**Avaya Solution & Interoperability Test Lab**

# Application Notes for NICE Trading Recording R6.x or NICE Inform Recorder R8.x to interoperate with Avaya Aura® Communication Manager R7.1 and Avaya Aura® Application Enablement Services R7.1 using DMCC Service Observation to record calls - Issue 1.0

## Abstract

These Application Notes describe the configuration steps for the NICE Trading Recording R6.x or NICE Inform Recorder R8.x to interoperate with the Avaya solution consisting of an Avaya Aura® Communication Manager R7.1 and Avaya Aura® Application Enablement Services R7.1 using Service Observation.

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 for the NICE Trading Recording R6.x or NICE Inform Recorder R8.x to interoperate with the Avaya solution consisting of an Avaya Aura® Communication Manager R7.1 and Avaya Aura® Application Enablement Services R7.1. NICE Trading Recording R6.x or NICE Inform Recorder R8.x uses Communication Manager's Service Observation feature via the Application Enablement Services (AES) Device, Media, and Call Control (DMCC) interface and the Telephony Services API (TSAPI) to capture the audio and call details for call recording on various Communication Manager H.323 and Digital endpoints, listed in **Section 4**.

DMCC works by allowing software vendors to create soft phones, in memory on a recording server, and use them to monitor and record other phones. This is purely a software solution and does not require telephony boards or any wiring beyond a typical network infrastructure. The DMCC API associated with the AES server monitors the digital and VoIP extensions. The application uses the AE Services DMCC to 'Observe' the target extension using Virtual Extensions on Communication Manager to do so. When the target extension joins a call, the application using Service Observe receives the call's aggregated RTP media stream via the recording device and records the call.

The NICE Trading Recording R6.x or NICE Inform Recorder R8.x is fully integrated into a LAN (Local Area Network), and includes easy-to-use Web based applications (i.e. Nice Application) that works with the Microsoft .NET framework and used to retrieve telephone conversations from a comprehensive long-term calls database. This application registers an extension with Communication Manager and waits for that extension to be dialed. The NICE Trading Recording R6.x or NICE Inform Recorder R8.x contains tools for audio retrieval, centralized system security authorization, system control, and system status monitoring. Also included is a call parameters database that tightly integrates via CTI link PABXs and ACD's including optional advanced audio archive database management, search tools, a wide variety of Recording-on-Demand capabilities, and comprehensive long-term call database for immediate retrieval.

# 2. General Test Approach and Test Results

The interoperability compliance testing evaluated the ability of the NICE Trading Recording R6.x or NICE Inform Recorder R8.x to carry out call recording in a variety of scenarios using DMCC Service Observation with AES and Communication Manager. A range of Avaya endpoints were used in the compliance testing all of which are listed in **Section 4**.

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.

Avaya recommends our customers implement Avaya solutions using appropriate security and encryption capabilities enabled by our products. The testing referenced in these DevConnect Application Notes included the enablement of supported encryption capabilities in the Avaya products. Readers should consult the appropriate Avaya product documentation for further information regarding security and encryption capabilities supported by those Avaya products.

Support for these security and encryption capabilities in any non-Avaya solution component is the responsibility of each individual vendor. Readers should consult the appropriate vendor-supplied product documentation for more information regarding those products.

For the testing associated with these Application Notes, the interface between Avaya systems and NICE Trading Recording R6.x or NICE Inform Recorder R8.x did not include use of any specific encryption features as requested by NICE.

## 2.1. Interoperability Compliance Testing

The interoperability compliance test included both feature functionality and serviceability testing. The feature functionality testing focused on placing and recording calls in different call scenarios with good quality audio recordings and accurate call records. The tests included:

- **Inbound/Outbound calls** – Test call recording for inbound and outbound calls to the Communication Manager to and from PSTN callers.
- **Hold/Transferred/Conference calls** – Test call recording for calls transferred to and in conference with PSTN callers.
- **Feature calls** - Test call recording for using features such as Call Park, Call Pickup, Supervisor Observe.
- **Calls to Elite Agents** – Test call recording for calls to Communication Manager Agents, these include calls to VDN's and to Hunt Groups.
- **Serviceability testing** - The behavior of NICE Trading Recording R6.x or NICE Inform Recorder R8.x RX under different simulated failure conditions.

## 2.2. Test Results

All functionality and serviceability test cases were completed successfully. The following observations were noted.

1. **Call Recordings**. For Conference or transferred calls there may be multiple recordings present as each of the endpoints may be monitored and would result in duplicate recordings.
2. **CLID**. The following call scenario showed incorrect CLID information. Call from A to B and B transfers to C. The information for the CTI Calling Party is incorrect for leg 3. It shows B and C and not A and C. NICE are aware of this issue and are investigating this.
3. **Serviceability Tests**. As an observation the NICE server fails to automatically recover from a LAN disruption this may be from the AES or from the NICE server itself. For the most part services on the NICE server were restarted and on one occasion the server required a reboot. NICE are aware of these issues and are investigating this.

## 2.3. Support

Technical support can be obtained for NICE Trading Recording R6.x or NICE Inform Recorder R8.x from the website http://www.nice.com

# 3. Reference Configuration

The configuration in **Figure 1** was used to compliance test NICE Trading Recording R6.x or NICE Inform Recorder R8.x with the Avaya solution using DMCC Service Observation to record calls. The NICE server is setup for DMCC Service Observation mode and connects to the AES.

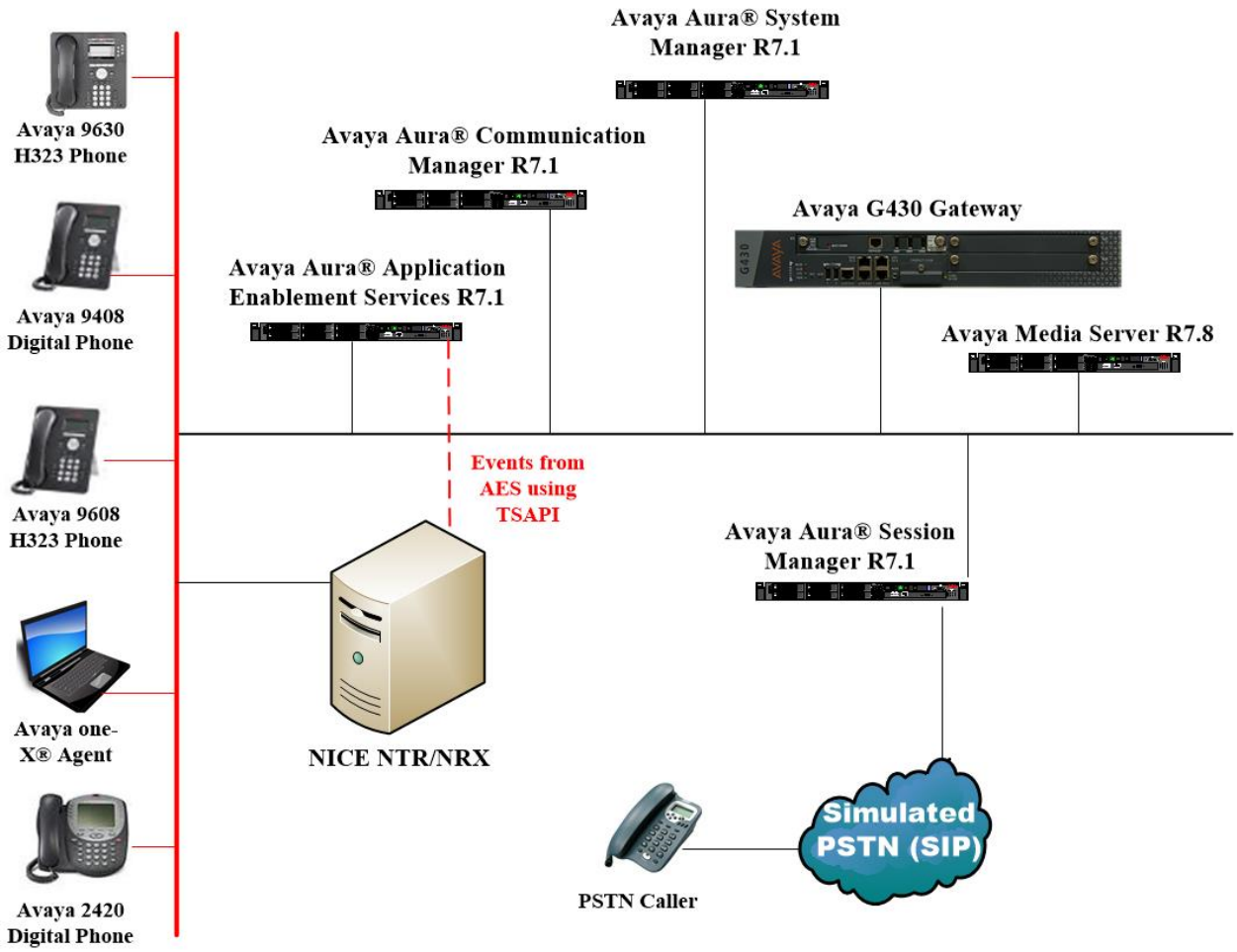



**Figure 1: Connection of NICE Trading Recording R6.x or NICE Inform Recorded R8.x with Avaya Aura® Communication Manager R7.1 and Avaya Aura® Application Enablement Services R7.1**

# 4. Equipment and Software Validated

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

| Equipment/Software | Release/Version |
|---|---|
| Avaya Aura® System Manager running on Virtual Server | R7.1.0.0<br>Build 7.1.0.0.1125193<br>SW Update Revision No. 7.1.0.0.116654 |
| Avaya Aura® Session Manager running on Virtual Server | R7.1.0.0.710028 |
| Avaya Aura® Communication Manager running on Virtual Server | R7.1<br>Build 017x.01.0.532.0 |
| Avaya Aura® Application Enablement Services running on Virtual Server | R7.1<br>Build No – 7.1.0.0.0.17-0 |
| Avaya Media Server running on a virtual server | 7.8.0.240 |
| Avaya G430 Gateway | 37.42.0 /1 |
| Avaya 9608 H323 Deskphone | 96x1 H323 R6.6.028 |
| Avaya 9630 H323 Deskphone | 96xx H323 S3.220A |
| Avaya one-X® Agent (H323) | R2.5.50022.0 |
| Avaya 9408 Digital Deskphone | FW Version 2 |
| Avaya 2420 Digital Deskphone | FW Version 5 |
| NICE Trading Recording R6.x or NICE Inform Recorder R8.x running on a Windows 2012 R2 NTR 6.6.10 with Avaya Integration 10.5 | Windows 2012 R2<br>NTR 6.6.10<br>Avaya Integration 10.5 |

# 5. Configure Avaya Aura® Communication Manager

The information provided in this section describes the configuration of Communication Manager relevant to this solution. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 10**.

The configuration illustrated in this section was performed using Communication Manager System Administration Terminal (SAT).

## 5.1. Verify System Features

Use the **display system-parameters customer-options** command to verify that Communication Manager has permissions for features illustrated in these Application Notes. On **Page 3**, ensure that **Computer Telephony Adjunct Links?** is set to **y** as shown below.

```
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
  Async. Transfer Mode (ATM) Trunking? n    Digital Loss Plan Modification? y
              ATM WAN Spare Processor? n                          DS1 MSP? y
                                ATMS? y             DS1 Echo Cancellation? y
                  Attendant Vectoring? y
```

## 5.2. Note procr IP Address for Avaya Aura® Application Enablement Services Connectivity

Display the procr IP address by using the command **display node-names ip** and noting the IP address for the **procr** and AES (**aes71vmpg**).

```
display node-names ip                                          Page   1 of   2
                                IP NODE NAMES
    Name                 IP Address
SM100                10.10.40.52
aes71vmpg            10.10.40.43
default              0.0.0.0
g450                 10.10.40.15
procr                10.10.40.47
```

## 5.3. Configure Transport Link for Avaya Aura® Application Enablement Services Connectivity

To administer the transport link to AES use the **change ip-services** command. On **Page 1** add an entry with the following values:

- **Service Type:** Should be set to **AESVCS**.
- **Enabled:** Set to **y**.
- **Local Node:** Set to the node name assigned for the procr in **Section 5.2**.
- **Local Port:** Retain the default value of **8765**.

```
change ip-services                                          Page   1 of   4

                                  IP SERVICES
 Service      Enabled     Local       Local       Remote      Remote
  Type                    Node        Port        Node        Port
AESVCS         y         procr       8765
```

Go to **Page 4** of the **ip-services** form and enter the following values:

- **AE Services Server:** Name obtained from the AES server, in this case **aes71vmpg**.
- **Password:** Enter a password to be administered on the AES server.
- **Enabled:** Set to **y**.

