



Avaya Solution & Interoperability Test Lab

Application Notes for VPI EMPOWER Suite 5.5 with Avaya Aura® Communication Manager 6.3.8 and Avaya Aura® Application Enablement Services 6.3.3 Using Trunk Tap – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Voice Print International EMPOWER Suite 5.5 to interoperate with Avaya Aura® Communication Manager 6.3.8 and Avaya Aura® Application Enablement Services 6.3.3 using trunk tap. 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 Telephony Services Application Programming Interface from Avaya Aura® Application Enablement Services to monitor contact center devices on Avaya Aura® Communication Manager, and used the trunk tap method to capture media associated with the monitored agent stations for call recording.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as the observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

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 5.5 to interoperate with Avaya Aura® Communication Manager 6.3.8 and Avaya Aura® Application Enablement Services 6.3.3 using trunk tap. VPI EMPOWER Suite provides solutions for interaction recording, quality monitoring, performance management, and eLearning. The compliance testing focused on the recording solution.

In the testing, VPI EMPOWER Suite used the Telephony Services Application Programming Interface (TSAPI) from Avaya Aura® Application Enablement Services to monitor VDNs, skill groups, and agent stations on Avaya Aura® Communication Manager, and used the trunk tap method to capture media associated with the monitored agent stations for call recording.

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 VDNs, skill groups, and agent stations.

For the manual part of the testing, each call was handled manually on the agent station with generation of unique audio content for the recordings. Necessary user actions such as hold and reconnect were performed from the agent 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 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 TSAPI messages in the areas of event notification and value queries.
- Proper recording, logging, and playback of calls for scenarios involving PSTN, inbound, outbound, ACD, non-ACD, hold, reconnect, multiple calls, multiple agents, conference, 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.

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. In the compliance testing, the RTP streams for agent stations were captured using a PRI splitter that replicated all conversations with the PSTN to the Synway DTP board on EMPOWER Suite.

The detailed administration of basic connectivity 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 the contact center devices shown in the table below.

Device Type	Extension
VDN	10001, 10002, 10003
Skill Group	11001, 11002
Extensions	25001, 25002, 25003, 25004, 25050
Agents	2501, 2502, 2503, 2504, 2511

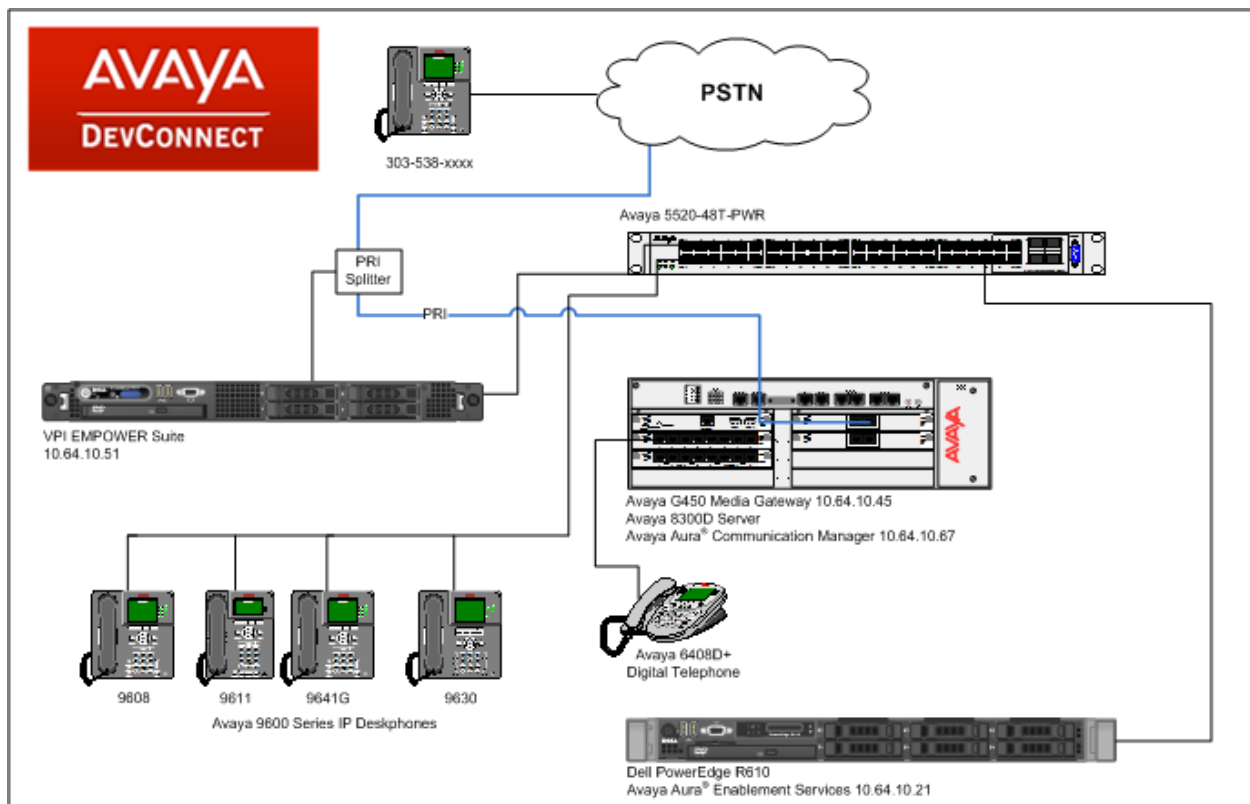


Figure 1: Compliance Testing Configuration

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 S8300D Server	6.3.8
Avaya G430 Media Gateway <ul style="list-style-type: none">MM712AP DCPMM710AP DS1	34.5.0 HW07 FW015 HW05 FW019
Avaya Aura® Application Enablement Services	6.3.3
Avaya 96x0 IP Deskphone (H.323)	3.23
Avaya 96x1 IP Deskphone (H.323)	6.4014
Avaya 96x0 IP Deskphone (SIP)	2.6.13
Avaya 96x1 IP Deskphone (SIP)	6.41
Avaya 6408D+ Digital Deskphone	NA
VPI EMPOWER Suite on Windows Server 2012 <ul style="list-style-type: none">Avaya TSAPI Windows Client (csta32.dll)Synway DTP Board	5.5 R2 Standard 6.1.0.396 5.3.2.3

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
- Obtain PSTN trunk configuration
- Obtain PSTN trunk group number

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? y           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 1                                Page 1 of 3
                                CTI LINK
CTI Link: 1
Extension: 6201
Type: ADJ-IP
                                COR: 1
Name: 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: 1
```

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. Obtain PSTN Trunk Configuration

Use the command “display ds1 n” command, where “n” is the slot number of the DS1 circuit pack or media module used for connection to the PSTN, in this case “1v4”. Make a note of the **Bit Rate**, **Line Coding**, **Framing Mode**, and **Signaling Mode** field values, which will be used later to configure EMPOWER Suite.

display ds1 1v4		Page 1 of 2	
DS1 CIRCUIT PACK			
Location: 001V4		Name: PSTN	
Bit Rate: 1.544		Line Coding: b8zs	
Line Compensation: 1		Framing Mode: esf	
Signaling Mode: isdn-pri			
Connect: network			
TN-C7 Long Timers? n		Country Protocol: 1	
Interworking Message: PROgress		Protocol Version: b	
Interface Companding: mulaw		CRC? n	
Idle Code: 11111111			
DCP/Analog Bearer Capability: 3.1kHz			
T303 Timer(sec): 4			
Slip Detection? n		Near-end CSU Type: other	
Echo Cancellation? n		Block Progress Indicator? N	

5.5. Obtain PSTN Trunk Group Number

Use the command “list trunk-group” command to list all configured trunk groups. Make a note of the trunk group number used for connection to the PSTN, in this case “11”, which will be used later to configure EMPOWER Suite.

