance

▼ Networking

▶ AE Service IP (Local IP)

▶ Network Configure

▶ Ports

▶ TCP Settings

▶ Security

▶ Status

▶ User Management

▶ Utilities

▶ Help

Ports

CVLAN Ports

Unencrypted TCP Port9999

Enabled Disabled

Encrypted TCP Port9998

Enabled Disabled

DLG Port

TCP Port5678

TSAPI Ports

TSAPI Service Port450

Enabled Disabled

Local TLINK Ports

TCP Port Min1024

TCP Port Max1039

Unencrypted TLINK Ports

TCP Port Min1050

TCP Port Max1065

Encrypted TLINK Ports

TCP Port Min1066

TCP Port Max1081

DMCC Server Ports

Unencrypted Port4721

Enabled Disabled

Encrypted Port4722

Enabled Disabled

TR/87 Port4723

Enabled Disabled

7. Configure Avaya Proactive Contact

This section provides the procedures for configuring Proactive Contact. The procedures include the following areas:

- Obtain host name
- Obtain permission files

7.1. Obtain Host Name

Log in to the Linux shell of the Proactive Contact server. Use the “uname -a” command to obtain the host name, which will be used later for configuring EMPOWER Suite.

In the compliance testing, the host name of the Proactive Contact server is “lzpds4b”, as shown below.

```
$ uname -a
Linux drpc5s 2.6.18-308.16.1.el5PAE #1 SMP Tue Sep 18 07:29:37 EDT 2012 i686 i686 i386
GNU/Linux
```

7.2. Obtain Permission Files

Use a tool such as WinSCP, to copy the following permission files from the Proactive Contact server, which will be used later to configure EMPOWER Suite.

- /opt/avaya/pds/openssl/certificate/corbaServer_cert.pem
- /opt/avaya/pds/openssl/cacertificate/ProactiveContactCA.pem
- /opt/avaya/pds/openssl/private/corbaServer_key.pem

8. Configure VPI EMPOWER Suite

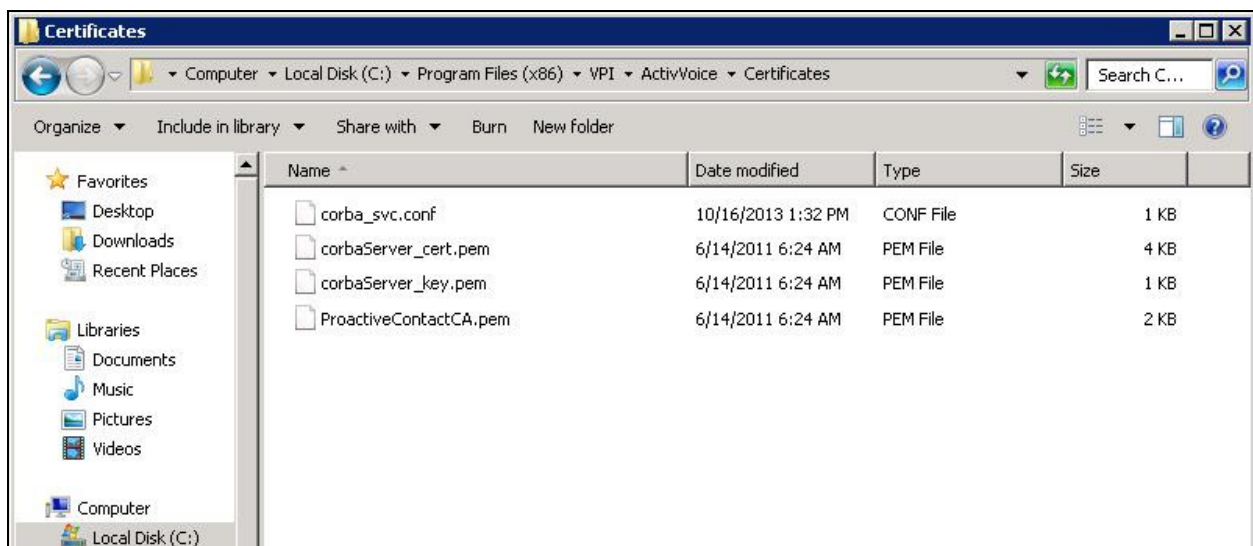
This section provides the procedures for configuring EMPOWER Suite. The procedures include the following areas:

- Copy permission files
- Launch VPI Configuration
- Administer start/stop events
- Administer TSAPI
- Administer proactive dialer
- Administer software RTP
- Administer DMCC
- Administer channels
- Launch Activ!Voice

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

8.1. Copy Permission Files

From the EMPOWER Suite server, copy the three permission files from **Section 7.2** to the applicable certificates directory, in this case **C:\Program Files (x86)\VPI\ActivVoice\Certificates**, as shown below. These files will be used for Event Services connection to Proactive Contact.