**Note:** The password entered for **Password** field must match the password on the AES server in **Section 6.2**. The **AE Services Server** should match the administered name for the AES server; this is created as part of the AES installation, and can be obtained from the AES server by typing **uname –n** at the Linux command prompt.

```
change ip-services                                          Page   4 of   4
                           AE Services Administration

   Server ID    AE Services       Password          Enabled    Status
                   Server
      1:        aes71vmpg         ********          y          idle
      2:
      3:
```

## 5.4. Configure CTI Link for TSAPI Service

Add a CTI link using the **add cti-link n** command. Enter an available extension number in the **Extension** field. 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: 2002
     Type: ADJ-IP
                                                                  COR: 1
     Name: aes71vmpg
```

## 5.5. Configure Communication Manager for Service Observation

**Type display cor x**, where x is the COR number in the screen above, to check the existing Class of Restriction. Ensure that **Can be Service Observed** and **Can Be A Service Observer** are set to **y**, if not type **change cor x** to make a change to the Class or Restriction. This value needs to be enabled in order for Service Observe to work for call recording.

```
display cor 1                                                  Page 1 of 23
                            CLASS OF RESTRICTION
               COR Number: 1
          COR Description:

                       FRL: 0                                APLT? y
  Can Be Service Observed? y           Calling Party Restriction: all-toll
Can Be A Service Observer? y            Called Party Restriction: none
        Time of Day Chart: 1       Forced Entry of Account Codes? n
         Priority Queuing? n                Direct Agent Calling? y
     Restriction Override: all        Facility Access Trunk Test? n
     Restricted Call List? n                 Can Change Coverage? n
   Unrestricted Call List: 1
            Access to MCT? y             Fully Restricted Service? n
Group II Category For MFC: 7             Hear VDN of Origin Annc.? n
         Send ANI for MFE? n              Add/Remove Agent Skills? n
            MF ANI Prefix:               Automatic Charge Display? n
Hear System Music on Hold? y   PASTE (Display PBX Data on Phone)? n
                        Can Be Picked Up By Directed Call Pickup? y
                                     Can Use Directed Call Pickup? y
                                     Group Controlled Restriction: inactive
```

Type **change system-parameters features**, on **Page 11** ensure that **Allow Two Observes in Same Call** is set to **y**.

```
change system-parameters features                              Page  11 of  19
                     FEATURE-RELATED SYSTEM PARAMETERS
CALL CENTER SYSTEM PARAMETERS
  EAS
         Expert Agent Selection (EAS) Enabled? y
        Minimum Agent-LoginID Password Length:
          Direct Agent Announcement Extension:                  Delay:
    Message Waiting Lamp Indicates Status For: station

  VECTORING
                    Converse First Data Delay: 0      Second Data Delay: 2
               Converse Signaling Tone (msec): 100         Pause (msec): 70
                     Prompting Timeout (secs): 10
                  Interflow-qpos EWT Threshold: 2
    Reverse Star/Pound Digit For Collect Step? n
          Available Agent Adjustments for BSR? n
                             BSR Tie Strategy: 1st-found
   Store VDN Name in Station's Local Call Log? n
  SERVICE OBSERVING
              Service Observing: Warning Tone? y     or Conference Tone? n
 Service Observing/SSC Allowed with Exclusion? n
             Allow Two Observers in Same Call? y
```

Type **change feature-access-codes** to access the feature codes on Communication Manager. Scroll to **Page 5** in order to view or change the **Service Observing** access codes. Note the **Service Observing Listen Only Access Code** is ***56**; this will be required in **Section 7.1** during the setup of NICE NTR/NRX.

```
change feature-access-codes                                    Page   5 of  10
                               FEATURE ACCESS CODE (FAC)
                                 Call Center Features
  AGENT WORK MODES
                           After Call Work Access Code: #36
                                   Assist Access Code:
                                 Auto-In Access Code: #38
                                Aux Work Access Code: #39
                                   Login Access Code: #40
                                  Logout Access Code: #41
                               Manual-in Access Code: #42
  SERVICE OBSERVING
            Service Observing Listen Only Access Code: *56
            Service Observing Listen/Talk Access Code: *57
                Service Observing No Talk Access Code:
   Service Observing Next Call Listen Only Access Code:
 Service Observing by Location Listen Only Access Code:
 Service Observing by Location Listen/Talk Access Code:

  AACC CONFERENCE MODES
                     Restrict First Consult Activation:      Deactivation:
                    Restrict Second Consult Activation:      Deactivation:
```

## 5.6. Configure H323 Stations for Service Observation

All endpoints that are to be monitored by NICE will need to have IP Softphone set to y. IP Softphone must be enabled in order for DMCC Service Observe and Single Step Conference to work. Type **change station x** where x is the extension number of the station to be monitored also note this extension number for configuration required in **Section 7**. Note the **Security Code** and ensure that **IP SoftPhone** is set to **y**.

```
change station x                                                Page   1 of   6
                                    STATION

Extension: x                          Lock Messages? n              BCC: 0
     Type: 9608                     Security Code: 1234             TN: 1
     Port: S00101                   Coverage Path 1:                COR: 1
     Name: Extension                Coverage Path 2:                COS: 1
                                    Hunt-to Station:
STATION OPTIONS
                                         Time of Day Lock Table:
              Loss Group: 19         Personalized Ringing Pattern: 1
                                               Message Lamp Ext: 1591
           Speakerphone: 2-way              Mute Button Enabled? y
        Display Language: english
 Survivable GK Node Name:
          Survivable COR: internal             Media Complex Ext:
   Survivable Trunk Dest? y                         IP SoftPhone? y

                                           IP Video Softphone? n
                              Short/Prefixed Registration Allowed: default
```

## 5.7. Configure Virtual Stations for Service Observation

Add virtual stations to allow NICE Trading Recording R6.x or NICE Inform Recorder R8.x record calls using Service Observe. Type **add station x** where x is the extension number of the station to be configured also note this extension number for configuration required in **Section 7**. Note the **Security Code** and ensure that **IP SoftPhone** is set to **y**. Note also the **COR** for the stations, this will be set to that configured in **Section 5.5**.

```
add station 78100                                          Page   1 of   6
                                    STATION

Extension: 78100                      Lock Messages? n                BCC: 0
     Type: 4624                       Security Code: 1234             TN: 1
     Port: S00101                     Coverage Path 1:                COR: 1
     Name: Recorder                   Coverage Path 2:                COS: 1
                                      Hunt-to Station:
STATION OPTIONS
                                          Time of Day Lock Table:
             Loss Group: 19         Personalized Ringing Pattern: 1
                                           Message Lamp Ext: 781--
           Speakerphone: 2-way          Mute Button Enabled? y
        Display Language: english
 Survivable GK Node Name:
          Survivable COR: internal        Media Complex Ext:
   Survivable Trunk Dest? y                    IP SoftPhone? y

