Application Notes for NICE Inform Recorder 9.2 to interoperate with Avaya Aura® Communication Manager and Avaya Aura® Application Enablement Services using DMCC Service Observation to record calls - Issue 1.0

Abstract

These Application Notes describe the configuration steps for the NICE Inform Recorder R9.2 to interoperate with the Avaya solution consisting of an Avaya Aura® Communication Manager R8.1 and Avaya Aura® Application Enablement Services R8.1 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 Inform Recorder R9.2 to interoperate with the Avaya solution consisting of an Avaya Aura® Communication Manager R8.1 and Avaya Aura® Application Enablement Services R8.1 using Service Observation.

NICE Trading Recorder (NTR) is a product equivalent to NICE Inform Recorder (NIR). NIR was used in this testing. **Attachment 1** is a Conformance Letter in which NICE declares the equivalency of the two products, the equivalent SW versions, and that testing with one product applies to both. For additional information contact NICE support as shown in **Section 2.3**.

NICE Inform Recorder 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.

NICE Inform Recorder 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 is 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. NICE Inform Recorder 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 NICE Inform Recorder 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 Inform Recorder 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 Inform Recorder under different simulated failure conditions.

2.2. Test Results

All functionality and serviceability test cases were completed successfully. The following observation was noted: 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.

2.3. Support

Product documentation for NICE products may be found on ExtraNICE at:
https://www.extranice.com/Security/Pages/default.aspx
(ExtraNICE user account and password required)

3. Reference Configuration

The configuration in **Figure 1** was used to compliance test NICE Inform Recorder 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.

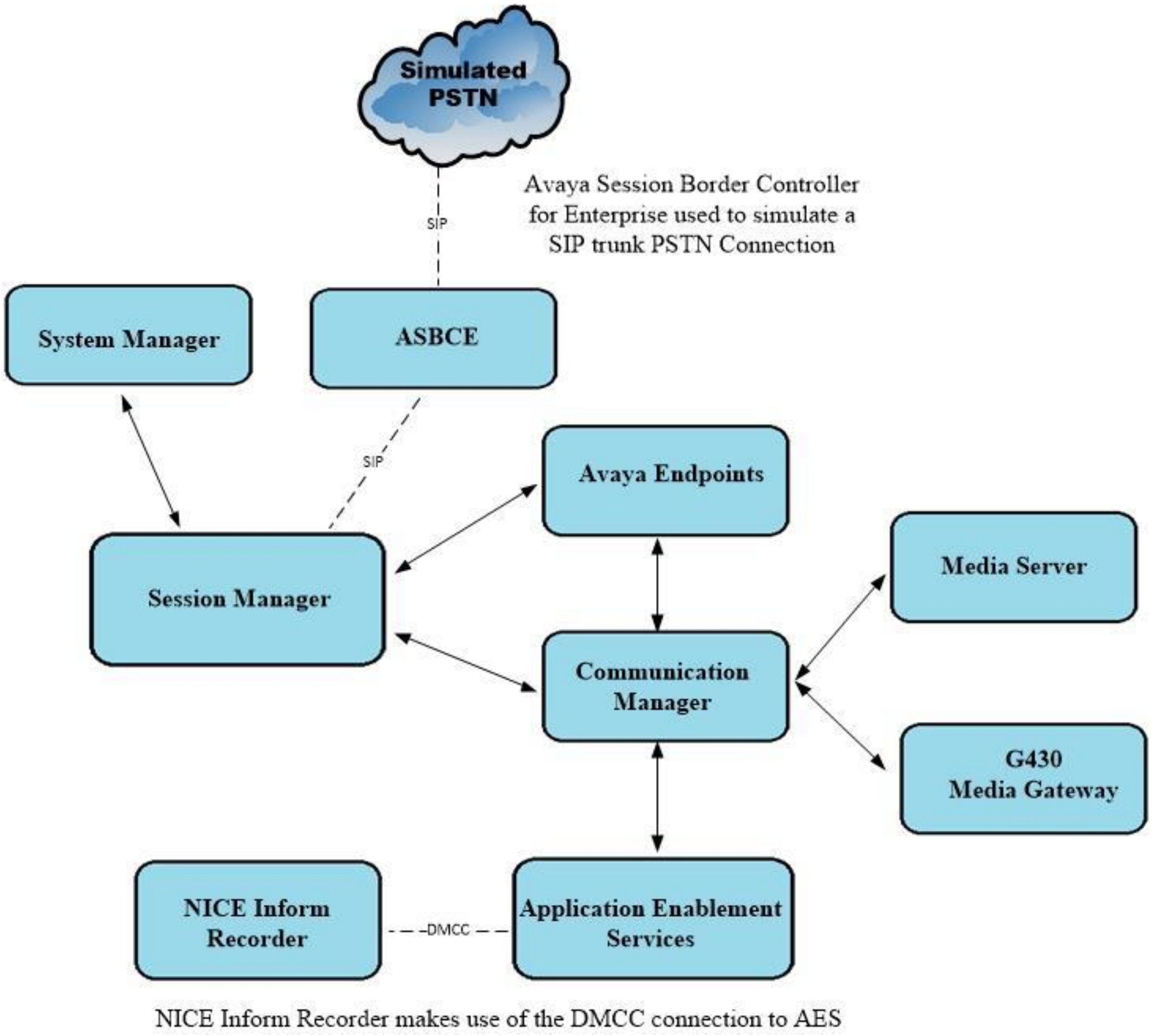

Simulated PSTN
SIP
Avaya Session Border Controller for Enterprise used to simulate a SIP trunk PSTN Connection
System Manager
ASBCE
SIP
Avaya Endpoints
Media Server
Session Manager
Communication Manager
G430 Media Gateway
NICE Inform Recorder
DMCC
Application Enablement Services
NICE Inform Recorder makes use of the DMCC connection to AES

Figure 1: Connection of NICE Inform Recorder with Avaya Aura® Communication Manager R8.1 and Avaya Aura® Application Enablement Services R8.1

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 a virtual server	8.1.3.1 Build No. – 8.1.0.0.733078 Software Update Revision No: 8.1.3.1.1012493 Service Pack 1
Avaya Aura® Session Manager running on a virtual server	8.1.3.1 Build No. – 8.1.3.1.813113
Avaya Aura® Communication Manager running on a virtual server	8.1.3.1 – FP3SP1 R018x.01.0.890.0 Update ID 01.0.890.0-26766
Avaya Aura® Application Enablement Services Primary Server running on VMware	8.1.3.1 Build 8.1.3.1.0.7-0
Avaya Aura® Application Enablement Services Secondary Server running on VMware	8.1.3 Build 8.1.3.1.0.7-0
Avaya Session Border Controller for Enterprise	8.1.1.0-26-19214
Avaya Aura® Media Server	8.0.2.138
Avaya G430 Media Gateway	41.16.0/1
Avaya J179 H.323 Deskphone	6.8304
Avaya J159 SIP Deskphone	4.0.7.1.5
Avaya 9408 Digital Phone	2.00
Avaya Agent for Desktop	2.0.6.8.3002
NICE Inform Recorder (NIR) “All-in-one” configuration, running on Windows Server 2019	NIR 9.2.1 Avaya DMCC Integration 80.3.1

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**.

```
display node-names ip                                            Page   1 of   2
                                  IP NODE NAMES
    Name              IP Address
SM100               10.10.40.52
default             0.0.0.0
g450                10.10.40.15
procr               10.10.40.37
```

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 **aes81vmpg**.
- **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:        aes81vmpg          ********          y          idle
      2:
      3:
```

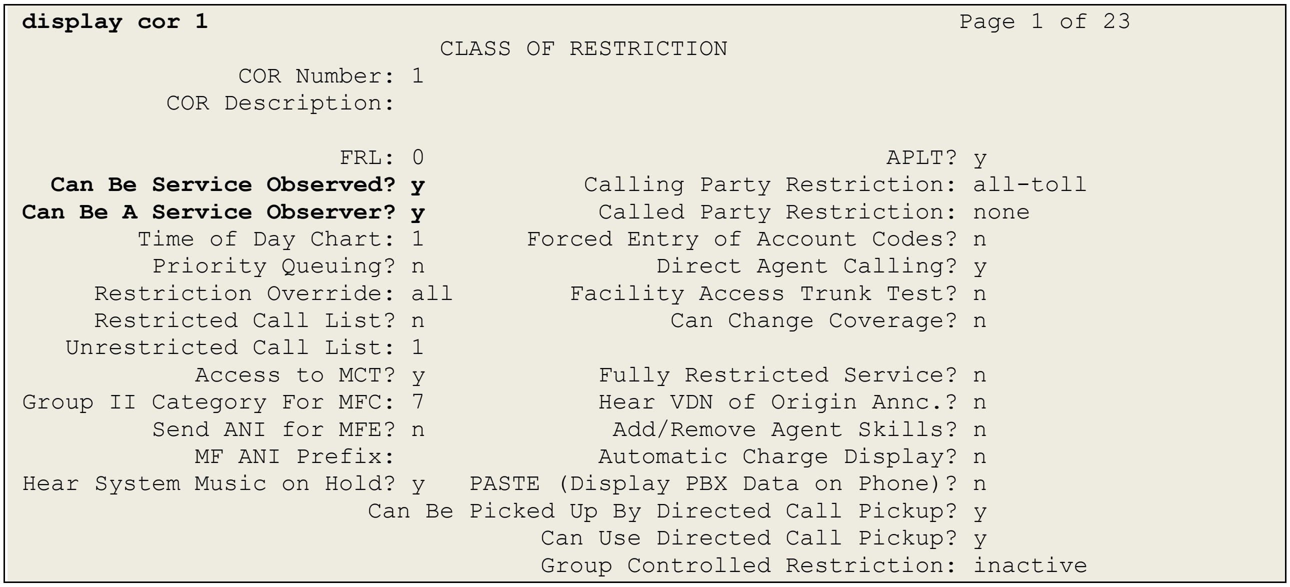
5.4. Configure CTI Link for TSAPI Service

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: aes81vmpg
```

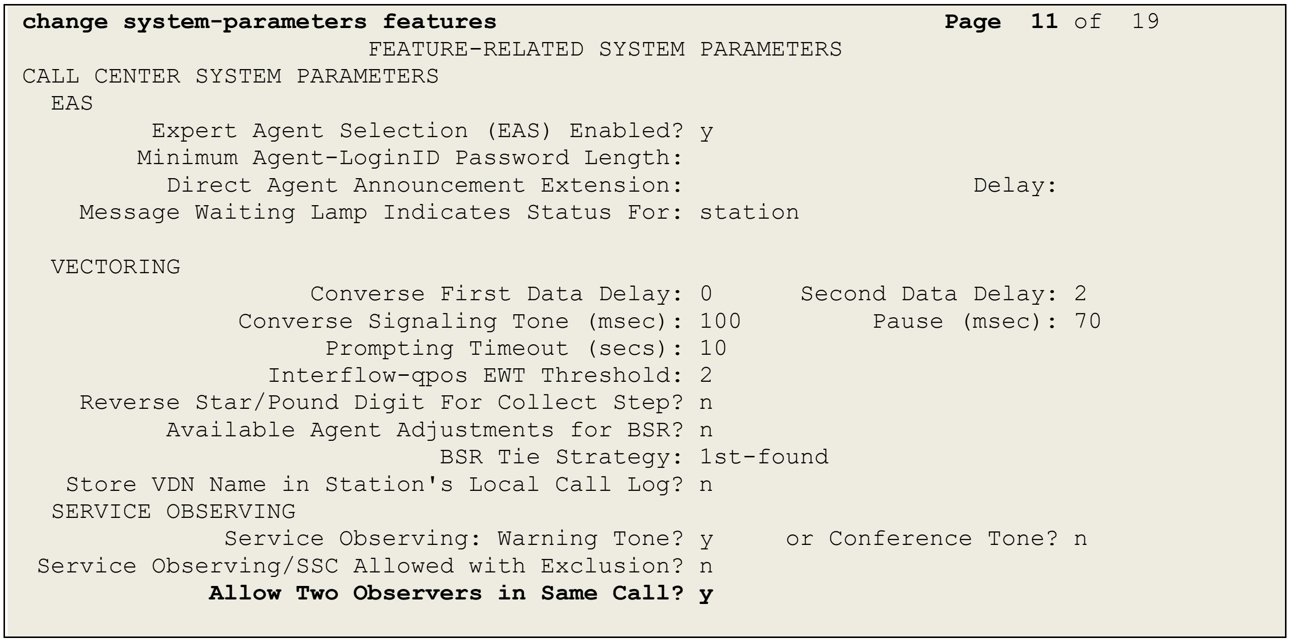
5.5. Configure Communication Manager for Service Observation

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. These values need 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** during the setup of NICE Inform Recorder.

```
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:
```

