

Avaya Solution & Interoperability Test Lab

Application Notes for TelStrat Engage Record v3.6 with Avaya Aura® Contact Center Release 6.3 and Avaya Communication Server 1000 Release 7.5 – Issue 1.0

Abstract

These Application Notes describe a solution comprised of Avaya Aura® Contact Center Release 6.3 and TelStrat Engage Record v3.6. During the compliant testing, the TelStrat Engage Record v3.6 was able to connect to Contact Center Manager Server using the Meridian Link Services. This allows TelStrat Engage Record to acquire and monitor keys of IP Phones, and record Voice over IP calls made from/to IP Phones registered to 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 TelStrat Engage Record v3.6 (hereafter referred as Engage Record) can successfully connect to the Avaya Aura® Contact Center's (hereafter referred as AACC) Contact Center Manager Server (hereafter referred as CCMS) using Meridian Link Server (MLS) protocol and record Voice over IP calls of the agents IP Phones that is being hosted by Avaya Communication Server 1000 (hereafter referred as Communication Server 1000).

2. General Test Approach and Test Results

The general test approach was to verify the Engage Record is able to acquire and monitor keys of the agents IP Phones that are configured on a Communication Server 1000 by communicating with the CCMS of AACC system using the MLS protocol, duplicate the media stream of monitored IP Phone and save recorded 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 focus of this compliance testing was to verify that Engage Record was able to interoperate with AACC and Communication Server 1000 system. The following functional areas were tested:

- Engage Record successfully utilizes the CCMS to provide Global Logging (record all calls).
- Selective Recording based on a combination of Automatic Call Distributor (ACD) Agent, Dialed Number Identification Service (DNIS), Calling Line Identification (CLID), Port Numbers, Directory Number (DN), Day/Time, Days of week, and Call Duration.
- Quality Monitoring: 1 of n calls.
- Record On-Demand.
- Agent Resiliency Information.
- Multiple DN Call Recording.
- Recording of a conference call.
- Serviceability tests.

2.2. Test Results

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

2.3. Support

Technical support for TelStrat can be obtained by contacting TelStrat via

Email: support@telstrat.com
Phone: +1-972-633-4548

3. Reference Configuration

Figure 1 illustrates the network diagram configuration used during the compliance testing between the

Engage Record and AACC.

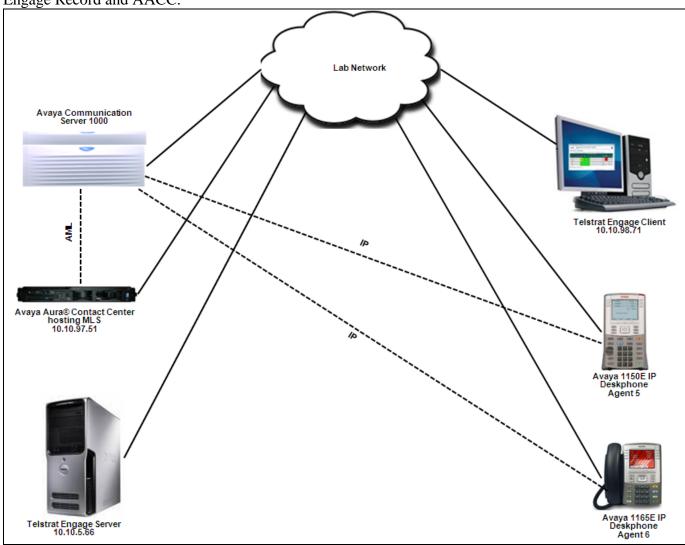


Figure 1: Network Diagram Configuration

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Communication Server 1000	7.50 Q
Avaya Aura® Contact Center on	6.3.208.0 (Build 0487)
Windows 2008 R2 Standard SP1	
Avaya 1150E IP Deskphone	C8J
Avaya 1165E IP Deskphone	C8J
TelStrat Engage Record Server on	3.6.1.15
Windows 2008 Server Standard SP2	
TelStrat Engage Client on Windows	3.6.1.15
XP Pro	

5. Configure Avaya Communication Server 1000

This document assumes that the Communication Server 1000 has been installed and pre-configured. These Application Notes provide the necessary configuration that has to be done on Communication Server 1000 to work with AACC and Engage Record. For more information about how to install and configure Communication Server 1000, refer to **Section 10** [1].