                                       IP Video Softphone? n
                              Short/Prefixed Registration Allowed: default
```

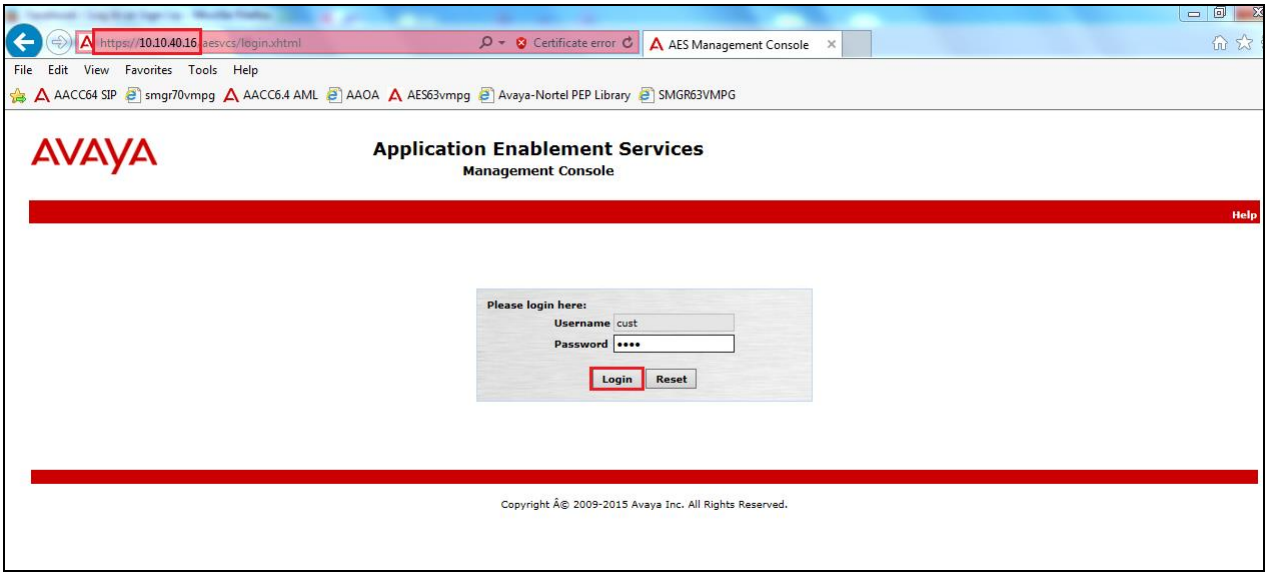
# 6. Configure Avaya Aura® Application Enablement Services

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

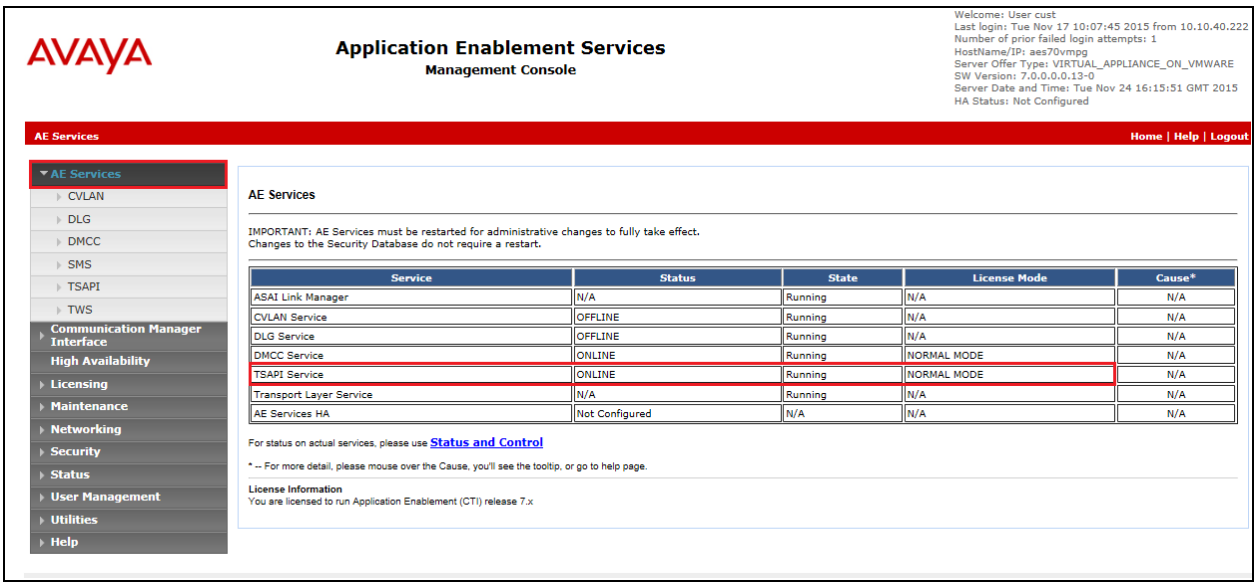
- Verify Licensing
- Create Switch Connection
- Administer TSAPI link
- Identify Tlinks
- Enable TSAPI and DMCC Ports
- Create CTI User
- Associate Devices with CTI User

## 6.1. Verify Licensing

To access the AES Management Console, enter **https://<ip-addr>** as the URL in an Internet browser, where <ip-addr> is the IP address of AES. At the login screen displayed, log in with the appropriate credentials and then select the **Login** button.

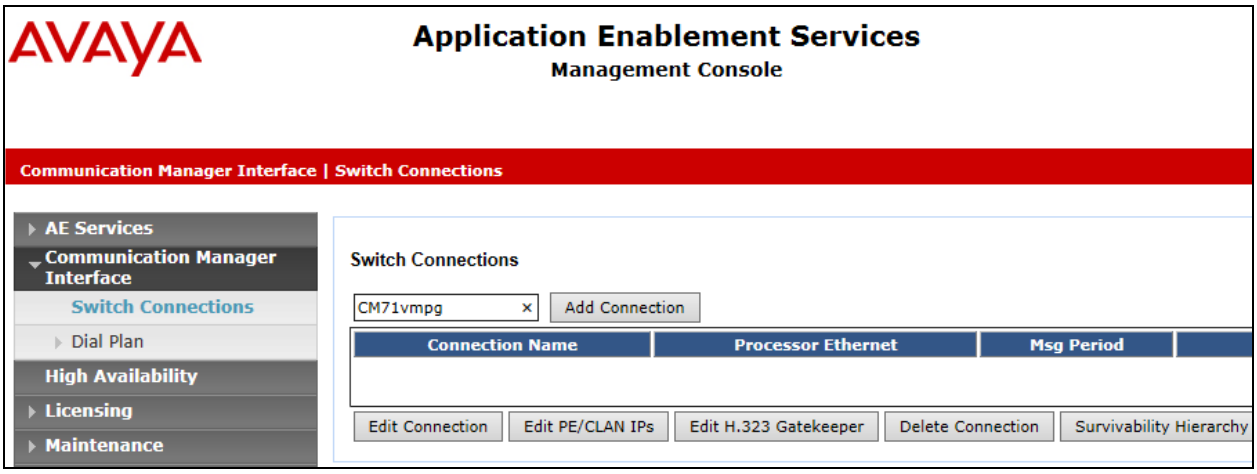


The Application Enablement Services Management Console appears displaying the **Welcome to OAM** screen (not shown). Select **AE Services** and verify that the TSAPI Service is licensed by ensuring that **TSAPI Service** is in the list of **Services** and that the **License Mode** is showing **NORMAL MODE**. If not, contact an Avaya support representative to acquire the proper license for your solution.

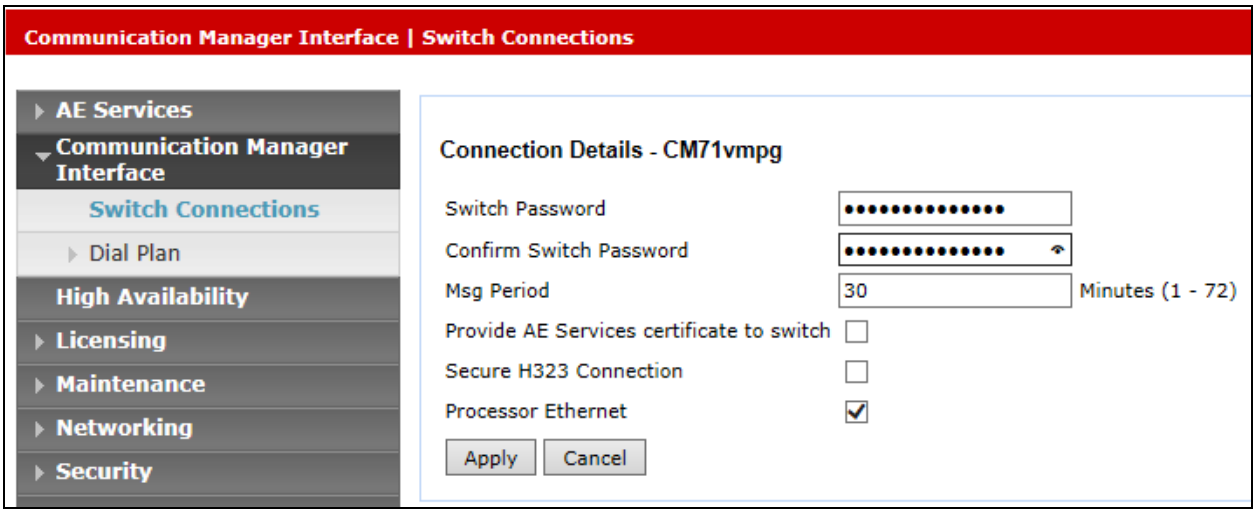



## 6.2. Create Switch Connection

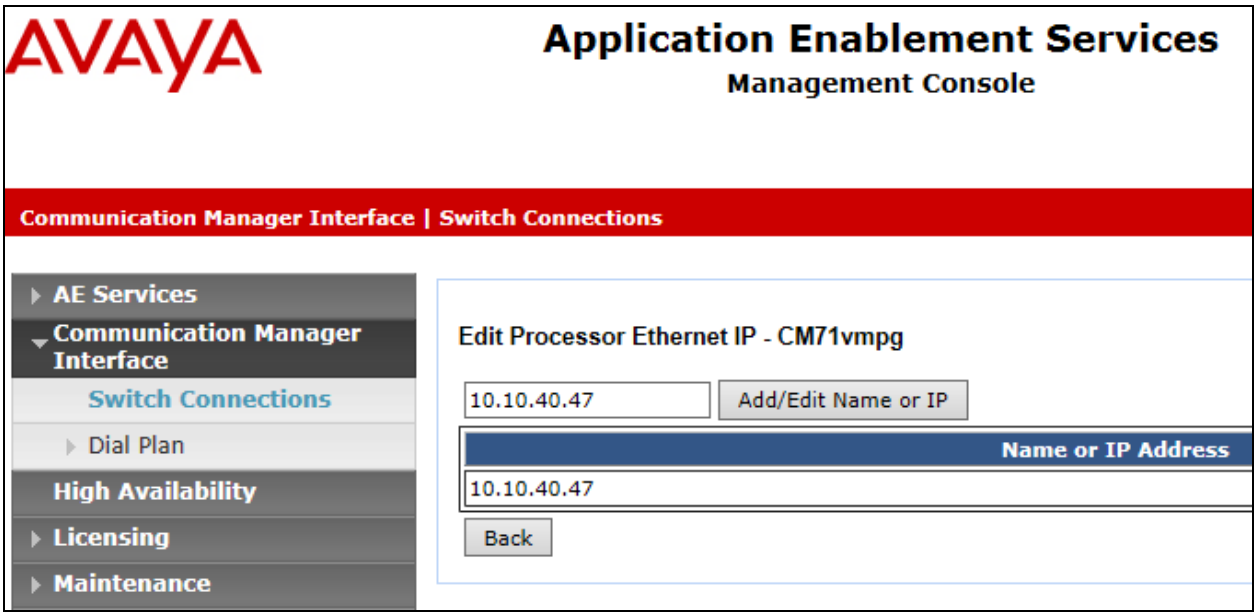
From the AES Management Console navigate to **Communication Manager Interface** → **Switch Connections** to set up a switch connection. Enter a name for the Switch Connection to be added and click the **Add Connection** button.



In the resulting screen enter the **Switch Password**; the Switch Password must be the same as that entered into Communication Manager AE Services Administration screen via the **change ip-services** command, described in **Section 5.3**. Default values may be accepted for the remaining fields. Click **Apply** to save changes.

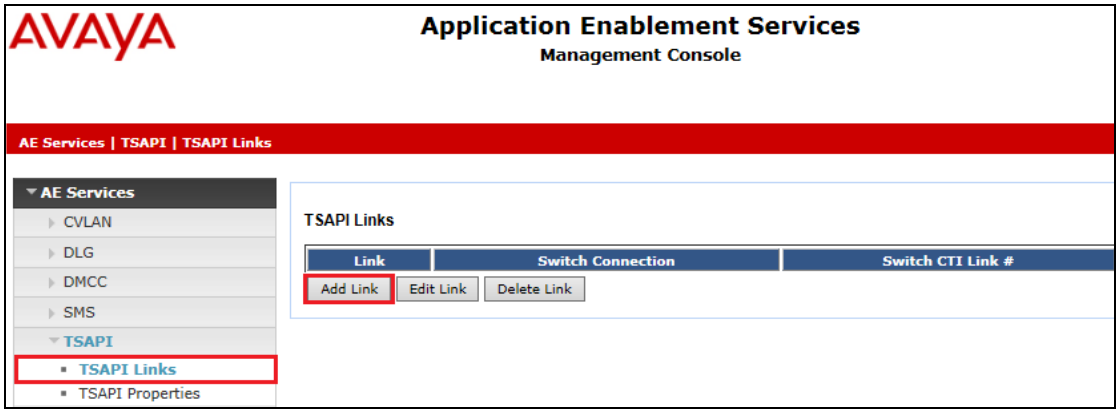



From the **Switch Connections** screen, select the radio button for the recently added switch connection and select the **Edit PE/CLAN IPs** button (not shown, see screen at the bottom of the previous page. In the resulting screen, enter the IP address of the procr as shown in **Section 5.2** that will be used for the AES connection and select the **Add/Edit Name or IP** button.