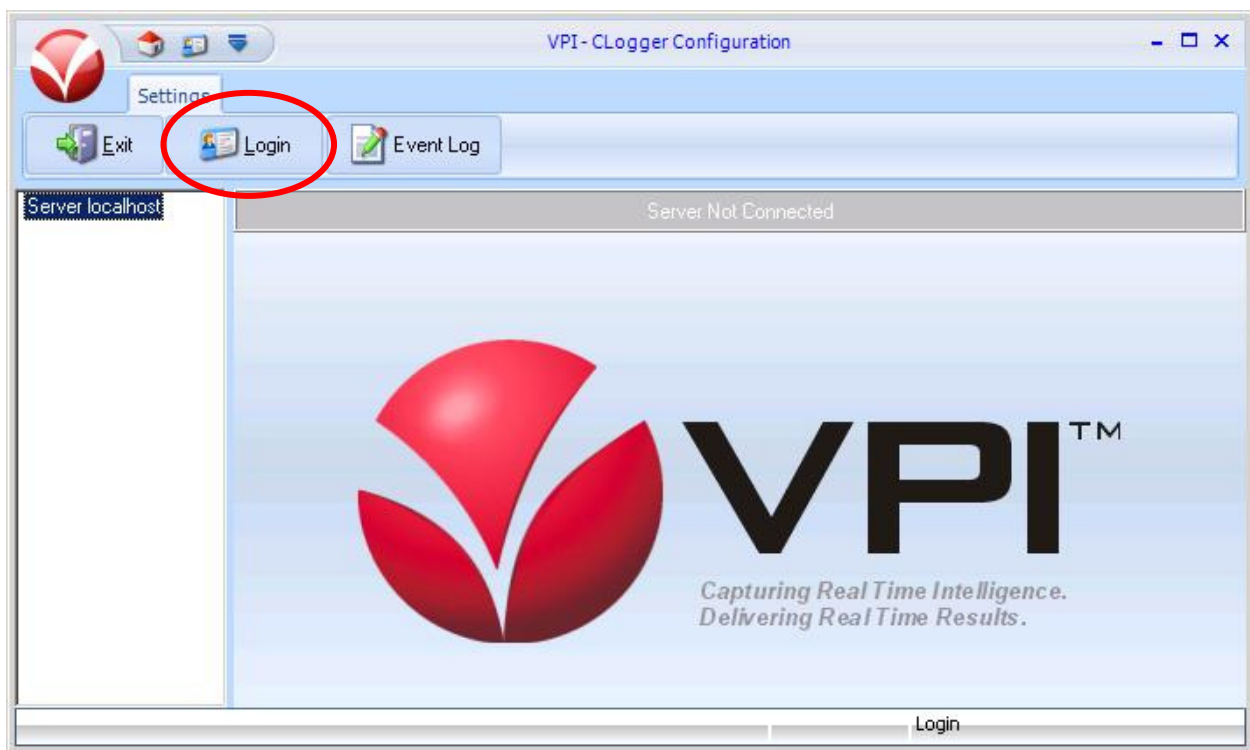


8.2. Launch VPI Configuration

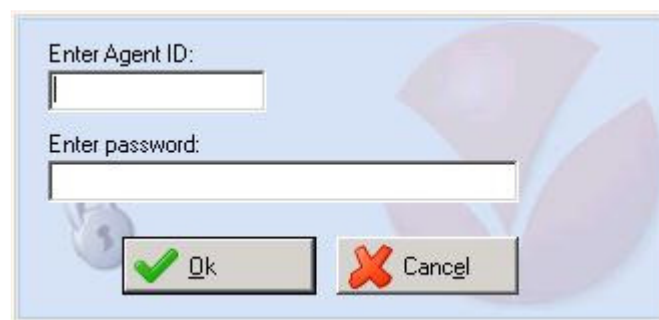
From the EMPOWER Suite server, double-click on the **VPI Configuration** icon shown below, which is created as part of the installation.



The **VPI - CLogger Configuration** screen is displayed. Click on **Login**, as shown below.