list trunk-group										Page 1	
TRUNK GROUPS											
Grp				No.				Out Que			
No.	TAC	Group	Type	Group Name	Mem	TN	COR	CDR	Meas	Dsp	Len
1	*001	isdn		to_CM_10_10	50	1	2	y	none	n	0
2	*002	isdn		OUTSIDE CALL	5	1	1	y	none	n	0
3	*103	isdn		to_CM_10_70	10	1	1	n	none	n	0
5	*005	sip		to_IPO_10_54	10	1	1	y	none	n	0
6	*006	isdn		to_IPO_10_54	5	1	1	y	none	n	0
8	*008	sip		to_CM_22_12	10	1	1	y	none	n	0
9	*009	isdn		OUTSIDE CALL	10	1	2	y	none	n	0
10	*010	sip		to_SM_10_62	10	1	1	y	none	n	0
11	*011	isdn		to_PSTN	5	1	1	y	both	n	0
12	*012	sip		to_CMM_SIP	36	1	1	y	none	n	0
13	*013	sip		OUTSIDE CALL	10	1	1	y	none	n	0

5.6. Administer SIP Stations

This section only applies to SIP stations, no changes are needed for H.323 or Digital stations.

Use the “change station n” command, where “n” is the SIP agent station extension from **Section 3**. On **Page 6**, change **Type of 3PCC Enabled** to **Avaya**.

Alternatively, this change can also be made via System Manager.

change station 25551	Page 6 of 6
STATION	
SIP FEATURE OPTIONS	
Type of 3PCC Enabled: Avaya	
SIP Trunk: aar	

6. Configure Avaya Aura® Application Enablement Services

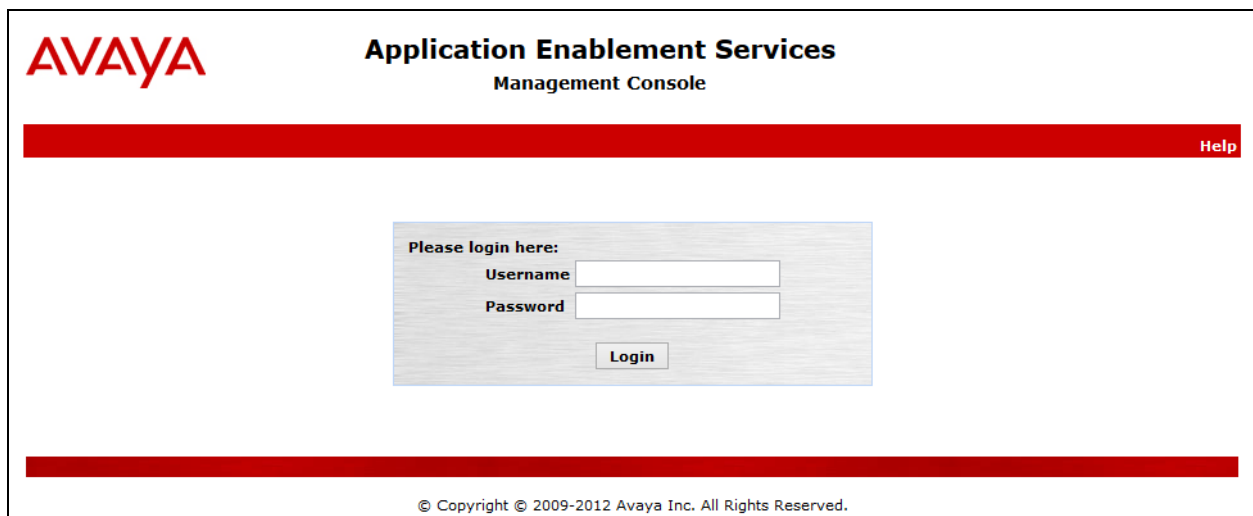
This section provides the procedures for configuring Application Enablement Services. The procedures include the following areas:

- Launch OAM interface
- Verify license
- Administer TSAPI link
- Obtain Tlink name
- Restart services
- Administer VPI user
- Administer security database

6.1. Launch OAM Interface

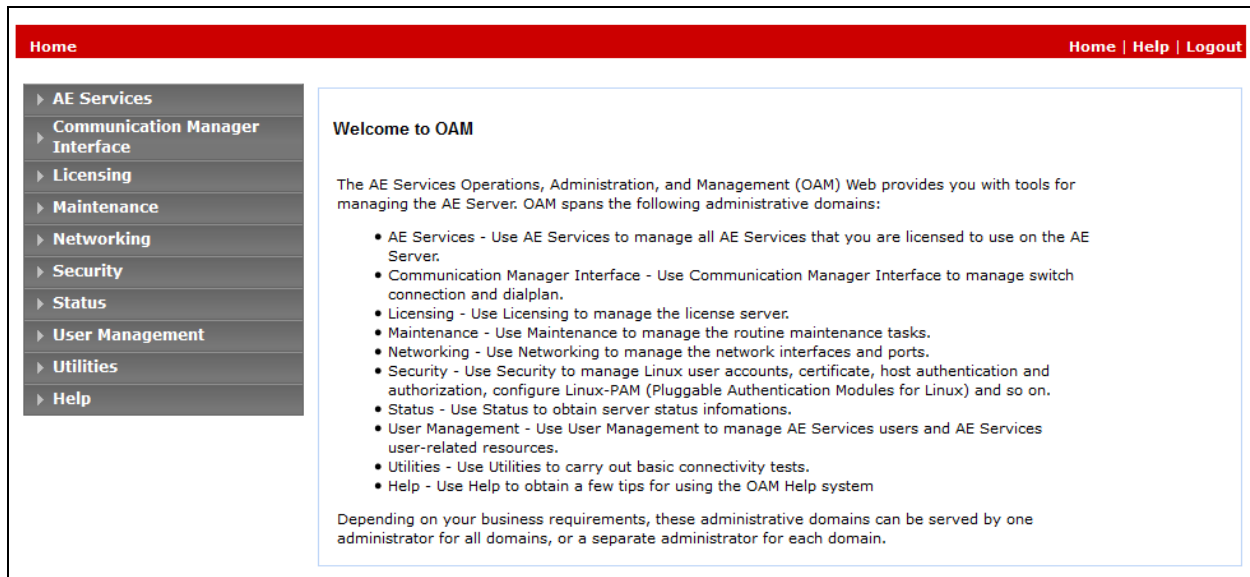
Access the OAM web-based interface by using the URL “https://ip-address” in an Internet browser window, where “ip-address” is the IP address of the Application Enablement Services server.

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:" followed by "Username" and "Password" labels, each with a corresponding text input field. Below these fields is a "Login" button. At the bottom of the page, a red horizontal bar is present, and below it, the copyright notice "© Copyright © 2009-2012 Avaya Inc. All Rights Reserved." is displayed.

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



The screenshot shows the 'Welcome to OAM' screen. At the top, there is a red navigation bar with 'Home' on the left and 'Home | Help | Logout' on the right. On the left side, there is a dark gray sidebar menu with the following items: 'AE Services', 'Communication Manager Interface', 'Licensing', 'Maintenance', 'Networking', 'Security', 'Status', 'User Management', 'Utilities', and 'Help'. The main content area has a white background and is titled 'Welcome to OAM'. It contains a paragraph explaining that the OAM Web provides tools for managing the AE Server and lists the administrative domains: AE Services, Communication Manager Interface, Licensing, Maintenance, Networking, Security, Status, User Management, Utilities, and Help. Each domain is followed by a brief description of its function. At the bottom, it states that these domains can be served by one administrator or separate administrators.