## 6.3. Administer TSAPI link

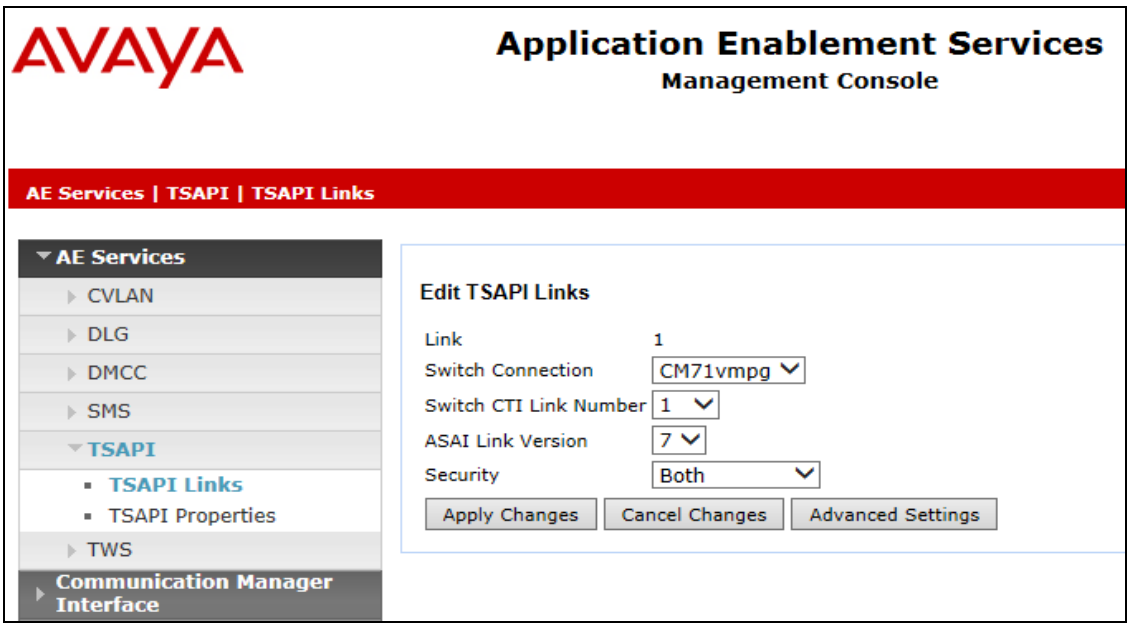
From the Application Enablement Services Management Console, select **AE Services → TSAPI → TSAPI Links**. Select **Add Link** button as shown in the screen below.



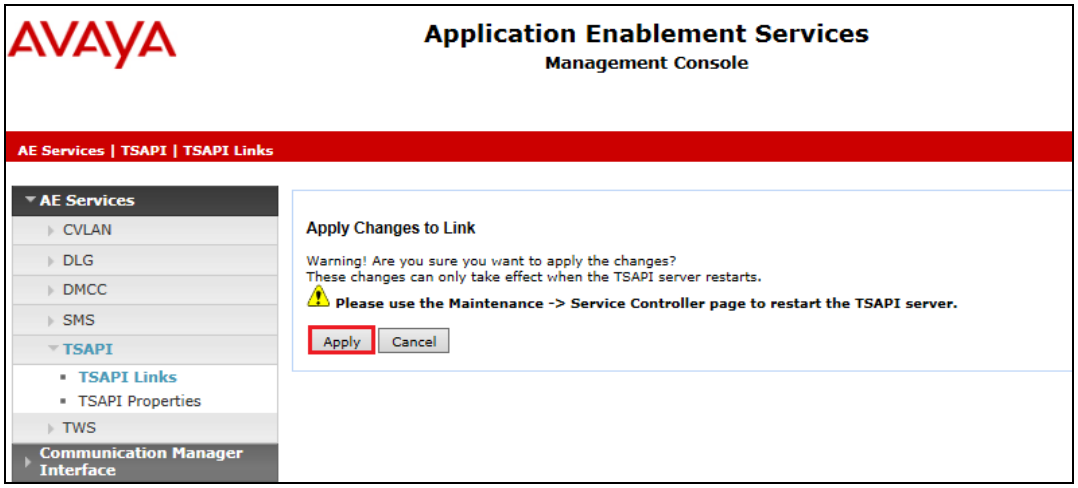

On the **Add TSAPI Links** screen (or the **Edit TSAPI Links** screen to edit a previously configured TSAPI Link as shown below), enter the following values:

- **Link:** Use the drop-down list to select an unused link number.
- **Switch Connection:** Choose the switch connection **cm71vmpg**, which has already been configured in **Section 6.2** from the drop-down list.
- **Switch CTI Link Number:** Corresponding CTI link number configured in **Section 5.4** which is **1**.
- **ASAI Link Version:** This can be set to **7**.
- **Security:** This can be left at the default value of **both**.

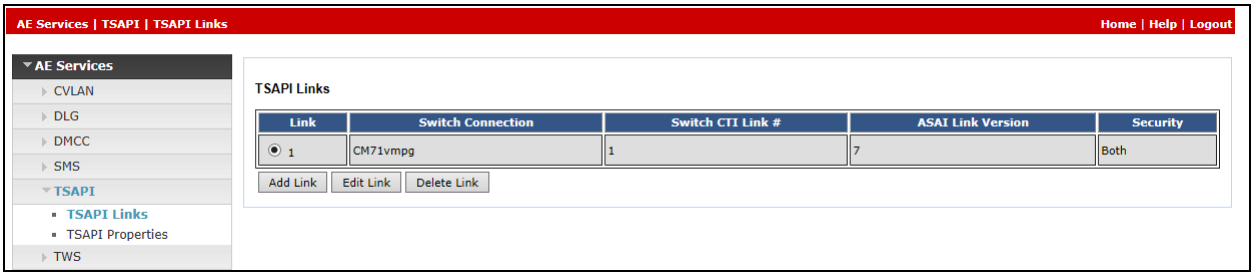
Once completed, select **Apply Changes**.



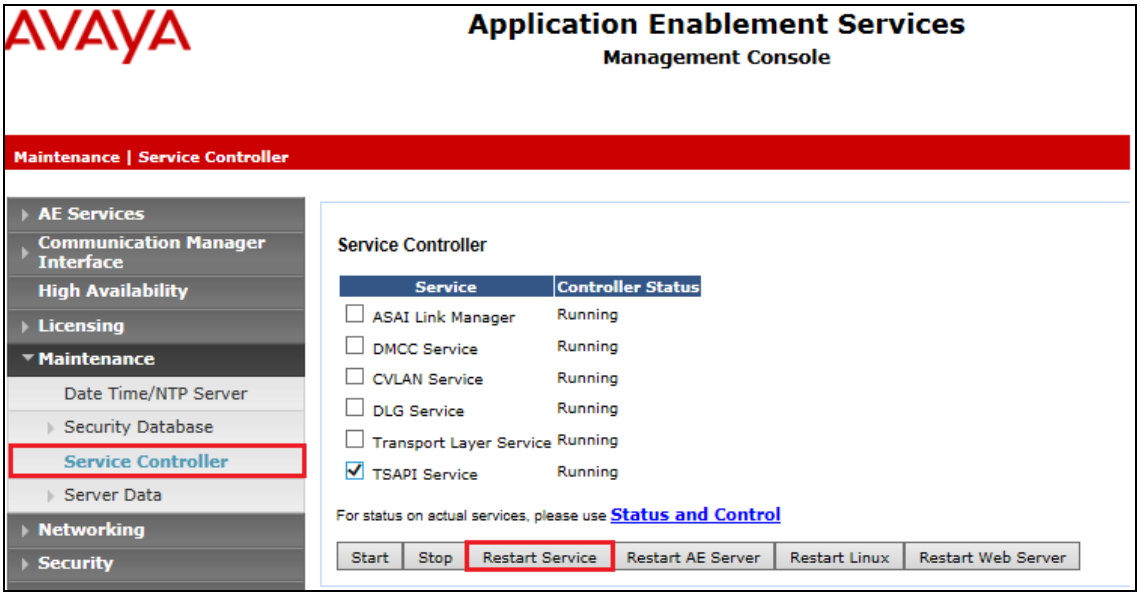
Another screen appears for confirmation of the changes made. Choose **Apply**.




When the TSAPI Link is completed, it should resemble the screen below.

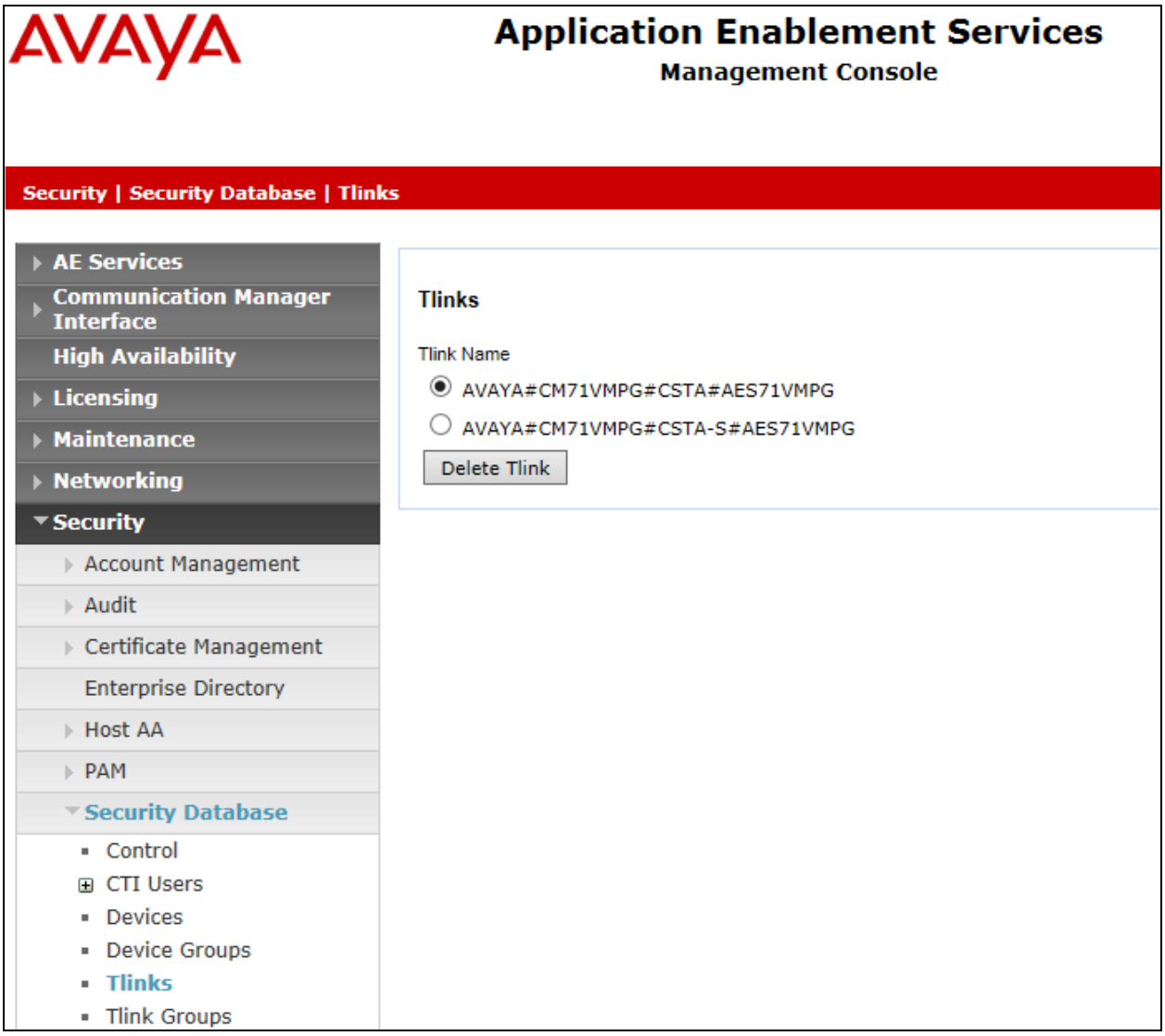



The TSAPI Service must be restarted to effect the changes made in this section. From the Management Console menu, navigate to **Maintenance → Service Controller**. On the Service Controller screen, tick the **TSAPI Service** and select **Restart Service**.



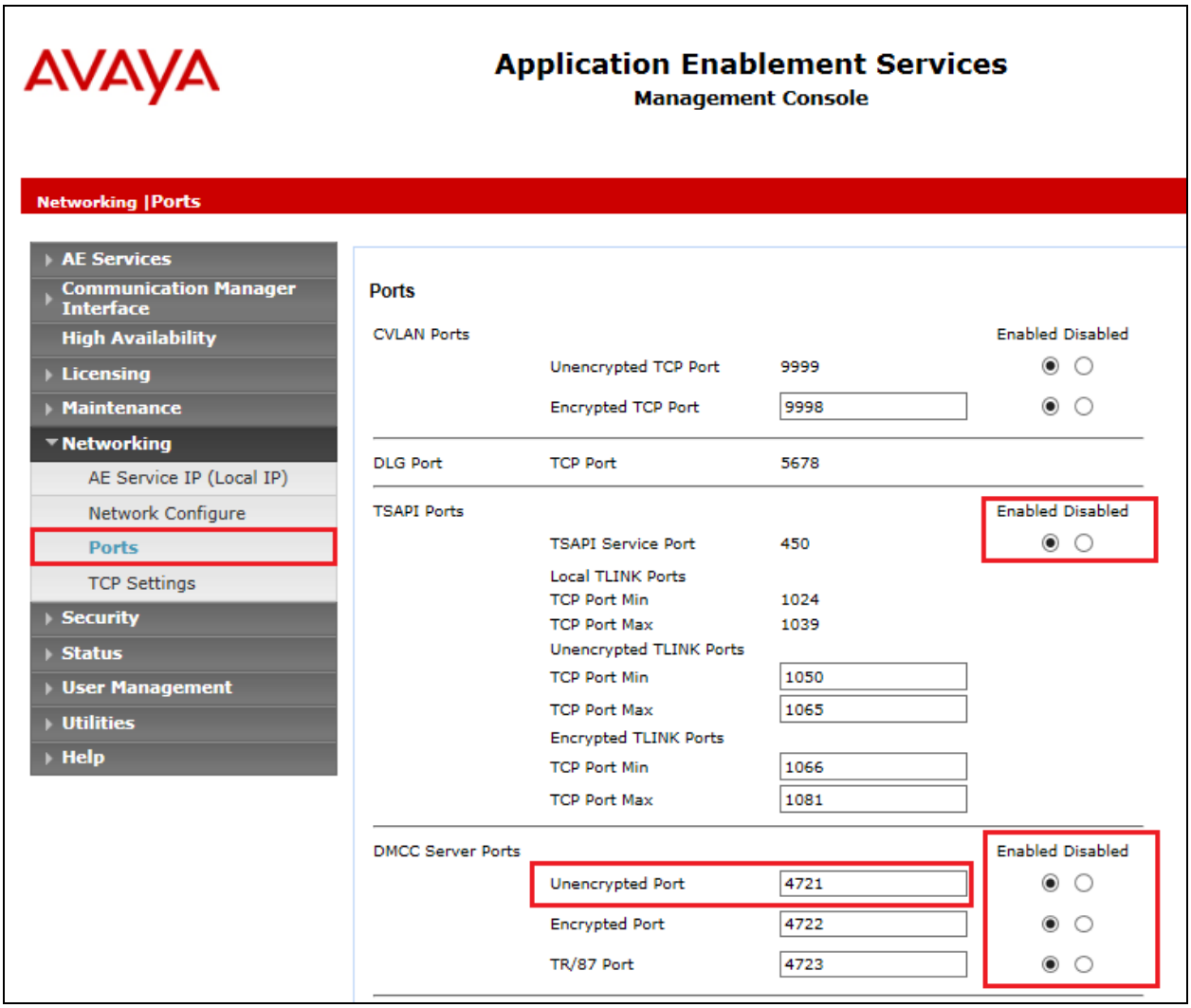
## 6.4. Identify Tlinks

Navigate to **Security → Security Database → Tlinks**. Verify the value of the **Tlink Name**. This will be needed to configure the NICE Trading Recording R6.x or NICE Inform Recorder R8.x in **Section 7**.



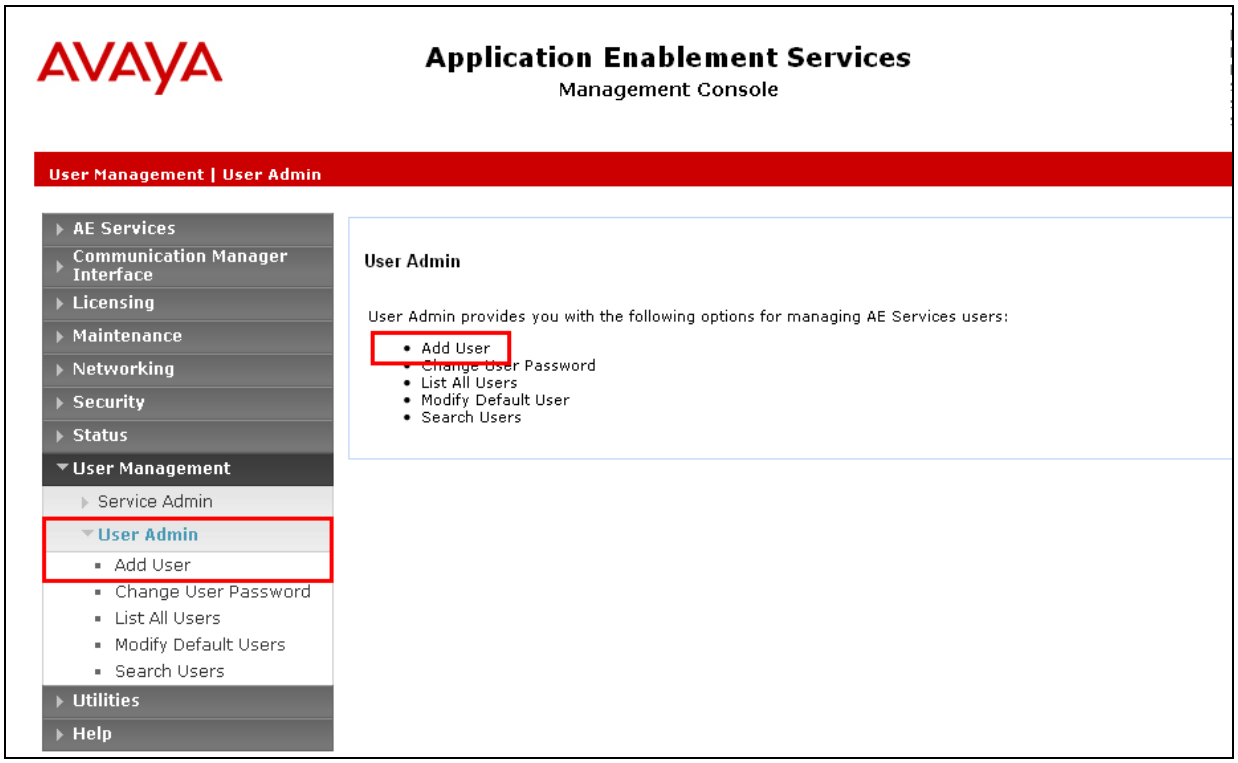
## 6.5. Enable TSAPI and DMCC Ports

To ensure that TSAPI ports are enabled, navigate to **Networking → Ports**. Ensure that the TSAPI ports are set to **Enabled** as shown below. Ensure that the **DMCC Server Ports** are also **Enabled** and take note of the **Unencrypted Port 4721** which will be used later in **Section 7**.



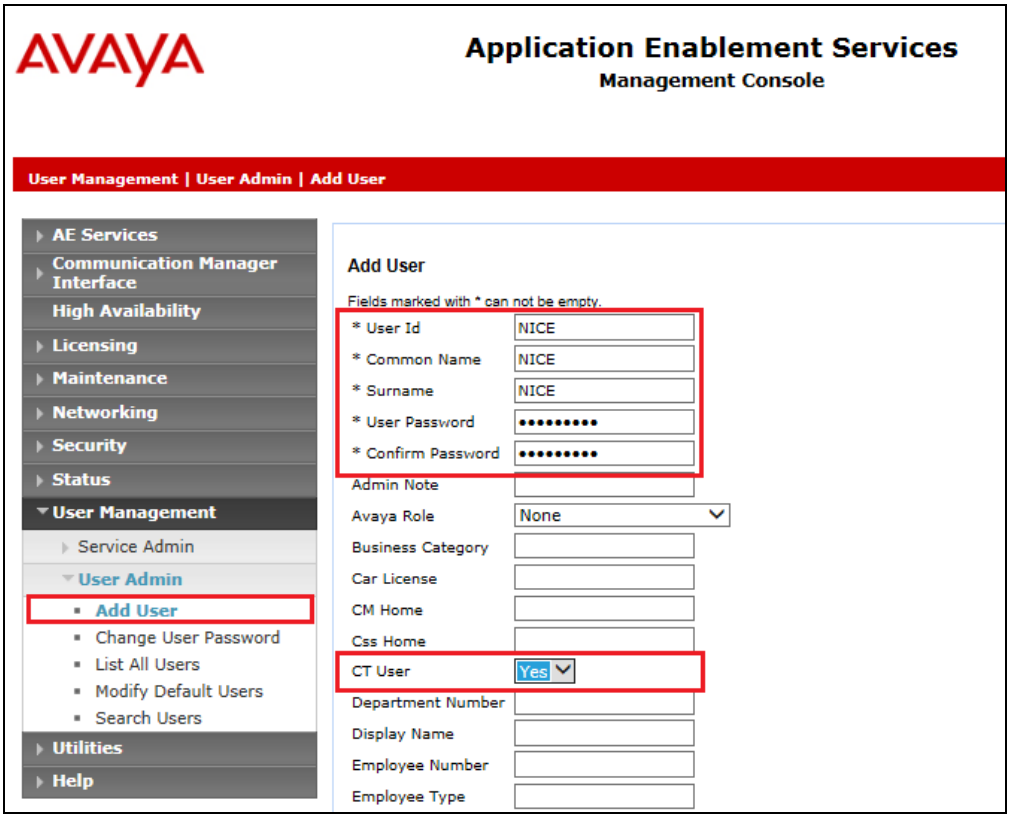
## 6.6. Create CTI User

A User ID and password needs to be configured for the NICE Trading Recording R6.x or NICE Inform Recorder R8.x to communicate with the Application Enablement Services server. Navigate to the **User Management → User Admin** screen then choose the **Add User** option.