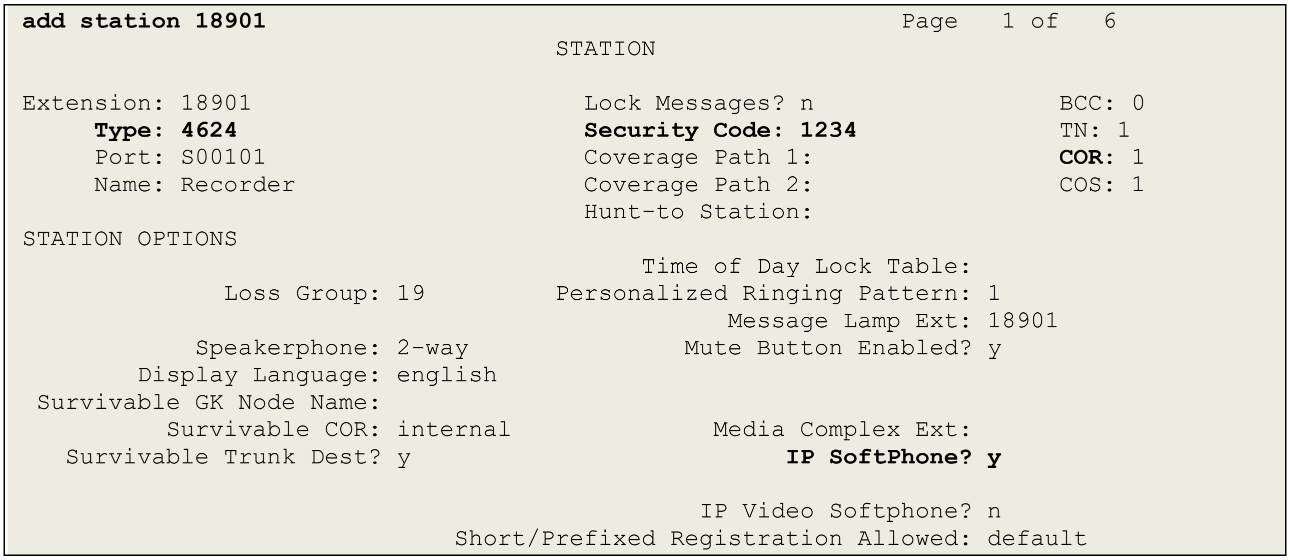
5.6. Configure H323 Stations for Service Observation

All endpoints that are to be monitored by NICE will need to have the appropriate Class of Restriction which would be that created in **Section 5.5**. Ensure that COR is set to the correct number. Note the **Security Code** that may be required in **Section 7**.

```
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 Inform Recorder 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**.

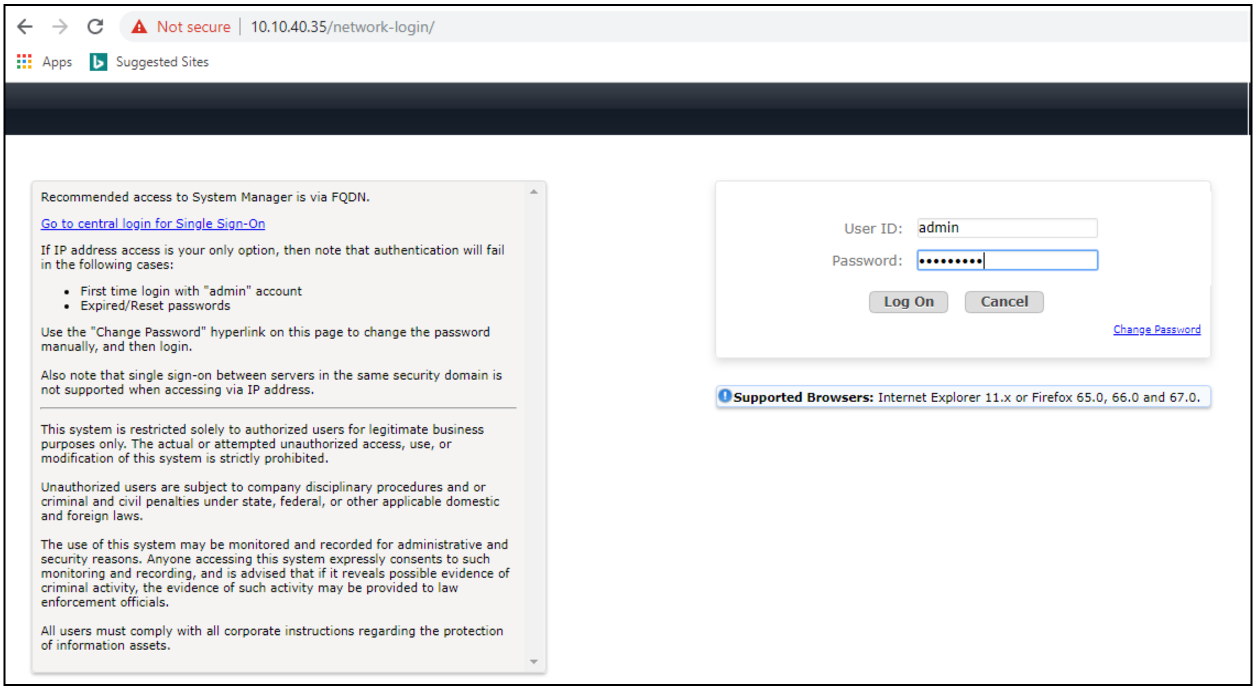


```
add station 18901                                            Page   1 of   6
                                     STATION