Home | Help | Logout

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

Welcome to OAM

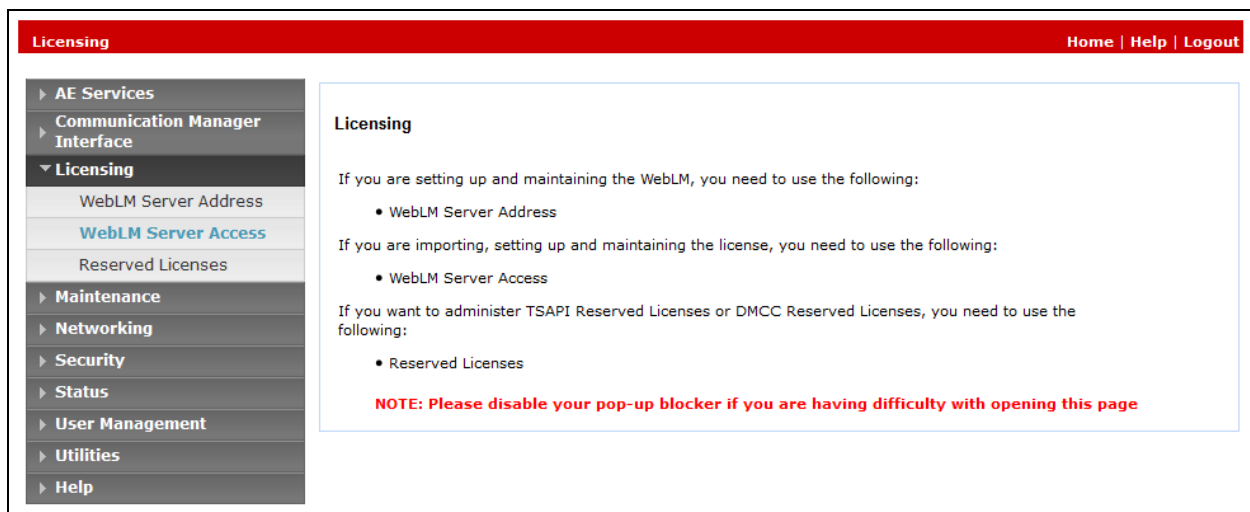
The AE Services Operations, Administration, and Management (OAM) Web provides you with tools for managing the AE Server. OAM spans the following administrative domains:

- 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.
- 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 informations.
- 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 'Licensing' screen. At the top, there is a red navigation bar with 'Licensing' on the left and 'Home | Help | Logout' on the right. On the left side, there is a dark gray sidebar menu with the following items: 'AE Services', 'Communication Manager Interface', 'Licensing' (expanded), 'WebLM Server Address', 'WebLM Server Access' (highlighted in blue), 'Reserved Licenses', 'Maintenance', 'Networking', 'Security', 'Status', 'User Management', 'Utilities', and 'Help'. The main content area has a white background and is titled 'Licensing'. It contains three sections: 'If you are setting up and maintaining the WebLM, you need to use the following:' with a bullet point for 'WebLM Server Address'; 'If you are importing, setting up and maintaining the license, you need to use the following:' with a bullet point for 'WebLM Server Access'; and 'If you want to administer TSAPI Reserved Licenses or DMCC Reserved Licenses, you need to use the following:' with a bullet point for 'Reserved Licenses'. At the bottom, there is a red note: 'NOTE: Please disable your pop-up blocker if you are having difficulty with opening this page'.

Licensing | Home | Help | Logout

AE Services
Communication Manager Interface
Licensing
WebLM Server Address
WebLM Server Access
Reserved Licenses
Maintenance
Networking
Security
Status
User Management
Utilities
Help

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

NOTE: Please disable your pop-up blocker if you are having difficulty with opening this page

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 is sufficient license for **TSAPI Simultaneous Users**, as shown below.

Web License Manager (WebLM v6.3)

[Help](#) | [About](#) | [Change Password](#) | [Log](#)

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: November 16, 2012 1:53:55 PM -07:00

License File Host IDs: 00-16-3E-C5-B5-A3

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, BasicUnrestricted, DMCUnrestricted; 1XP_001, BasicUnrestricted, , DMCUnrestricted; 1XM_001, BasicUnrestricted, DMCUnrestricted; PC_001, BasicUnrestricted, A DMCUnrestricted; CIE_001, BasicUnrestricted, A DMCUnrestricted; OSPC_001, BasicUnrestricted, A DMCUnrestricted; VP_001, BasicUnrestricted, A DMCUnrestricted; SAMETIME_001, VALUE_AES_ CCE_001, BasicUnrestricted, AdvancedUnres CSI_T1_001, BasicUnrestricted, AdvancedUnres CSI_T2_001, BasicUnrestricted, AdvancedUnres AVAYAVERINT_001, BasicUnrestricted, Advance DMCUnrestricted; CCT_ELITE_CALL_CTRL_001, AdvancedUnrestricted, DMCUnrestricted, Agent
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 'TSAPI Links' management console. On the left is a navigation pane with 'AE Services' expanded, showing 'CVLAN', 'DLG', 'DMCC', 'SMS', 'TSAPI' (expanded to show 'TSAPI Links', 'TSAPI Properties', and 'TWS'), and 'Communication Manager Interface'. The main area is titled 'TSAPI Links' and contains a table with the following data:

Link	Switch Connection	Switch CTI Link #	ASAI Link Version	Security
<input checked="" type="radio"/> 1	TR18300	1	5	Both
<input type="radio"/> 2	CM3010	1	UNKNOWN	Unencrypted
<input type="radio"/> 3	CM2141	2	UNKNOWN	Both

Below the table are three buttons: 'Add Link', 'Edit Link', and 'Delete Link'. The top navigation bar shows 'AE Services | TSAPI | TSAPI Links' and 'Home | Help | Logout'.

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 “TR18300” 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' configuration screen. The left navigation pane is the same as in the previous screenshot. The main area is titled 'Add TSAPI Links' and contains the following fields:

- Link: 1 (dropdown)
- Switch Connection: TR18300 (dropdown)
- Switch CTI Link Number: 5 (dropdown)
- ASAI Link Version: 4 (dropdown)
- Security: Unencrypted (dropdown)

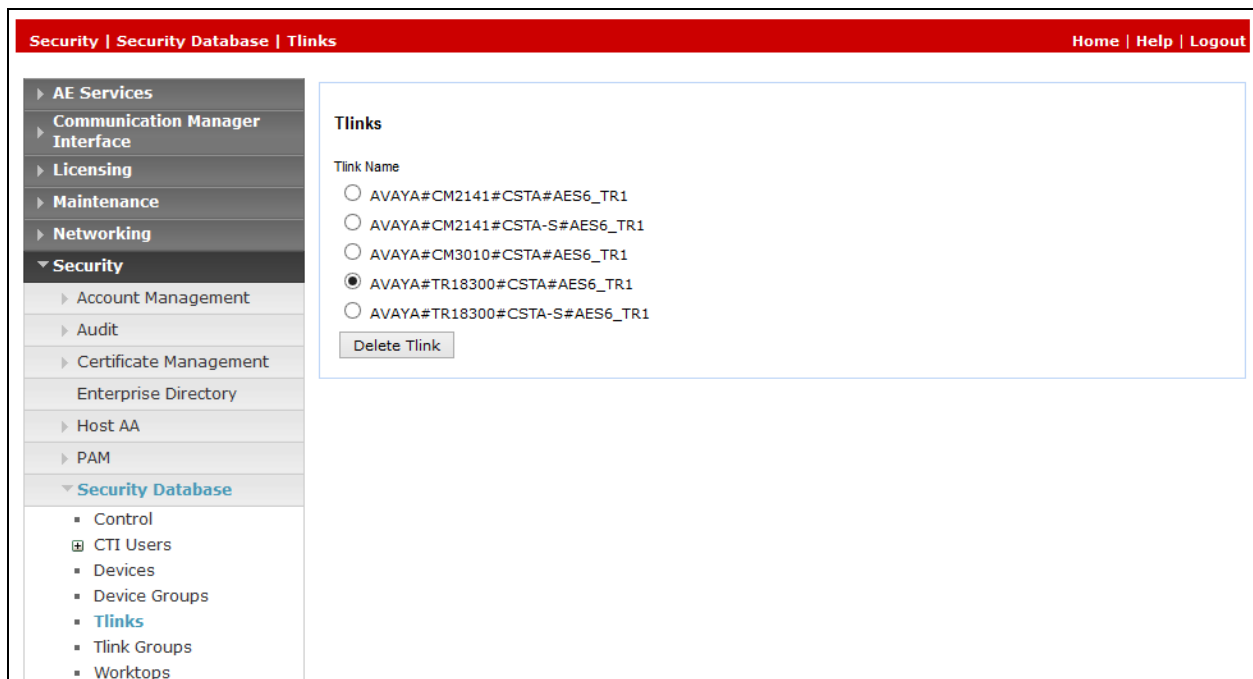
At the bottom are two buttons: 'Apply Changes' and 'Cancel Changes'. The top navigation bar shows 'AE Services | TSAPI | TSAPI Links' and 'Home | Help | Logout'.

