Avaya Solution & Interoperability Test Lab

Application Notes for TelStrat Engage Record v3.6 with Avaya Aura® Contact Center Release 6.4 and Avaya Communication Server 1000 Release 7.6 – Issue 1.0

Abstract

These Application Notes describe a solution comprised of Avaya Aura® Contact Center Release 6.4 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.

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

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 Contact Center) 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 Contact Center 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 Contact Center 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 S**ection 2.1** were verified and met. All test cases were executed and passed with the following observation,

- Call direction for an inbound call coming to a MultiDN registered Directory Number (DN) shows as Outgoing. This is due to StatusChange (Ringing) message not provided by MLS for MultiDN registered DN on Communication Server 1000. Avaya design is aware of the issue and is working towards a resolution during the time of writing this document.

Serviceability testing included the ability of Engage Server to resume full functionality after a network outage or restart of a server, 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 Contact Center.

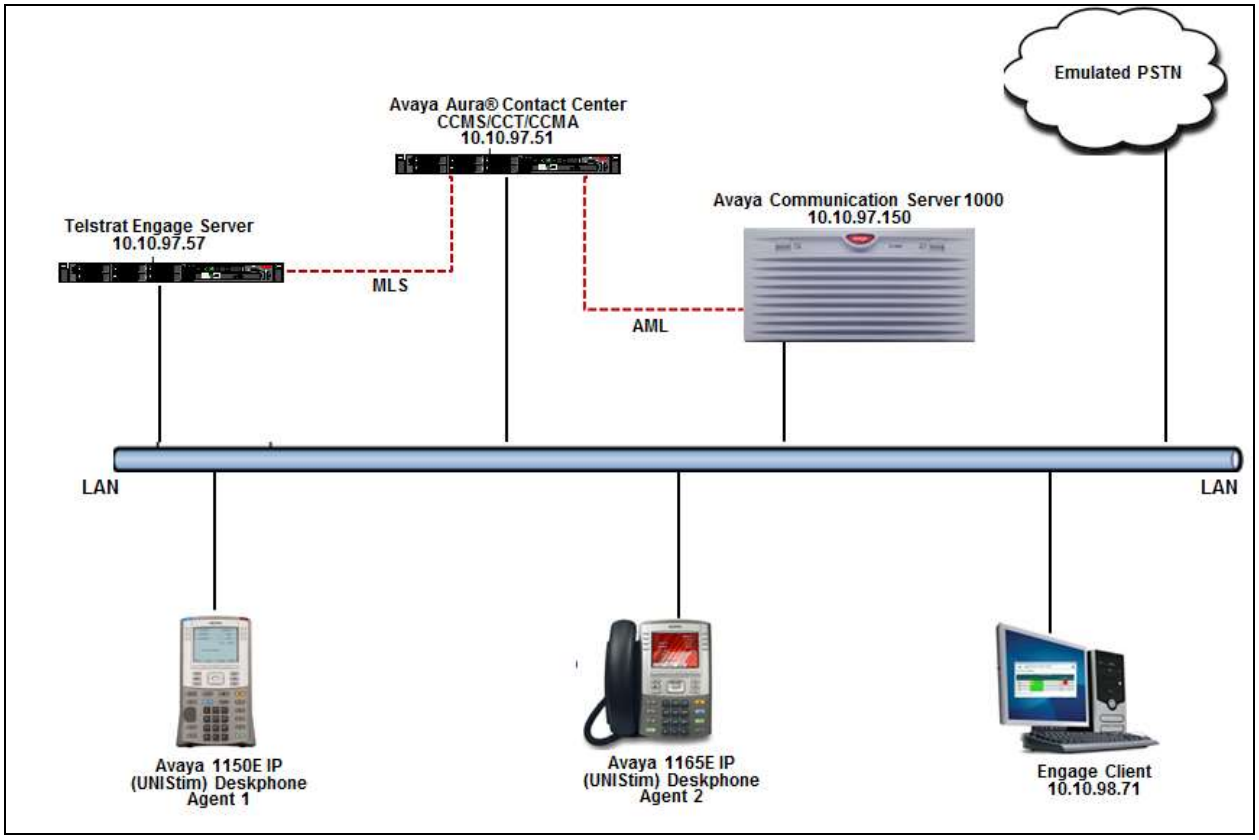


Figure 1: Network Diagram Configuration

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Communication Server 1000	7.65 SP5
Avaya Aura® Contact Center on Windows 2008 R2 Standard SP1	6.4 SP13
Avaya 1150E IP Deskphone Avaya 1165E IP Deskphone	C8V C8V
TelStrat Engage Record Server on Windows 2008 Server Standard SP2	3.6.1.48
TelStrat Engage Web Client	4.1.26

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 Contact Center 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 Contact Center 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 Contact Center 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 EXR0
     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 Contact Center has been pre-configured and that the MLS protocol is running successfully. Also, assumption is made that Contact Center communicates properly with the Communication Server 1000 using the Application Module Link (AML). For more information on how to install and configure the Contact Center please refer to **Section 10 [2].**