5.1. Create ELAN for Avaya Aura® Contact Center Application

Log in to the command line interface (CLI) of the Communication Server 1000 using the proper credentials (not shown) and issue overlay **LD 17** to create a new ELAN for the AACC application. Screen below shows an already configured ELAN 17.

```
ADAN ELAN 17
CTYP ELAN
DES For_AACC
N1 512
```

5.2. Create VAS for the ELAN of Avaya Aura® Contact Center Application

Using the CLI, issue overlay **LD 17** to create a value added server (VAS) for the ELAN 17 that was configured above for the AACC application. Screen below shows an already configured VSID 17.

```
VSID 017
ELAN 017
SECU YES
INTL 0001
MCNT 9999
```

5.3. Enable IPIE feature for IP call recording

Using the CLI, issue overlay **LD 17** to enable the Enhanced Unsolicited Status Message (USM) IE (IPIE) under the System Parameters (PARM) gate opener as shown in the screen below.

```
.
.
DUR5 NO
MLDN YES
MARP YES
IPIE YES
FRPT NEFR
DCUS 5
.
```

5.4. Enable class of service RECA for Agents IP Phone

Using CLI, issue overlay **LD 20** to enable the recoding allowed (RECA) class of service for agents IP Phone that needs to be recorded as shown in screen below.

```
CAC MFC 0
CLS
     CTD FBD WTA LPR MTD FND HTD TDD HFA CRPD
     MWD 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 RCBD
     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 AHD IPND
                            DDGA NAMA MIND PRSD NRWD NRCD NROD
     DRDD EXRO
     USMD USRD ULAD CCBD RTDD RBDD RBHD PGND OCBD FLXD FTTC DNDY DNO3
MCBN
     FDSD NOVD VOLA VOUD CDMR PRED RECA MCDD T87D SBMD
     KEM3 MSNV FRA PKCH MUTA MWTD DVLD CROD ELCD
CPND LANG ENG
```

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

Using CLI, issue overlay **LD 20** to define which key of agents IP Phone is recorded by assigning the AST with a number of key. In this example, the AST is set to 00 which is the key 0 of the agents IP phone and Engage Record will monitor and record this key.

```
.
.
DANI NO
SPID NONE
AST 00
IAPG 0
.
```

6. Configure Avaya Aura® Contact Center

This document assumes that CCMS of AACC has been pre-configured and that the MLS protocol is running successfully. Also, assumption is made that AACC communicates properly with the Communication Server 1000 using the Application Module Link (AML). For more information on how to install and configure the AACC please refer to **Section 10 [2].**

7. Configure Engage Record Server and Client

This section provides detailed configuration of Engage Record server and client for recording VoIP calls that are presented to the agents' IP phones that are configured on the Communication Server 1000. For more information on how to install and configure the Engage Record please refer to **Section 10** [3].

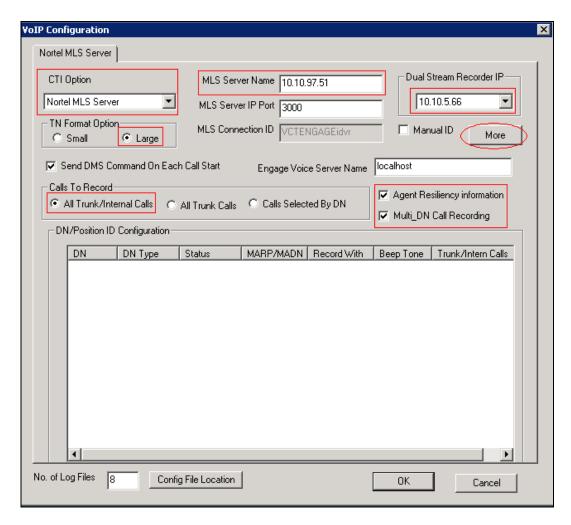
7.1. Configure Engage Record Server

Log in to the Engage Record server as administrator with the proper credentials (not shown). To configure VoIPEngine for the Engage Record Server, navigate to menu **Start** \rightarrow **All Programs** \rightarrow **TelStrat** \rightarrow **VOIP Engine Configuration** (not shown). The VOIP Engine Configuration panel appears as shown in screen below.