6.4. 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#**TR18300**#CSTA#AES6_TR1”. Note the use of the switch connection “TR18300” from **Section 6.3** as part of the Tlink name.



6.5. 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**.

The screenshot shows a web application interface for the Service Controller. On the left is a navigation pane with a tree structure. The 'Maintenance' section is expanded, and 'Service Controller' is selected. The main content area on the right is titled 'Service Controller' and contains a table of services. The table has two columns: 'Service' and 'Controller Status'. Below the table, there is a note and a row of control buttons.

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	Stopped
<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

6.6. 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 shows the 'Add User' form within the 'User Management' application. The left sidebar contains a navigation menu with categories like AE Services, Communication Manager Interface, Licensing, Maintenance, Networking, Security, Status, User Management, Service Admin, User Admin, Utilities, and Help. The 'User Admin' section is expanded, showing 'Add User' as the selected option. The main content area is titled 'Add User' and includes a note: 'Fields marked with * can not be empty.' The form fields are as follows:

Field	Value
* User Id	interop
* Common Name	interop
* Surname	interop
* User Password	*****
* Confirm Password	*****
Admin Note	
Avaya Role	None
Business Category	
Car License	
CM Home	
Css Home	
CT User	Yes
Department Number	
Display Name	

Select **Security** → **Security Database** → **CTI Users** → **List All User**. Edit the user added in **Section 6.6**.

Check the **Unrestricted Access** box and **Apply Changes** at the bottom of the screen.

Security | Security Database | CTI Users | List All Users
Home | Help | Logout

AE Services
Communication Manager Interface
Licensing
Maintenance
Networking
Security
Account Management
Audit
Certificate Management
Enterprise Directory
Host AA
PAM
Security Database
Control
CTI Users
List All Users

Edit CTI User

User Profile:	<div>User ID</div> <div>Common Name</div> <div>Worktop Name</div> <div>Unrestricted Access</div>	<div>interop</div> <div>interop</div> <div>NONE</div> <div><input checked="" type="checkbox"/></div>
Call and Device Control:	<div>Call Origination/Termination and Device Status</div>	<div>None</div>
Call and Device Monitoring:	<div>Device Monitoring</div> <div>Calls On A Device Monitoring</div> <div>Call Monitoring</div>	<div>None</div> <div>None</div> <div><input type="checkbox"/></div>
Routing Control:	<div>Allow Routing on Listed Devices</div>	<div>None</div>

Apply Changes

Cancel Changes

7. Configure VPI EMPOWER Suite

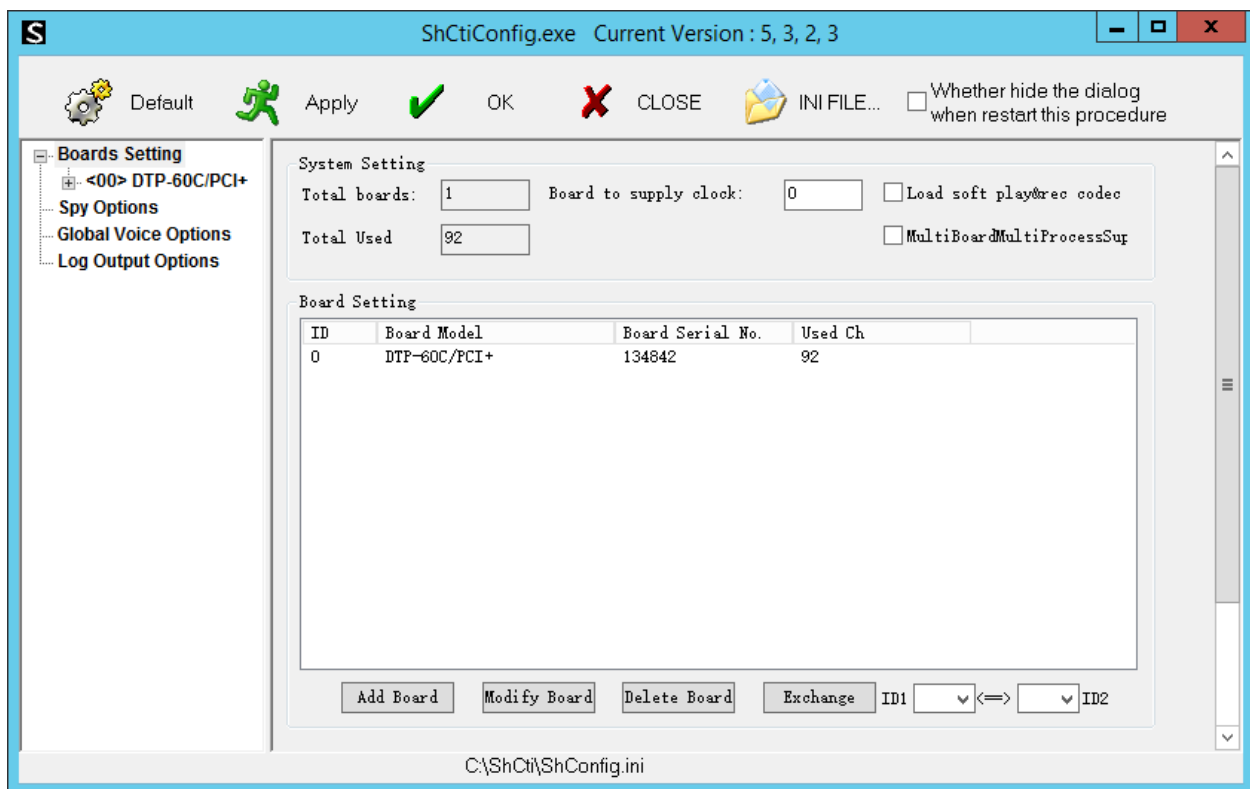
This section provides the procedures for configuring EMPOWER Suite. The procedures include the following areas:

- Configure Synway DTP Board
- Launch VPI Configuration
- Administer start/stop events
- Administer TSAPI
- 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.