7. Configure Engage Record Server and Client

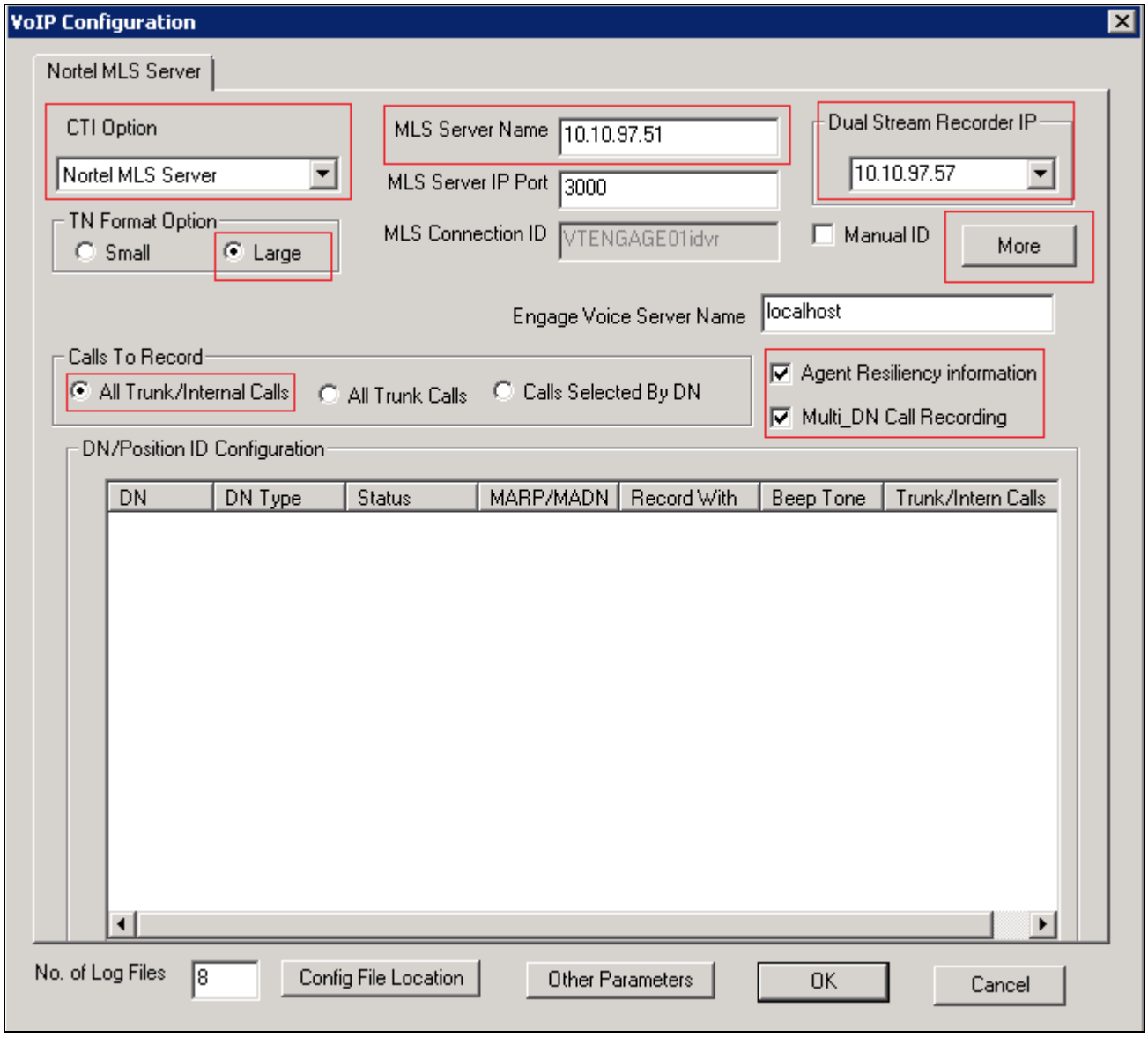
This section provides detailed configuration of Engage Record server and client for recording VoIP calls that are presented to the agents' IP phones that are configured on the Communication Server 1000. For more information on how to install and configure the Engage Record please refer to **Section 10 [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 → All Programs → TelStrat → VOIP Engine Configuration** (not shown). The VOIP Engine Configuration panel appears as shown in screen below.

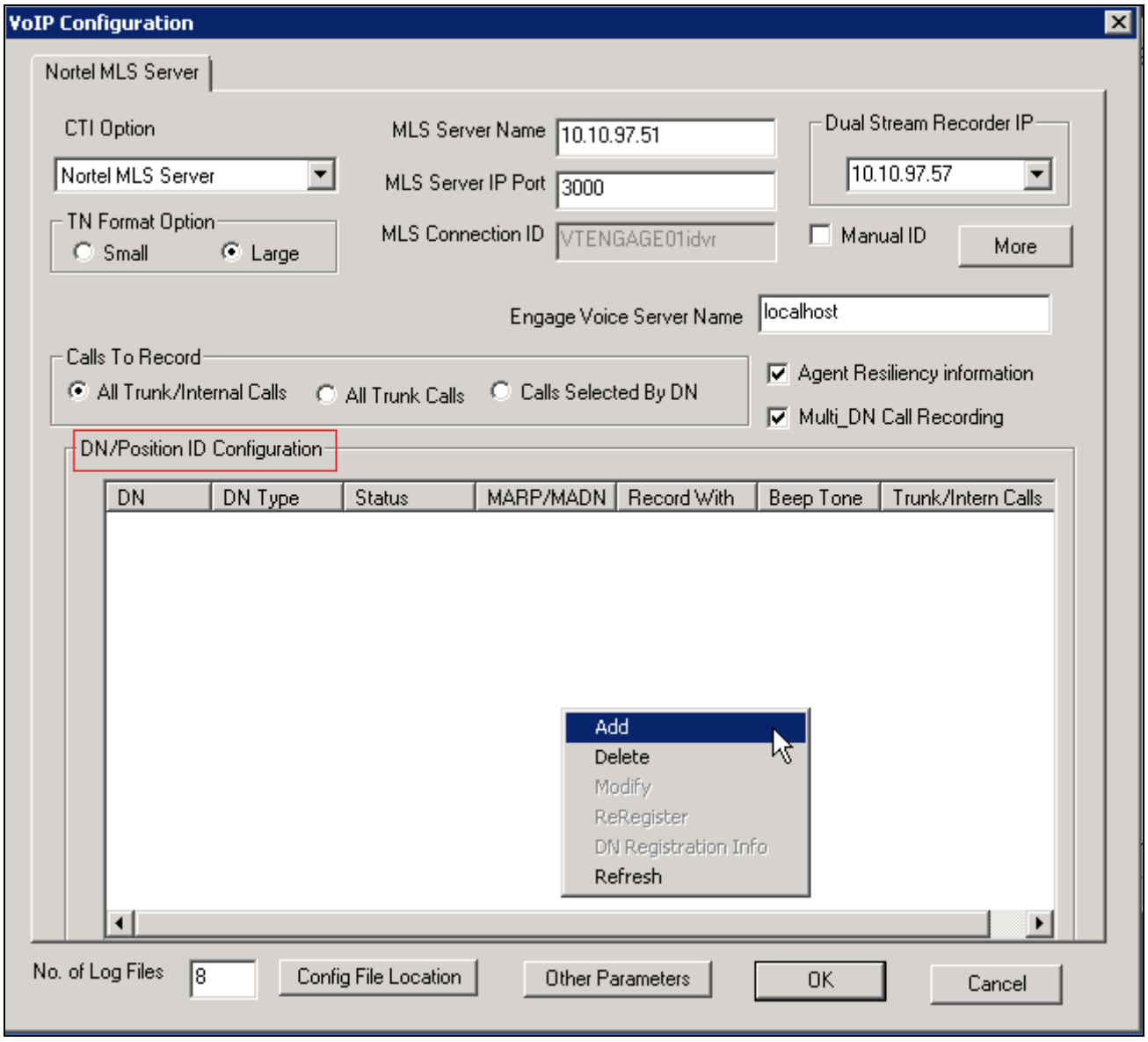
Click on **Config** as seen on the screen above to configure the **VoIP Configuration**. Screen below shows the values configured during the compliance testing.