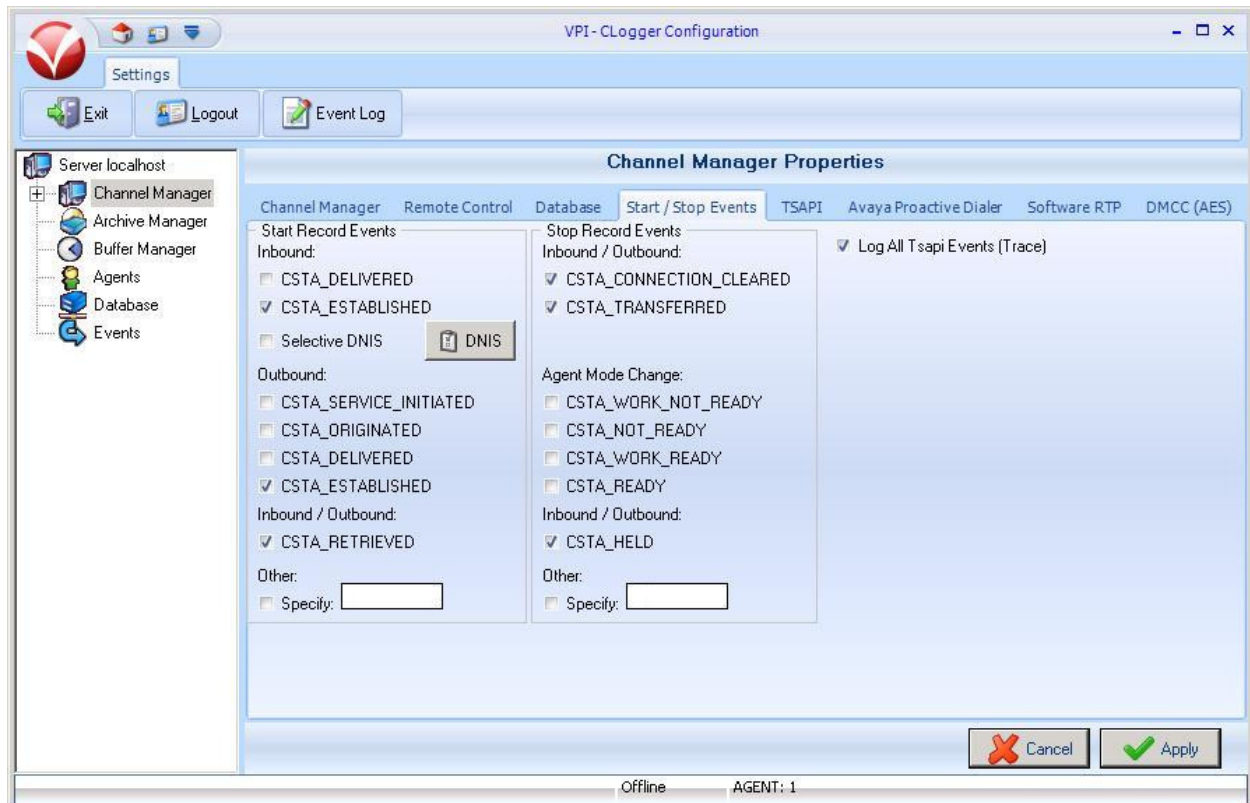
The screen below is displayed next. Log in using the appropriate credentials.



8.3. Administer Start/Stop Events

The **VPI - CLogger Configuration** screen is displayed. Select **Server localhost** → **Channel Manager** in the left pane, to display the **Channel Manager Properties** screen.

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.



8.4. Administer TSAPI

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.

- **Server 1 Machine:** The Tlink name from **Section 6.7**.
- **Application Username:** The VPI user credentials from **Section 6.8**.
- **Application Password:** The VPI user credentials from **Section 6.8**.
- **Switch Type:** “Avaya / Lucent”
- **Recording Line Type:** “Extension Side”

The screenshot shows the 'VPI-CLLogger Configuration' window with the 'TSAPI' tab selected. The left sidebar lists various components under 'Server localhost', including 'Channel Manager', 'Archive Manager', 'Buffer Manager', 'Agents', 'Database', and 'Events'. The main area is titled 'Channel Manager Properties' and contains several sections:

- TSAPI Server Setup:** Includes fields for 'Server 1 Machine:' (containing 'AVAYA#S8800#CSTA#'), 'Server 2 Machine:', 'TSAPI Device:', 'Application Username:' (containing 'vpi'), and 'Application Password:' (masked with asterisks). There are also checkboxes for 'Fail to VOX' and 'Save All ANI'.
- General Options:** Includes checkboxes for 'Record All Agents' (checked), 'Lock Status Lights', and 'Use Tsapi Time Stamp'.
- Additional Monitors:** Includes input fields for 'ACD Groups:', 'Trunks:', 'VDNs:', and 'Extensions:'. There are also checkboxes for 'Disable recording of calls when SPLIT is empty' and 'Disable recording of calls when DISTRIBUTING VDN is empty'.
- Switch Type:** Includes radio buttons for 'CSTA Compliant', 'Avaya / Lucent' (selected), 'Nortel Meridian', 'Aspect', and 'NEC'.
- Service Observe Options:** Includes a checkbox for 'Monitor Agent Mode Change' and a 'Feature Code:' field.
- Recording Line Type:** Includes radio buttons for 'Extension Side' (selected) and 'Trunk Side'.
- Dialers:** Includes checkboxes for 'DaVox Enabled' and 'IAT Enabled'.

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

8.5. 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.

- **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 7.1**.
- **Naming Service Port:** “23201”
- **Secure Connection (SSL):** Check this field.
- **ORB Service Config:** The location of the installed corba_svc.conf file.
- **Local Host Host:** The IP address of the EMPOWER Suite server.
- **Local Host Port:** “8101”
- **Dialer:** The host name of Avaya Proactive Contact from **Section 7.1**.
- **Username:** Name of the Avaya Proactive Contact Event Service client.
- **Password:** Password of the Avaya Proactive Contact Event Service client.