Extension: 18901                       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: 18901
            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
```

5.8. Configure SIP Stations for Service Observation

Each Avaya SIP endpoint or station that needs to be monitored for call recording will need to have the correct Class of Restriction assigned. Changes to SIP phones on Communication Manager must be carried out from System Manager. Access the System Manager using a Web Browser by entering **http://<FQDN >/network-login**, where **<FQDN>** is the fully qualified domain name of System Manager or the IP address of System Manager can be used as an alternative to the FQDN. Log in using appropriate credentials.

Note: The following shows changes to a SIP extension and assumes that the SIP extension has been programmed correctly and is fully functioning.



Recommended access to System Manager is via FQDN.

Go to central login for Single Sign-On

If IP address access is your only option, then note that authentication will fail in the following cases:

- First time login with "admin" account
- Expired/Reset passwords

Use the "Change Password" hyperlink on this page to change the password manually, and then login.

Also note that single sign-on between servers in the same security domain is not supported when accessing via IP address.

This system is restricted solely to authorized users for legitimate business purposes only. The actual or attempted unauthorized access, use, or modification of this system is strictly prohibited.

Unauthorized users are subject to company disciplinary procedures and or criminal and civil penalties under state, federal, or other applicable domestic and foreign laws.

The use of this system may be monitored and recorded for administrative and security reasons. Anyone accessing this system expressly consents to such monitoring and recording, and is advised that if it reveals possible evidence of criminal activity, the evidence of such activity may be provided to law enforcement officials.

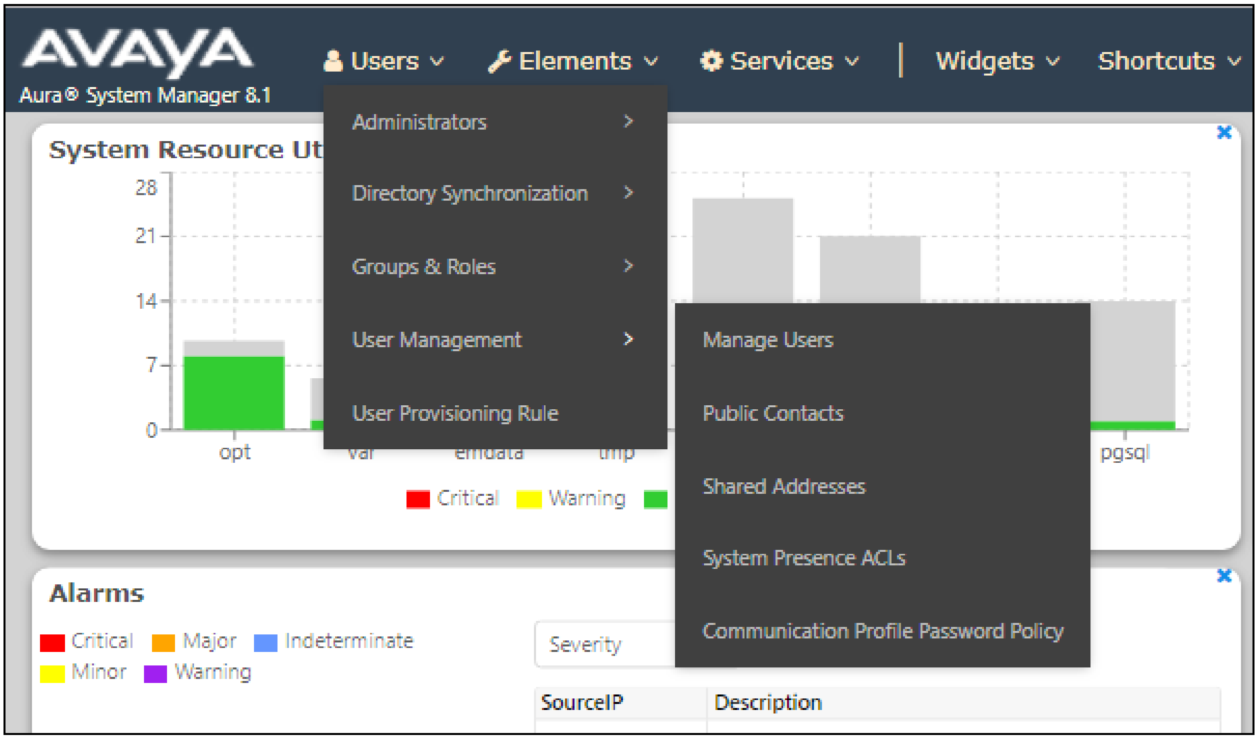
All users must comply with all corporate instructions regarding the protection of information assets.

User ID: admin

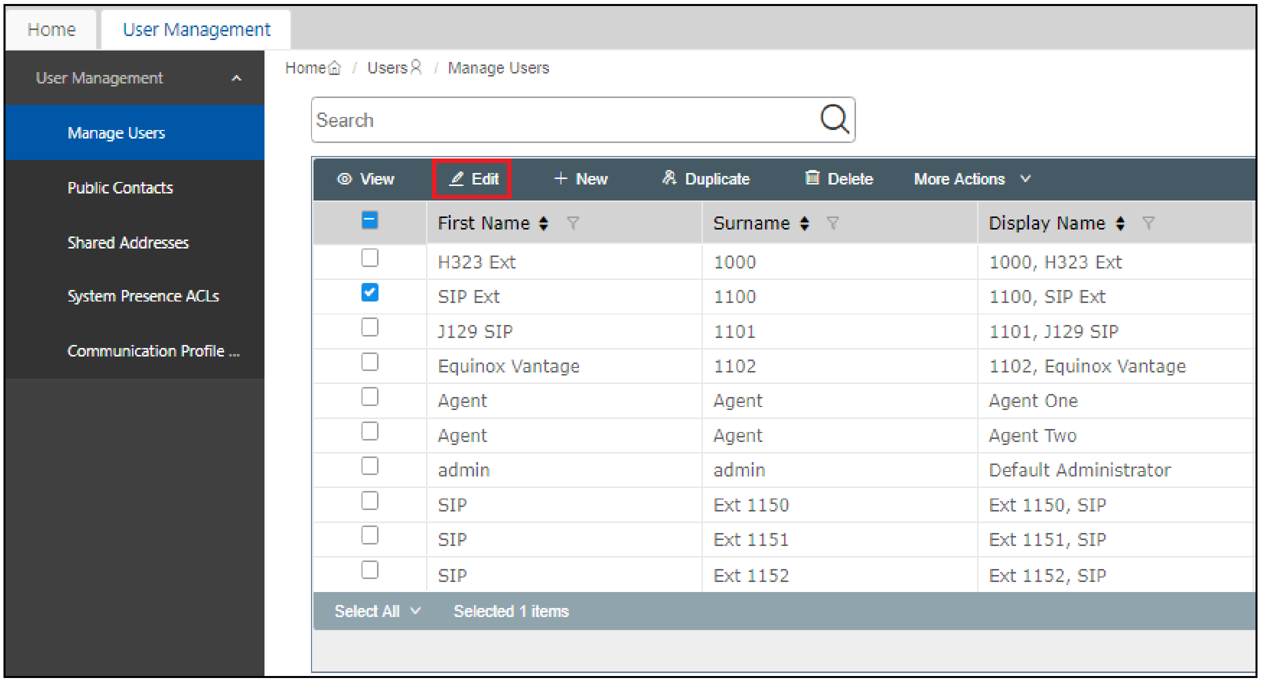
Password: •••••••••

Supported Browsers: Internet Explorer 11.x or Firefox 65.0, 66.0 and 67.0.

From the home page, click on **Users → User Management → Manage Users**, as shown below.

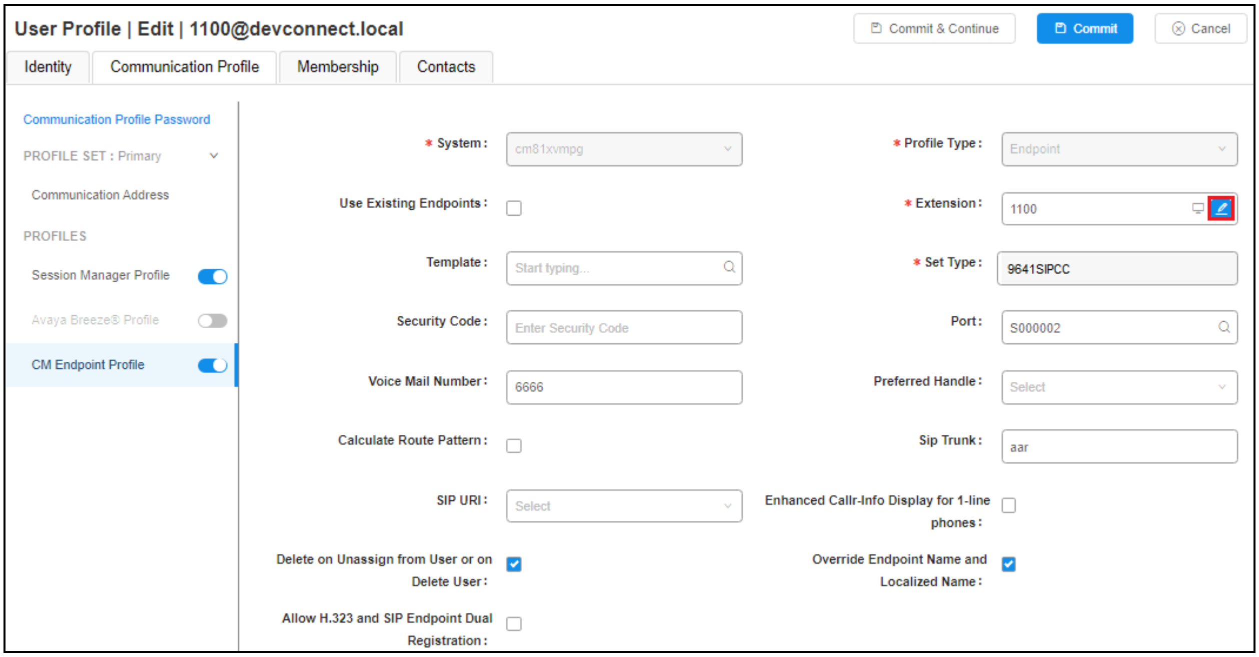


Click on **Manager Users** in the left window. Select the station to be edited and click on **Edit**.



	First Name	Surname	Display Name
☐	H323 Ext	1000	1000, H323 Ext
☑	SIP Ext	1100	1100, SIP Ext
☐	J129 SIP	1101	1101, J129 SIP
☐	Equinox Vantage	1102	1102, Equinox Vantage
☐	Agent	Agent	Agent One
☐	Agent	Agent	Agent Two
☐	admin	admin	Default Administrator
☐	SIP	Ext 1150	Ext 1150, SIP
☐	SIP	Ext 1151	Ext 1151, SIP