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.

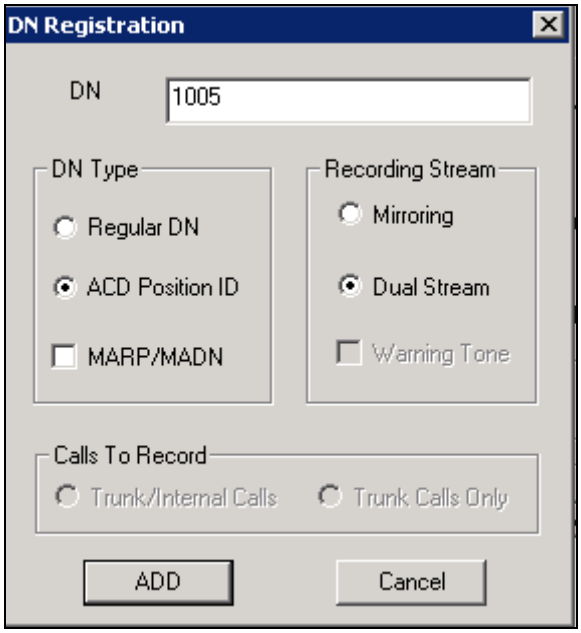


7.2. Add a Regular DN or ACD Position ID

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

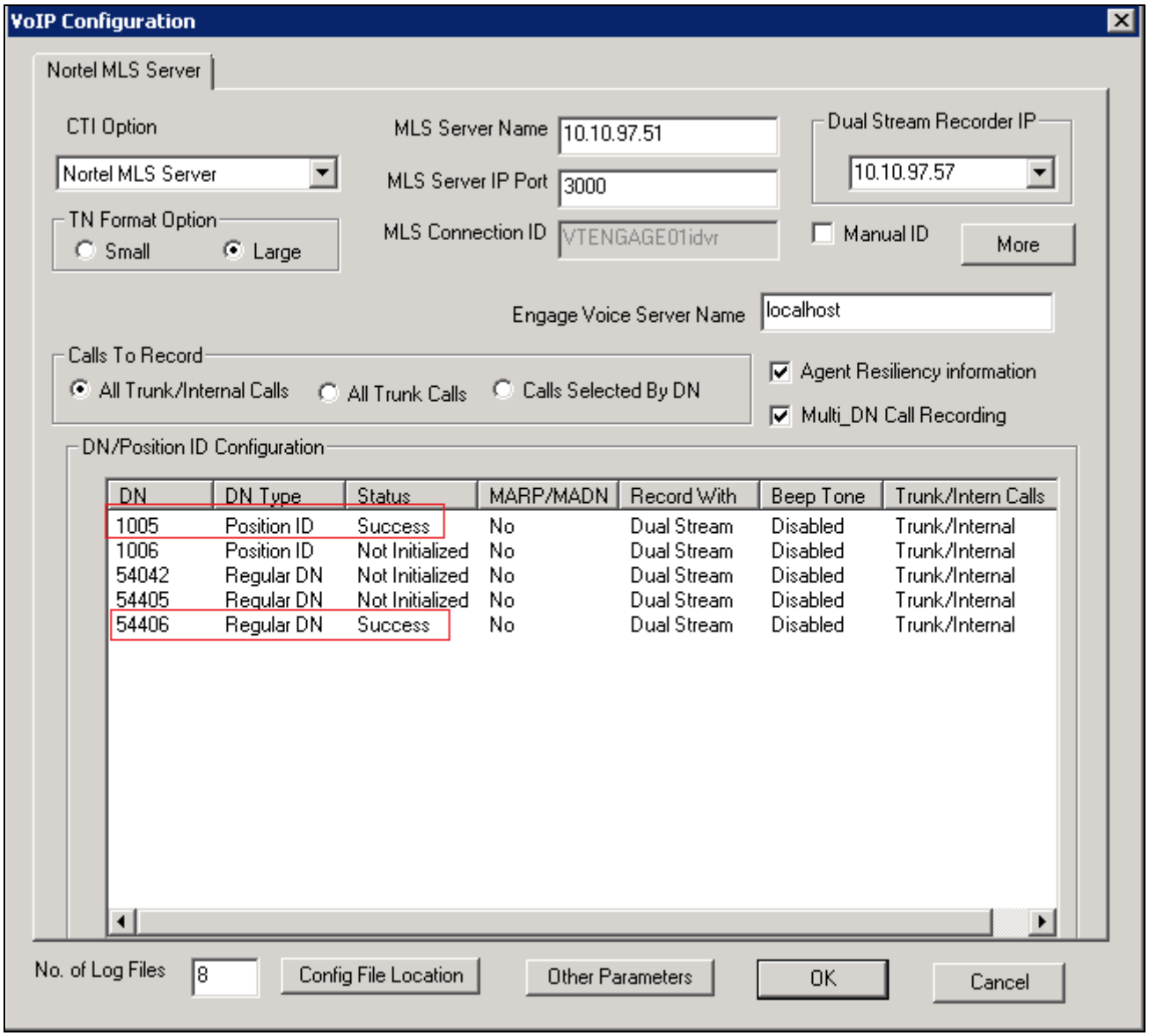


The **DN Registration** window appears as shown in screen below. Here under the **DN Type** either a *Regular DN* or an *ACD Position ID* that needs to be recorded can be selected by clicking on the appropriate radio button. Based on this selection, enter the regular DN or ACD Position ID in the **DN** 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.