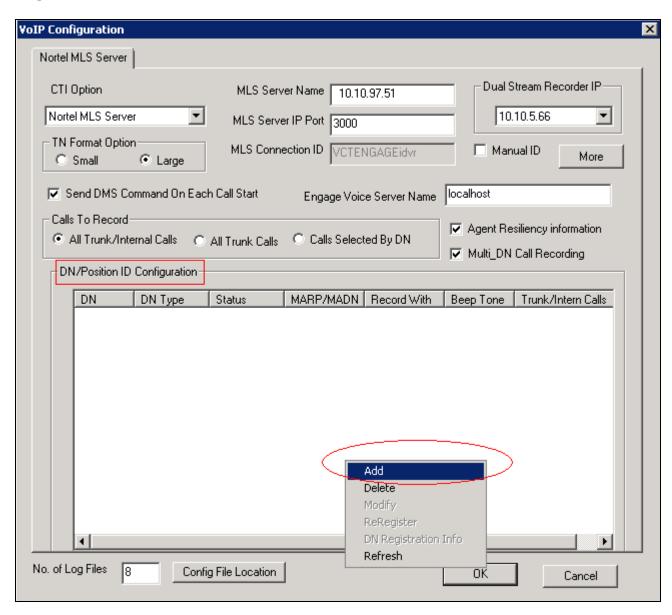
Click on **Config** as seen on the screen above to configure the **VoIP Configuration**. Screen below shows the values configured during the compliance testing.

From the **CTI Option** drop down menu, select *Nortel MLS Server*. For **TN Format Option** select the radio button for *Large*. Enter the IP address of the CCMS MLS server for the **MLS Server Name field**. From the **Dual Stream Recorder IP** drop down menu, select the IP address of the Engage Server. Select the *All Trunk/Internal Calls* radio button for the **Calls to Record** field. Click on **More** button and select the *Agent Skillset* box (not shown). Select the *Agent Resiliency information* and *Multi_DN Call Recording* boxes. Retain default values for all other fields.



7.2. Add a Regular DN or ACD Position ID

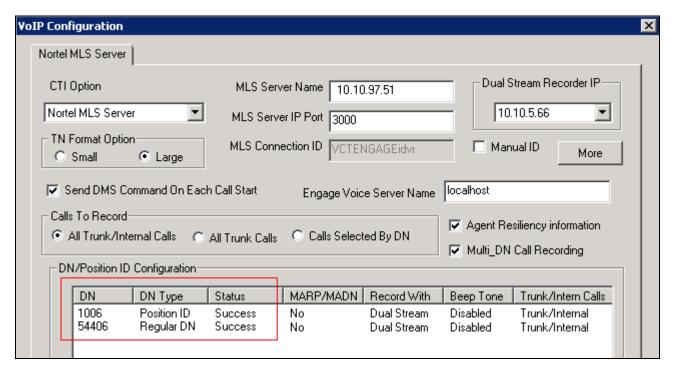
To monitor and record for a DN/ Position of agent phone, it needs to be configured by adding the DN in the **DN/Position IP Configuration** window. Right click the mouse on the **DN/Position ID Configuration** section and select **Add** button as shown in screen below.



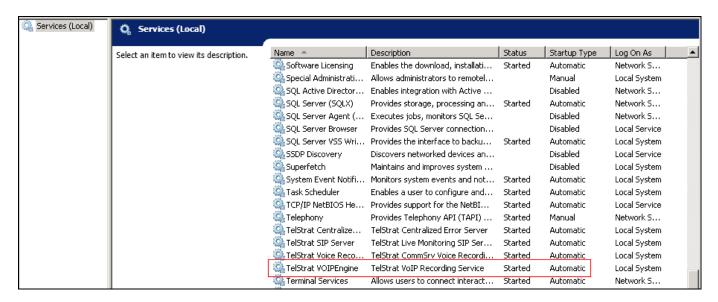
The **DN Registration** window appears as shown in screen below. Here under the **DN Type** either a *Regular DN* or an *ACD Position ID* that needs to be recorded can be selected by clicking on the appropriate radio button. Based on this selection, enter the regular DN or ACD Position ID in the **DN** field. Also an option is provided to record a *MARP/MADN* of a Regular DN. For **Recording Stream** select the *Dual Stream* radio button, for this was the only option that was tested during compliance testing. Click on **Add** to complete the configuration.