☐	SIP	Ext 1152	Ext 1152, SIP

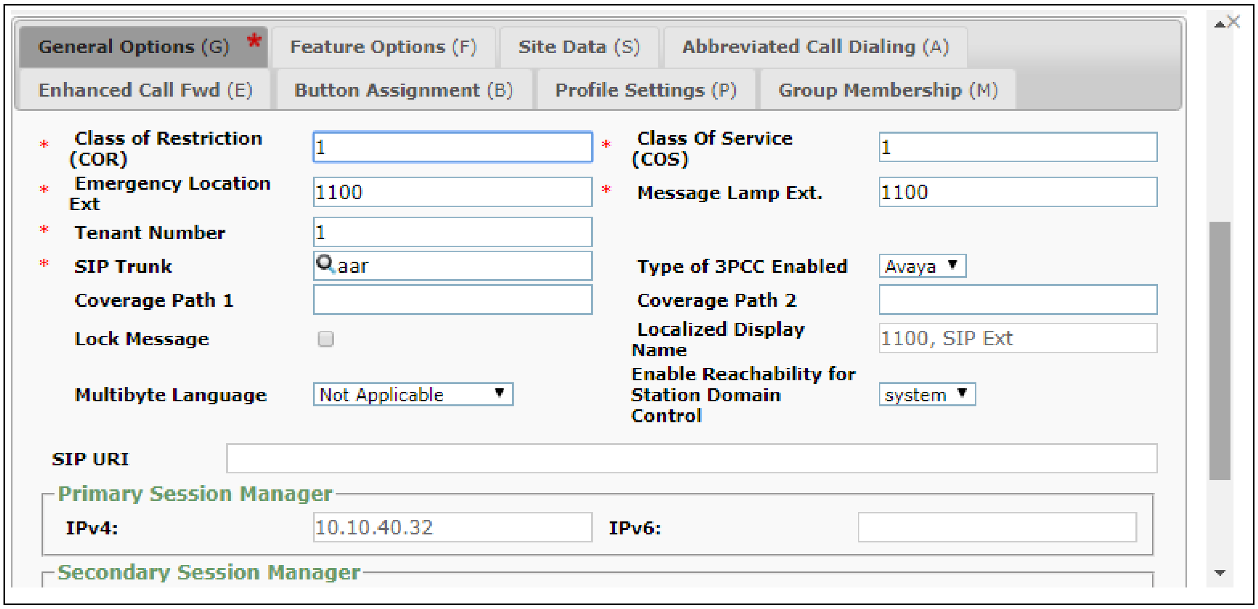
Click on the **CM Endpoint Profile** tab in the left window. Click on **Endpoint Editor** to make changes to the SIP station.



User Profile | Edit | 1100@devconnect.local

* System : cm81xvmpg
* Profile Type : Endpoint
Use Existing Endpoints : □
* Extension : 1100
Template : Start typing...
* Set Type : 9641SIPCC
Security Code : Enter Security Code
Port : S000002
Voice Mail Number : 6666
Preferred Handle : Select
Calculate Route Pattern : □
Sip Trunk : aar
SIP URI : Select
Enhanced Callr-Info Display for 1-line phones : □
Delete on Unassign from User or on Delete User : ☑
Override Endpoint Name and Localized Name : ☑
Allow H.323 and SIP Endpoint Dual Registration : □

In the **General Options** tab ensure that **Class of Restriction** is set correctly. Click on **Done**, at the bottom of the screen once this is set, (not shown).

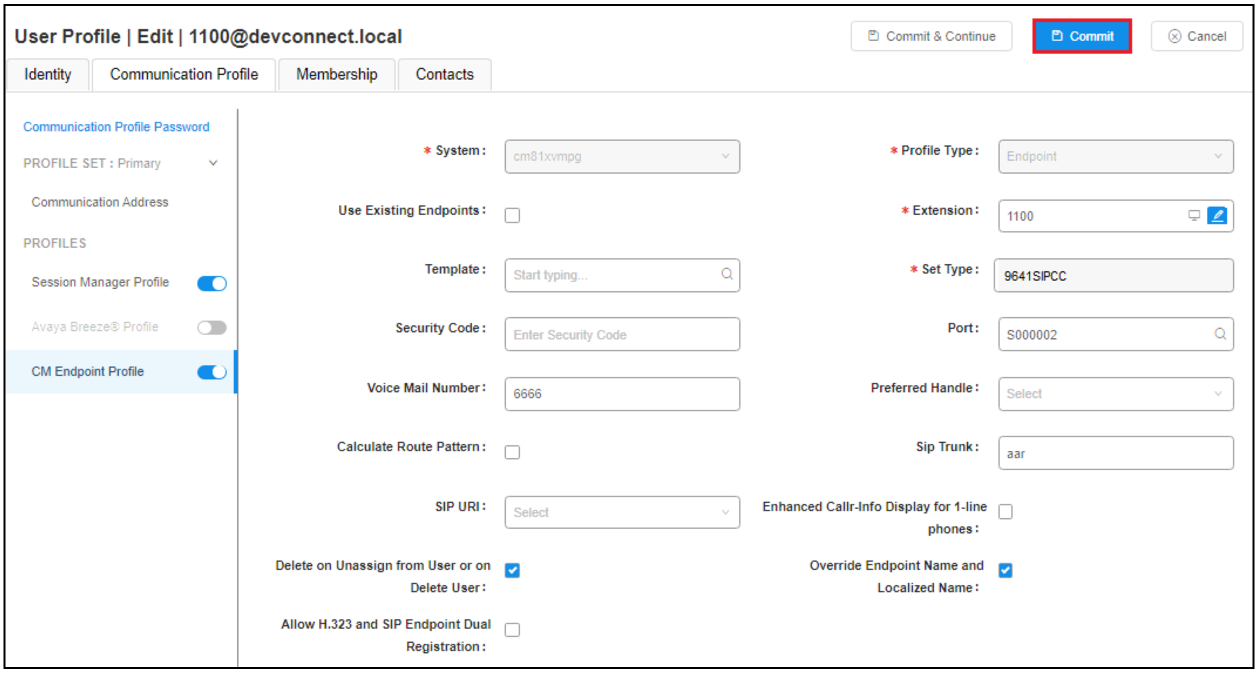


* Class of Restriction (COR): 1
* Class Of Service (COS): 1
* Emergency Location Ext: 1100
* Message Lamp Ext.: 1100
* Tenant Number: 1
* SIP Trunk: aar
Type of 3PCC Enabled: Avaya
Coverage Path 1:
Coverage Path 2:
Lock Message: □
Localized Display Name: 1100, SIP Ext
Multibyte Language: Not Applicable
Enable Reachability for Station Domain Control: system
SIP URI:

Primary Session Manager
IPv4: 10.10.40.32
IPv6:

Secondary Session Manager

Click on **Commit** once this is done to save the changes.



User Profile | Edit | 1100@devconnect.local

* System :	cm81xvmpg	* Profile Type :	Endpoint
Use Existing Endpoints :	□	* Extension :	1100
Template :	Start typing...	* Set Type :	9641SIPCC
Security Code :	Enter Security Code	Port :	S000002
Voice Mail Number :	6666	Preferred Handle :	Select
Calculate Route Pattern :	□	Sip Trunk :	aar
SIP URI :	Select	Enhanced Callr-Info Display for 1-line phones :	□
Delete on Unassign from User or on Delete User :	☑	Override Endpoint Name and Localized Name :	☑
Allow H.323 and SIP Endpoint Dual Registration :	□		

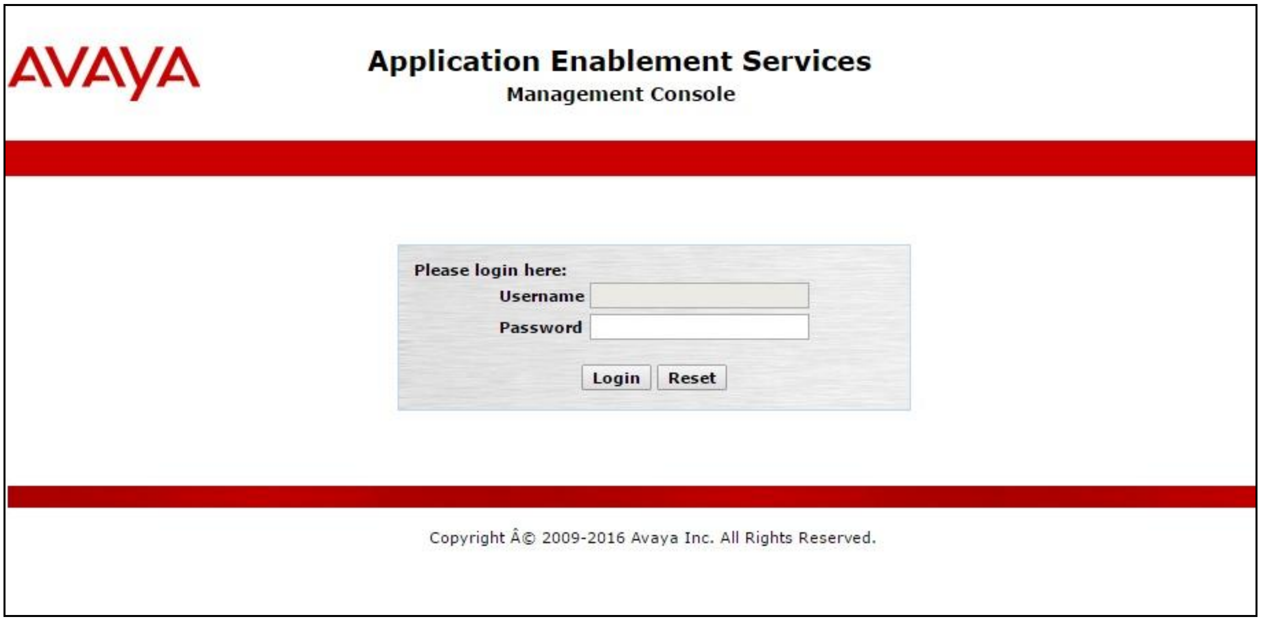
6. Configure Avaya Aura® Application Enablement Services

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

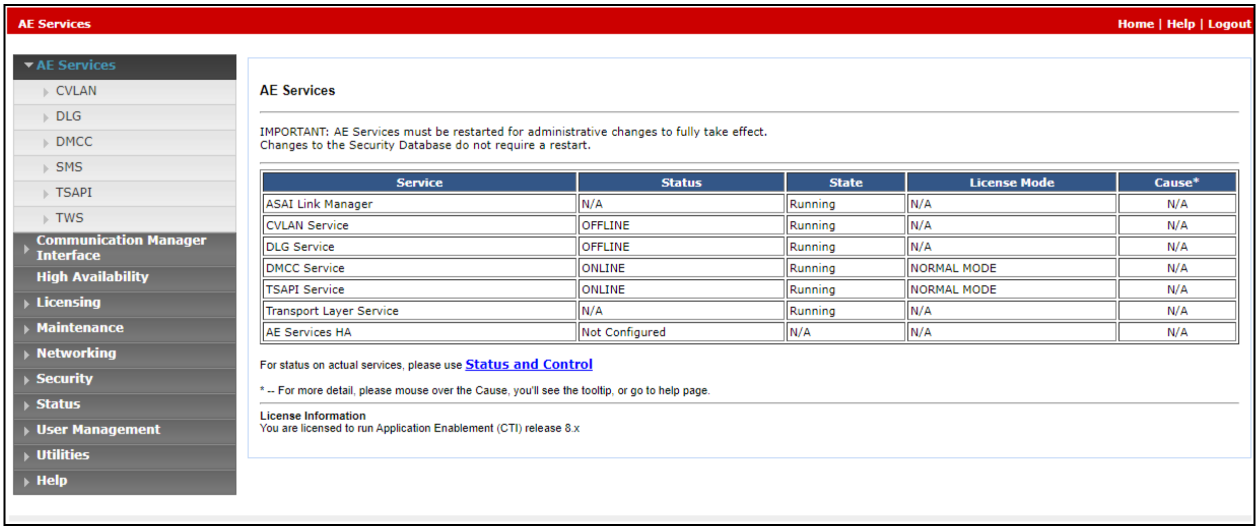
- Verify Licensing
- Switch Connection
- Administer TSAPI Link
- Identify Tlinks
- Enable TSAPI and DMCC Ports
- Enable Control for DMCC
- Create CTI User
- Associate Devices with CTI User

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.


AVAYA
Application Enablement Services
Management Console
Please login here:
Username
Password
Login
Reset
Copyright Â© 2009-2016 Avaya Inc. All Rights Reserved.

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



AE Services

IMPORTANT: AE Services must be restarted for administrative changes to fully take effect.
Changes to the Security Database do not require a restart.

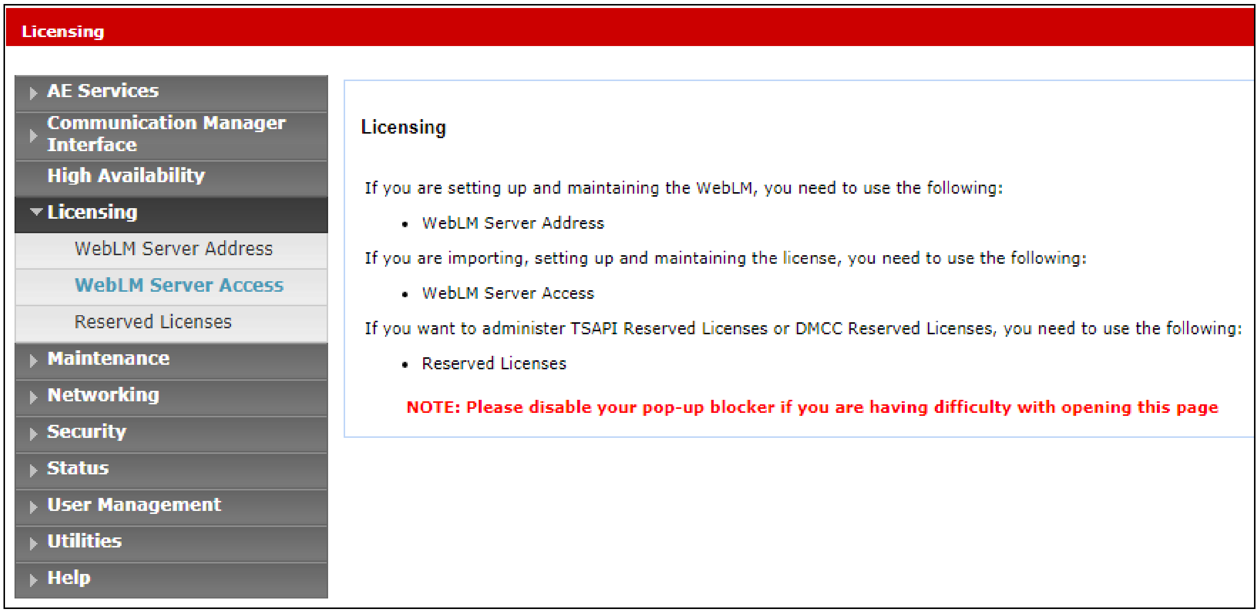
Service	Status	State	License Mode	Cause*