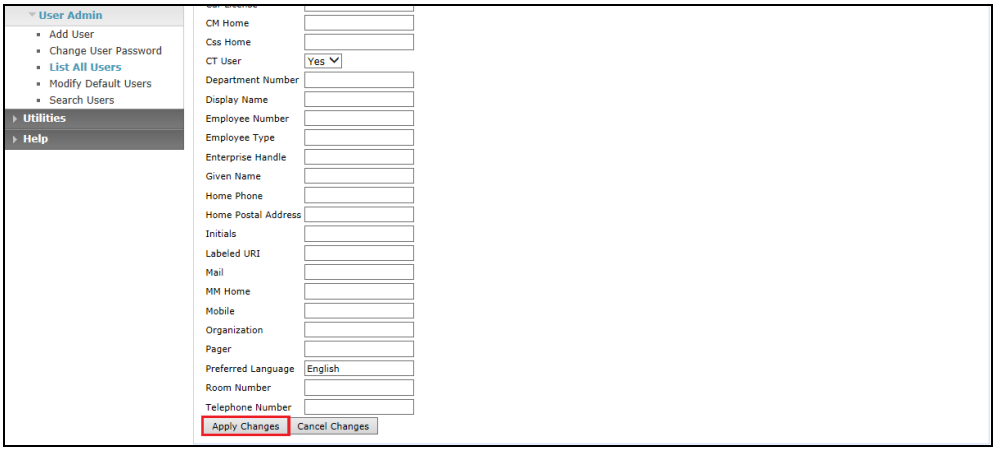


In the **Add User** screen shown below, enter the following values:

- **User Id -** This will be used by the NICE Trading Recording R6.x or NICE Inform Recorder R8.x setup in **Section 7**.
- **Common Name** and **Surname -** Descriptive names need to be entered.
- **User Password** and **Confirm Password -** This will be used with NICE Trading Recording R6.x or NICE Inform Recorder R8.x setup in **Section 7**.
- **CT User -** Select **Yes** from the drop-down menu.

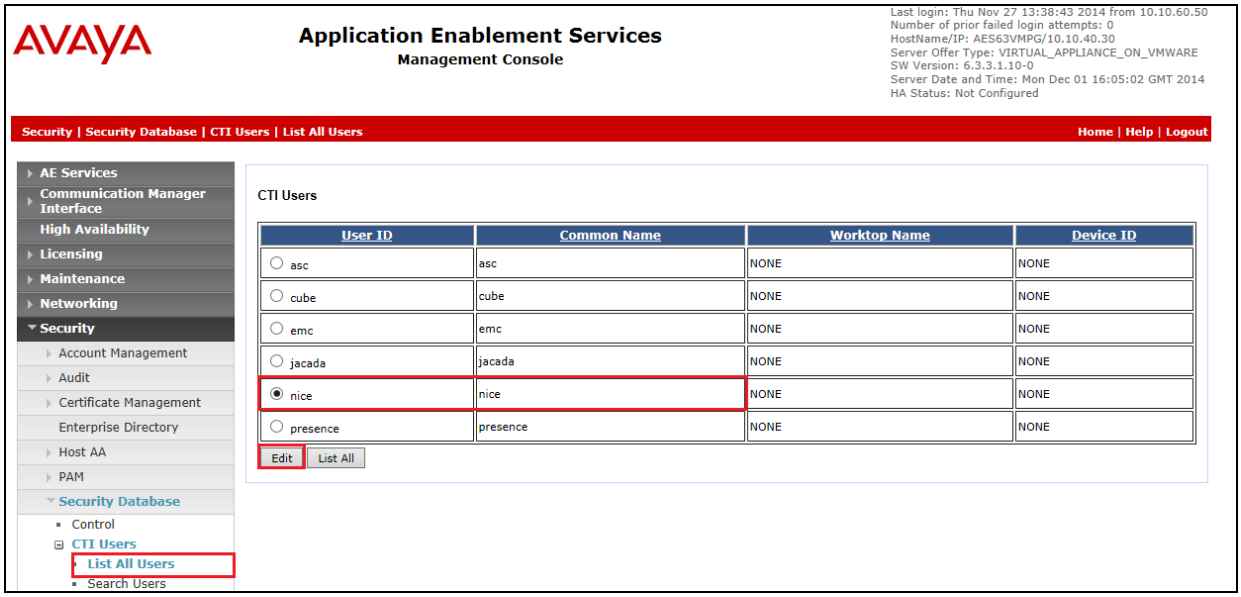



Scroll down and click on **Apply Changes**.

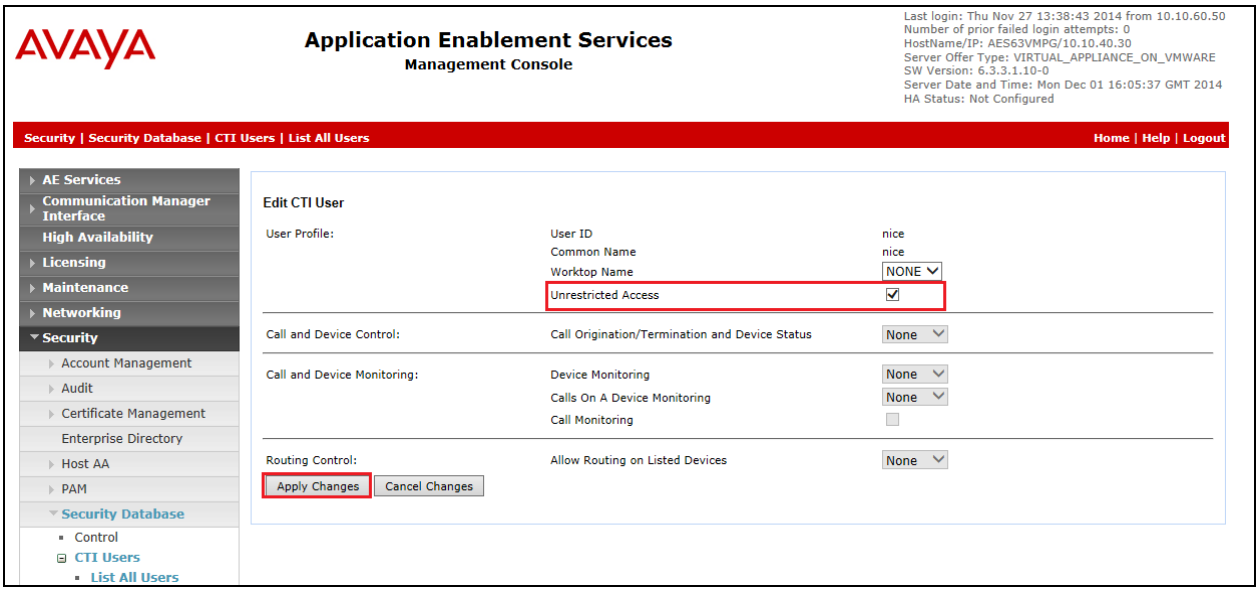


## 6.7. Associate Devices with CTI User

Navigate to **Security → Security Database → CTI Users → List All Users**. Select the CTI user added in **Section 6.6** and click on **Edit Users**.




In the main window ensure that **Unrestricted Access** is ticked. Once this is done click on **Apply Changes**.



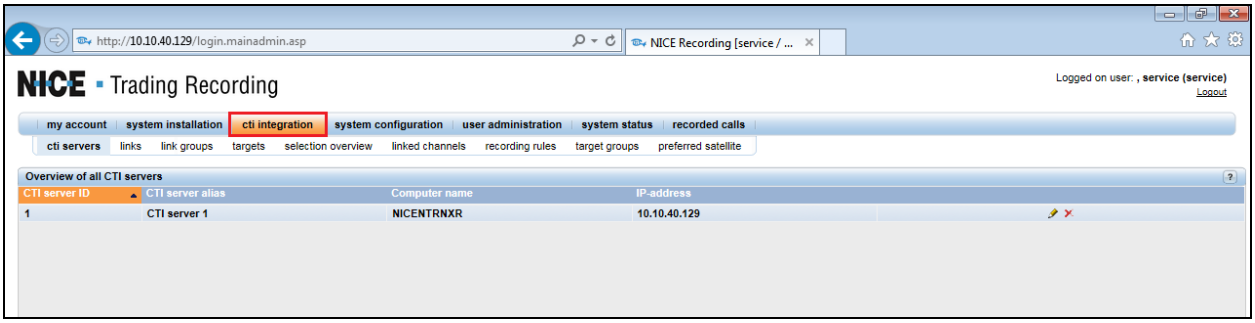

**Note:** The AES Security Database (SDB) provides the ability to control a user's access privileges. The SDB stores information about Computer Telephony (CT) users and the devices they control. The DMCC service, the TSAPI service, and Telephony Web Services use this information for permission checking. Please look to **Section 10** for more information on this.

# 7. Configure NICE Trading Recording R6.x or NICE Inform Recorder R8.x

The installation of NICE Trading Recording R6.x or NICE Inform Recorder R8.x is usually carried out by an engineer from NICE and is outside the scope of these Application Notes. For information on the installation of the NICE Trading Recording R6.x or NICE Inform Recorder R8.x contact NICE as per the information provided in **Section 2.3**.

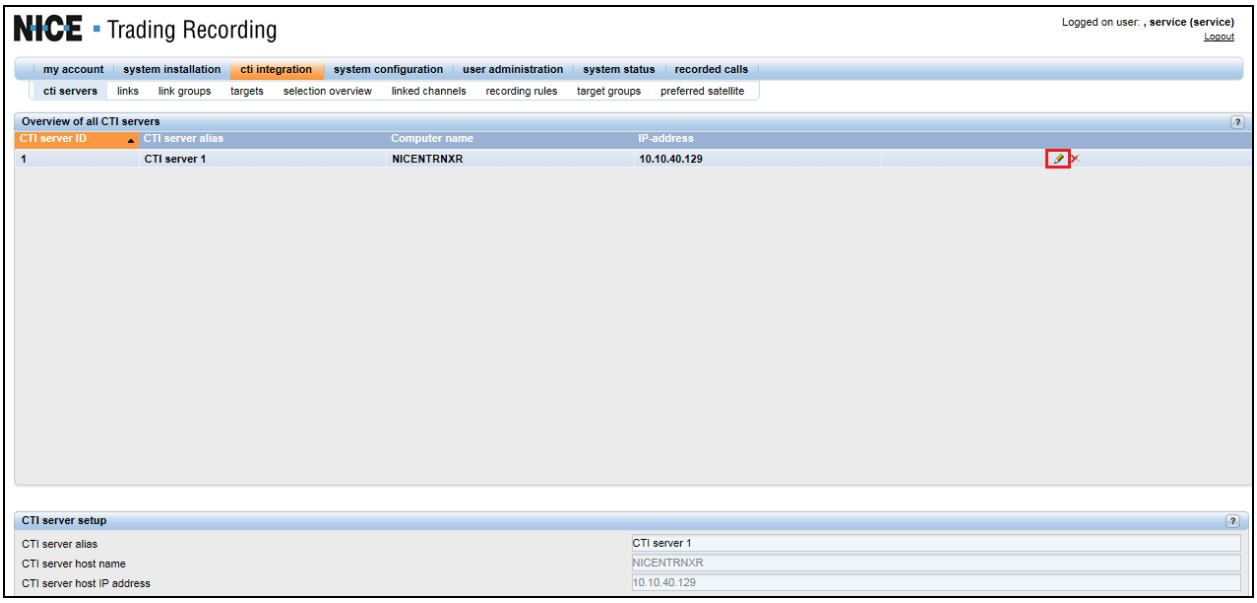
The following sections will outline the process involved in connecting the NICE Trading Recording R6.x or NICE Inform Recorder R8.x to the Avaya Solution. All configuration of the NICE Trading Recording R6.x or NICE Inform Recorder R8.x for connection with the AES is performed using a web browser connecting to the NICE Trading Recording R6.x or NICE Inform Recorder R8.x Application Server. Open a web browser as shown navigate to **http://<NICE ServerIP>/** as shown below and enter the appropriate credentials and log in.