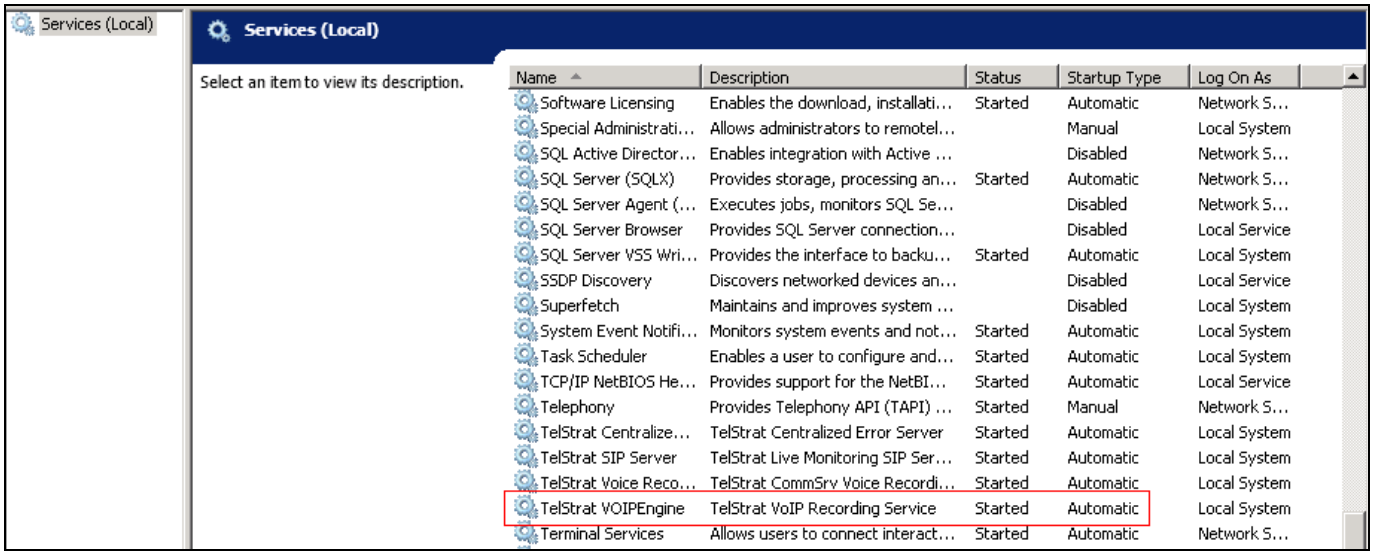


Note: *The Multi_DN Call Recording feature of Engage benefits from a new feature of Contact Center called Multiple DN Registration that enables CTI third party application to control as many keys of IP Phone as they want via MLS without assigning AST for IP Phone. The Multiple DN Registration feature needs to be enabled in the license of Contact Center. As per design, Multi_DN Registration/License supports both DN and Position ID resources, however both the Dual Stream and MARP/MADN needs to be selected.*

When an ACD Position ID or Regular DN is added for the first time, the status shows as *Not Initialized* as seen in the screen below. 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.



7.3. Configure Engage Record Web Client

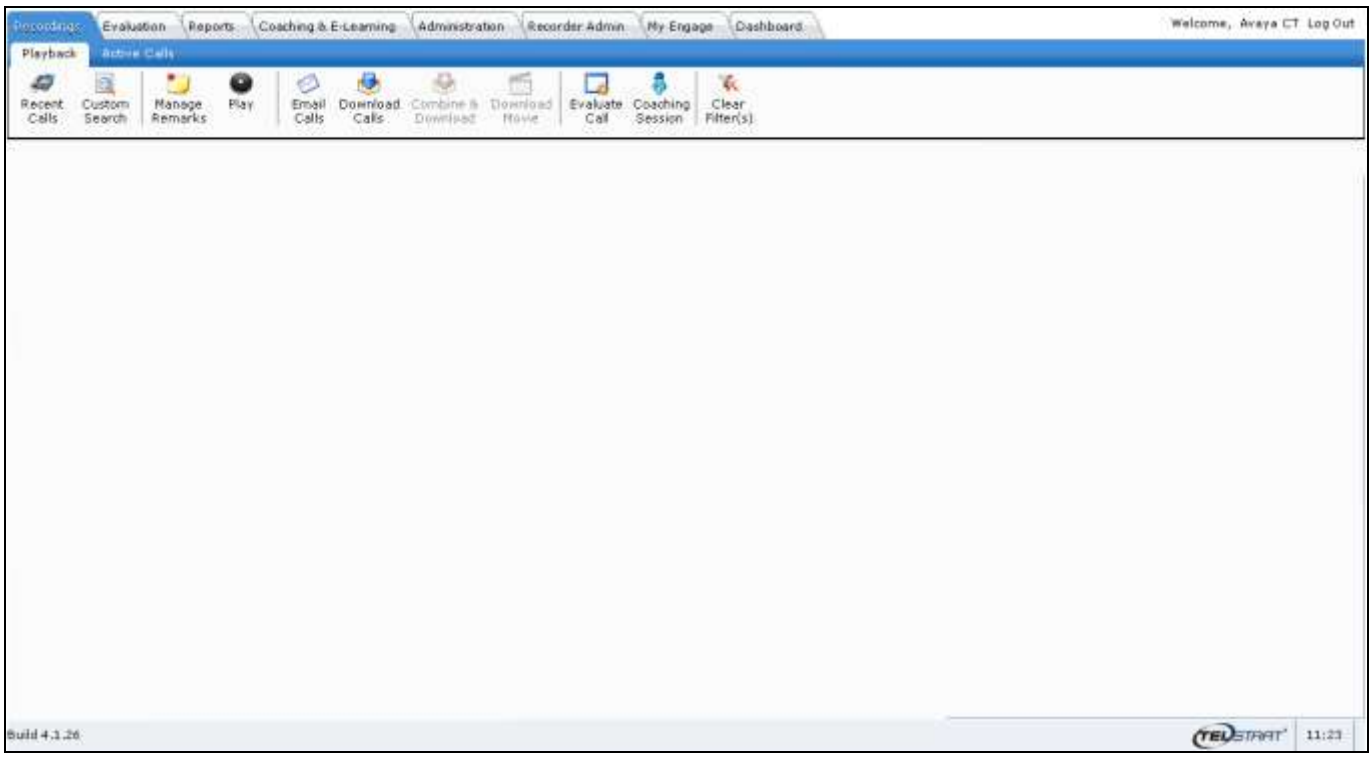
This section explains the configuration using the Engage Record Web Client to add ACD Agents and Ports that will be monitored for recording.

It is assumed that the Engage Record Server has been successfully installed and the required recording services are running.

To access the Engage Record Web Client, open a web browser and type the following URL: *<IP Address>/Engage*, where IP Address is the IP address of the Engage Server.

Screen below shows the Login screen for the web client. Enter the appropriate **User ID**, **Password** and then click on the **OK** button.

Screen below shows the main window of Engage Record Web Client.