ASAI Link Manager	N/A	Running	N/A	N/A
CVLAN Service	OFFLINE	Running	N/A	N/A
DLG Service	OFFLINE	Running	N/A	N/A
DMCC Service	ONLINE	Running	NORMAL MODE	N/A
TSAPI Service	ONLINE	Running	NORMAL MODE	N/A
Transport Layer Service	N/A	Running	N/A	N/A
AE Services HA	Not Configured	N/A	N/A	N/A

For status on actual services, please use Status and Control

* -- For more detail, please mouse over the Cause, you'll see the tooltip, or go to help page.

License Information
You are licensed to run Application Enablement (CTI) release 8.x

The TSAPI and DMCC licenses are user licenses issued by the Web License Manager to which the Application Enablement Services server is pointed to. From the left window open **Licensing** and click on **WebLM Server Access** as shown below.



Licensing

If you are setting up and maintaining the WebLM, you need to use the following:

- WebLM Server Address

If you are importing, setting up and maintaining the license, you need to use the following:

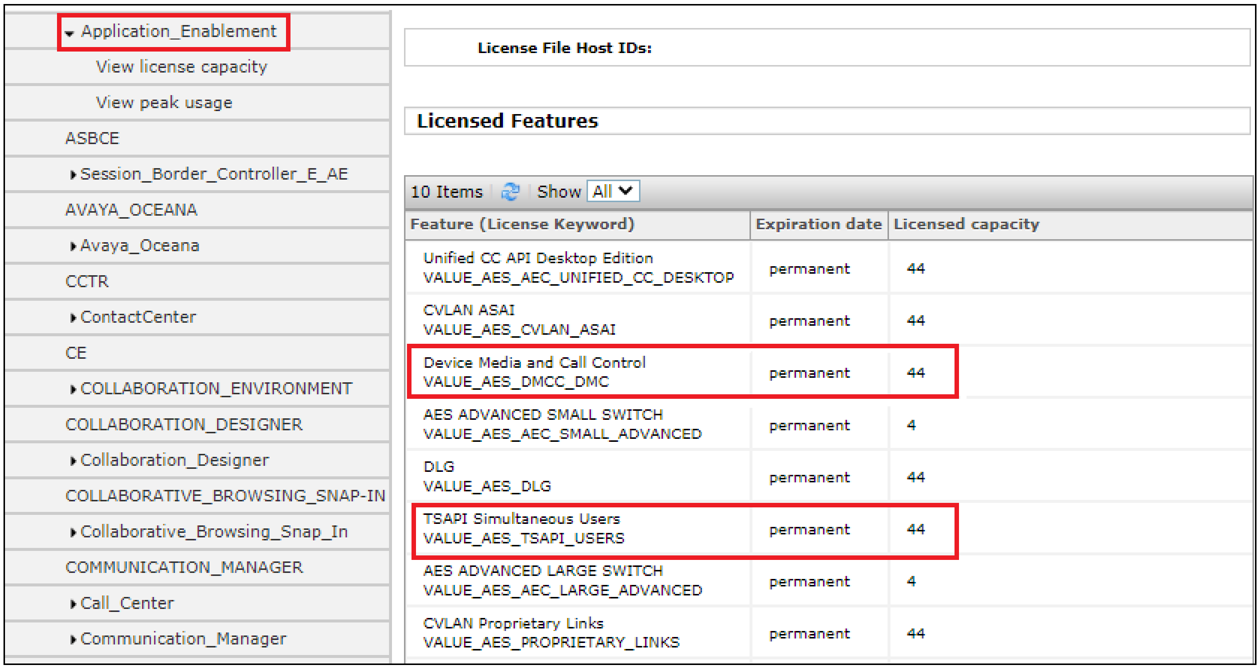
- WebLM Server Access

If you want to administer TSAPI Reserved Licenses or DMCC Reserved Licenses, you need to use the following:

- Reserved Licenses

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

The following screen shows the available licenses for **TSAPI** and **DMCC** users.



License File Host IDs:

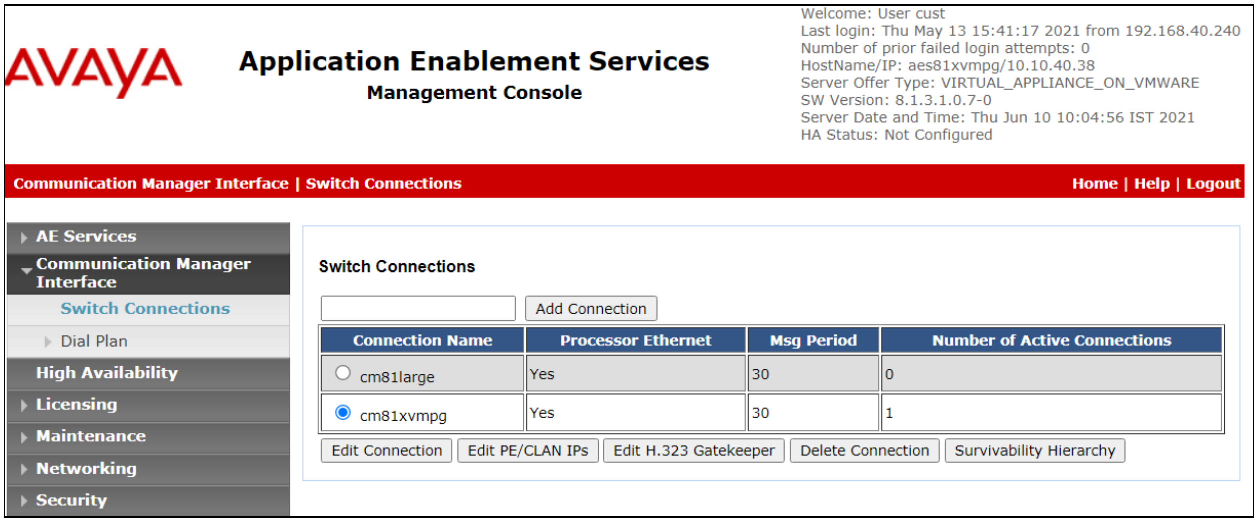
Licensed Features

10 Items | Show All

Feature (License Keyword)	Expiration date	Licensed capacity
Unified CC API Desktop Edition VALUE_AES_AEC_UNIFIED_CC_DESKTOP	permanent	44
CVLAN ASAI VALUE_AES_CVLAN_ASAI	permanent	44
Device Media and Call Control VALUE_AES_DMCC_DMC	permanent	44
AES ADVANCED SMALL SWITCH VALUE_AES_AEC_SMALL_ADVANCED	permanent	4
DLG VALUE_AES_DLG	permanent	44
TSAPI Simultaneous Users VALUE_AES_TSAPI_USERS	permanent	44
AES ADVANCED LARGE SWITCH VALUE_AES_AEC_LARGE_ADVANCED	permanent	4
CVLAN Proprietary Links VALUE_AES_PROPRIETARY_LINKS	permanent	44

6.2. Switch Connection to Avaya Aura® Communication Manager

Typically, the connection between the AES and Communication Manager is setup as part of the initial installation and would not usually be outlined in these Application Notes. Due to the nature of this particular setup with two connections from Communication Manager to two separate AES's the switch connection will be displayed on this section. From the AES Management Console navigate to **Communication Manager Interface → Switch Connections**, the connection to Communication Manager should be present as shown below but if one is not present one can be added by clicking on **Add Connection**.

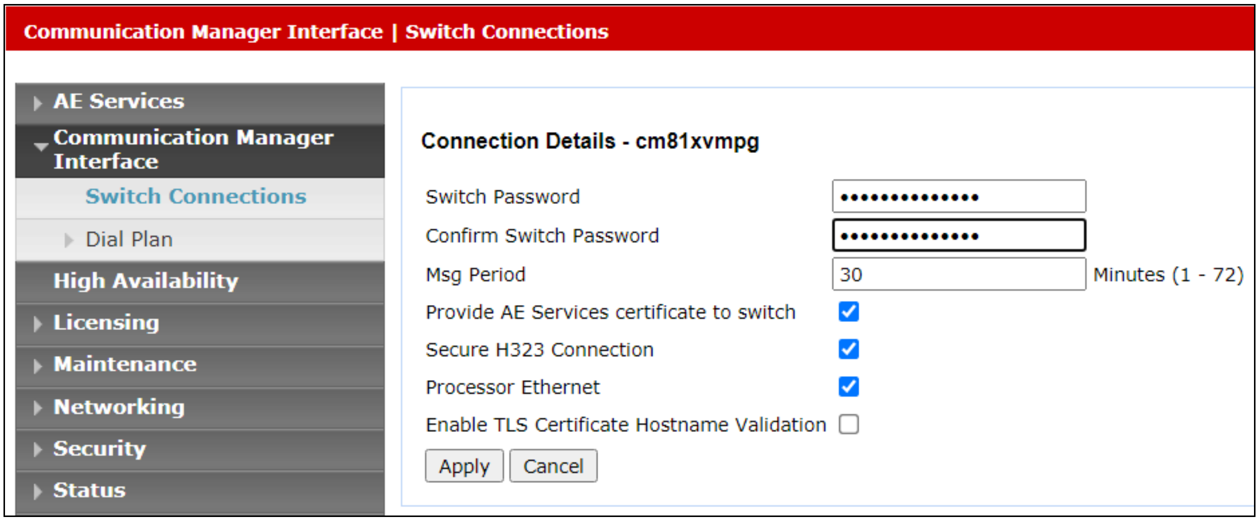


Welcome: User cust
Last login: Thu May 13 15:41:17 2021 from 192.168.40.240
Number of prior failed login attempts: 0
HostName/IP: aes81xvmpg/10.10.40.38
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.1.3.1.0.7-0
