



Avaya Solution and Interoperability Test Lab

Application Notes for VPI Empower R5.4 with Avaya Aura® Contact Center Release 6.3 and Avaya Communication Server 1000 Release 7.6 via Meridian Link Services – Issue 1.0

Abstract

These Application Notes describe a solution comprised of Avaya Aura® Contact Center Release 6.3 and VPI Empower R5.4. During the compliant testing, the VPI Empower R5.4 was able to connect to Contact Center Manager Server using Meridian Link Services, acquire and monitor keys of IP Phone, and record Voice over IP calls made from/to IP Phone of Avaya Communication Server 1000.

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

The objective of this interoperability compliance testing is to verify that the VPI Empower R5.4 (hereafter referred as Empower) can successfully connect to the Avaya Aura® Contact Center Release 6.3 (hereafter referred as Contact Center) using Meridian Link Services (MLS) and record Voice over IP calls for the IP Phones of Avaya Communication Server 1000 Release 7.6 (hereafter referred as Communication Server 1000).

2. General Test Approach and Test Results

The general test approach was to verify that Empower is able to acquire and monitor keys of IP Phones of Communication Server 1000 by communicating with the MLS server of Contact Center system, duplicate the media stream of monitored IP Phone and save recorded calls.

2.1. Interoperability Compliance Testing

The focus of this compliance testing was to prove and verify that Empower was able to interoperate with Contact Center and Communication Server 1000 system. The following areas were tested:

- Empower successfully utilizes MLS to access the functionality of the Contact Center Manager Server (CCMS) and Communication Server 1000 to record all calls.
- Recording provides information of the Automated Call Distribution (ACD) Agent, Dialed Number Identification Service (DNIS), Calling Line Identification (CLID), Directory Number (DN), Day/Time, Days of week, and Call Duration.
- Agent Resiliency Information.
- Multiple DN Call Recording.

2.2. Test Results

The objectives outlined in the **Section 2.1** were verified and met. All test cases were executed and they all passed.

2.3. Support

Technical support for VPI Empower can be obtained by contacting VPI via

Web: <http://www.vpi-corp.com/> or

Phone: 1-800-200-5430.

3. Reference Configuration

Figure 1 illustrates the network diagram configuration used during the compliant testing event between the Empower and Contact Center.