7.1. Configure Synway DTP Board

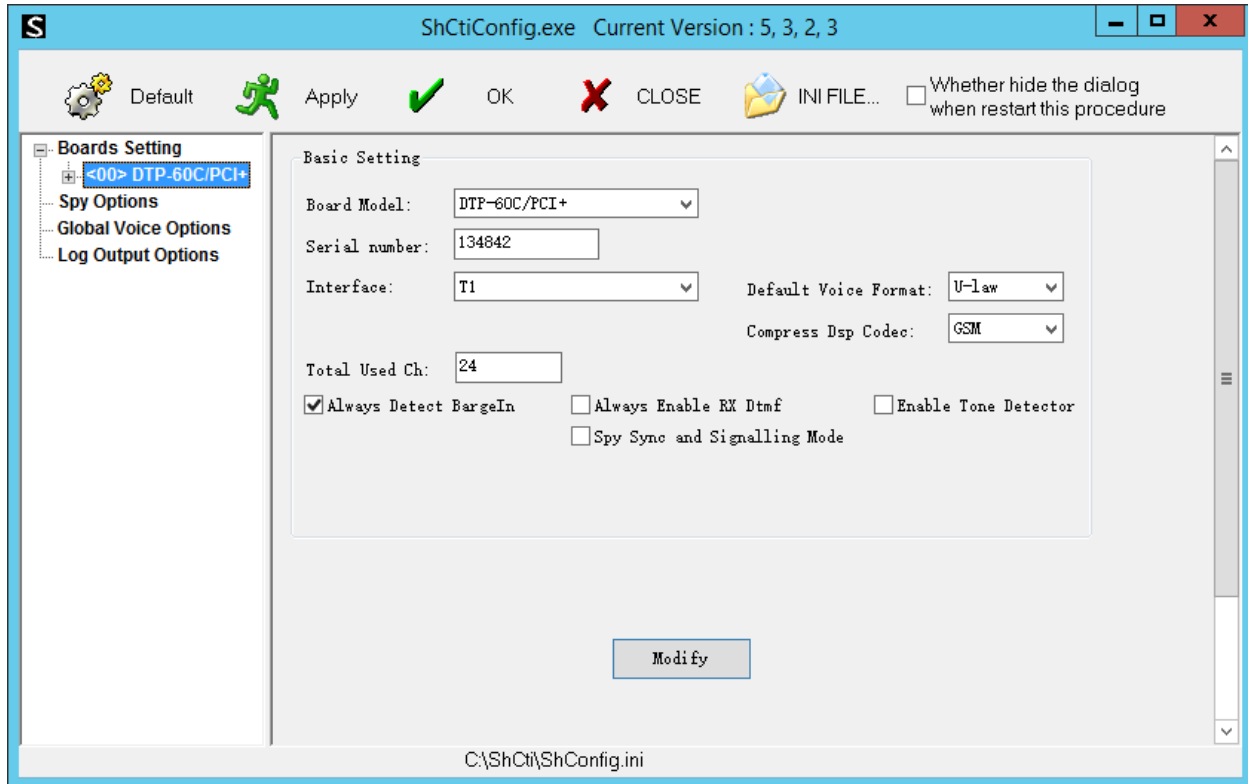
On the server running VPI EMPOWER Suite, open ShCtiConfig.exe located in c:\ShCti.



From the left pane, select the DTP board under **Board Setting**.

- Set **Interface** to **T1**.
- Set **Default Voice Format** to **U-law**.
- Set **Compress Dsp Codec** to **GSM**.
- Enter a value for **Total Used Ch**. This value will signify the total number of channels that can be configured across the 4 ports on the board.

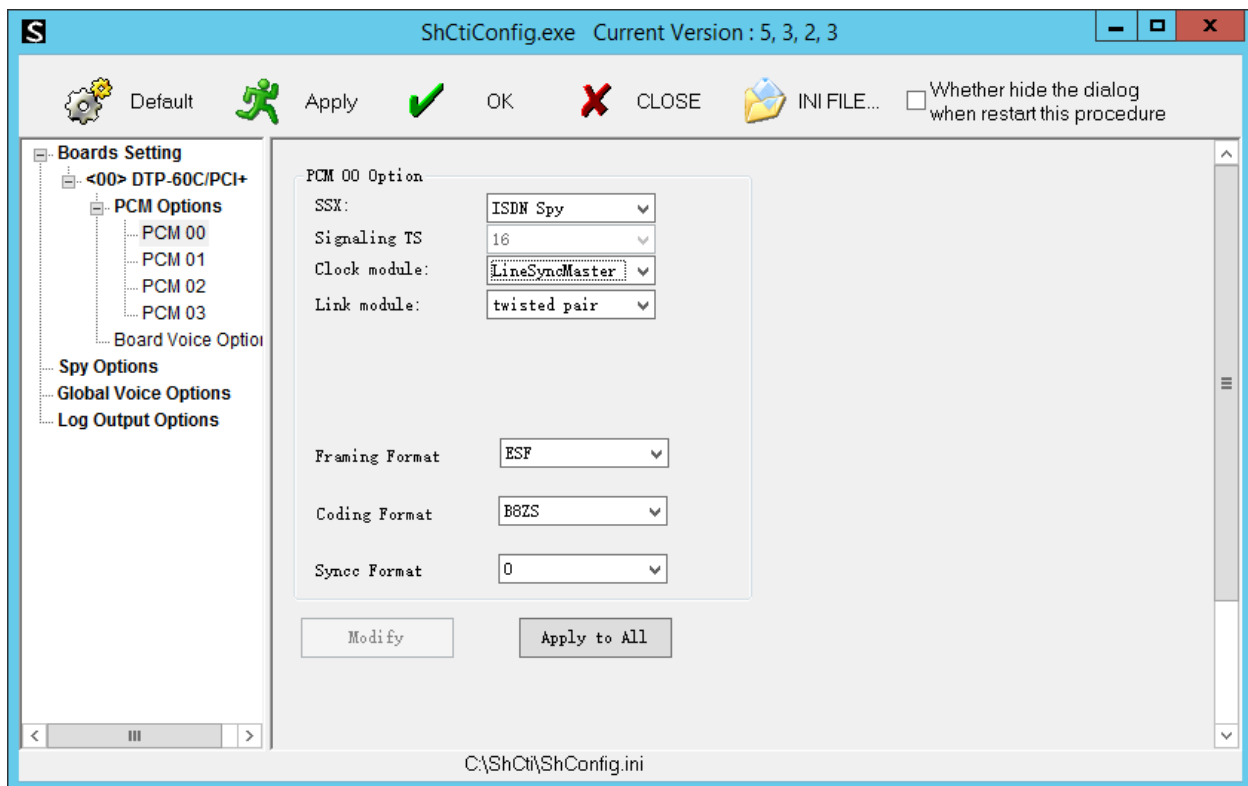
Once done, select **Modify** to save changes.



From the left pane, expand the DTP board and select the board under **PCM Options**. In this case, PCM 00, for Port number 0.

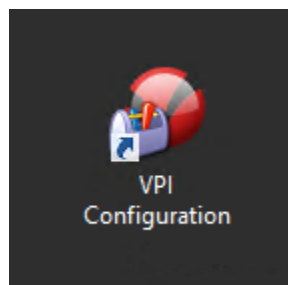
- Set **SSX** to **ISDN Spy**.
- Set **Clock module** to **LineSyncMaster**.
- Set **Link module** to **twisted pair**.
- Set **Framing Format** to **ESF**.
- Set **Coding Format** to **B8ZS**.

Please note that the **Framing Format** and **Coding Format** should match the configured values in **Section 5.4**. Once done, click **Modify** to save changes.