Once logged in click on the **cti integration** tab. Within this tab there are other tabs as shown in the screen below, **cti servers**, **links**, **link groups**, **targets** etc.



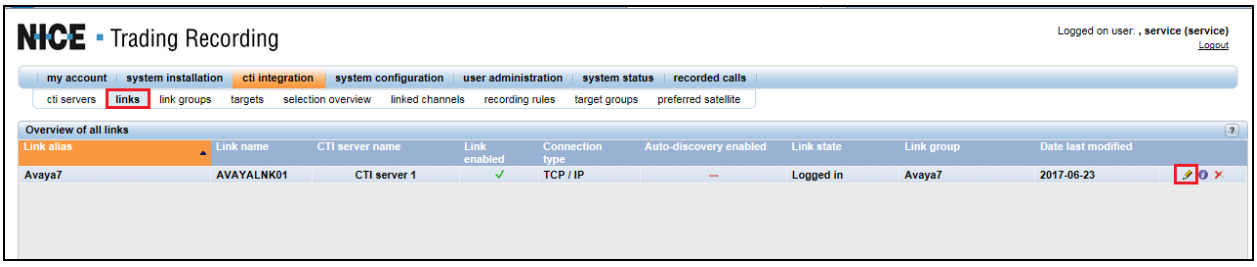
**Note:** Information on the connection to Avaya is gathered prior to any installation. This information includes the connection to the AES as well as devices to be monitored along with any AES usernames, passwords that need to be used for the connection. During the installation the connections to AES/CM are setup and created and therefore these Application Notes can only show the existing connections that were created during setup.

Clicking on **cti servers** tab will show the CTI server setup during the installation. By clicking on the edit icon highlighted changes can be made to this if deemed necessary.

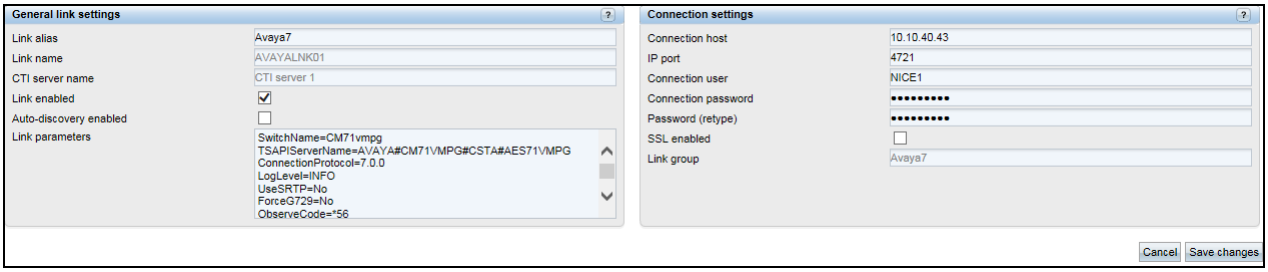



The link to AES is configured during the installation of NICE Trading Recording R6.x or NICE Inform Recorder R8.x, however this connection may need to be altered and if so click on the edit icon as shown below.

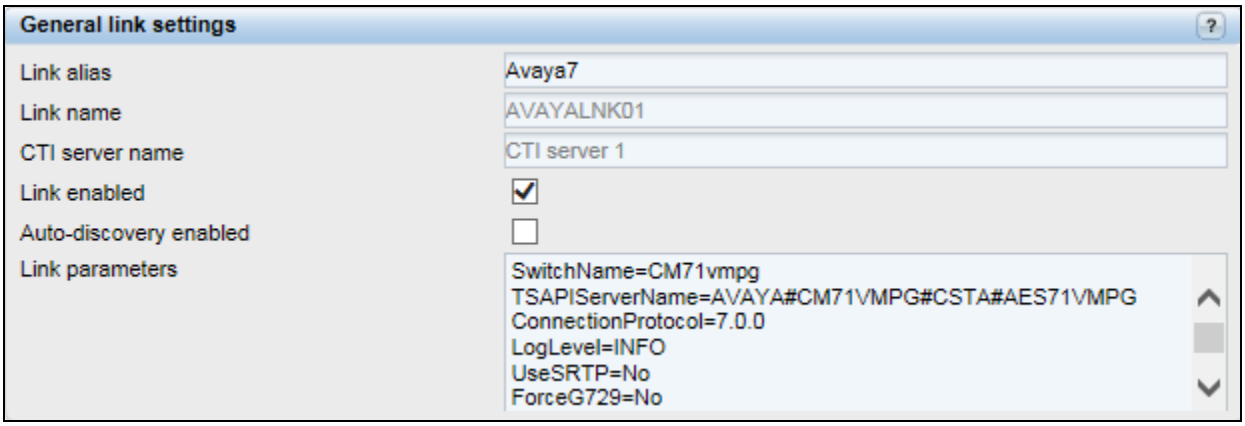
Under the links tab the existing link to AES is shown and can be edited by clicking on the icon opposite the link as highlighted.



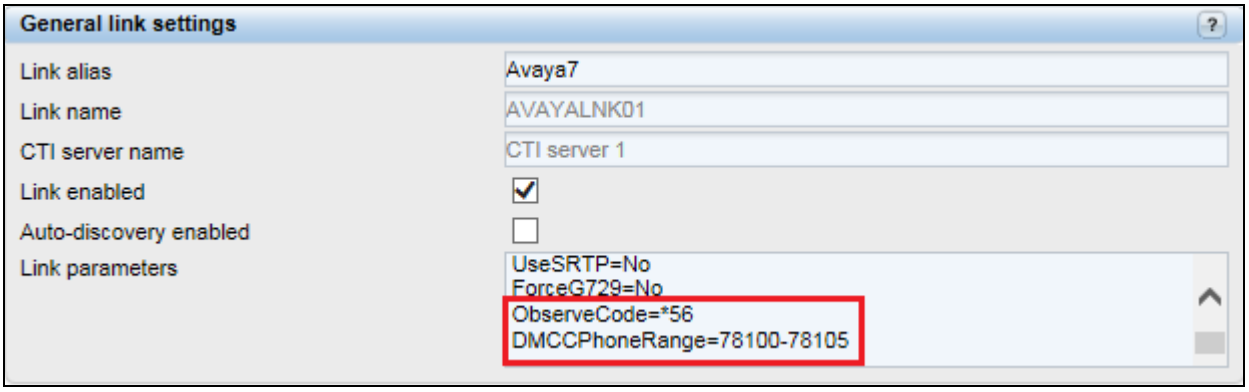
Pressing the edit button above will allow changes to be made to the following.



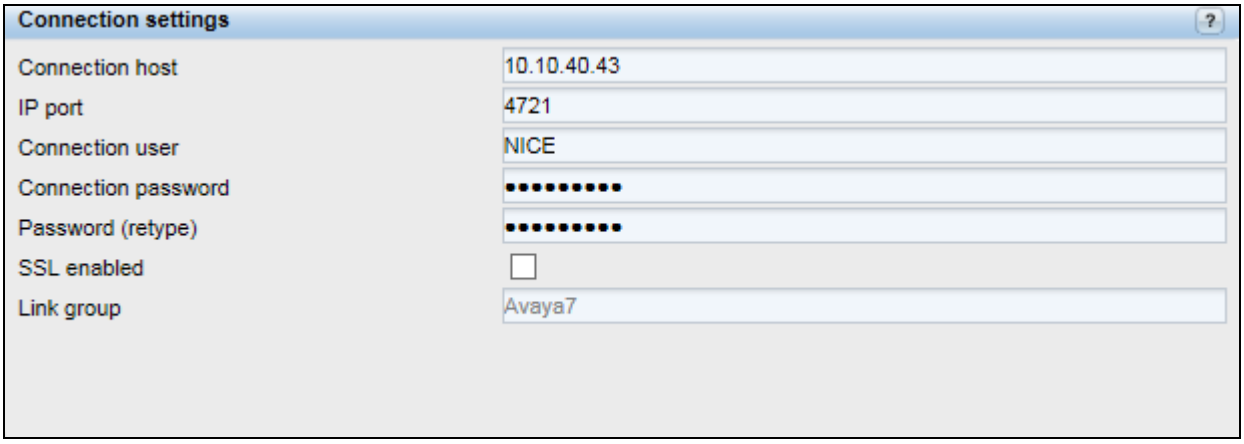

These are the parameters that were used during compliance testing. The information shown here was taken from the AES settings as outlined throughout **Section 6**.



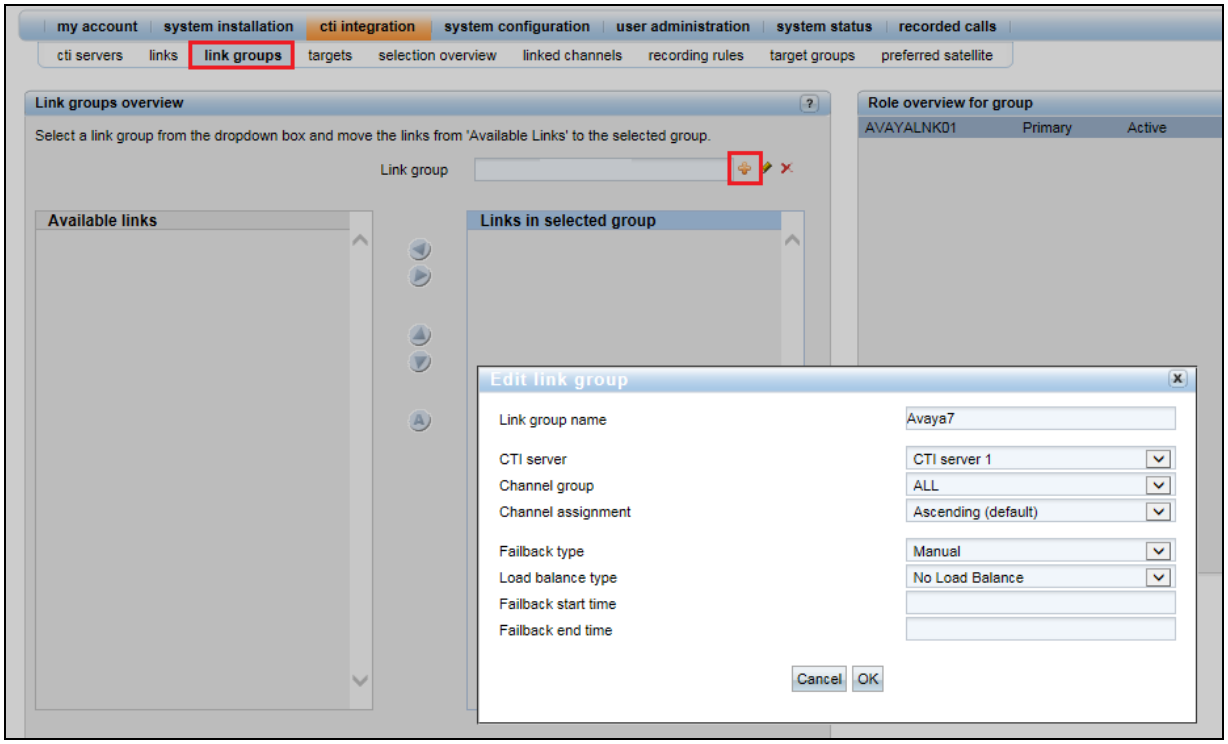

The following extras need to be added in order for Service Observation to work properly. The Service Observe Code from **Section 5.5** is added along with the Virtual Extensions from **Section 5.7**.



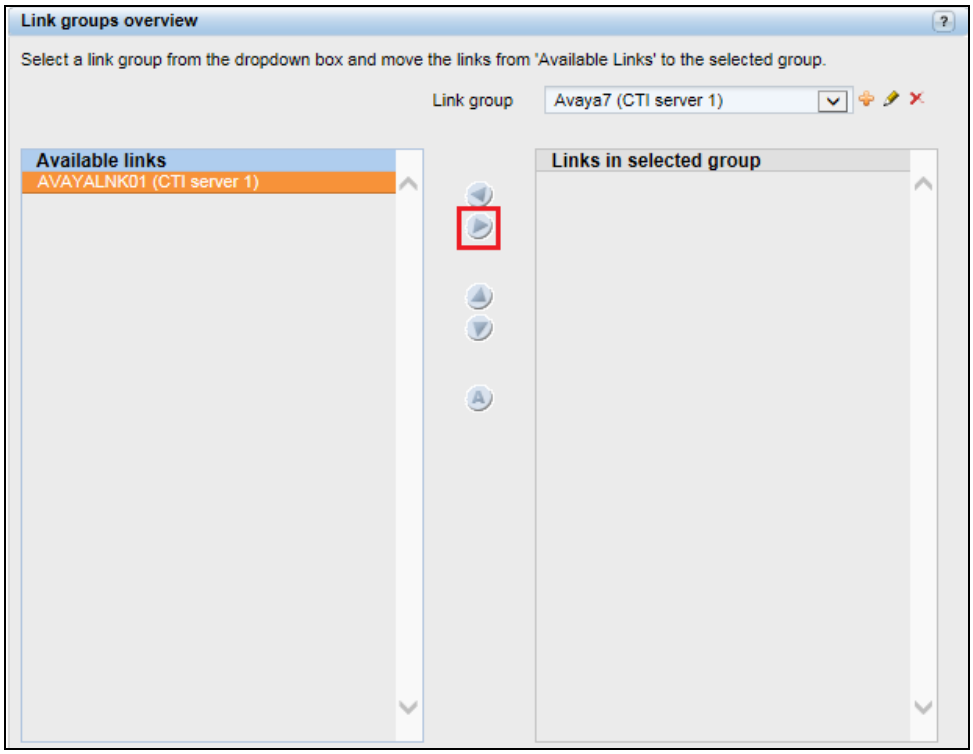
The **Connection host**, **IP port**, the **Connection user** and **password** should not need any editing as these will be added as part of the original installation. In the even that there is a bad connection these fields can be re-entered as shown below.



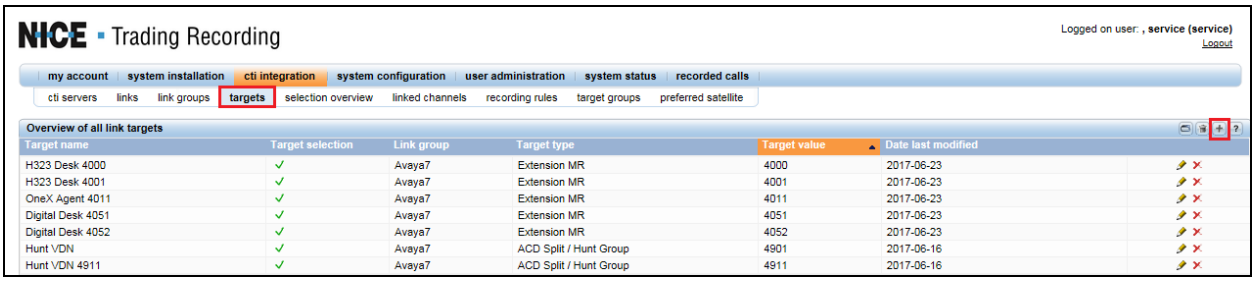