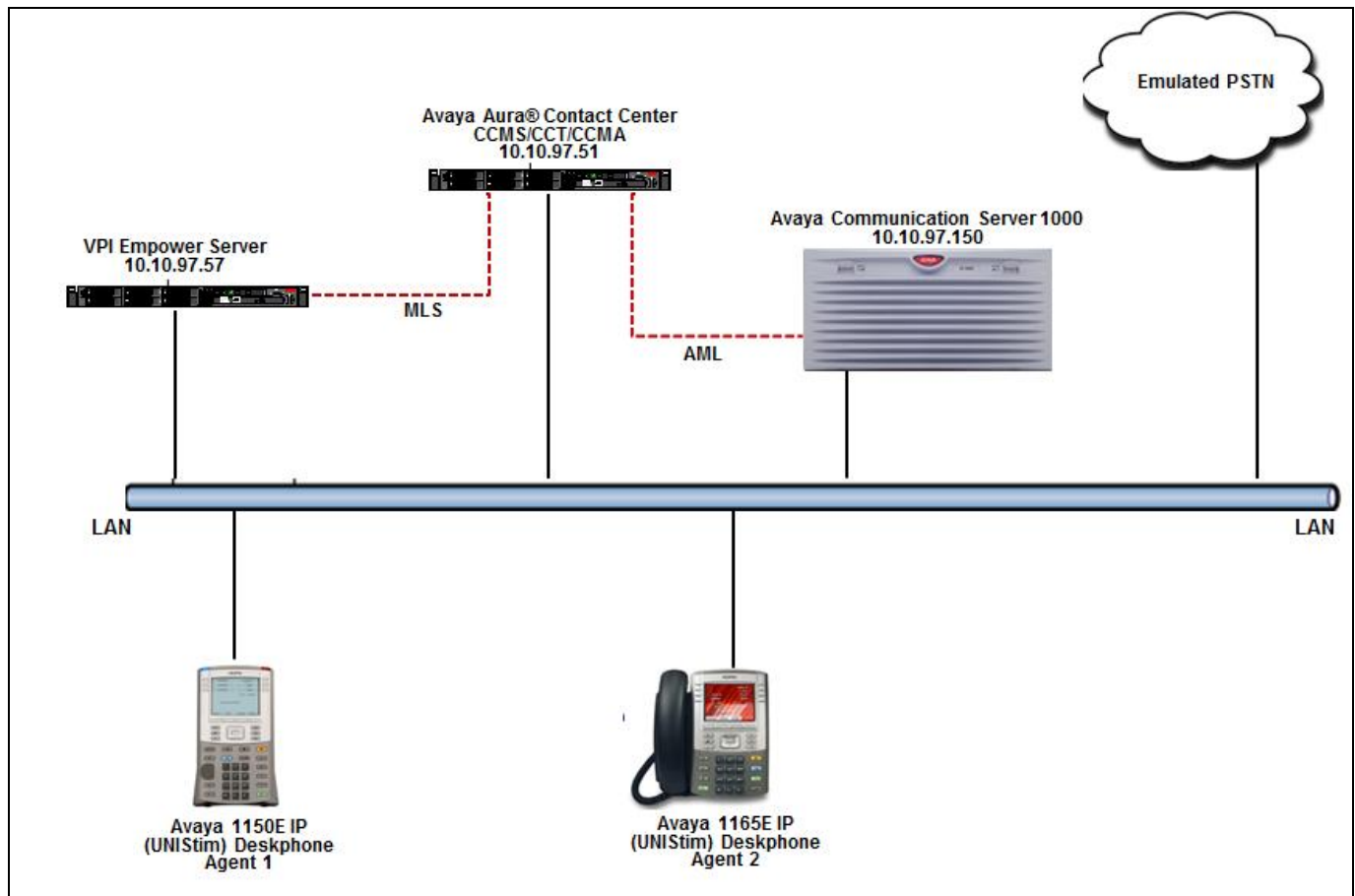


Figure 1: Network Diagram Configuration

4. Equipment and Software Validated

The following equipment and software were used during the lab testing:

Equipment	Software/Firmware
Avaya Communication Server 1000	7.65 P
Avaya Aura® Contact Center	6.3 SP10
Avaya IP (UNISTim) Deskphones: 1150E 1165E	0x27C8Q 0x25C8Q
VPI Empower Server OS	Windows Server 2008 R2 SP1 64-bit
VPI Empower	5.4 SP3

5. Configure Avaya Communication Server 1000

This document assumes that Communication Server 1000 is properly installed and configured. These Application Notes provide the necessary configuration that has to be done on Communication Server 1000 to work with Contact Center and Empower. For more information about how to install and configure Avaya Communication Server 1000, refer to **Section 10**.

5.1. Create ELAN for Contact Center application on the Call Server

Log in to the command line interface of Call Server with the appropriate credentials and issue overlay **LD 17** to access the **ADAN** gate opener to create a new ELAN for the Contact Center application. During compliance testing **ELAN 19** was created as shown below.

```
REQ  chg
TYPE  adan
ADAN  new elan 19
CTYP  elan
DES   AACC62
LCTL
```

5.2. Create VAS for the ELAN of Contact Center on the Call Server

Log in to the command line interface of Call Server with the appropriate credentials and issue overlay **LD 17** to access the **VAS** gate opener to create a value added server (VAS) for the ELAN 19 created above for the Contact Center application. During compliance testing **VSID 19** was created as shown below.

```
REQ  chg
VAS  new
VSID 19
ELAN 19
SECU
INTL
MCNT
VSID
```