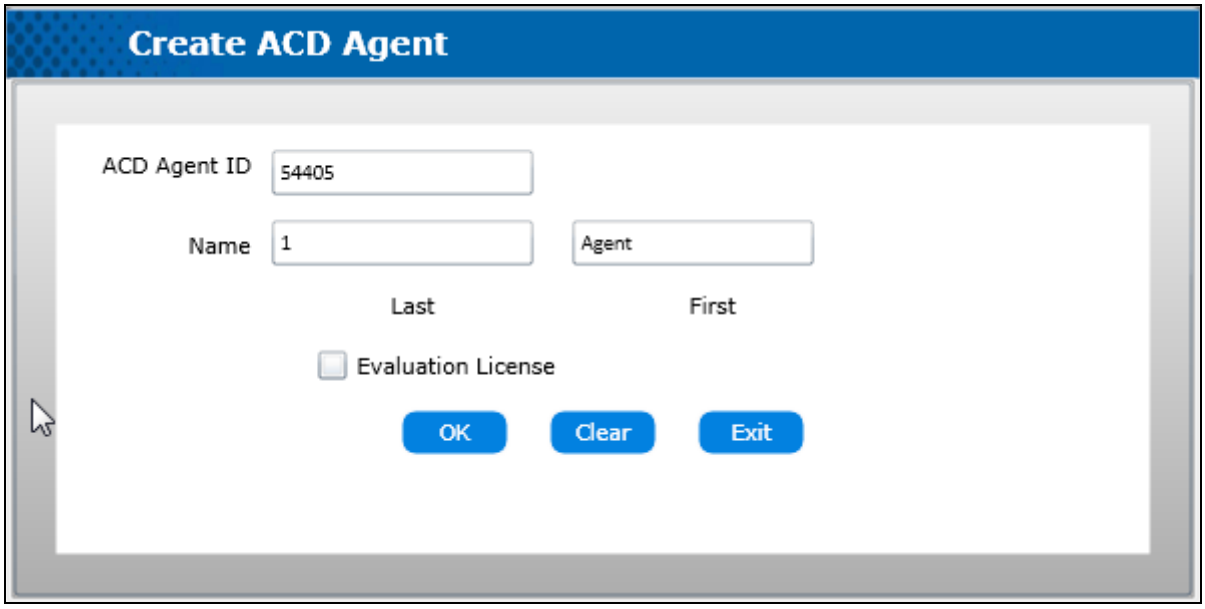
7.4. Adding ACD Agent/s

To add an agent that Engage Record needs to record, navigate to **Administration → Agents → New Agent** as shown in the screen below for the web client.

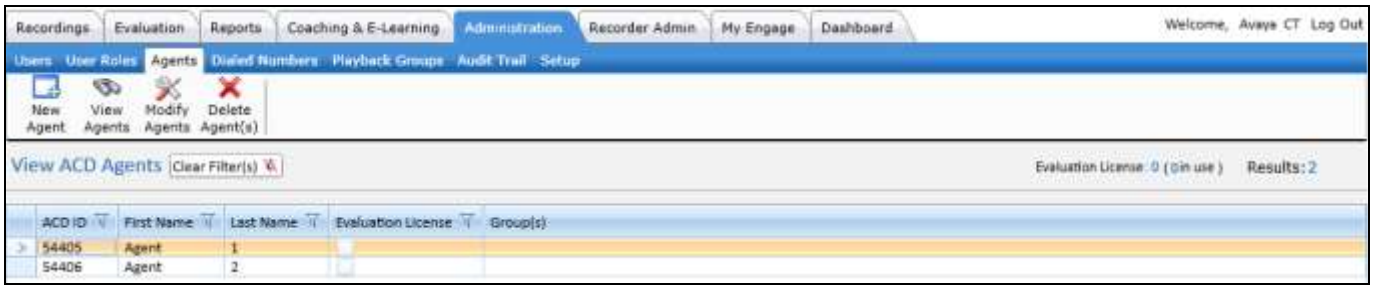
A **Create ACD Agent** window is seen as shown below. Enter the following configuration:

- ACD Agent ID: Enter an appropriate agent ID
- Name: Enter an appropriate Last and First name.

Retain default value for all other fields and click on **OK** to complete the configuration.

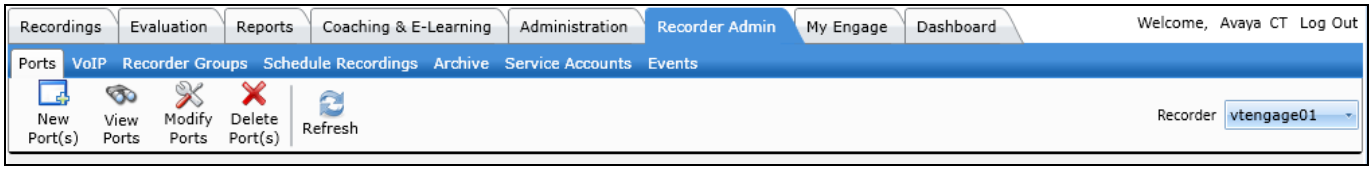


Screen below shows the successful addition of agents.



7.5. Adding Port Numbers

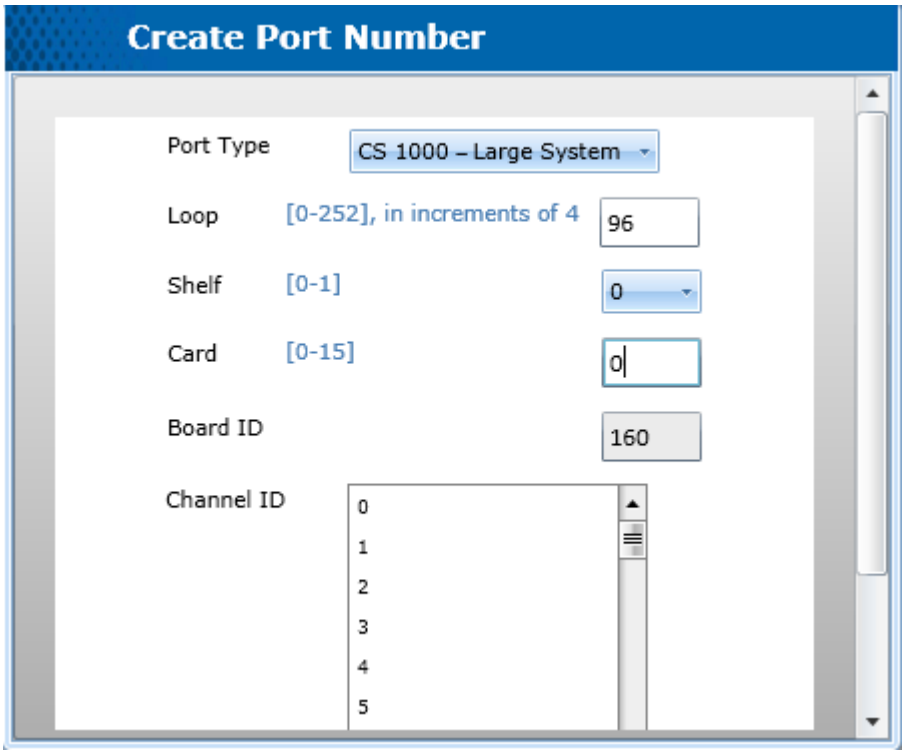
To add Port Numbers that Engage Record needs to record, navigate to **Recorder Admin → Ports → New Port(s)** as shown in the screen below for the web client.