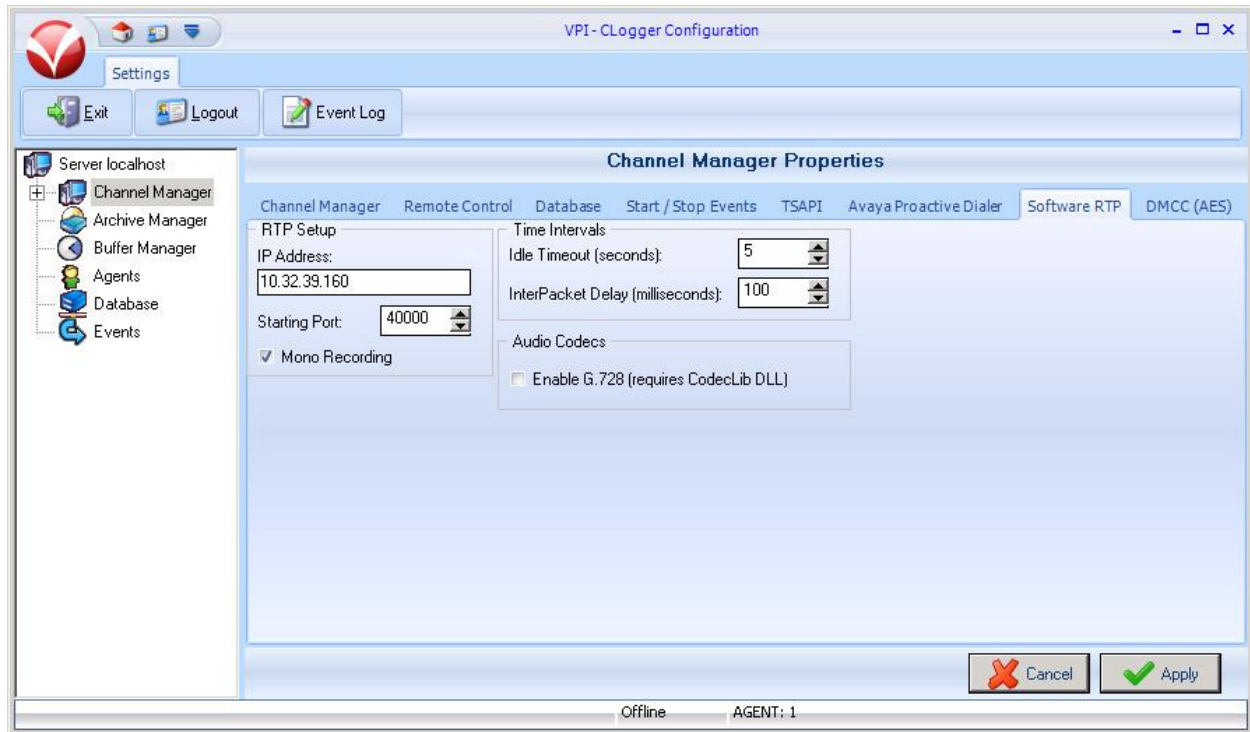
The screenshot shows the 'VPI-CLogger Configuration' window with the 'Channel Manager Properties' dialog box open. The 'Avaya Proactive Dialer' tab is selected. The dialog box contains the following fields and options:

- Avaya Proactive Dialer Options:**
 - ☒ Enable
 - ☒ Log All Events (Trace)
 - ☒ Log All CORBA ORB Events (Deep Trace)
 - ☒ Capture CTI Events
- Naming Service:**
 - Host: Port:
 - ☒ Secure Connection (SSL)
 - IOR File:
 - ORB Service Config:
- Local Host:**
 - Host:
 - Port: Span:
- Dialer Options:**
 - Dialer:
 - Idle Interval: secs
 - Keepalive Interval: secs
 - Headset Ext Is:
 - Username:
 - Password:

At the bottom of the dialog box are 'Cancel' and 'Apply' buttons. The status bar at the bottom of the window shows 'Offline' and 'AGENT: 1'.

8.6. Administer Software RTP

Select the **Software RTP** tab in the right pane. For **IP Address**, enter the IP address of the EMPOWER Suite server, in this case “10.32.39.160”. Retain the default values in the remaining fields.



8.7. Administer DMCC

Select the **DMCC (AES)** tab in the right pane. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Enable:** Check this field.
- **Server IP Address:** IP address of the Application Enablement Services server.
- **Session User:** The VPI user credentials from **Section 6.8**.
- **Switch (CLAN) Address:** IP address of the H.323 gatekeeper from **Section 6.4**.
- **Session Password:** The VPI user credentials from **Section 6.8**.