5.3. Enable IPIE feature for IP call recording on the Call Server

Log in to the command line interface of Call Server with the appropriate credentials and issue overlay **LD 17** to access the **PARM** gate opener to enable the **Enhanced Unsolicited Status Message (USM) IE (IPIE)** as shown in the screen below.

```
PARM
  LPIB 3500
  HPIB 3500
  .
  .
  .
  MARP YES
  IPIE YES
  FRPT NEFR
  .
  .
```

5.4. Enable class of service RECA for IP Phone

Log in to the command line interface of Call server with the appropriate credentials and issue overlay **LD 11** to add or change the configuration of a Deskphone. Screen below shows that the **Recording Allowed (RECA)** has been added to the class of service for the deskphone.

```
DES AGENT6
TN 096 0 02 05 VIRTUAL
TYPE 1150
.
.
.CAC_MFC 0
CLS CTD FBA WTA LPR MTD FNA HTA TDD HFA CRPD
  MWA LMPN RMMD SMWD AAD IMD XHD IRD NID OLD VCE DRG1
  POD SLKD CCSD SWD LND CNDA
  CFTD SFD MRD DDV CNID CDCA MSID DAPA BFED RCBF
  ICDA CDMD LLCN MCTD CLBD AUTU
  GPUD DPUD DNDA CFXA ARHD CNTD CLTD ASCD
  CPFA CPTA ABDD CFHD FICD NAID BUZZ AGRD MOAD
  UDI RCC HBTD AHA IPND DDGA NAMA MIND PRSD NRWD NRCD NROD
  DRDD EXR0
  USMD USRD ULAD CCBF RTDD RBDD RBHD PGND OCBF FLXD FTTC DNDY DNO3
MCBN
  FDSD NOVD VOLA VOUD CDMR PRED RECA MCDD T87D SBMD
  KEM3 MSNV FRA PKCH MUTA MWTD DVLD CROD ELCD VMSA
CPND_LANG ENG
.
.
```

5.5. Configure the Associated Set Assignment (AST) for IP phone

Log in to the command line interface of Call Server with the appropriate credentials and issue overlay **LD 11** to add or change the configuration of a Deskphone. To define which key/s of IP Phone needs to be recorded, assign them at the **AST** prompt. During compliance testing, calls coming to keys **00** and **03** were recorded as shown in the screen below.

```
DES AGENT6
TN 096 0 02 05 VIRTUAL
TYPE 1150
.
.
.
SPID NONE
AST 00 03
IAPG 0
.
.
```