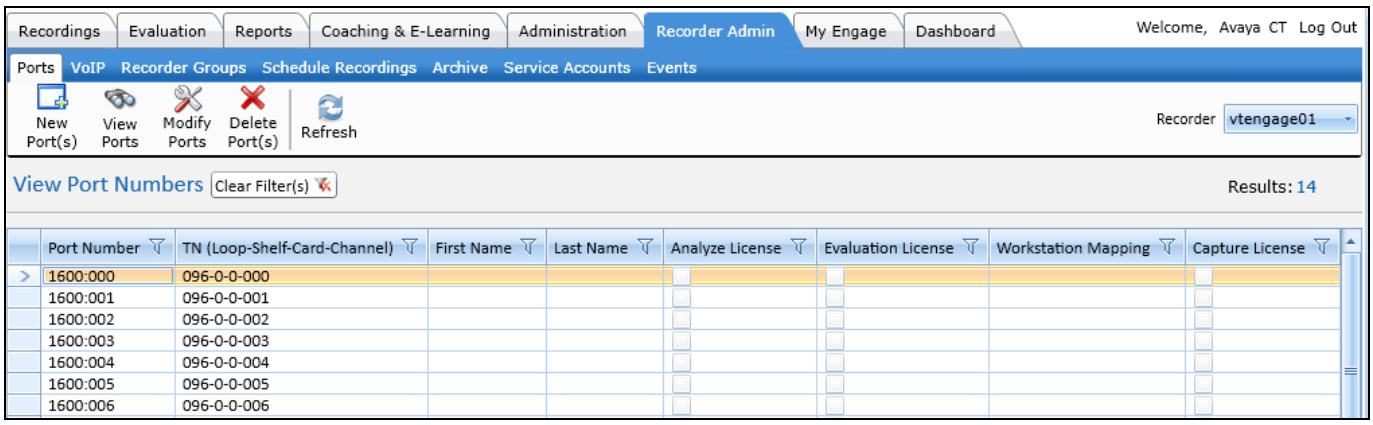
A **Create Port Number** window is seen as shown below. Enter the following configuration:

- **Port Type**: Select *CS 1000 – Large System* from the drop down menu.
- **Loop**: During compliance testing *96* was entered. This the loop on which the phones that need to be recorded were configured on.
- **Shelf**: During compliance testing *0* was entered. This is the shelf on which the phones that need to be recorded were configured on.
- **Card**: During compliance testing *0* was entered. This is the card on which the phones that need to be recorded were configured on.
- **Chanel ID**: Highlight the required amount of channels (not shown).

Retain default value for all other fields and click on **OK** (not shown) to complete the configuration.



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

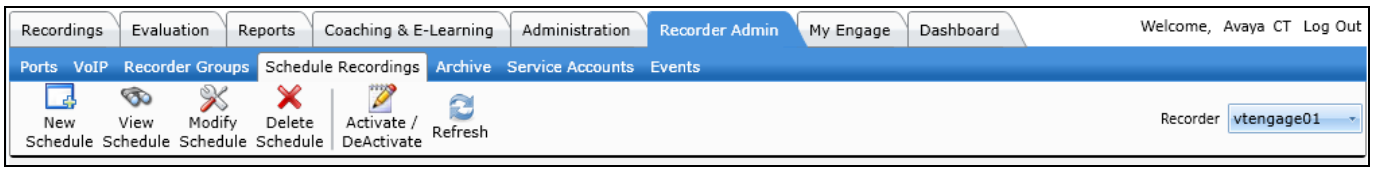


7.6. Adding Schedule Recordings

This section describes the recording criteria that can be built using the Engage Record Client to record calls to 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.

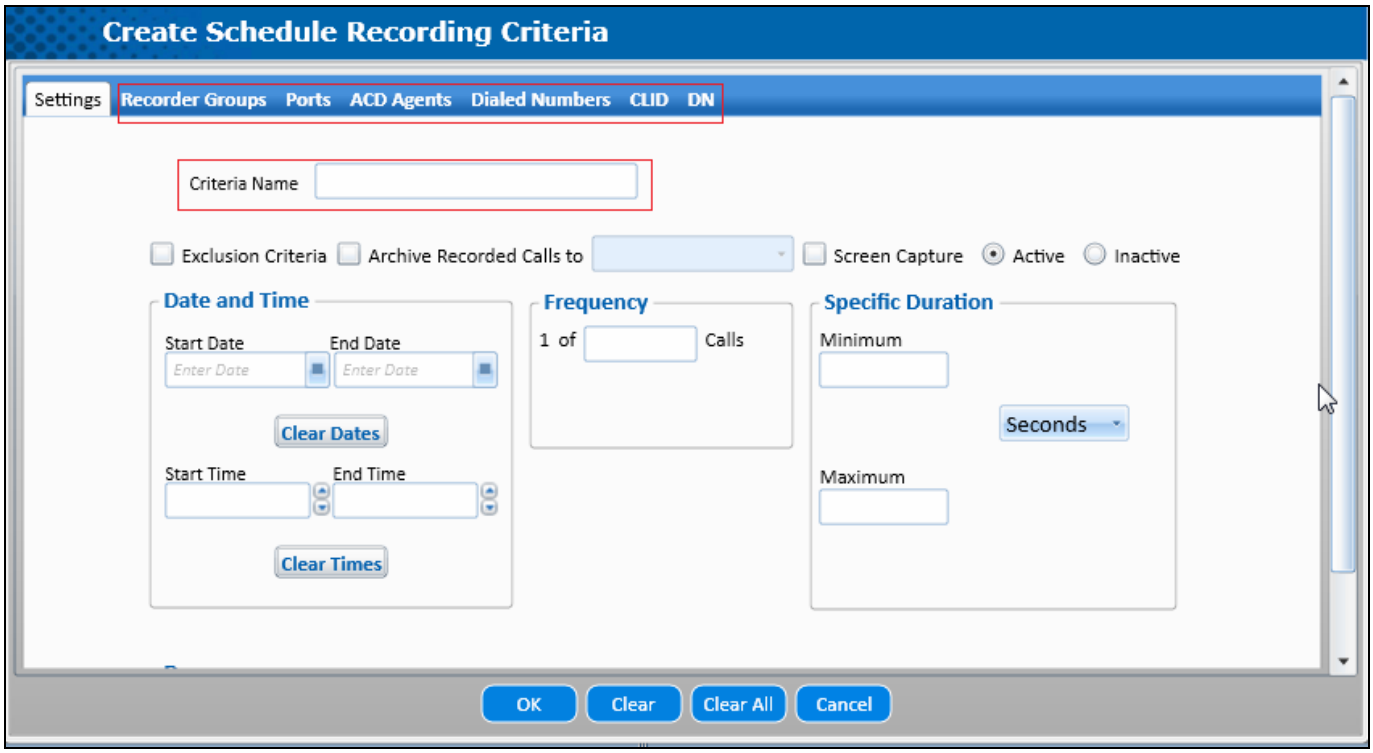
To add schedule recordings that Engage Record needs to record, navigate to **Recorder Admin → Schedule Recordings → New Schedule** as shown in the screen below for the web client.