When an ACD Position ID or Regular DN is added for the first time, the status shows as *Not Initialized* (not shown). As soon as call is made from/to this Regular DN or Position ID the status changes to *Success*. Screen below shows a Position ID and Regular DN that were added successfully.



Stop and start the **TelStrat VOIPEngine** service in the services category of Windows for the above configuration changes to be affected.



Note: The Multi_DN Call Recording feature of Engage benefits from a new feature of AACC called Multiple DN Registration that enables CTI third party application to control as many keys of IP Phone as they want via MLS without assigning AST for IP Phone. The Multiple DN Registration feature needs to be enabled in the license of AACC.

7.3. Configure Engage Record Client

This section explains the configuration using the Engage Record Client to add ACD Agents and Ports that will be monitored for recording.

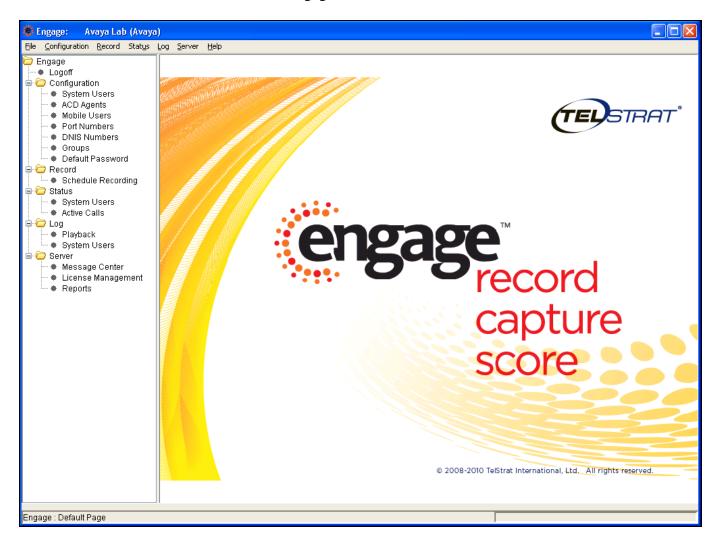
It is assumed that the Engage Record Server has been successfully installed and the required recording services are running on it. Assumption is also made that the Engage Record Client has been successfully installed. For additional information on Engage Record suite installation and configuration refer to **Section 10 [3].**

To access the Engage Record Client, navigate to **Start** → **All Programs** → **TelStrat Engage** → **Engage Client** from the equipment it is installed on.

Enter credentials and IP address of Engage Record server as shown in screen below and then click on the **OK** button.



Screen below shows the main window of Engage Record Client.



7.4. Adding ACD Agent/s

To add an ACD Agent/s that Engage Record needs to record, navigate to **Engage** → **Configuration** → **ACD Agents**. Select **ACD Agents** and right click the mouse button and the **Create** option is seen as shown in the screen below. The same **Create** option can also be selected by right clicking the mouse button under the **ACD Agents** column (not shown).



The **Engage: Create ACD Agent(s)** screen is presented as shown below. Enter the login ID of the agent in the **ACD Agent** field and populate the agents **Last**, **First** and **Mi** name information in the **Name** fields. Click **OK** to complete the configuration. The information in **Name** field is optional.

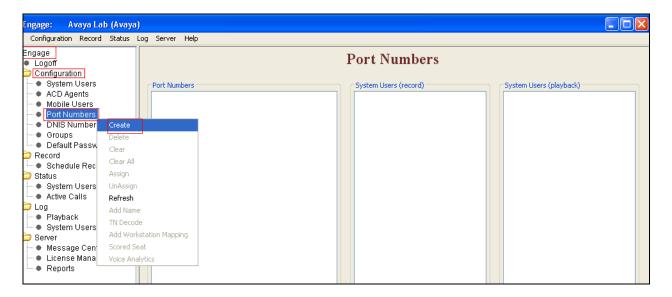


Screen below shows the successful creation of an agent in the ACD Agents column.