A link group must be added and this is done by first clicking on the link groups tab as shown below. Then click on the + icon highlighted, this will open a new window where the link information can be entered and saved by clicking on **OK**. A suitable **Link group name** is given, the **CTI server** that was added during the installation is chosen. The **channel assignment** was **ALL** for compliance testing, the others were left as default as shown below.



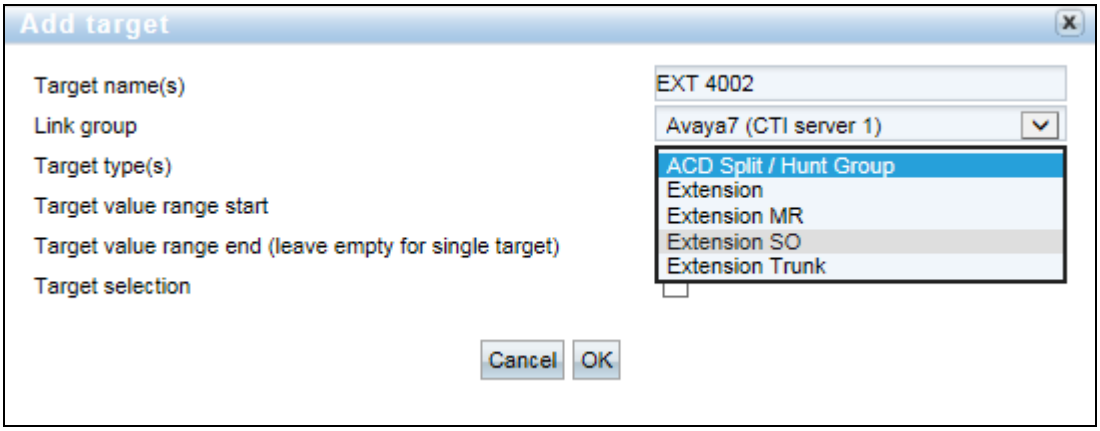
The existing link that was created during installation is now added to the newly created link group.

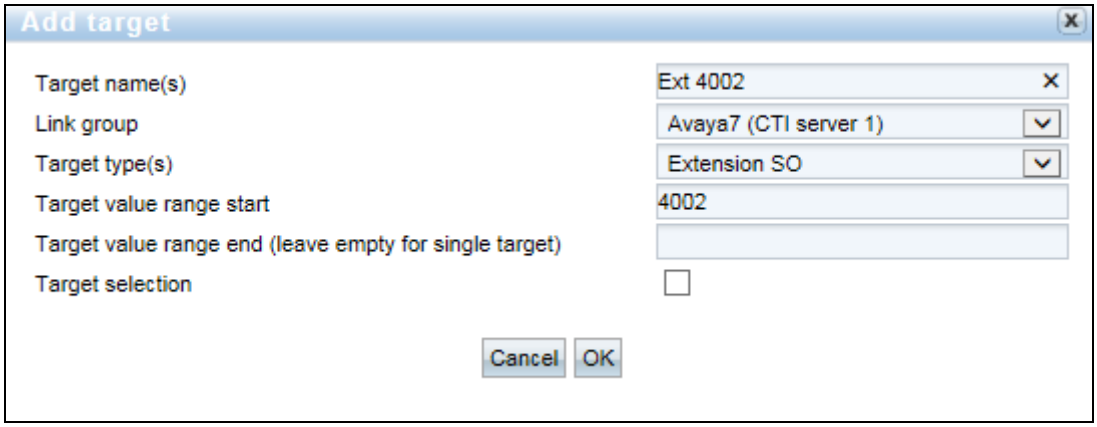



Targets can be added by clicking on the targets tab and clicking on the + icon highlighted below. Targets are Avaya phones that need to be monitored. The screen below shows an existing list of phones that are already being monitored but clicking on the + icon will add a new phone.

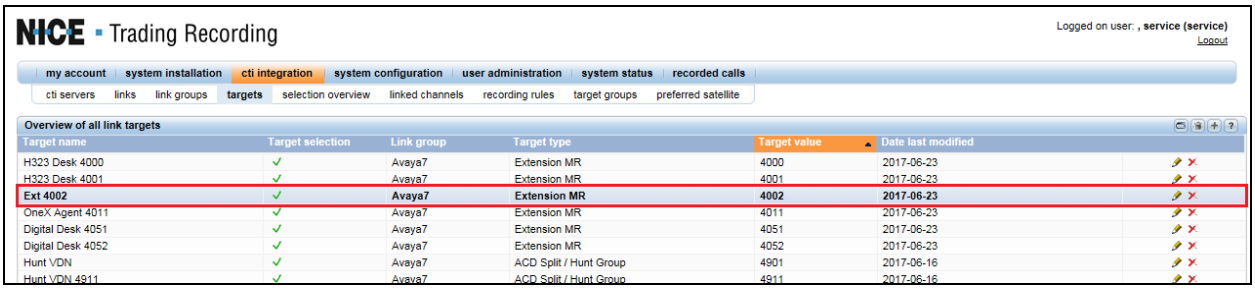


Once the + icon is pressed a new window is opened as shown below. Here the information on the new Avaya extension is entered, this new extension being **4002**. Note that the **Target Type** can be chosen from the list as shown below. For "Service Observation" recording **Extension SO** is selected as shown below.

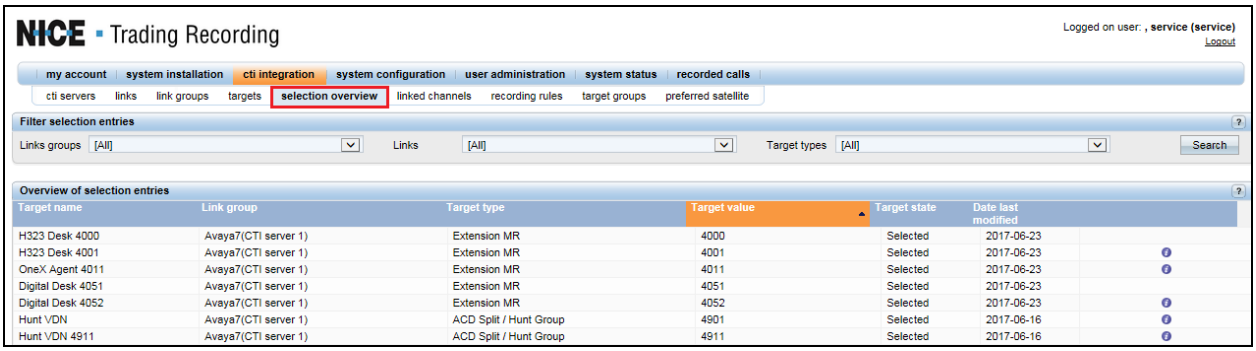



This newly added target is displayed below.



The selection overview tab provides a list of all the monitored devices as well as any VDN's hunt groups or any other monitored endpoints on Communication Manager.




This concludes the setup of the NICE Application Server for DMCC Service Observation recording.

# 8. Verification Steps

This section provides the steps that can be taken to verify correct configuration of the NICE Trading Recording R6.x or NICE Inform Recorder R8.x and Avaya Aura® Application Enablement Services.

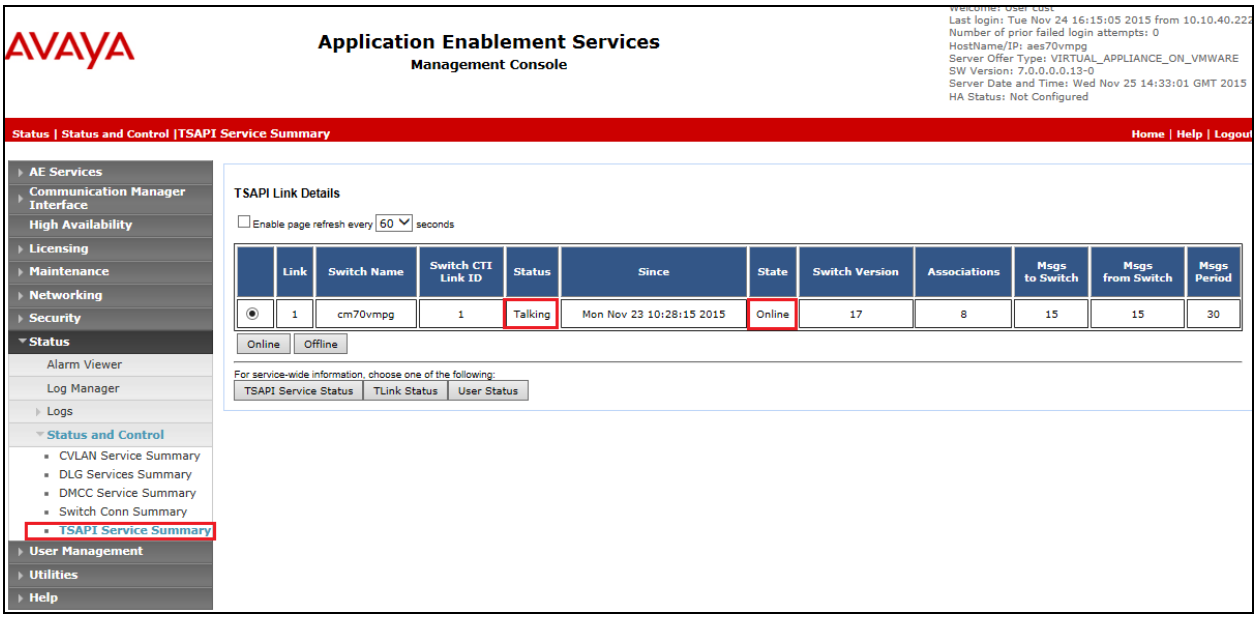
## 8.1. Verify Avaya Aura® Communication Manager CTI Service State

Before checking the connection between the NICE Trading Recording R6.x or NICE Inform Recorder R8.x and AES, check the connection between Communication Manager and AES to ensure it is functioning correctly. Check the AESVCS link status by using the command **status aesvcs cti-link**. Verify the **Service State** of the CTI link is **established**.