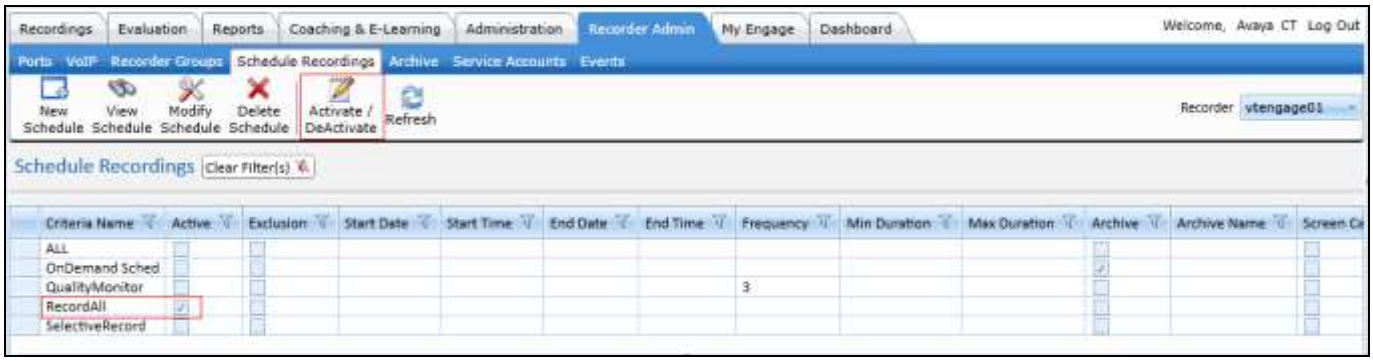
A **Create Schedule Recording Criteria** window is seen as shown below. Enter the following configuration:

- **Criteria Name**: Enter a descriptive name.
- Setup the criteria based on **Recorder Groups**, **Ports**, **ACD Agents**, **Dialed Numbers**, **CLID** and **DN** tabs and also using the values under the **Settings** tab

Click on **OK** to complete the configuration.



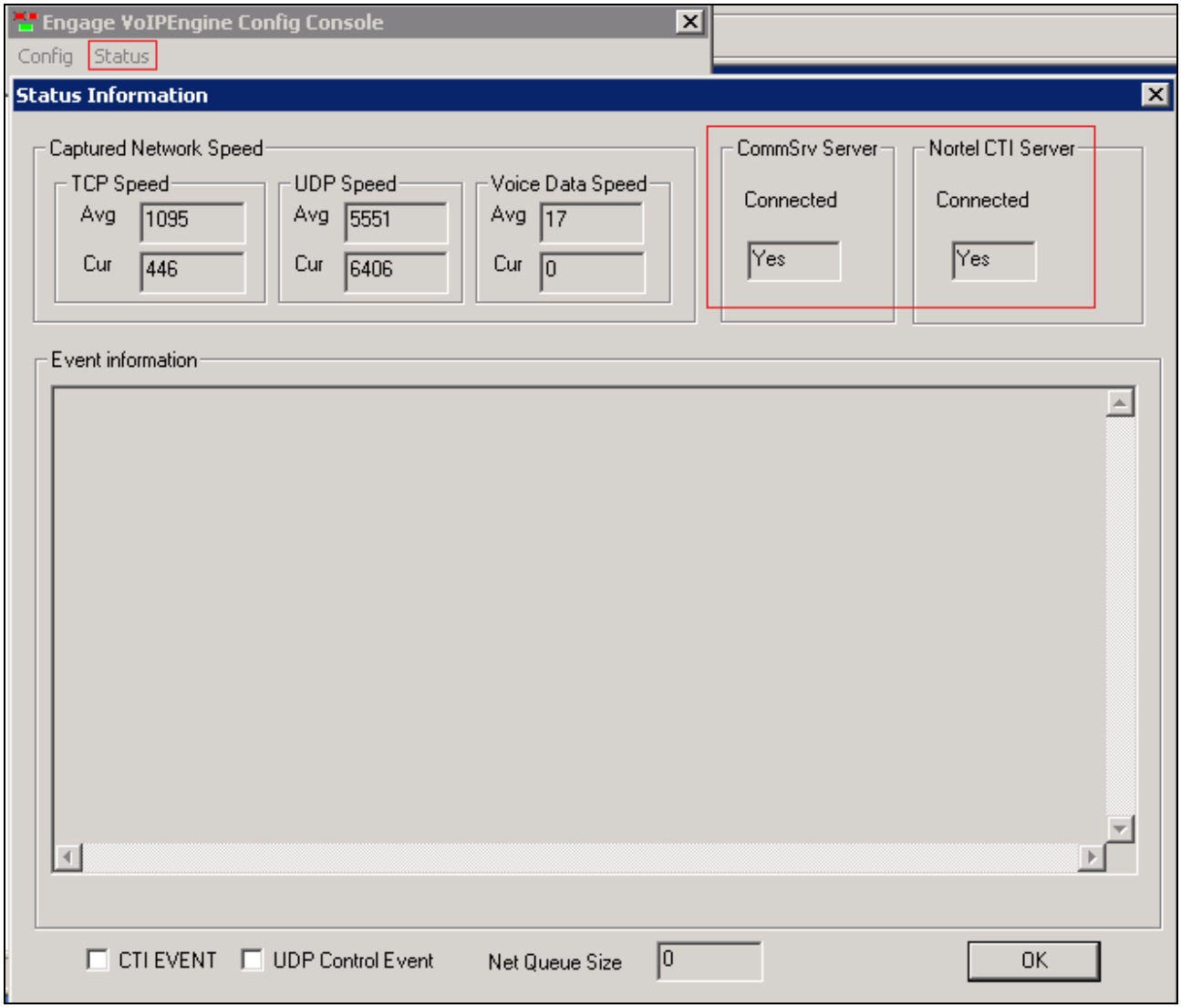
Screen below shows some of the schedule recordings configured during compliance testing. To activate or deactivate any of these schedule recordings, select a schedule and click on the **Activate/Deactivate** button from the menu. In the screen below, the *RecordAll* schedule recording is active.