6. Configure Avaya Aura® Contact Center

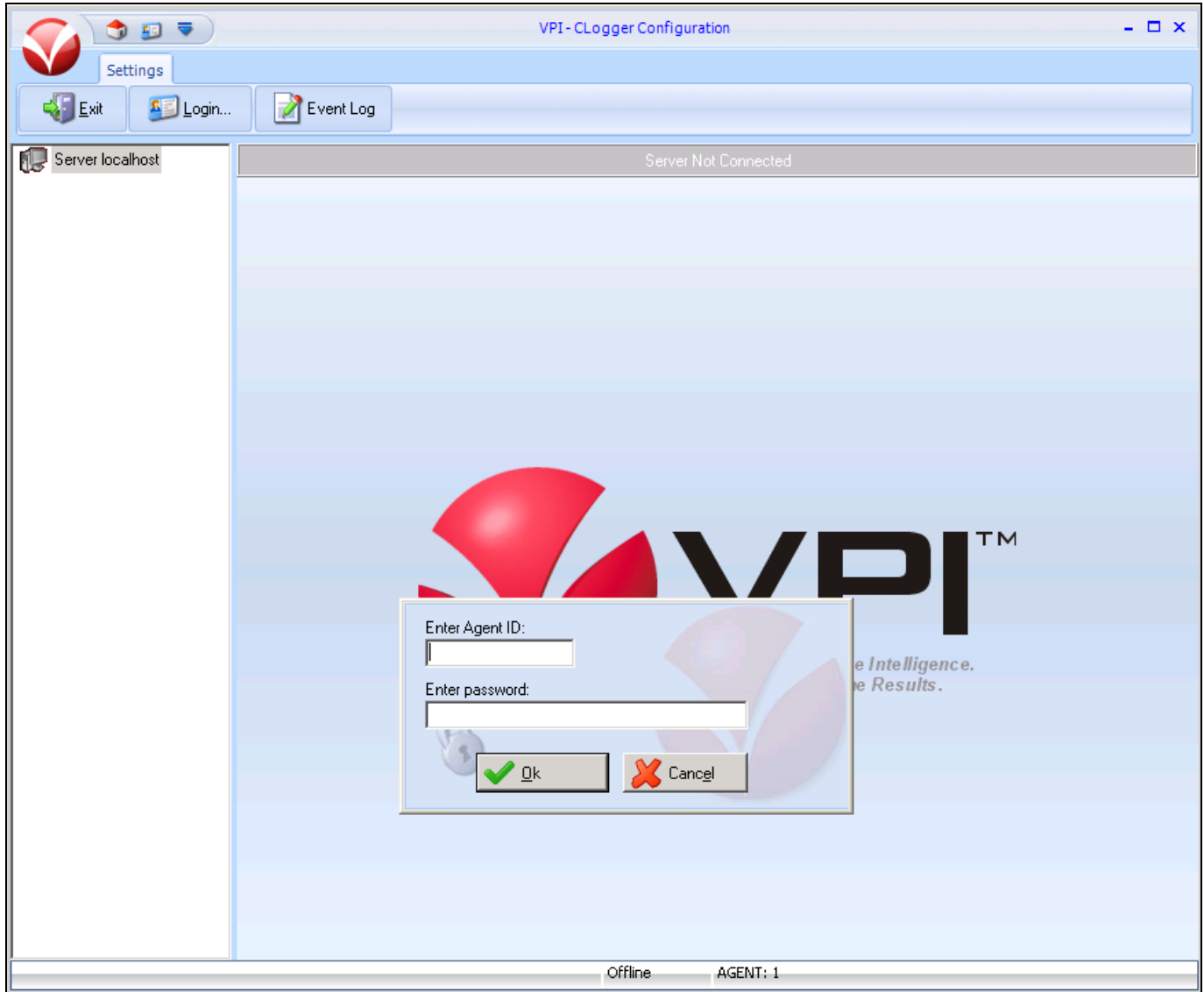
This document assumes that the Contact Center system with all its modules including CCMS and MLS are installed and configured correctly and it communicates to the Communication Server 1000. For more information how to install and configure the Contact Center please refer to **Section 10**.

7. Configure VPI Empower Server

This section provides the detailed configuration on the Empower server for recording VoIP calls of agent's deskphones residing on Communication Server 1000.

7.1. Login to Empower CLogger Configuration

Access the Login screen for Empower CLogger configuration by navigating to **Start → All Programs → VPI → Activ! Voice → VPI Configuration**. Enter the required credentials and click on the **OK** button as shown below.