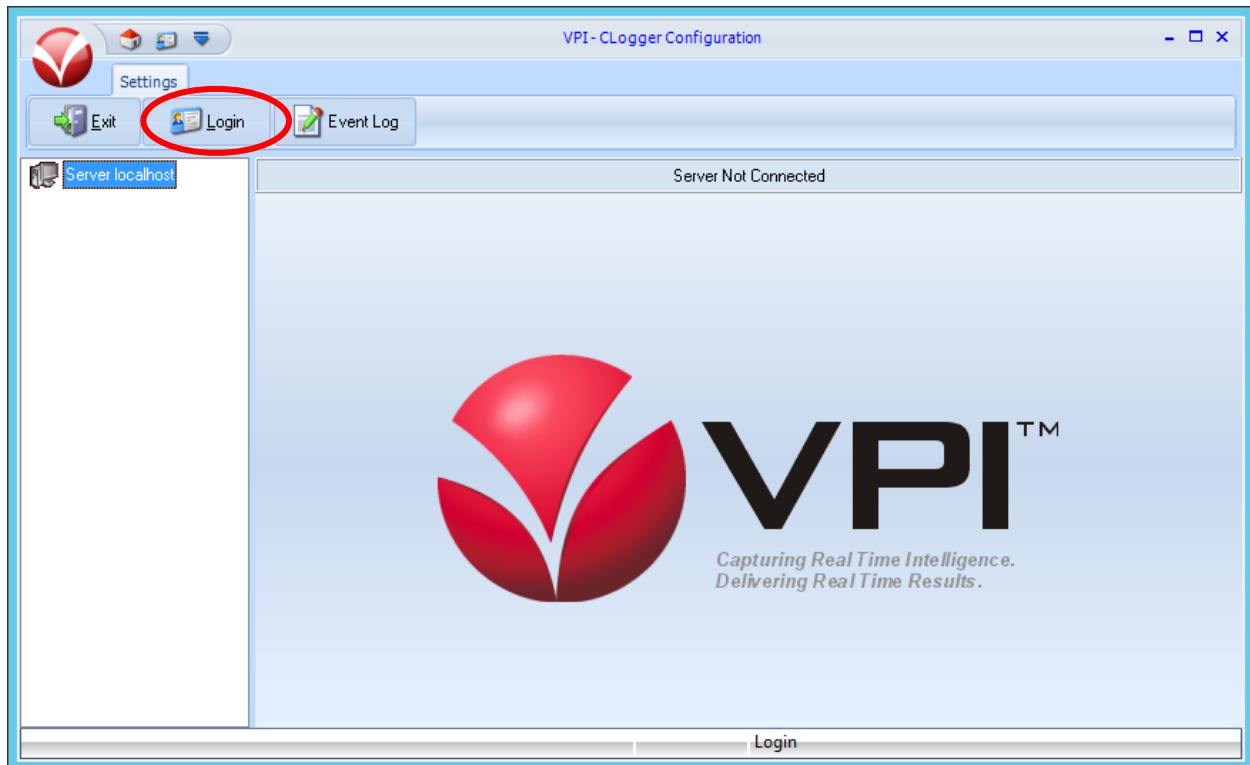


7.2. Launch VPI Configuration


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.



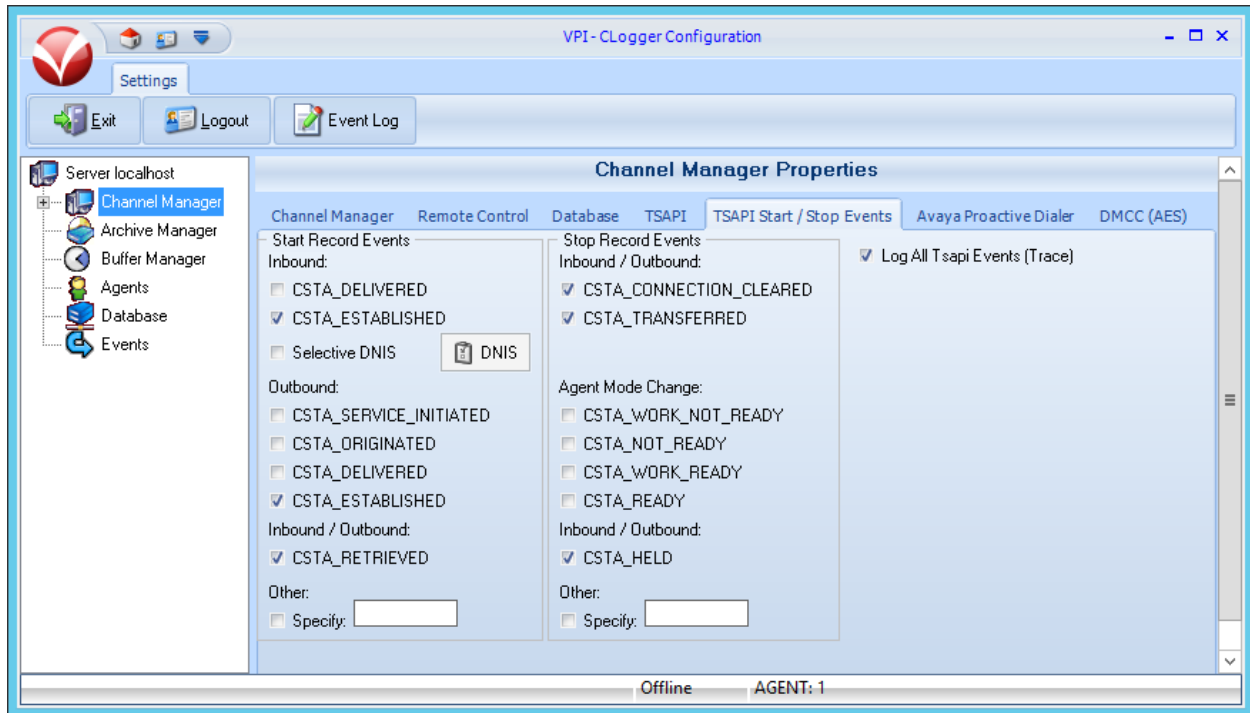
7.3. Administer TSAPI

Select the **Server localhost** → **Channel Manager** → **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 6.4**.
- **Application Username:** The VPI user credentials from **Section 6.6**.
- **Application Password:** The VPI user credentials from **Section 6.6**.
- **Switch Type:** “Avaya / Lucent”
- **ACD Groups:** The skill group extensions from **Section 3**.
- **VDNs:** The VDN extensions from **Section 3**.
- **Extensions:** The agent station extensions from **Section 3**.
- **Recording Line Type:** “Trunk Side”

The screenshot shows the VPI-CLogger Configuration window. The left pane shows a tree view with 'Server localhost' expanded, and 'Channel Manager' selected. The right pane shows the 'Channel Manager Properties' dialog box with the 'TSAPI' tab selected. The 'TSAPI' tab contains several sections: 'TSAPI Server Setup' with fields for 'Server 1 Machine' (AVAYA#TR18300#CST), 'Server 2 Machine', and 'TSAPI Device'; 'General Options' with checkboxes for 'Record All Agents' (checked), 'Lock Status Lights', and 'Use Tsapi Time Stamp'; 'Additional Monitors' with fields for 'ACD Groups' (11001), 'Trunks', 'VDNs' (10001, 10002, 10003), and 'Extensions' (25001, 25002, 25003, 25004, 25050); 'Service Observe Options' with a checkbox for 'Monitor Agent Mode Change' (checked) and a 'Feature Code' field; and 'Recording Line Type' with radio buttons for 'Extension Side' and 'Trunk Side' (selected). There are also checkboxes for 'Fail to VOX' and 'Save All ANI'. The bottom of the window shows a status bar with 'Offline' and 'AGENT: 1'.

Select the **TSAPI 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.



7.4. Administer Channels

Select **Server localhost** → **Channel Manager** → **Channels** in the left pane, to display the **Channel Properties** screen. Select all pertinent PRI trunk channels from the left portion of the **Channel Properties** screen, in this case **Channel 1-23**, and enter the following values for the specified fields in the right portion of the screen. Retain the default values for the remaining fields.

- **Use Channel:** Check this field.
- **Extension:** The PSTN trunk group number from **Section 5.5**.