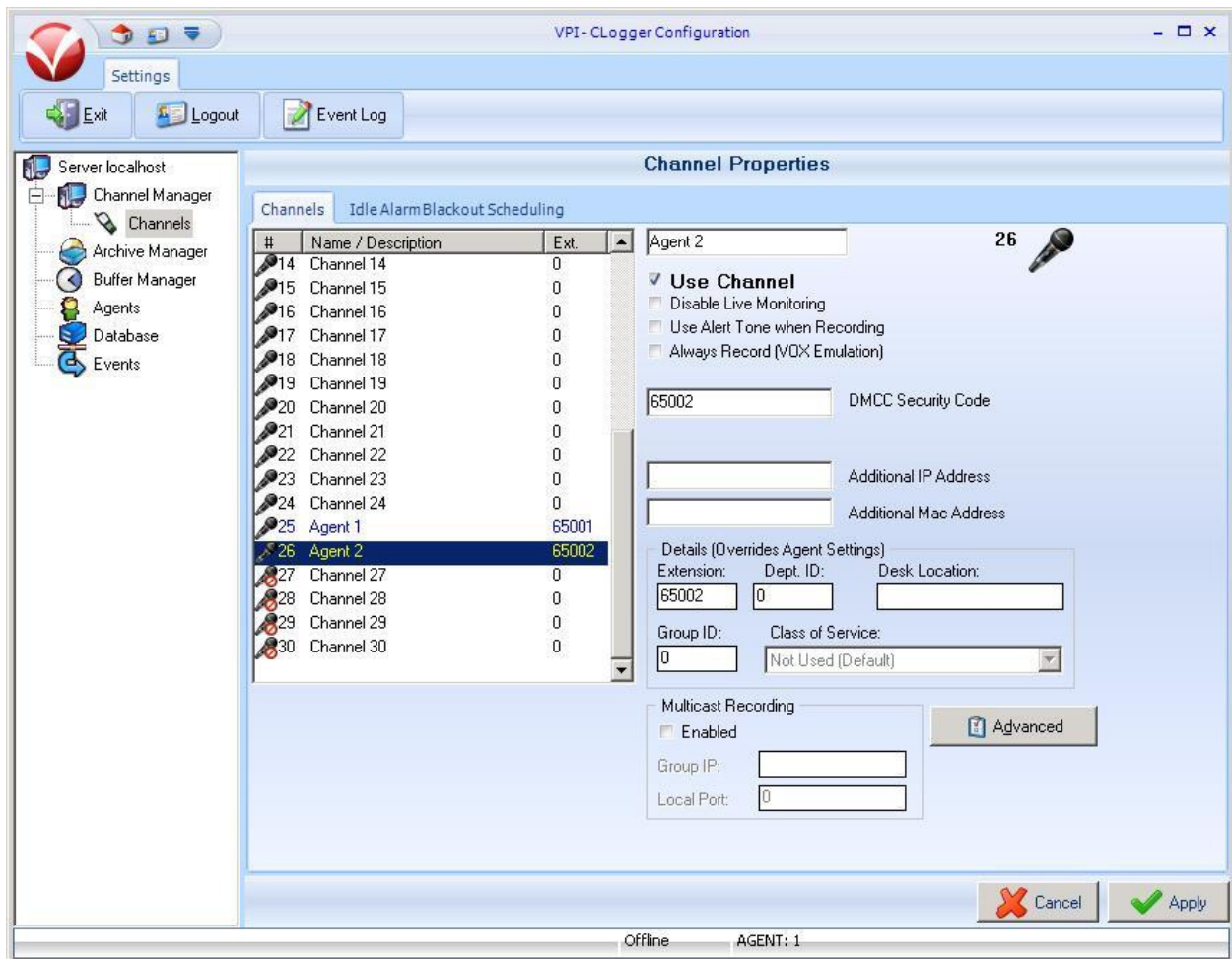
The screenshot shows the 'VPI-CLogger Configuration' window. On the left is a tree view with 'Server localhost' expanded, showing 'Channel Manager', 'Archive Manager', 'Buffer Manager', 'Agents', 'Database', and 'Events'. The 'Channel Manager' is selected. The main area is titled 'Channel Manager Properties' and has several tabs: 'Channel Manager', 'Remote Control', 'Database', 'Start/Stop Events', 'TSAPI', 'Avaya Proactive Dialer', 'Software RTP', and 'DMCC (AES)'. The 'DMCC (AES)' tab is active. It contains two sections: 'General Options' and 'TLS (SSL) Options'. In 'General Options', 'Enable' is checked, 'Server IP Address' is '10.64.125.72', 'Switch (CLAN) Address' is '10.64.125.32', 'Server Port' is '4721', 'Session User' is 'vpi', 'Session Password' is masked with asterisks, and 'Device Instance' is empty. In 'TLS (SSL) Options', 'Enable' is unchecked, 'Version' is 'SSL v2', 'AllowOlderVersions' is unchecked, and fields for Certificate File, CA File, Key File, Client CA File, CA Path, Key Phrase, Packet Timeout (30), Connect Timeout (30), Verify Peer (unchecked), and Verify Depth (30) are present. At the bottom right are 'Cancel' and 'Apply' buttons. The status bar at the bottom shows 'Offline' and 'AGENT: 1'.

8.8. Administer Channels

Select **Server localhost** → **Channel Manager** → **Channels** in the left pane, to display the **Channel Properties** screen. Select the first pertinent VoIP channel from the left portion of the **Channel Properties** screen, in this case **Channel 25**, 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.
- **DMCC Security Code:** The first agent station security code from **Section 5.4**.
- **Extension:** The first agent station extension from **Section 5.4**.

Repeat this section to administer a channel for each agent station to be monitored from **Section 5.4**, and click **Apply**. In the compliance testing, two channels **25-26** were configured as shown below.