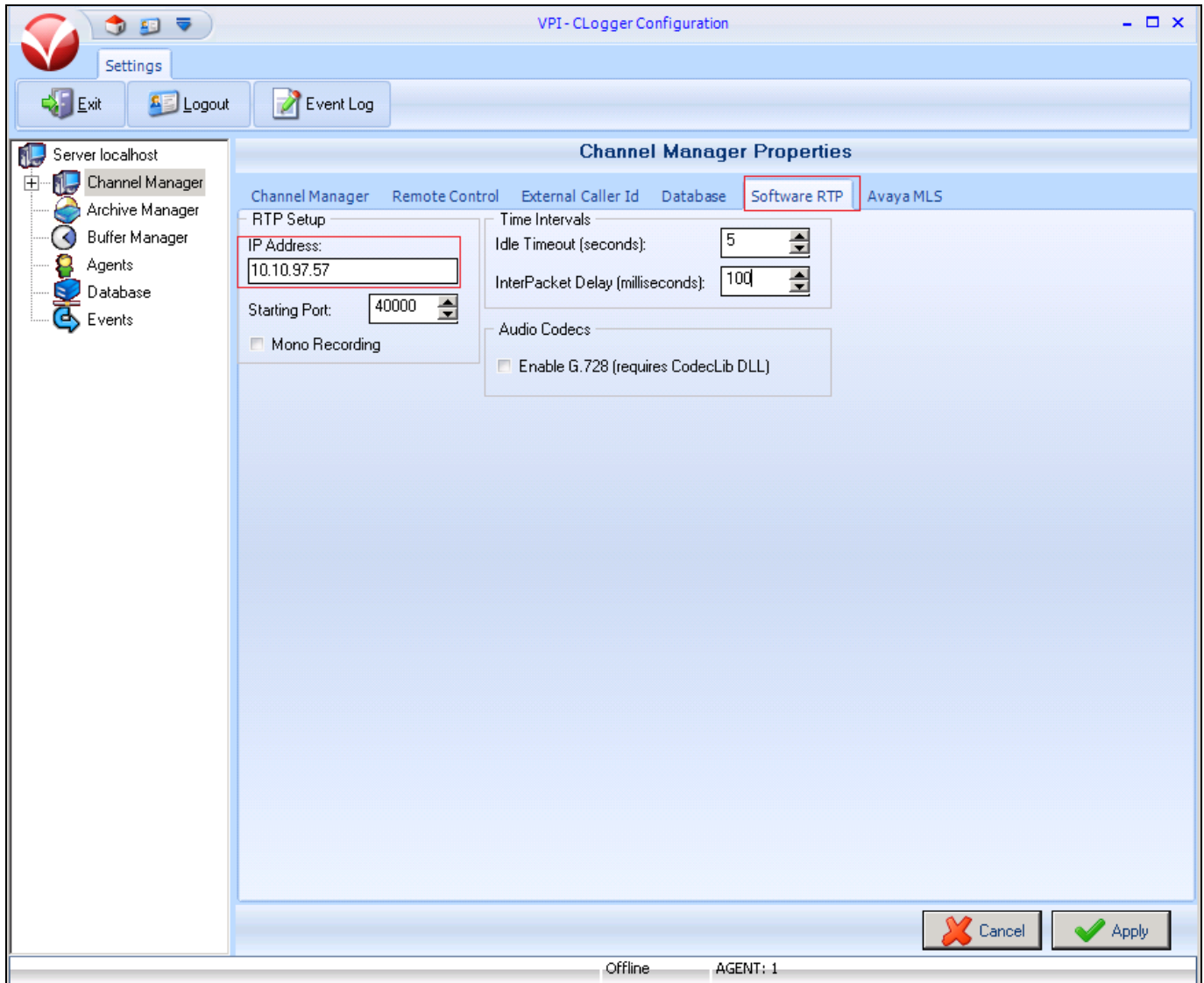


7.2. Configuring Channel Manager Properties

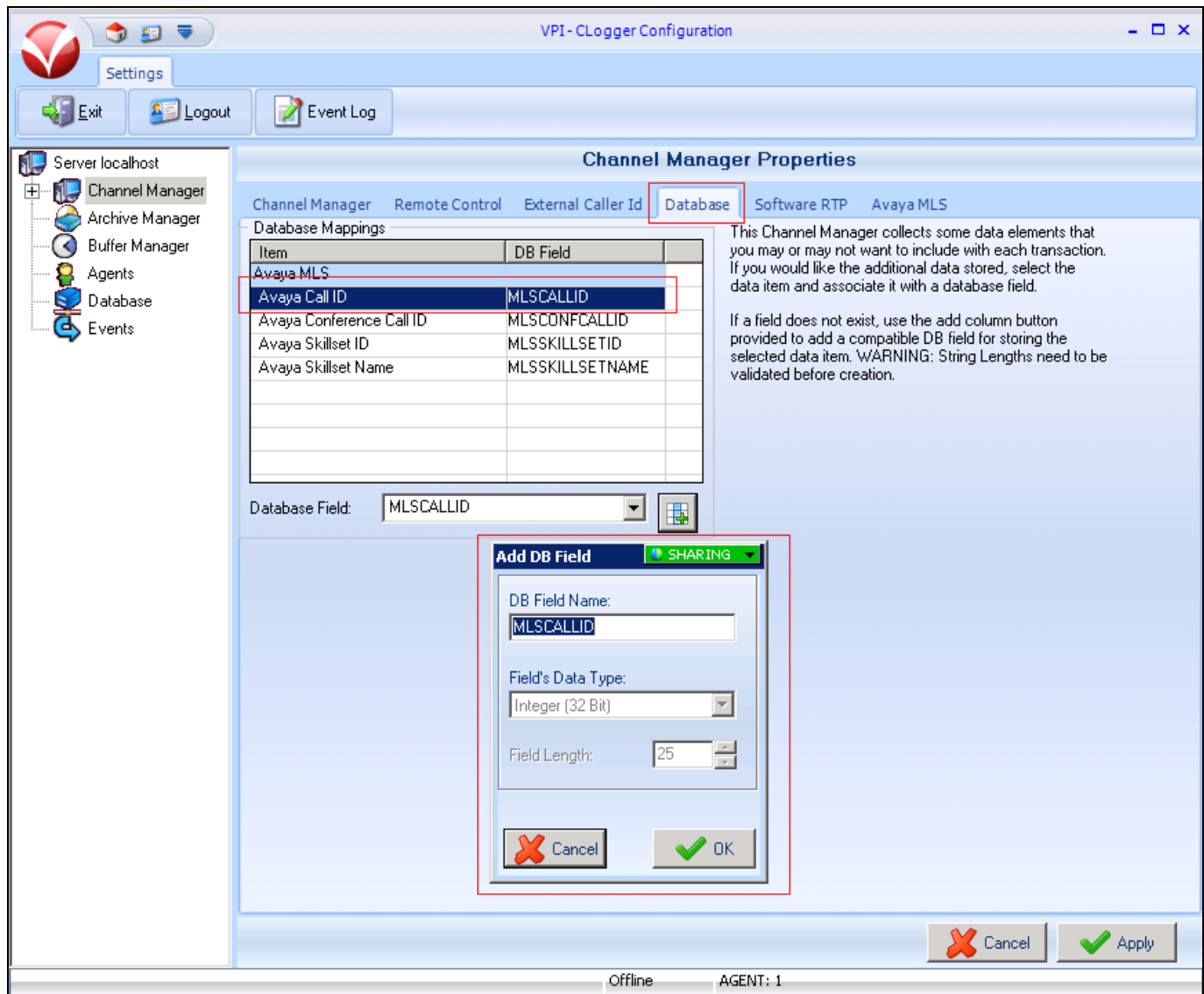
From the main screen of CLogger Configuration as shown below, navigate to **Channel Manager** → **AvayaMLS** and enter the **Server Address** of the Contact Center. During compliance testing that value was *10.10.97.51*. Retain default values for other fields.

The screenshot shows the 'VPI - CLogger Configuration' window. On the left is a tree view with 'Server localhost' expanded, showing 'Channel Manager' selected. The main area is titled 'Channel Manager Properties' and has tabs for 'Channel Manager', 'Remote Control', 'External Caller Id', 'Database', 'Software RTP', and 'Avaya MLS' (which is selected). The 'Avaya MLS' tab contains two sections: 'MLS Server Setup' and 'Misc'. In 'MLS Server Setup', the 'Server Address' field is highlighted with a red box and contains the value '10.10.97.51'. Other fields in this section include 'Server Port' (3000), 'Server Password' (empty), 'Session Host' (Lanlink), 'Switch Name' (empty), 'Customer #' (0), 'Mail Name' (empty), and 'Poll Interval' (10 seconds). The 'Supplementary Services' section has four checked options: 'Switch INIT Reason', 'Call Disconnect Info', 'Record-by-Skillset', and 'Call Forward Notification', and one unchecked option: 'Fail to VDX'. The 'Misc' section has 'Packet Timeout' (30 seconds) and a checked 'Log All Events' option. At the bottom right are 'Cancel' and 'Apply' buttons. The status bar at the bottom shows 'Offline' and 'AGENT: 1'.