VPI-CLlogger Configuration

Settings

Exit Logout Event Log

Channel Properties

Channels Idle Alarm Blackout Scheduling

#	Name / Description	Ext.
1	Channel 1	11
2	Channel 2	11
3	Channel 3	11
4	Channel 4	11
5	Channel 5	11
6	Channel 6	11
7	Channel 7	11
8	Channel 8	11
9	Channel 9	11
10	Channel 10	11
11	Channel 11	11
12	Channel 12	11
13	Channel 13	11
14	Channel 14	11
15	Channel 15	11
16	Channel 16	11

Channel 23 23

☒ Use Channel

☐ Disable Live Monitoring

☐ Use Alert Tone when Recording

TSAPI Recording Type

23 Associated Trunk Member

Additional IP Address

Additional Mac Address

Details (Overrides Agent Settings)

Extension: 11 Dept. ID: 0 Desk Location:

Group ID: 0 Class of Service: Not Used (Default)

Multicast Recording

☐ Enabled

Group IP:

Local Port: 0

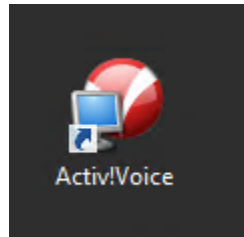
Advanced

Cancel Apply

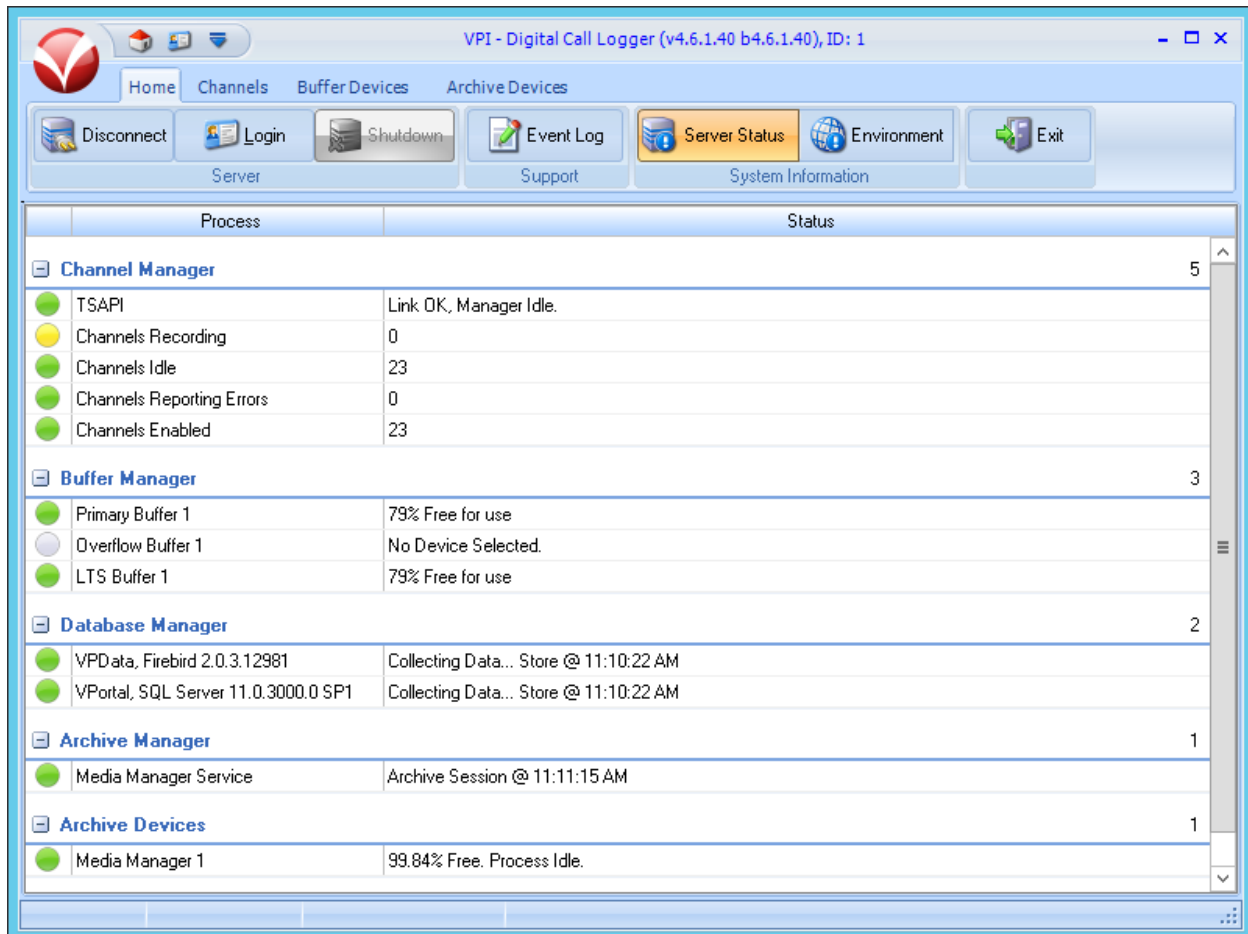
Offline AGENT: 1

7.5. 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 (v4.6.1.40 b4.6.1.40), ID: 1". The interface includes a menu bar with "Home", "Channels", "Buffer Devices", and "Archive Devices". Below the menu bar is a toolbar with buttons for "Disconnect", "Login", "Shutdown", "Event Log", "Server Status", "Environment", and "Exit". The main content area is divided into several sections: "Channel Manager", "Buffer Manager", "Database Manager", "Archive Manager", and "Archive Devices". Each section contains a table with "Process" and "Status" columns. The "Channel Manager" section shows "Channels Recording" with a yellow status icon, while all other entries have green status icons. The "Buffer Manager" section shows "Primary Buffer 1" and "LTS Buffer 1" with green status icons, and "Overflow Buffer 1" with a grey status icon. The "Database Manager" section shows "VPData, Firebird 2.0.3.12981" and "VPortal, SQL Server 11.0.3000.0 SP1" with green status icons. The "Archive Manager" section shows "Media Manager Service" with a green status icon. The "Archive Devices" section shows "Media Manager 1" with a green status icon. The status bar at the bottom of the window is empty.

8. Verification Steps

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

8.1. Verify Avaya Aura® Communication Manager

On Communication Manager, verify the status of the administered CTI link by using the “status aesvcs cti-link” command. Verify that the **Service State** is “established” for the CTI link number administered in **Section 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
1	5	no	aes6_tr1	established	28	34

8.2. 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**, and that the **Associations** column reflects the total number of monitored contact center devices from **Section 3**.