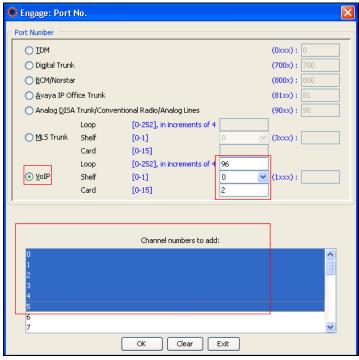


7.5. Adding Port Numbers

To add Port Numbers that Engage Record needs to record, navigate to **Engage** \rightarrow **Configuration** \rightarrow **Port Numbers**. Select **Port Numbers** and right click the mouse button and the **Create** option is seen as shown in the figure below. The same **Create** option can also be selected by right clicking the mouse button under the **Port Numbers** column (not shown).



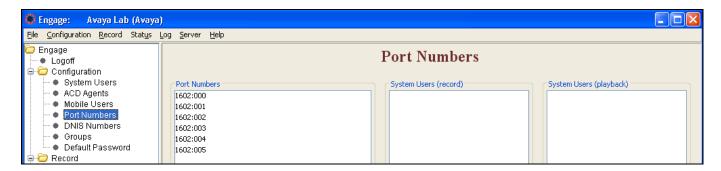
The **Engage: Port No.** screen is presented as shown below. Select the **VoIP** radio button and enter the *Loop*, *Shelf* and *Card* information of the IP Phones that need to be recorded. During compliance testing the IP phones were configured on **096 0 2** of the Communication Server 1000. Select the Channel numbers to add for this respective Loop, Shelf and Card. A range of channels can be selected by clicking on the first channel and then holding down the shift key and selecting the last channel under the **Channel numbers to add:** field. Click on **OK** to complete the configuration.



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Screen below shows the successful creation of port numbers in the **Port Numbers** column.



7.6. Create Recording Criteria

This section describes the recording criteria that can be built using the Engage Record Client to record calls going on the IP Phones. Different recording criteria can be configured, for example,

- Record All, where no filters are set and all options are included for recording.
- Selective Recording, where user can select which components of the IP phone need to be recorded like a particular agent, a particular port, a particular DN etc.
- Quality monitor, where a certain frequency of calls can be selected to be recorded.

To create recording criteria, navigate to **Engage** → **Record** → **Schedule Recording**. Select **Schedule Recording** and right click the mouse button and the **Create** option is seen as shown in the figure below. The same **Create** option can also be selected by right clicking the mouse button under the **Schedule Recording Criteria** column (not shown).



The **New Criteria** window appears as shown in the screen below. Enter a name in the **Criteria Name** field and click on the **OK** button to go to the next step.

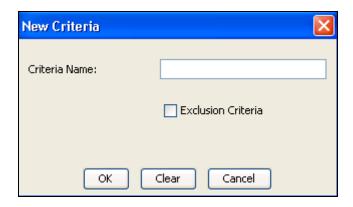
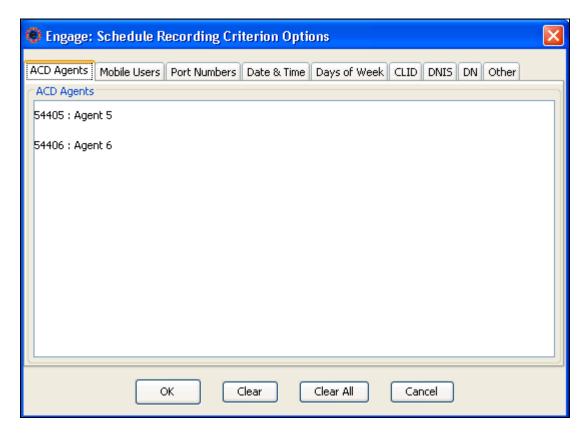


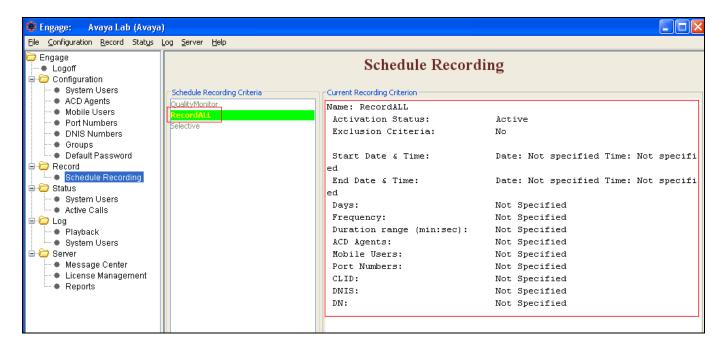
Figure 26: New Criteria window

The **Engage: Schedule Recording Criterion Options** window is shown below. From the various tabs users can create criteria with the required fields that need to be recorded. Click on **OK** to complete building the required recording criteria.