From the same CLogger Configuration page as shown below, navigate to **Channel Manager** → **Software RTP** and enter the **IP Address** of the Empower server. During compliance testing that value was 10.10.97.57. Retain default values for other fields.



From the same CLogger Configuration page as shown below, navigate to **Channel Manager** → **Database** and add the required **Database Field**. During compliance testing *MLSCALLID*, *MLSCONFCALLID*, *MLSSKILLSETID* AND *MLSSKILLSETNAME* were added.



7.3. Configuring Channel Properties

To configure channels used for recording, from the CLogger Configuration page shown below, navigate to **Channel Manager** → **Channels**. During compliance testing Channels **25** and **26** were used to record Agents **1** and **2** respectively. Example shows the **Associated ACD Position ID** and **Extension** values of **1005** and **54405** for Agent 1 respectively. Retain default values for other fields.

VPI-CLogger Configuration

Settings | Exit | Logout | Event Log

Channel Properties

Channels | Idle Alarm | Blackout | Scheduling

#	Name / Description	Ext.
14	Channel 14	0
15	Channel 15	0
16	Channel 16	0
17	Channel 17	0
18	Channel 18	0
19	Channel 19	0
20	Channel 20	0
21	Channel 21	0
22	Channel 22	0
23	Channel 23	0
24	Channel 24	0
25	Agent 1	54405
26	Agent 2	54406
27	Channel 27	0
28	Channel 28	0
29	Channel 29	0
30	Channel 30	0

Agent 1 25

☒ **Use Channel**

☐ Disable Live Monitoring

☐ Use Alert Tone when Recording

☐ Always Record (VOX Emulation)

☐ Use Multi-DN Discovery when Registering Ext

1005 Associated ACD Position ID

Additional IP Address

Additional Mac Address

Details (Overrides Agent Settings)

Extension: 54405 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

8. Verification Steps

The following are typical steps to verify the interoperability between the Empower and Contact Center and Avaya Communication Server 1000.

- Ensure that the Empower can connect to the Contact Center and acquire the required information from CCMS via the MLS. The first screens below shows the **Server Status** with the **Link OK** and the second screen shows the status of the channels where one is idle and waiting for a call while the other is showing recording.

Process	Status
Channel Manager 5	
Avaya MLS, Dual Media	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 @ 7:43:39 AM
VPortal, SQL Server 11.0.3000.0 SP1	Collecting Data... Store @ 7:43:39 AM
Archive Manager 1	
Media Manager Service	Archive Session @ 7:44:04 AM
Archive Devices 1	
Media Manager 1	95.51% Free. Process Idle.

VPI - Digital Call Logger (v4.6.0.97 b4.6.0.97), ID: 1

Home Channels Buffer Devices Archive Devices

Disconnect Login Event Log

User Support

Channel Manager

Channel Manager: **Avaya MLS, Dual Media**
 Status: **Link OK, Manager Idle.**
 Total Call Count: **0** since 1/10/2014 07:46:39a

	Process	Status
Channel 16		Idle. Waiting for Call...
Channel 17		Idle. Waiting for Call...
Channel 18		Idle. Waiting for Call...
Channel 19		Idle. Waiting for Call...
Channel 20		Idle. Waiting for Call...
Channel 21		Idle. Waiting for Call...
Channel 22		Idle. Waiting for Call...
Channel 23		Idle. Waiting for Call...
Channel 24		Idle. Waiting for Call...
Zone 1		
Agent 1		Idle. Waiting for Call... (Agent: 54405)
Agent 2		Recording, Ext: 54406, Agent: 54406...
Channel 27		Channel Unused.
Channel 28		Channel Unused.
Channel 29		Channel Unused.
Channel 30		Channel Unused.