```
status aesvcs cti-link

                        AE SERVICES CTI LINK STATUS

CTI    Version      Mnt    AE Services       Service        Msgs      Msgs
Link                Busy     Server           State         Sent      Rcvd

1          7        no       aes71vmpg       established    18        18
```

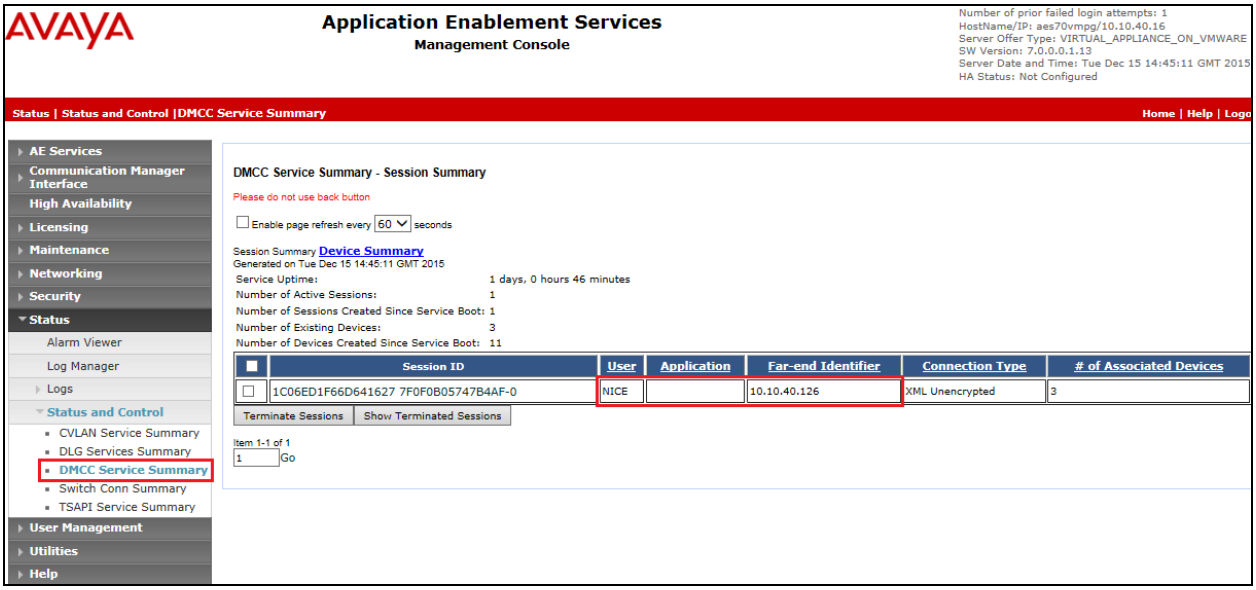
## 8.2. Verify TSAPI Link

On the AES Management Console verify the status of the TSAPI link by selecting **Status → Status and Control → TSAPI Service Summary** to display the **TSAPI Link Details** screen. Verify the status of the TSAPI link by checking that the **Status** is **Talking** and the **State** is **Online**.



## 8.3. Verify DMCC link on AES

Verify the status of the DMCC link by selecting **Status → Status and Control → DMCC Service Summary** to display the **DMCC Service Summary – Session Summary** screen. The screen below shows that the user **NICE** is connected from the IP address **10.10.40.126**, which is the NICE server.

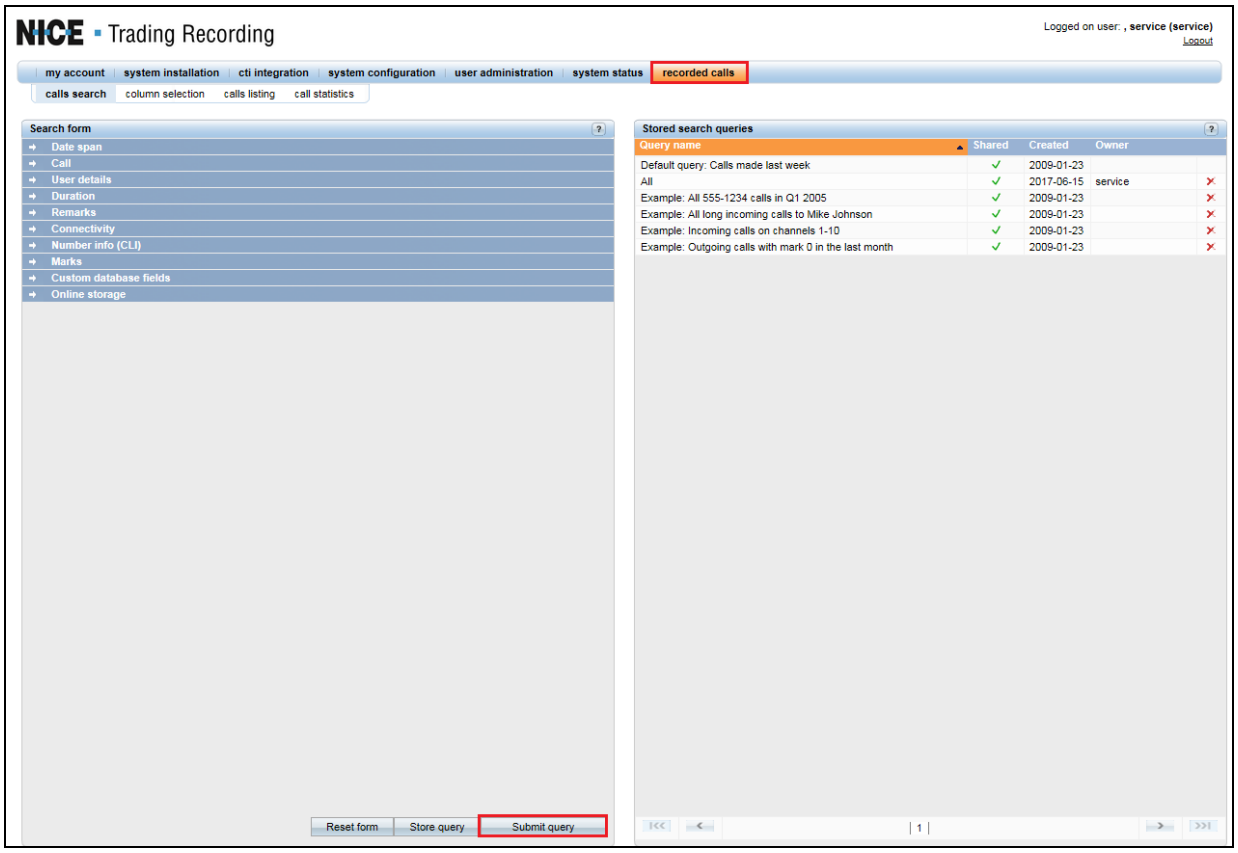



## 8.4. Verify calls are being recorded

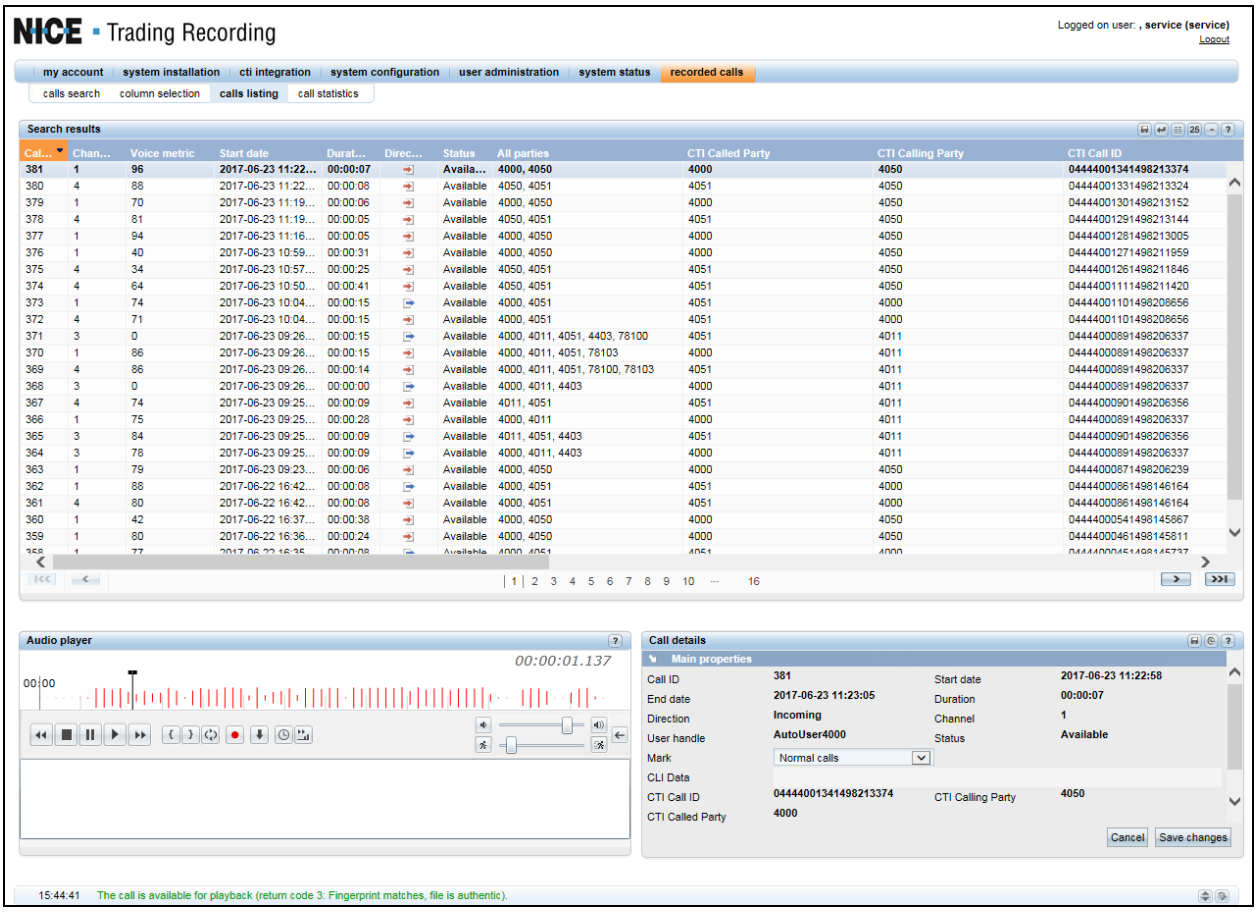
From any of the monitored Avaya endpoints make a series of inbound and outbound calls. Once these calls are completed they should be available for playback through a web browser to the NICE Trading Recording R6.x or NICE Inform Recorder R8.x server.

Open a browser session to the NICE server as is shown below. Enter the appropriate credentials and log in.

Click on **recorded calls** at the top of the screen. Select **Submit query** from the bottom of the screen as shown below.



Click on whatever recording is required for play back and this will play back the recording using the sound device on that PC to play back the call.



# 9. Conclusion

These Application Notes describe the configuration steps required for NICE Trading Recording R6.x or NICE Inform Recorder R8.x to successfully interoperate with Avaya Aura® Communication Manager R7.1 using Avaya Aura® Application Enablement Services R7.1 to connect to using DMCC Service Observation to record calls. All feature functionality and serviceability test cases were completed successfully with some issues and observations noted in **Section 2.2**.

# 10. Additional References

This section references the Avaya and NICE product documentation that are relevant to these Application Notes.

Product documentation for Avaya products may be found at *http://support.avaya.com*.


[1] *Administering Avaya Aura® Communication Manager*, Document ID 03-300509

[2] *Avaya Aura® Communication Manager Feature Description and Implementation*, Document ID 555-245-205

[3] *Avaya Aura® Application Enablement Services Administration and Maintenance Guide* Release 7.1


Product documentation for NICE products may be found at: http://www.nice.com/