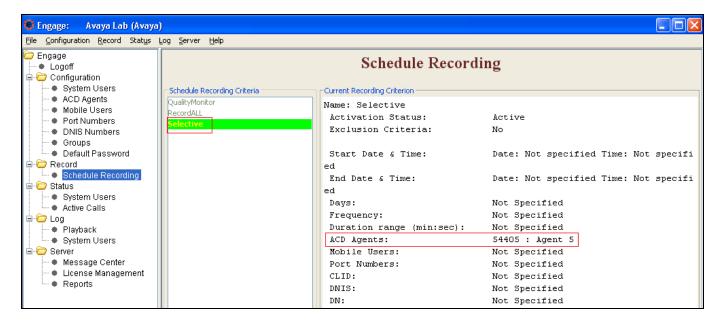


A few examples of the criterion built during compliance testing are shown below.

Screen below shows the **RecordAll** criterion which shows that all calls will be recorded and there are no filters set.



Screen below shows the **Selective** criterion which shows that only calls from/to *54405*: *Agent 5* will be recorded. No other filters are configured.



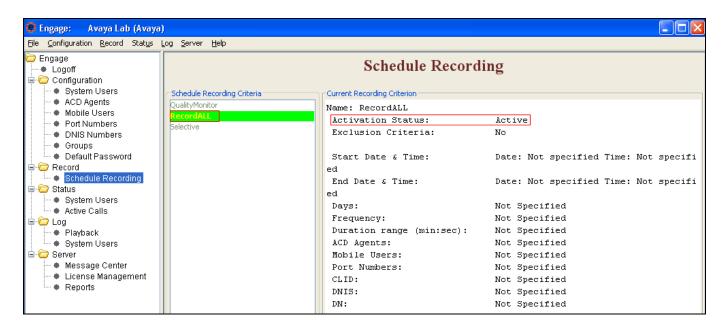
Screen below shows the **QualityMonitor** criterion which shows that only *1 of 3* calls will be recorded. No other filters are configured.



Once the criteria are built, they need to be activated before the calls can be recorded. In the screen below the criteria **RecordAll** can be activated by selecting the criteria first and then right click the mouse button and click on **Activate**.



Screen below now shows the **RecordAll** criteria active.



8. Verification Steps

The following tests were conducted to verify the interoperability between the Engage Record, AACC and Communication Server 1000.

Verify that the Engage Record server successfully connects to the AACC CCMS and utilizes the
MLS protocol. Engage Record Status information can be acquired by clicking on the Status of the
Engage VoIPEngine Config Console as shown in the screen below.



- Verify that an agent or regular DN can be added successfully as explained in **Section 7.2**.
- Verify that Engage Record can acquire and monitor keys of IP Phone by AST Registration of AACC by logging into the CLI of Communication server 1000 and issuing PRT in overlay LD 20 for the IP Phone as shown in screen below.

```
AST
     00 03
IAPG 0
AACS YES
ACQ AS: TN, AST-DN, AST-POSID
ASID 17
MRCD 0
         3
                                                     15
SFNB
      1
         2
             3
                   5
                       6
                          7
                             8
                                9
                                   10
                                        11
                                            12
                                                13
                                                         16
                                                              17
                                                                  18
                     25
                          26 28
                                  29
    21
        22
             23
                 24
                                                    35
19
                                       31
                                           33
                                               34
                                                        36
                                                            37
                                                                 38
39
SFRB
     1
             15
             3
                   5
USFB
                4
                       6
                             9
                                10
                                    11
                                         12
                                             13
                                                  14
                                                      15
CALB
    0
        1 3 4 5
                      6
                        8
                           9
                                10
                                    11
                                         12
FCTB
ITNA NO
DGRP
PRI
     01
MLWU LANG 0
MLNG ENG
DNDR 0
KEY
     00 ACD 54901 0 1005
AGN
01 NRD
02 MSB
03 SCR 54405 0
                    MARP
CPND
CPND LANG ROMAN
NAME Agent6 54405
XPLN 23
DISPLAY FMT FIRST, LAST
```

Verify that Engage Record can acquire and monitor keys of IP Phone by Multi_DN Registration of AACC by logging into the CLI of Communication server 1000 and issuing PRT in overlay LD 20 for the IP Phone as shown in screen below.