Server Date and Time: Thu Jun 10 10:04:56 IST 2021
HA Status: Not Configured

Switch Connections

Connection Name	Processor Ethernet	Msg Period	Number of Active Connections
○ cm81large	Yes	30	0
● cm81xvmpg	Yes	30	1

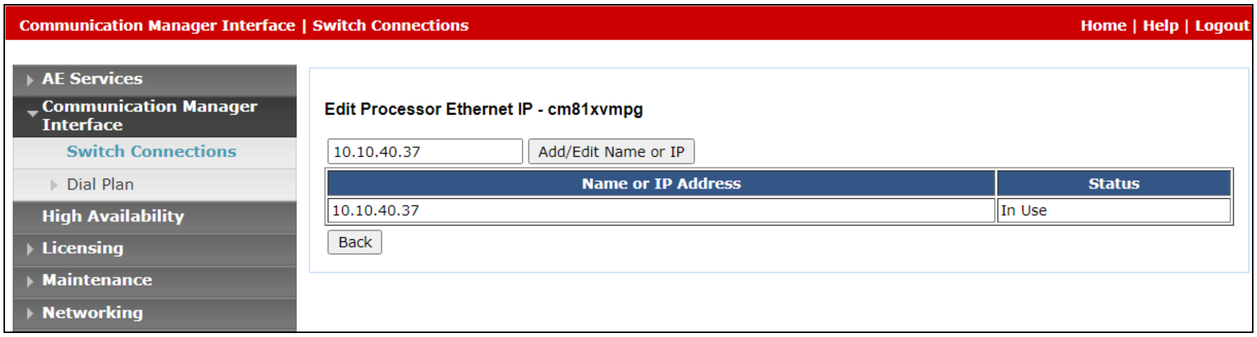
In the resulting screen, enter the **Switch Password**; the Switch Password must be the same as that entered into Communication Manager AE Services Administration screen via the **change ip-services** command, described in **Section 5.3**. A secure connection was established between the AES and Communication Manager, so the appropriate boxes were ticked, as shown below. Click **Apply** to save changes.



Connection Details - cm81xvmpg

Switch Password	••••••••••••••
Confirm Switch Password	••••••••••••••
Msg Period	30 Minutes (1 - 72)
Provide AE Services certificate to switch	☑
Secure H323 Connection	☑
Processor Ethernet	☑
Enable TLS Certificate Hostname Validation	□

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.



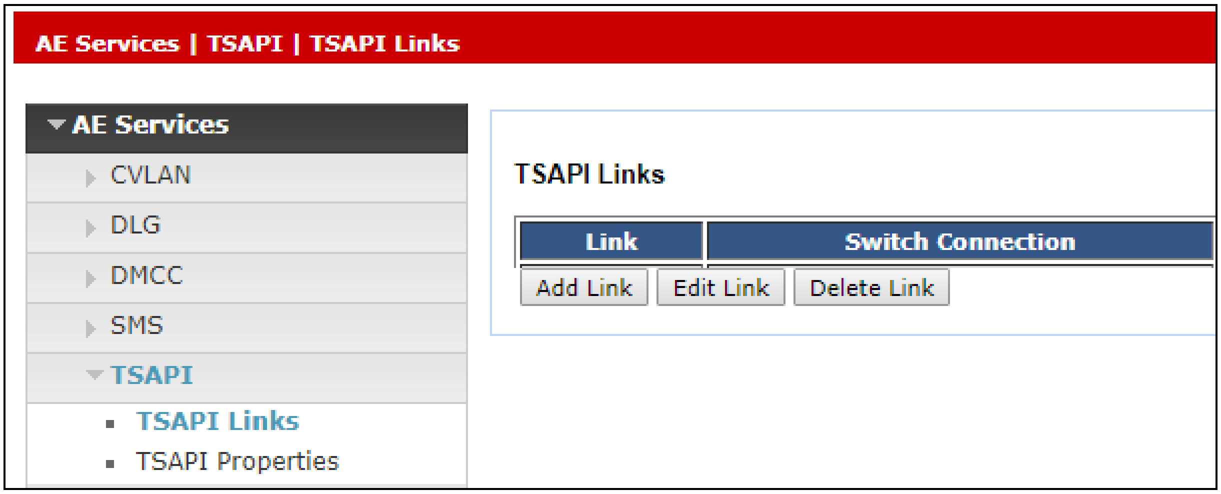
Edit Processor Ethernet IP - cm81xvmpg

10.10.40.37

Name or IP Address	Status
10.10.40.37	In Use

6.3. Administer TSAPI link

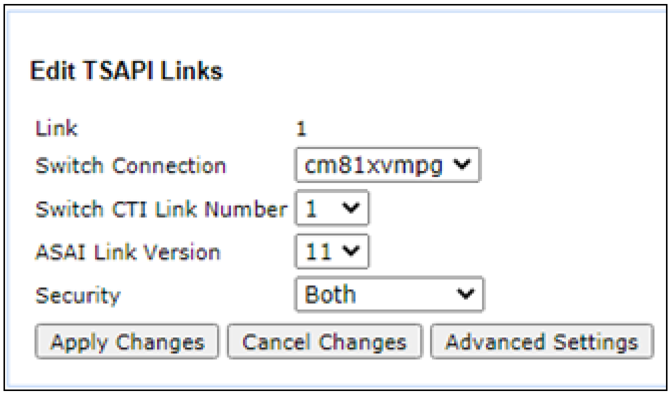
From the Application Enablement Services Management Console, select **AE Services** → **TSAPI** → **TSAPI Links**. Select **Add Link** button as shown in the screen below.



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:

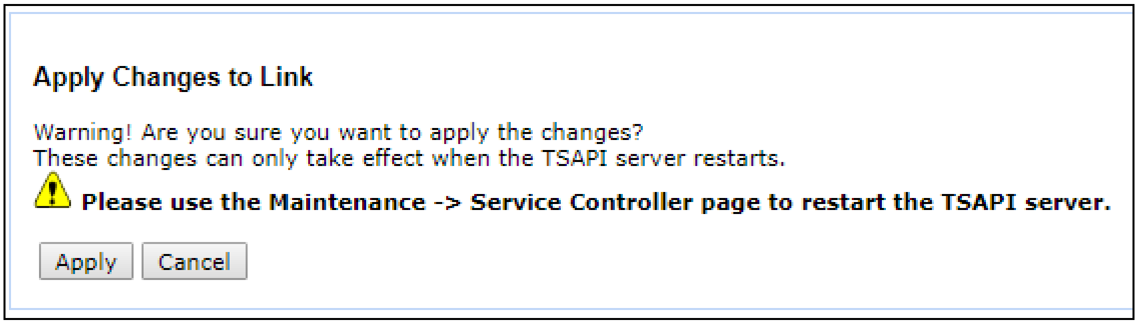
- **Link:** Use the drop-down list to select an unused link number.
- **Switch Connection:** Choose the switch connection **cm81xvmpg**, which has already been configured in **Section 6.2** from the drop-down list.
- **Switch CTI Link Number:** Corresponding CTI link number configured in **Section 5.4** which is **1**.
- **ASAI Link Version: 11** was used for compliance testing but the latest version available can be chosen).
- **Security:** This can be left at the default value of **both**.

Once completed, select **Apply Changes**.


Edit TSAPI Links

Link	1
Switch Connection	cm81xvmpg
Switch CTI Link Number	1
ASAI Link Version	11
Security	Both

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

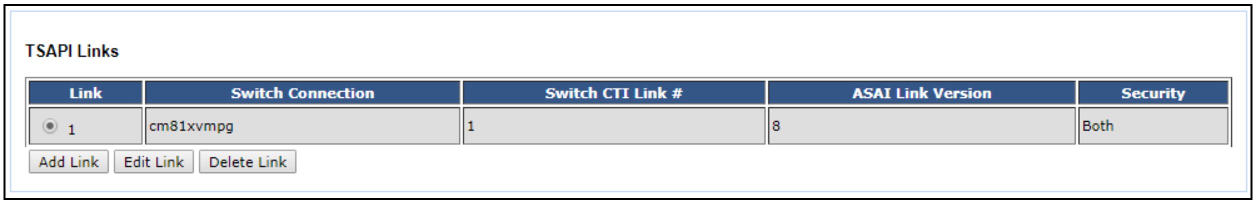


Apply Changes to Link

Warning! Are you sure you want to apply the changes?
These changes can only take effect when the TSAPI server restarts.

⚠ **Please use the Maintenance -> Service Controller page to restart the TSAPI server.**

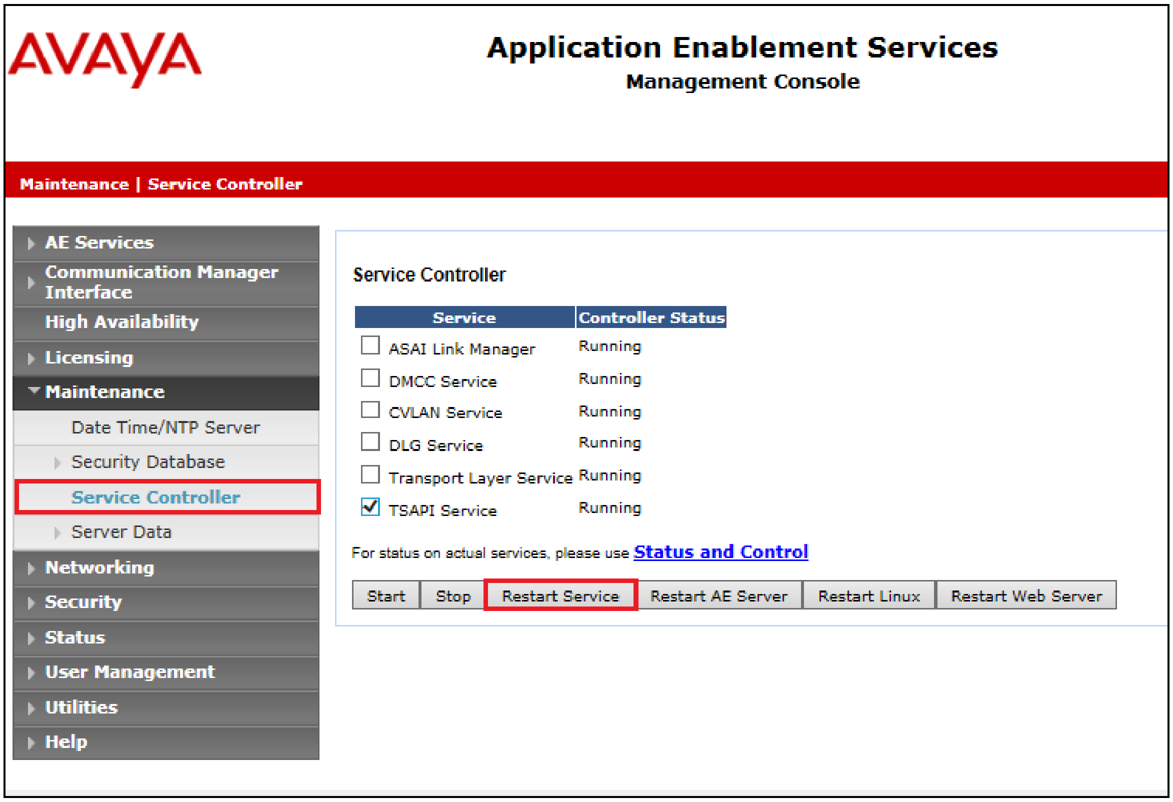
When the TSAPI Link is completed, it should resemble the screen below.



TSAPI Links

Link	Switch Connection	Switch CTI Link #	ASAI Link Version	Security
● 1	cm81xvmpg	1	8	Both

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**.



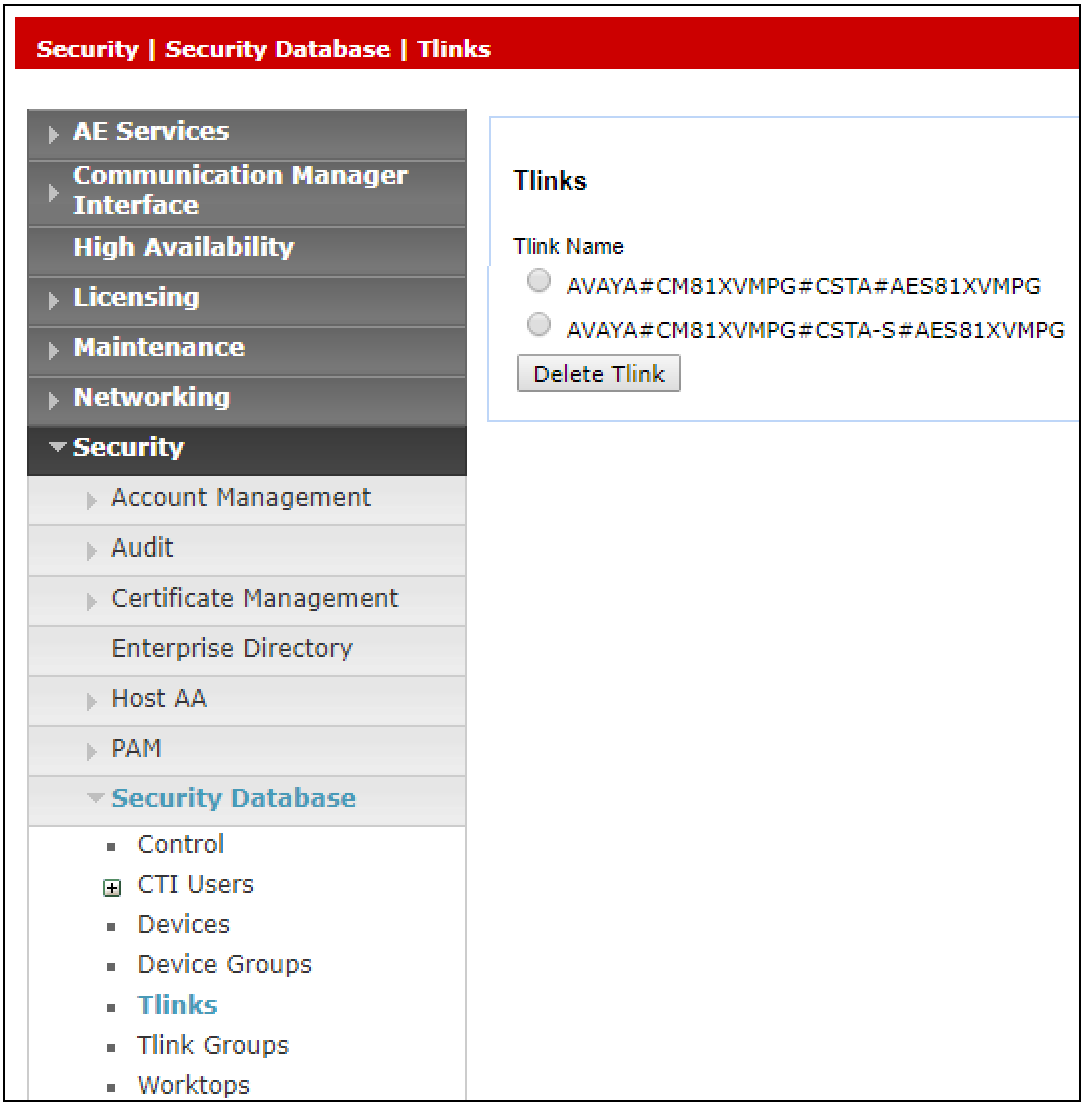
Service Controller

Service	Controller Status
☐ ASAI Link Manager	Running
☐ DMCC Service	Running
☐ CVLAN Service	Running
☐ DLG Service	Running