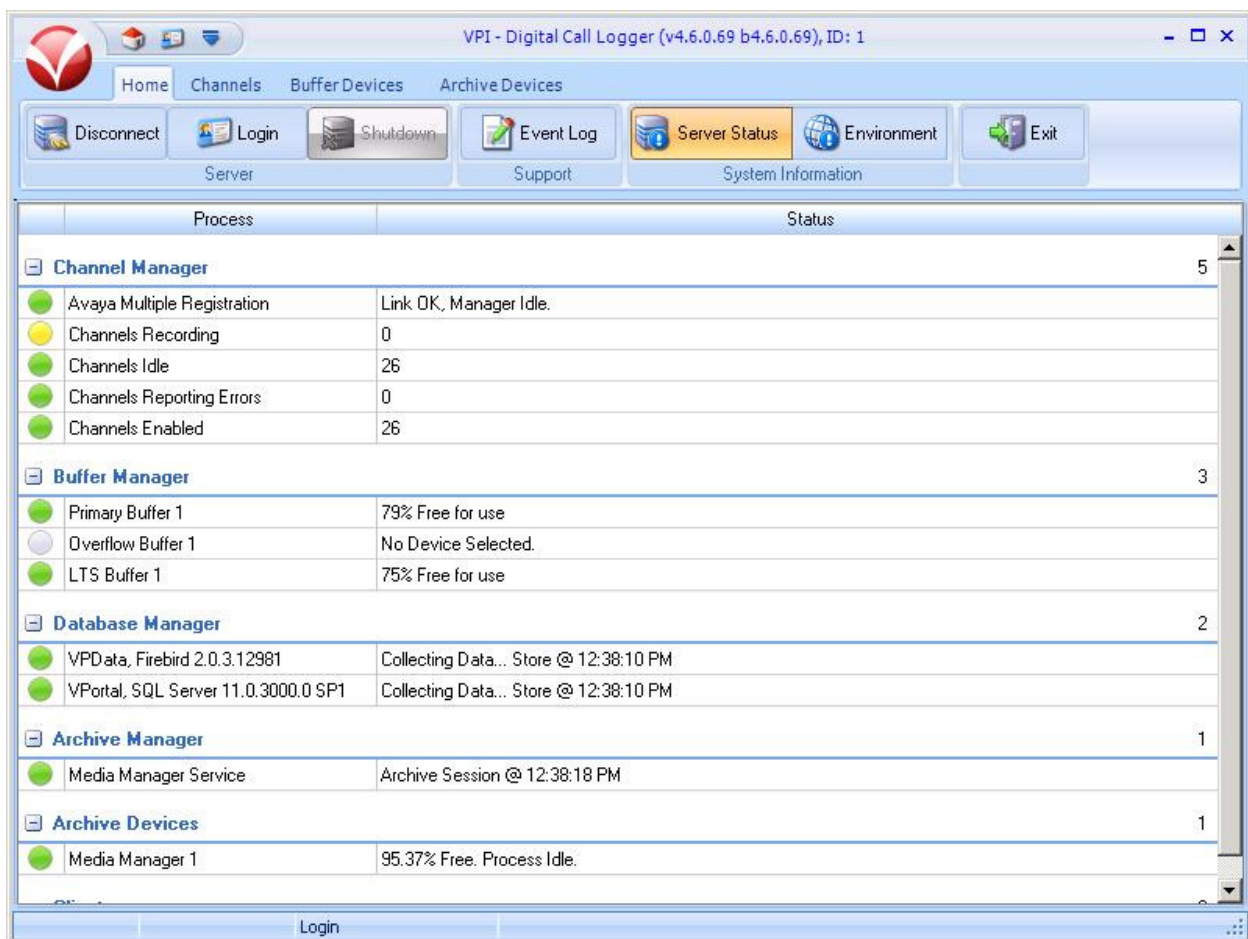


8.9. Launch Activ!Voice

From the EMPOWER Suite 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. 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.

The screenshot shows the VPI - Digital Call Logger application window. The title bar reads "VPI - Digital Call Logger (v4.6.0.69 b4.6.0.69), ID: 1". The interface includes a menu bar with "Home", "Channels", "Buffer Devices", and "Archive Devices". Below this is a toolbar with buttons for "Disconnect", "Login", "Shutdown", "Event Log", "Server Status", "Environment", and "Exit". The main area is a table with two columns: "Process" and "Status". The table is organized into sections: Channel Manager (5 items), Buffer Manager (3 items), Database Manager (2 items), Archive Manager (1 item), and Archive Devices (1 item). The "Channels Recording" entry in the Channel Manager section has a yellow status icon, while all other entries have green status icons.

Process	Status
Channel Manager 5	
Avaya Multiple Registration	Link OK, Manager Idle.
Channels Recording	0
Channels Idle	26
Channels Reporting Errors	0
Channels Enabled	26
Buffer Manager 3	
Primary Buffer 1	79% Free for use
Overflow Buffer 1	No Device Selected.
LTS Buffer 1	75% Free for use
Database Manager 2	
VPData, Firebird 2.0.3.12981	Collecting Data... Store @ 12:38:10 PM
VPortal, SQL Server 11.0.3000.0 SP1	Collecting Data... Store @ 12:38:10 PM
Archive Manager 1	
Media Manager Service	Archive Session @ 12:38:18 PM
Archive Devices 1	
Media Manager 1	95.37% Free. Process Idle.

9. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Communication Manager, Application Enablement Services, Proactive Contact, and EMPOWER Suite.

9.1. 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 5.2**, 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
2	6	no	aes_125_72	established	17	17

Verify the registration status of the virtual IP softphones by using the “list registered-ip-stations” command. Verify that all extensions from **Section 8.8** are displayed along with the IP address of the Application Enablement Services server, 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	1616	IP_Phone	y	10.32.39.106		
	1	1.340B		10.64.125.62		
65001	1608	IP_Phone	y	10.32.39.104		
	1	1.340B		10.64.125.62		
65001	1608	IP_API_A	y	10.64.125.72		
	1	3.2040		10.64.125.32		
65002	1616	IP_Phone	y	10.32.39.105		
	1	1.340B		10.64.125.62		
65002	1616	IP_API_A	y	10.64.125.72		
	1	3.2040		10.64.125.32		

9.2. Verify Avaya Aura® Application Enablement Services

On Application Enablement Services, verify the status of the TSAPI link by selecting **Status** → **Status and Control** → **TSAPI Service Summary** from the left pane. The **TSAPI Link Details** screen is displayed.

Verify the **Status** is “Talking” for the TSAPI link administered in **Section 6.3**.



Application Enablement Services

Management Console

Welcome: User
Last login: Thu Oct 31 09:30:12 2013 from 10.32.39.20
Number of prior failed login attempts: 0
HostName/IP: aes_125_72/10.64.125.72
Server Offer Type: VIRTUAL_APPLIANCE_ON_SP
SW Version: 6.3.1.0.19-0
Server Date and Time: Thu Oct 31 09:54:32 MDT 2013
HA Status: Not Configured

Status | Status and Control | TSAPI Service SummaryHome | Help | Logout

▶ AE Services

▶ Communication Manager Interface

High Availability

▶ Licensing

▶ Maintenance

▶ Networking

▶ Security

▼ Status

Alarm Viewer

Log Manager

▶ Logs

▼ Status and Control

■ CVLAN Service Summary

■ DLG Services Summary


■ DMCC Service Summary

■ Switch Conn Summary

■ TSAPI Service Summary

TSAPI Link Details

☐ Enable page refresh every seconds

	Link	Switch Name	Switch CTI Link ID	Status	Since	State	Switch Version	Associations	Msgs to Switch	Msgs from Switch	Msgs Period
	1	S8800	2	Talking	Thu Oct 17 07:55:05 2013	Online	16	8	44	36	30

For service-wide information, choose one of the following:

Verify the status of the DMCC link by selecting **Status → Status and Control → DMCC Service Summary** from the left pane. The **DMCC Service Summary – Session Summary** screen is displayed.

Verify the **User** column shows an active session with the VPI user name from **Section 6.8**, and that the **# of Associated Devices** column reflects the total number of configured VoIP channels from **Section 8.8**.

The screenshot shows the Avaya Application Enablement Services Management Console. The left sidebar contains a navigation menu with categories like AE Services, Communication Manager Interface, High Availability, Licensing, Maintenance, Networking, Security, and Status. The main content area displays the 'DMCC Service Summary - Session Summary' page. It includes a session summary table with columns for Session ID, User, Application, Far-end Identifier, Connection Type, and # of Associated Devices. The table shows one active session for user 'vpi' on application 'VoicePrintServer' with 2 associated devices. There are also buttons for 'Terminate Sessions' and 'Show Terminated Sessions'.

Session ID	User	Application	Far-end Identifier	Connection Type	# of Associated Devices
6655FD41A19C31E7A AB519B76FEB0048-40	vpi	VoicePrintServer	20.32.39.160	XML Unencrypted	2

9.3. Verify Avaya Proactive Contact

Log in to the Linux shell of the Proactive Contact server, and issue the “netstat | grep ensERVER” command. Verify that there is an entry showing an **ESTABLISHED** connection between Proactive Contact and EMPOWER Suite, as shown below.