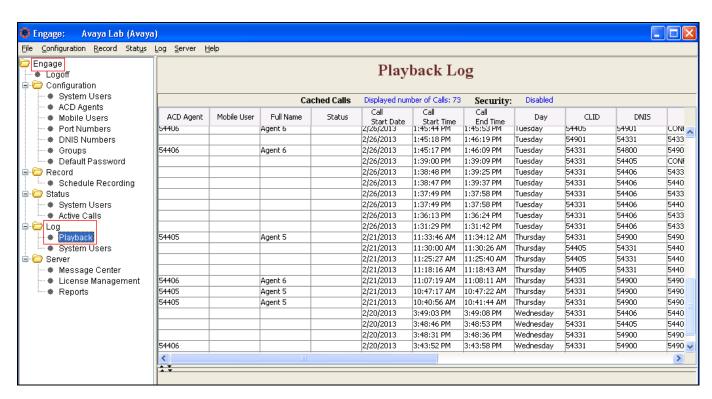
```
AST
IAPG 0
AACS YES
ACQ AS: MDR
ASID 17
         3
MRCD 0
SFNB 1
         2
            3
               4
                  5
                     6
                        7
                           8
                              9
                                10
                                     11
                                         12
                                             13
                                                 15
                                                    16
                                                         17
                                                             18
                    25
                        26 28
                                    31
19 21
        22
            23
                24
                                29
                                        33
                                            34
                                                35 36
                                                        37
                                                            38
39
SFRB
    1
            15
         2
            3
                5
                        7
                          9
                             10
                                  11
                                      12
                                          13 14
                                                  15
USFB
     1
               4
                     6
CALB 0 1 3 4 5
                     6
                       8 9
                              10
                                  11
                                      12
FCTB
ITNA NO
DGRP
PRI
     01
MLWU LANG 0
MLNG ENG
DNDR 0
KEY 00 SCR 54405 0
                       MARP
        CPND
          CPND LANG ROMAN
            NAME
            XPLN 23
            DISPLAY FMT FIRST, LAST
     01 NRD
     02 MSB
     03 SCR 54406 0
                       MARP
        CPND
          CPND LANG ROMAN
            NAME
            XPLN 23
            DISPLAY FMT FIRST, LAST
```

- Verify that the recording criteria are successfully created with filters and non-filters.
- Verify that calls can be recorded on demand if no criteria are set.
- Verify that Engage Record server and client comes back to normal operation after any kind of network or power disruption.

• Place VoIP calls to agents and DNs and check the **Active Calls** of Engage Record client window as shown below. Confirm that all values under each column are valid.



• Verify that the calls are fully and clearly recorded by playing back the calls from the **Playback Log** of Engage Record client window as shown in screen below. Also verify that the *Remark 2* column (not shown) has the proper Agent Skillset information if the recording is done of an agent call.



9. Conclusion

All of the executed test cases passed and met the objectives outlined in **Section 2**. The TelStrat Engage Record Server v 3.6 is considered compliant with Avaya Aura® Contact Center Release 6.3 and Avaya Communication Server 1000 Release 7.5.

10. Additional References

Product documentation for Avaya CS 1000 products may be found at: https://support.avaya.com/css/Products/

Product documentation for Engage Record products may be found at: http://www.telstrat.com/

[1] Avaya Communication Server 1000 Documents:

Software Input Output Reference — Administration Avaya Communication Server 1000 7.5 NN43001-611, Standard 05.13 September 2012.

Unified Communications Management Common Services Fundamentals Avaya Communication Server 1000 7.5 NN43001-116, 05.17 January 2012.

Communication Server 1000E Installation and Commissioning Release 7.5 NN43041-310 April 2012. Element Manager System Reference – Administration Avaya Communication Server 1000 7.5 NN43001-632, Standard 05.15 August 2012.

[2] Avaya Aura® Contact Center 6.3 documents:

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

Avaya Aura® Contact Center Installation (NN44400-311)

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

Avaya Aura® Contact Center Overview (NN44400-111)

Avaya Aura® Contact Center Fundamentals (NN44400-110)

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

[3] Engage Record documents:

Engage Contact Center Suite Installation Guide

Engage Contact Center Suite System Administration Guide

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