☐ Transport Layer Service	Running
☑ TSAPI Service	Running

For status on actual services, please use Status and Control

6.4. Identify Tlinks

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



Tlinks

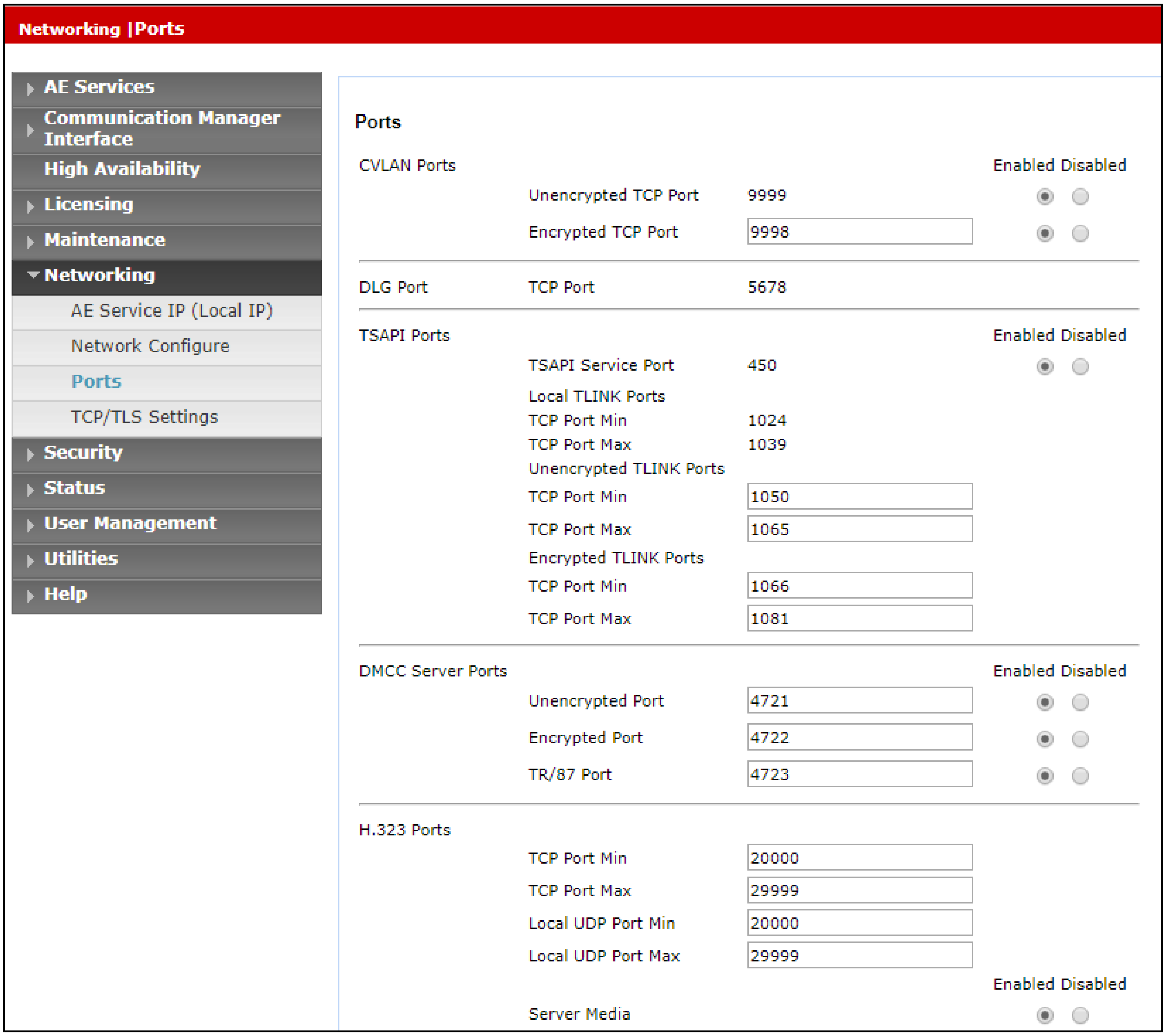
Tlink Name

○ AVAYA#CM81XVMPG#CSTA#AES81XVMPG

○ AVAYA#CM81XVMPG#CSTA-S#AES81XVMPG

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**.

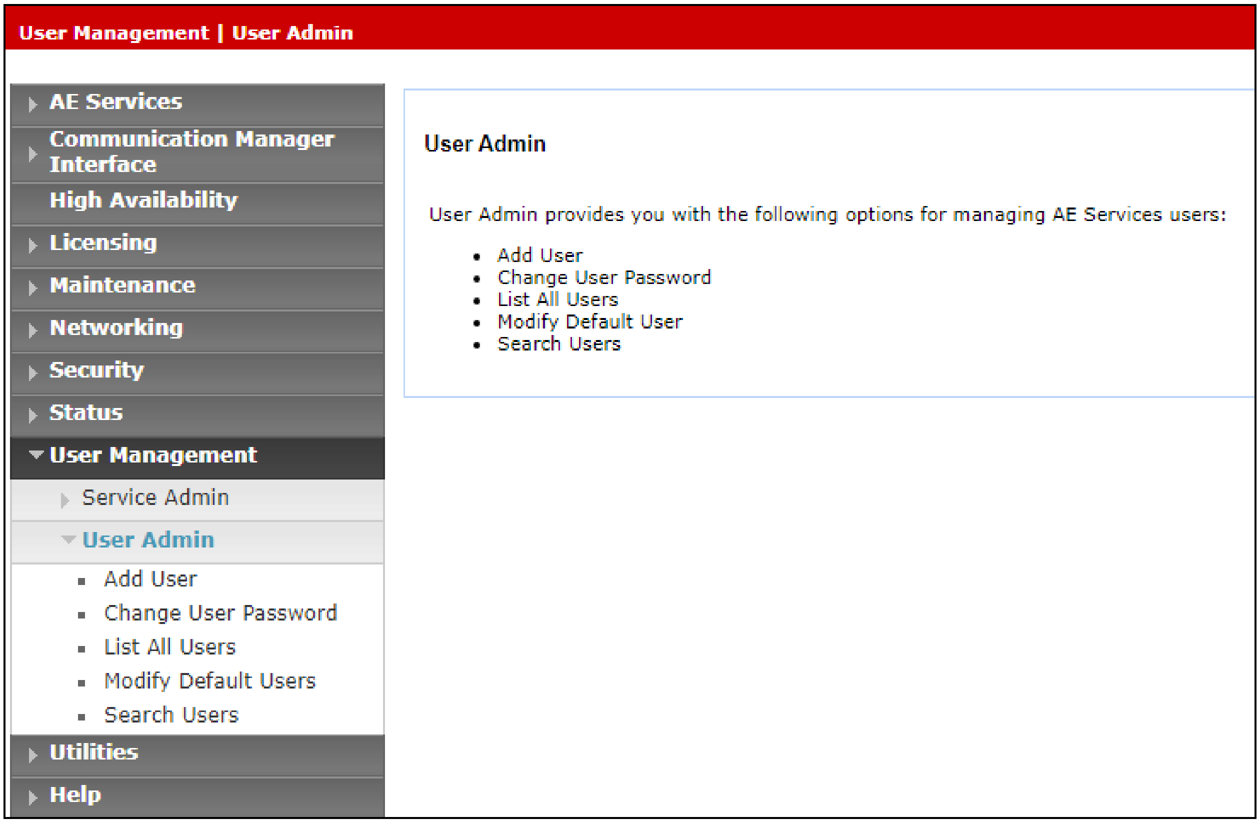


Ports

			Enabled	Disabled
CVLAN Ports			Enabled	Disabled
	Unencrypted TCP Port	9999	●	○
	Encrypted TCP Port	9998	●	○
DLG Port	TCP Port	5678		
TSAPI Ports			Enabled	Disabled
	TSAPI Service Port	450	●	○
	Local TLINK Ports			
	TCP Port Min	1024		
	TCP Port Max	1039		
	Unencrypted TLINK Ports			
	TCP Port Min	1050		
	TCP Port Max	1065		
	Encrypted TLINK Ports			
	TCP Port Min	1066		
	TCP Port Max	1081		
DMCC Server Ports			Enabled	Disabled
	Unencrypted Port	4721	●	○
	Encrypted Port	4722	●	○
	TR/87 Port	4723	●	○
H.323 Ports				
	TCP Port Min	20000		
	TCP Port Max	29999		
	Local UDP Port Min	20000		
	Local UDP Port Max	29999		
			Enabled	Disabled
	Server Media		●	○

6.6. Create CTI User

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



User Admin

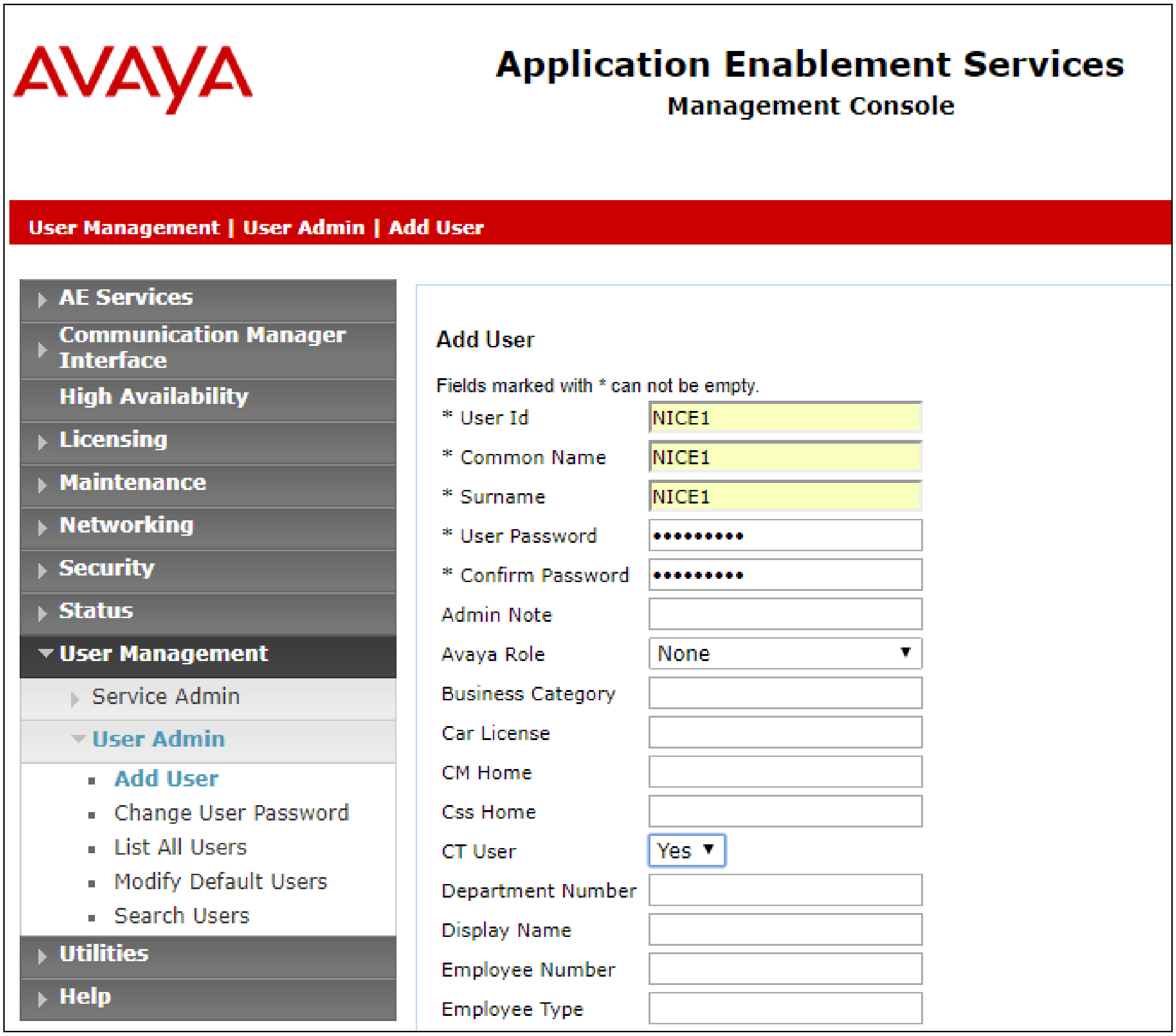
User Admin provides you with the following options for managing AE Services users:

- Add User
- Change User Password
- List All Users
- Modify Default User
- Search Users

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

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

Click on **Apply Changes** at the bottom of the screen (not shown).



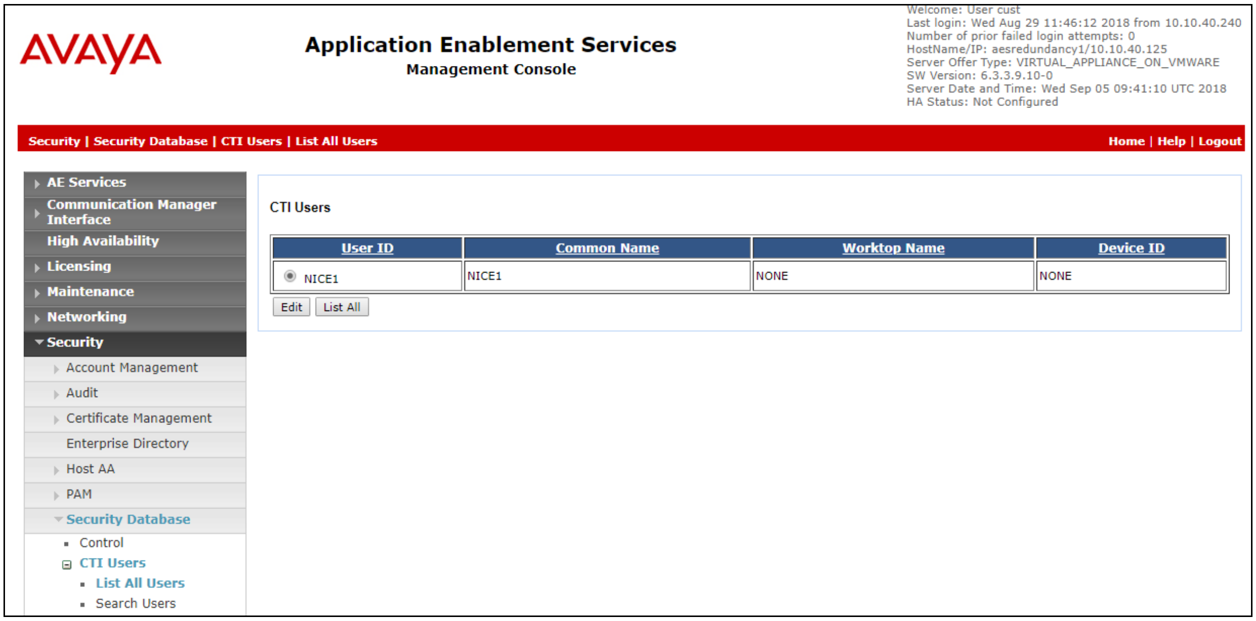
Add User

Fields marked with * can not be empty.

* User Id	NICE1
* Common Name	NICE1
* Surname	NICE1
* User Password	•••••••••
* Confirm Password	•••••••••
Admin Note	
Avaya Role	None
Business Category	
Car License	
CM Home	
Css Home	
CT User	Yes
Department Number	
Display Name	
Employee Number	
Employee Type	

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**.

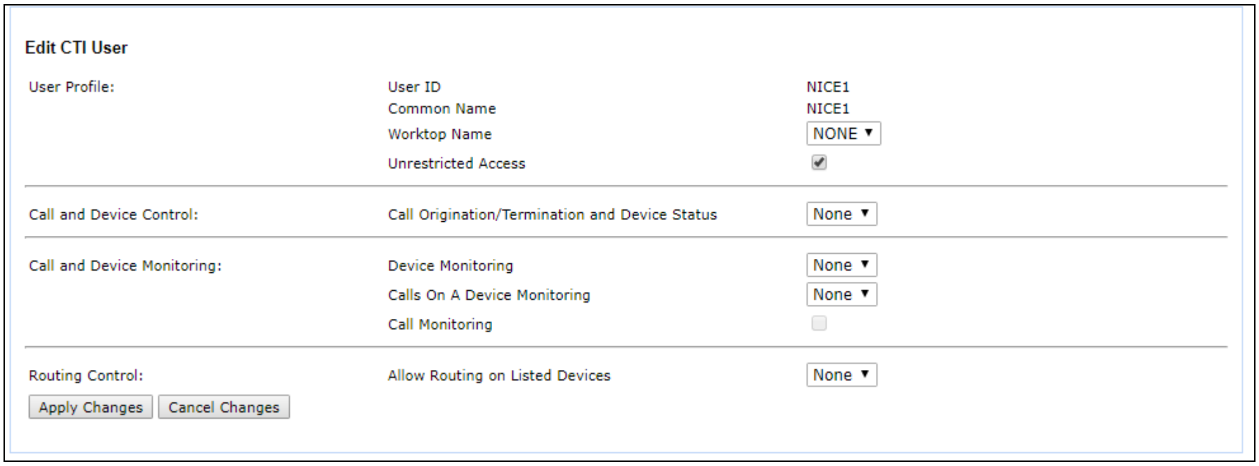


Welcome: User cust
Last login: Wed Aug 29 11:46:12 2018 from 10.10.40.240
Number of prior failed login attempts: 0
HostName/IP: aesredundancy1/10.10.40.125
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 6.3.3.9.10-0
Server Date and Time: Wed Sep 05 09:41:10 UTC 2018
HA Status: Not Configured

CTI Users

User ID	Common Name	Worktop Name	Device ID
● NICE1	NICE1	NONE	NONE

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



Edit CTI User

User Profile:	User ID	NICE1
	Common Name	NICE1
	Worktop Name	NONE ▾
	Unrestricted Access	☑
Call and Device Control:	Call Origination/Termination and Device Status	None ▾
Call and Device Monitoring:	Device Monitoring	None ▾
	Calls On A Device Monitoring	None ▾
	Call Monitoring	□
Routing Control:	Allow Routing on Listed Devices	None ▾

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.