Status | Status and Control | TSAPI Service Summary

Home | Help | Logout

▶ AE Services

▶ Communication Manager Interface

▶ 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

▶ User Management

TSAPI Link Details

☐ Enable page refresh every 60 seconds

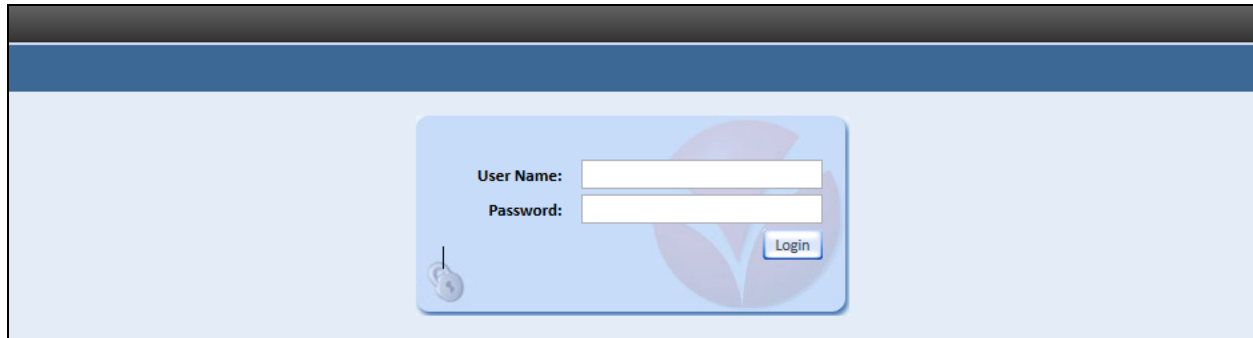
	Link	Switch Name	Switch CTI Link ID	Status	Since	State	Switch Version	Associations	Msgs to Switch	Msgs from Switch	Msgs Period
<input checked="" type="radio"/>	1	TR18300	1	Talking	Thu Dec 11 15:04:31 2014	Online	16	9	34	28	30
<input type="radio"/>	2	CM3010	1	Switch Down	Thu Dec 11 15:04:31 2014	Online	16	0	0	0	30
<input type="radio"/>	3	CM2141	2	Switch Down	Thu Dec 11 15:04:31 2014	Online	16	0	0	0	30

Online

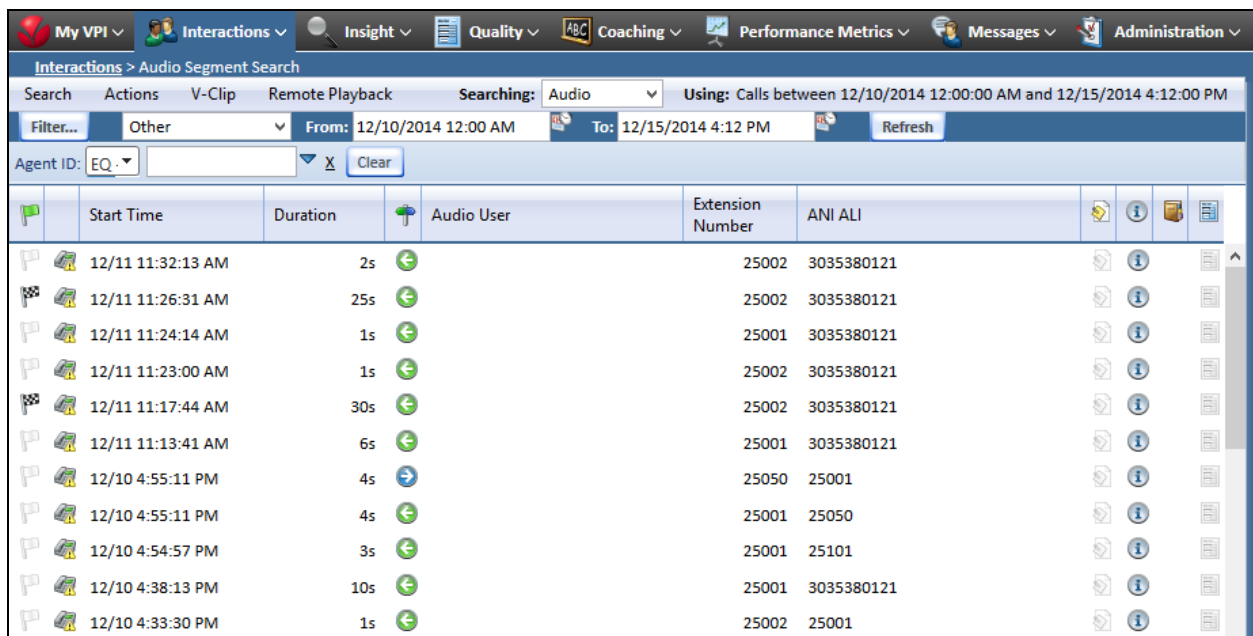
Offline

8.3. Verify VPI EMPOWER Suite

Log an agent in to the skill group to handle and complete an ACD 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 image shows the login interface of the EMPOWER Suite. It features a light blue background with a central white box containing the login fields. The fields are labeled "User Name:" and "Password:", each followed by a text input box. Below the password field is a "Login" button. To the left of the input fields is a small icon of a telephone handset. The entire interface is framed by a dark blue header and a light blue footer.

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.

The image shows a screenshot of the EMPOWER Suite interface, specifically the "Interactions > Audio Segment Search" section. The interface includes a navigation bar at the top with tabs for "My VPI", "Interactions", "Insight", "Quality", "Coaching", "Performance Metrics", "Messages", and "Administration". Below the navigation bar, there is a search bar with "Searching: Audio" and "Using: Calls between 12/10/2014 12:00:00 AM and 12/15/2014 4:12:00 PM". The search results are displayed in a table with columns: "Start Time", "Duration", "Audio User", "Extension Number", and "ANI ALI". The table contains 12 rows of call recordings. The last row in the table is highlighted in blue, indicating it is the selected entry. The table also includes a "Filter..." button and a "Refresh" button. The "Agent ID" is set to "EQ-".

Start Time	Duration	Audio User	Extension Number	ANI ALI
12/11 11:32:13 AM	2s		25002	3035380121
12/11 11:26:31 AM	25s		25002	3035380121
12/11 11:24:14 AM	1s		25001	3035380121
12/11 11:23:00 AM	1s		25002	3035380121
12/11 11:17:44 AM	30s		25002	3035380121
12/11 11:13:41 AM	6s		25001	3035380121
12/10 4:55:11 PM	4s		25050	25001
12/10 4:55:11 PM	4s		25001	25050
12/10 4:54:57 PM	3s		25001	25101
12/10 4:38:13 PM	10s		25001	3035380121
12/10 4:33:30 PM	1s		25002	25001

Double click on the entry to listen to the playback. Verify that the screen is updated and that the call recording is played back.

My VPI Interactions Insight Quality Coaching Performance Metrics Messages Administration

Interactions > Audio Segment Search

Search Actions V-Clip Remote Playback Searching: Audio Using: Calls between 12/1/2014 12:00:00 AM and 12/31/2014 12:23:00 PM

Filter... Other From: 12/1/2014 12:00 AM To: 12/31/2014 12:23 PM Refresh

Agent ID: EQ Clear

Start Time	Duration	Audio User	Extension Number	ANI ALI
12/11 3:20:49 PM	7s		25001	3035380121
12/11 3:18:12 PM	3s		25001	3035380121
12/11 11:33:50 AM	23m 12s		25001	3035380121
12/11 11:32:13 AM	2s		25002	3035380121
12/11 11:26:31 AM	25s		25002	3035380121
12/11 11:24:14 AM	1s		25001	3035380121
12/11 11:23:00 AM	1s		25002	3035380121
12/11 11:17:44 AM	30s		25002	3035380121
12/11 11:13:41 AM	6s		25001	3035380121
12/10 4:55:11 PM	4s		25050	25001
12/10 4:55:11 PM	4s		25001	25050
12/10 4:54:57 PM	3s		25001	25101

Page: 3 of 6 Go Page size: 25 Change Item 51 to 75 of 135

Audio Overview Details Analysis Grid Heat Map Maps Open in a new window

12/11/2014 11:17:44 AM Standard Settings

11:17:44 AM 11:17:51 AM 11:17:59 AM 11:18:07 AM 11:18:14 AM

[Not Specified]

00:00 / 00:30

9. Conclusion

These Application Notes describe the configuration steps required for VPI EMPOWER Suite 5.5 to successfully interoperate with Avaya Aura® Communication Manager 6.3.8 using Avaya Aura® Application Enablement Services 6.3.3. All feature and serviceability test cases were completed.

10. Additional References

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

1. *Administering Avaya Aura® Communication Manager*, Document 03-300509, Issue 10, Release 6.3, June 2014, available at <http://support.avaya.com>.
2. *Avaya Aura® Application Enablement Services Administration and Maintenance Guide*, Release 6.3, 02-300357, June 2014, available at <http://support.avaya.com>.
3. *VPI EMPOWER Avaya Channel Manager Guide*, September 2013, available on the VPI EMPOWER Suite server as part of installation.

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