Login

- Process a call and record the same. The first screen shows the Login screen for the user to access the recordings. This can be launched by entering the IP Address of the Empower Server on a browser's URL. The second screen shows an example of a recorded call with all the required information.

User Name:

Password:

Login

My VPI Interactions Quality Coaching Performance Metrics Messages Administration Help

Interactions > Audio Segment Search

Search Actions V-Clip

Filter... Other From: 1/9/2014 0:00 AM To: 1/10/2014 7:50 AM Refresh

Agent ID: EQ X Clear

	Start Time	Duration	Agent	Extension	Number Dialed
	1/10 7:47:18 AM	38s		54406	54900
	1/10 7:44:32 AM	33s		54406	54900
	1/9 12:23:26 PM	5s		54406	54900
	1/9 12:16:11 PM	33s		54406	54900
	1/9 11:58:06 AM	55s		54405	54405
	1/9 11:58:06 AM	37s		54406	58007
	1/9 11:57:53 AM	6s		54406	54900
	1/9 11:48:24 AM	49s		54406	58007
	1/9 11:48:24 AM	43s		54405	54405
	1/9 11:48:14 AM	4s		54406	54900
	1/9 11:44:42 AM	12s		54405	54405
	1/9 11:44:24 AM	7s		54406	54900

Page: 1 of 2 Go Page size: 25 Change

Audio Overview Details Analysis Grid Heat Map Maps

1/9/2014 11:48:14 AM

11:48:14 AM 11:48:15 AM 11:48:16 AM

[Not Specified]

General Extended Information

GMT Offset -480
 Agent ID 54406
 ANI ALI Digits 54900
 Channel Name Agent 2
 Sensitivity Level 1
 objectID a520ca7c-4bae-4b65-a6c4-357dea2fa274
 dateAdded 1/9/2014 11:48:24 AM
 MLSCALLID 34870
 MLSCONFCALLID 34869
 MLSSKILLSETID 10001
 MLSSKILLSETNAME VOICE_SK1

Item 1 to 25 of 41

Open in a new window

Settings 11:48:18 AM

9. Conclusion

All of the executed test cases have passed and met the objectives outlined in **Section 2** with any observations or exceptions noted in **Section 2.2**. The VPI Empower R5.4 is considered compliant with Avaya Aura® Contact Center Release 6.3 and Avaya Communication Server 1000 Release 7.6.

10. Additional References

Product documentation for Avaya Communication Server 1000 products may be found at:

<https://support.avaya.com/css/Products/>

Product documentation for VPI Empower may be found at:

<http://www.uptivity.com/support>

[1] Avaya Communication Server 1000 Documents:

Avaya Communication Server 1000E Installation and Commissioning, March 2013, Release 7.6, NN46041- 310

Co-resident Call Server and Signaling Server Fundamentals - Avaya Communication Server 1000, March 2013, Release 7.6, NN43001-509

Software Input Output Reference —Administration Avaya Communication Server 1000, NN43001-611

Element Manager System Reference – Administration - Avaya Communication Server 1000, March 2013, Release 7.6, NN43001-632

[2] Avaya Aura® Contact Center R6.3 Documents:

Avaya Aura® Contact Center Planning and Engineering (NN44400-210) May 2013

Avaya Aura® Contact Center Installation (NN44400-311) May 2013

Avaya Aura® Contact Center Server Administration (NN44400-610) May 2013

Avaya Aura® Contact Center Overview (NN44400-111) May 2013

Avaya Aura® Contact Center Fundamentals (NN44400-110) May 2013

Avaya Aura® Contact Center Manager Administration – Client Administration (NN44400-611) May 2013.

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