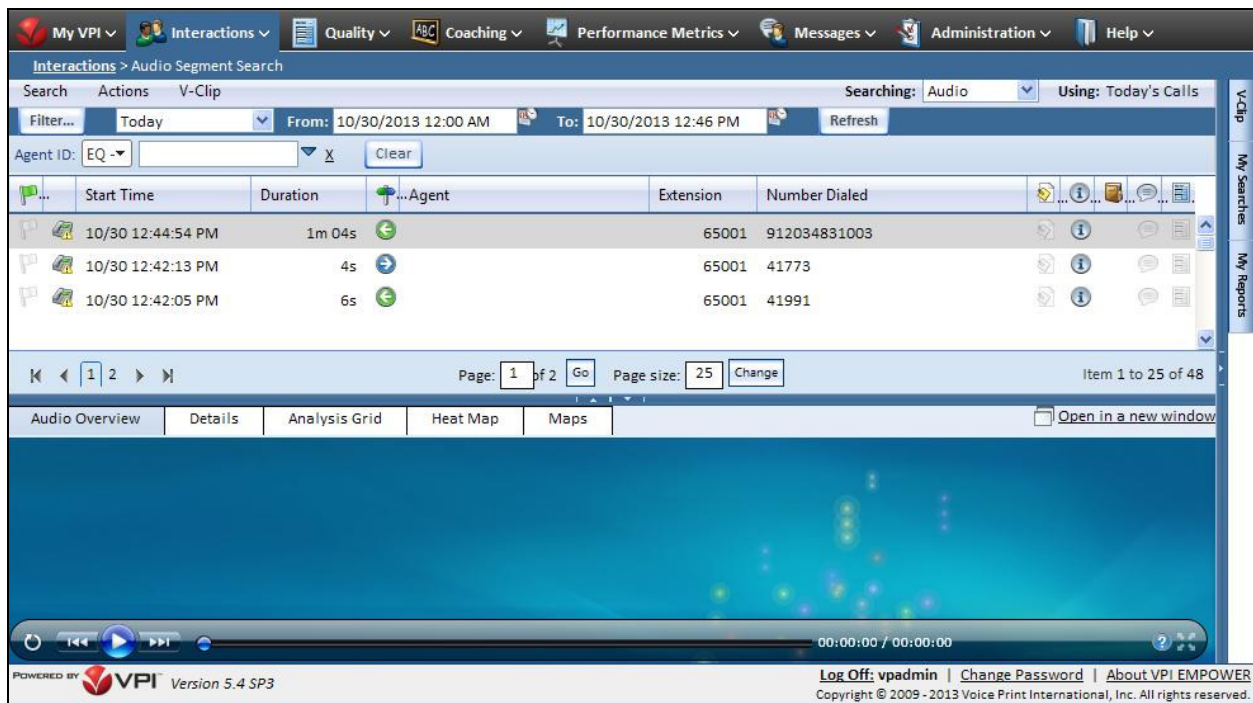
tcp	0	0	drpc5s:enserver_ssl	10.32.39.160:50382	ESTABLISHED
tcp	0	0	drpc5s:enserver_ssl	drpc5s:49623	ESTABLISHED
tcp	0	0	drpc5s:49623	drpc5s:enserver_ssl	ESTABLISHED

9.4. Verify VPI EMPOWER Suite

Start a job on Proactive Contact, and log an agent in to handle and complete a call. Access the EMPOWER Suite web-based interface by using the URL “https://ip-address/VPortal” in an Internet browser window, where “ip-address” is the IP address of the EMPOWER Suite server. Log in using the appropriate credentials.



The screen below is displayed next, with a list of the call recordings for the current day. 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.

The screenshot displays the VPI EMPOWER software interface. At the top, there is a navigation bar with tabs: My VPI, Interactions, Quality, Coaching, Performance Metrics, Messages, Administration, and Help. Below this, the 'Interactions' tab is active, showing an 'Audio Segment Search' section. This section includes a search bar with 'Filter...' and 'Today' dropdowns, a date range from '10/30/2013 12:00 AM' to '10/30/2013 12:46 PM', and a 'Refresh' button. A table lists call recordings with columns for Start Time, Duration, Agent, Extension, and Number Dialed. The first three entries are: 10/30 12:44:54 PM (1m 04s), 10/30 12:42:13 PM (4s), and 10/30 12:42:05 PM (6s). Below the table, there is a pagination bar showing 'Page: 1 of 2' and 'Page size: 25'. The bottom section of the interface is an audio playback window titled 'Audio Overview'. It shows a timeline for the selected call (10/30/2013 12:44:54 PM) with a play button and a progress bar. The playback window also includes a 'Standard' dropdown and a 'Settings' button. At the very bottom, there is a footer with 'POWERED BY VPI Version 5.4 SP3' and a copyright notice: 'Copyright © 2009 - 2013 Voice Print International, Inc. All rights reserved.'

Start Time	Duration	Agent	Extension	Number Dialed
10/30 12:44:54 PM	1m 04s		65001	912034831003
10/30 12:42:13 PM	4s		65001	41773
10/30 12:42:05 PM	6s		65001	41991

10. Conclusion

These Application Notes describe the configuration steps required for VPI EMPOWER Suite to successfully interoperate with Avaya Proactive Contact 5.1 with CTI and Avaya Aura® Application Enablement Services 6.3. All feature and serviceability test cases were completed with observations noted in **Section 2.2**.

11. Additional References

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

1. *Administering Avaya Aura® Communication Manager*, Document 03-300509, Issue 9, Release 6.3, October 2013, available at <http://support.avaya.com>.
2. *Avaya Aura® Application Enablement Services Administration and Maintenance Guide*, Release 6.3, Issue 2, October 2013, available at <http://support.avaya.com>.
3. *Administering Avaya Proactive Contact*, Release 5.1, April 2013, available at <http://support.avaya.com>.
4. *VPI EMPOWER Avaya Channel Manager Guide*, September 2013, available on the VPI EMPOWER Suite server as part of installation.

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