8. Verification Steps

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

- Verify that the Engage Record server successfully connects to the Contact Center 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.

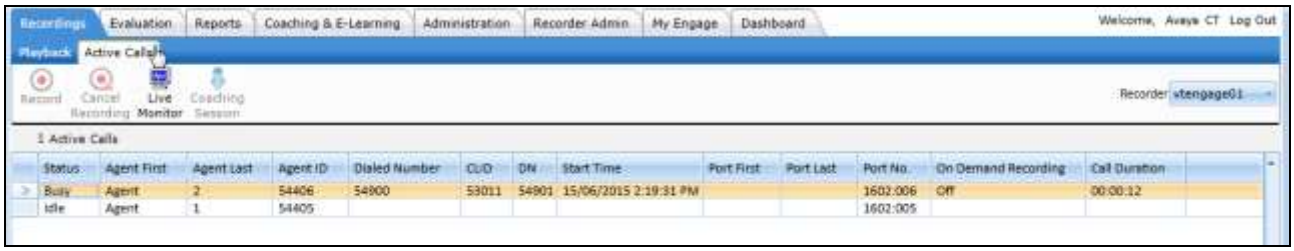


- Verify that an agent or regular DN can be added successfully as explained in **Section 7.2**.
- Verify that Engage Record can acquire and monitor keys of IP Phone by AST Registration of Contact Center by logging into the CLI of Communication server 1000 and issuing **PRT** in overlay **LD 20** for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

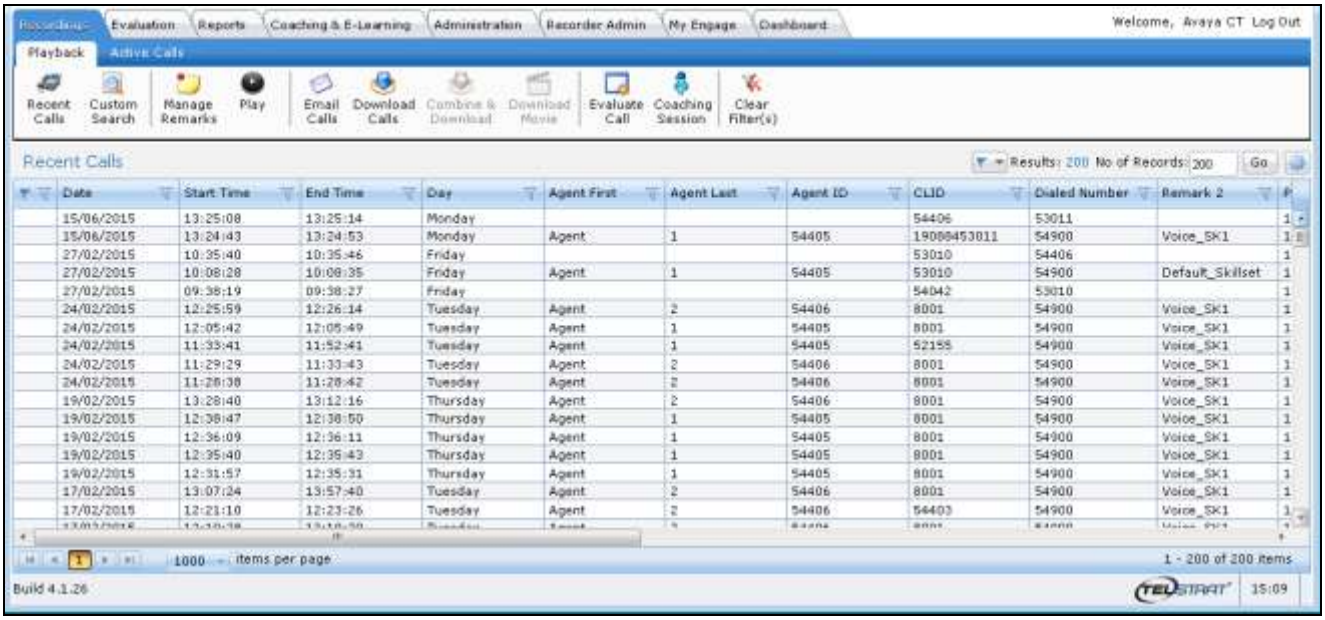
```
AST  00 03
IAPG 0
AACS YES
ACQ  AS: TN,AST-DN,AST-POSID
ASID 16
MRCD  4
SFNB  1  2  3  4  5  6  7  8  9  10  11  12  13  15  16  17
18  19  21  22  23  24  25  26  28  29  31  33  34  35  36
37  38  39
SFRB  1  2  15  32  33
USFB  1  2  3  4  5  6  7  9  10  11  12  13  14  15
CALB  0  1  3  4  5  6  8  9  10  11  12
FCTB  1
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
04 SCR 54042 0     MARP
05
```

- 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 web 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 **Recent Calls** of Engage Record web client window as shown in screen below. Also verify that the *Remark 2* column has the proper Agent Skillset information if the recording is done of an agent call.



9. Conclusion

All of the executed test cases passed with an observation as noted in **Section 2**. The TelStrat Engage Record Server v 3.6 is considered compliant with Avaya Aura® Contact Center Release 6.4 and Avaya Communication Server 1000 Release 7.65.

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 R7.6 NN43001-611, 06.03
Avaya Communication Server 1000 Co-resident Call Server and Signaling Server Fundamentals, R7.6 NN43001-509, 04.03

[2] Avaya Aura® Contact Center 6.4 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

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at devconnect@avaya.com.