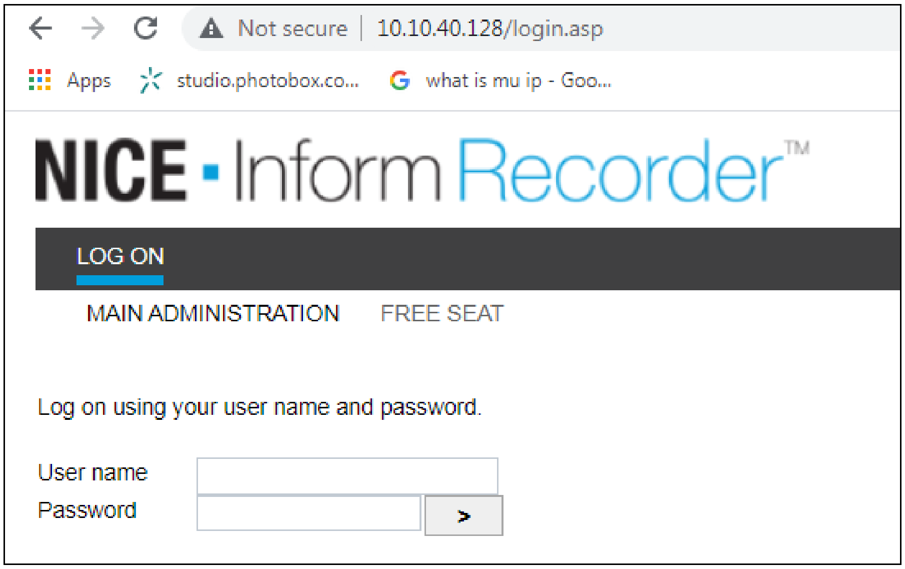
7. Configure NICE Inform Recorder

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

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

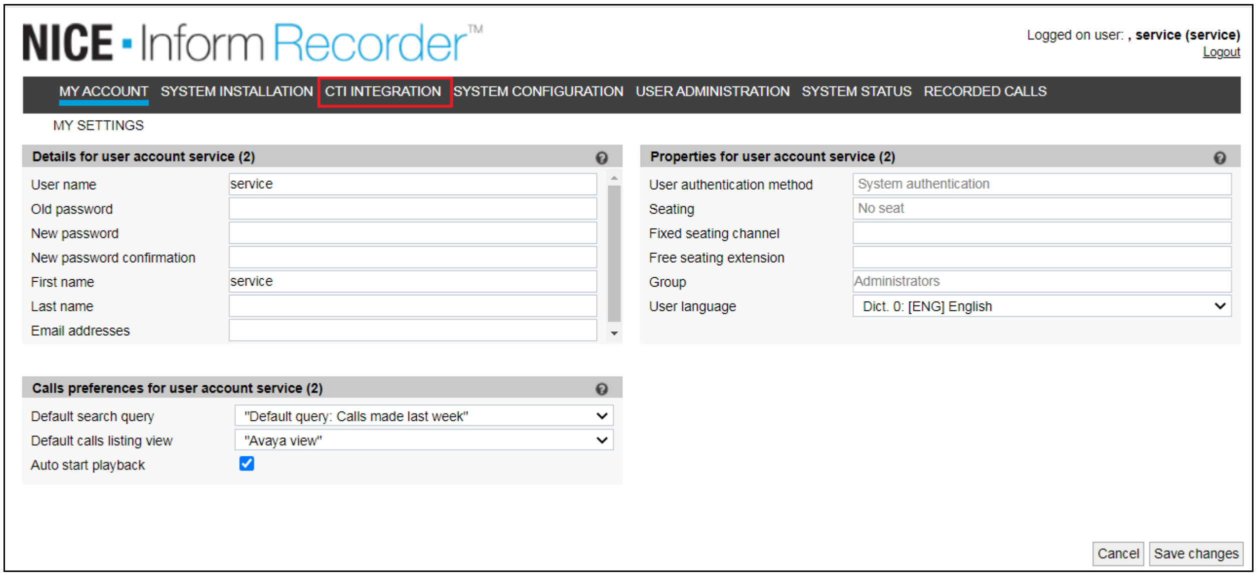
Note: Some IP addresses may show different as some of these screenshots are simply examples of what should be set up.

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 set up and created and therefore these Application Notes can only show the existing connections that were created during setup.



Log on using your user name and password.

Once logged in, click on the **CTI INTEGRATION** tab.



Details for user account service (2)

User name	service
Old password	
New password	
New password confirmation	
First name	service
Last name	
Email addresses	

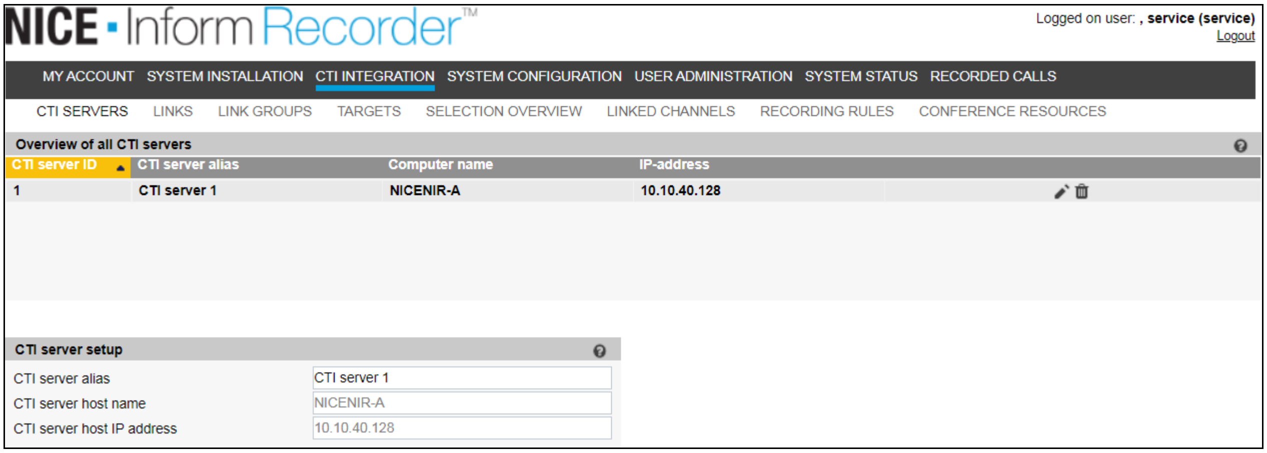
Properties for user account service (2)

User authentication method	System authentication
Seating	No seat
Fixed seating channel	
Free seating extension	
Group	Administrators
User language	Dict. 0: [ENG] English

Calls preferences for user account service (2)

Default search query	"Default query: Calls made last week"
Default calls listing view	"Avaya view"
Auto start playback	☑

Within this tab there are other tabs as shown in the screen below, **cti servers**, **links**, **link groups**, **targets** etc. Clicking on the **CTI SERVERS** tab will show the CTI server set up during the installation. By clicking on the edit icon, changes can be made to this if deemed necessary.



Overview of all CTI servers

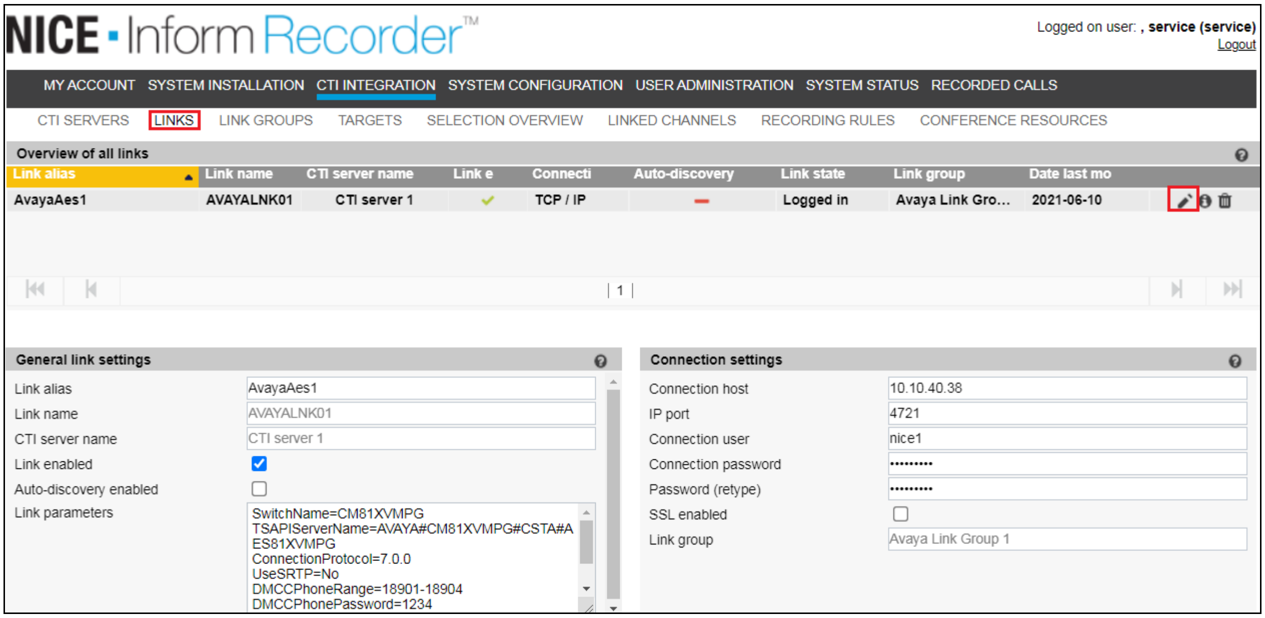
CTI server ID	CTI server alias	Computer name	IP-address
1	CTI server 1	NICENIR-A	10.10.40.128

CTI server setup

CTI server alias	CTI server 1
CTI server host name	NICENIR-A
CTI server host IP address	10.10.40.128

The link to AES is configured during the installation of NICE Inform Recorder, 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.



Overview of all links

Link alias	Link name	CTI server name	Link e	Connecti	Auto-discovery	Link state	Link group	Date last mo
AvayaAes1	AVAYALNK01	CTI server 1	✓	TCP / IP	—	Logged in	Avaya Link Gro...	2021-06-10

General link settings

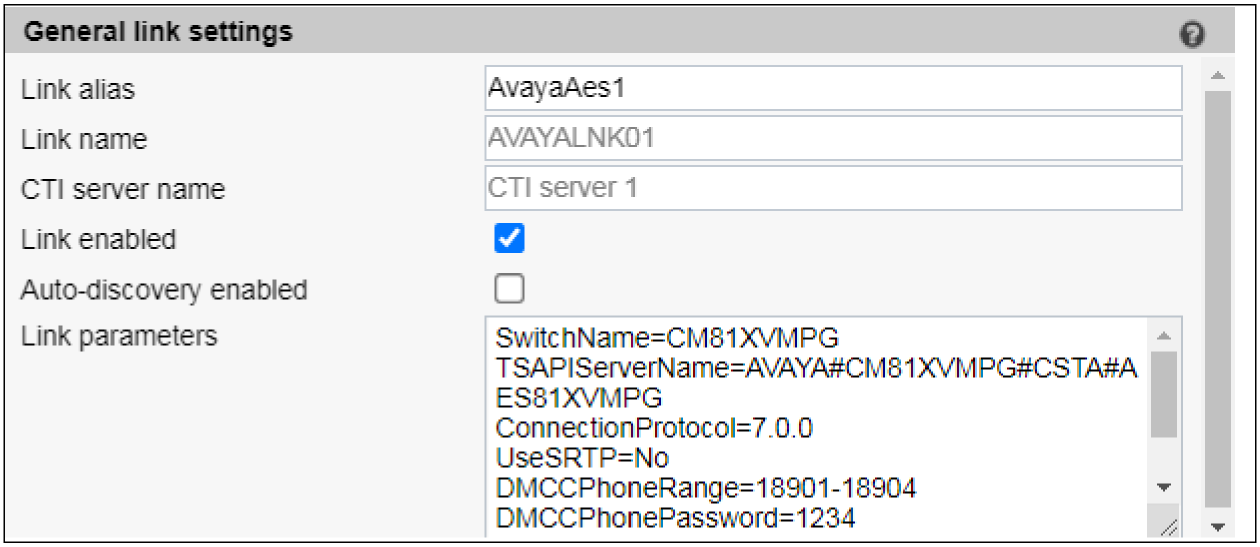
Link alias	AvayaAes1
Link name	AVAYALNK01
CTI server name	CTI server 1
Link enabled	☑
Auto-discovery enabled	□

Link parameters	SwitchName=CM81XVMPG
	TSAPIServerName=AVAYA#CM81XVMPG#CSTA#AES81XVMPG
	ConnectionProtocol=7.0.0
	UseSRTP=No
	DMCCPhoneRange=18901-18904
	DMCCPhonePassword=1234

Connection settings

Connection host	10.10.40.38
IP port	4721
Connection user	nice1
Connection password	••••••••••
Password (retype)	••••••••••
SSL enabled	□
Link group	Avaya Link Group 1

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



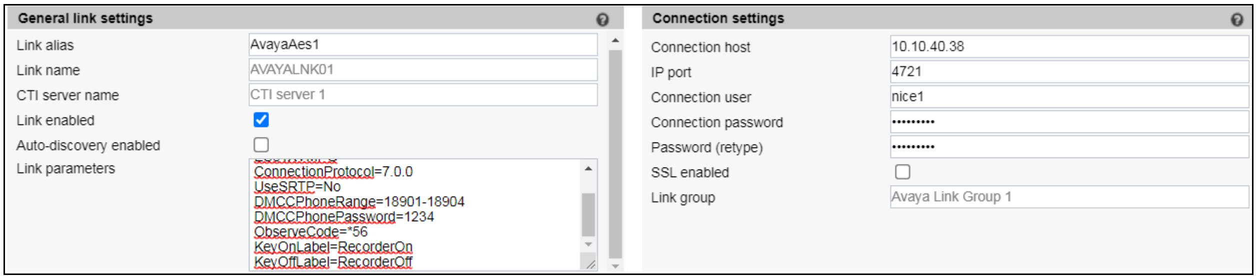
General link settings

Link alias	AvayaAes1
Link name	AVAYALNK01
CTI server name	CTI server 1
Link enabled	☑
Auto-discovery enabled	□

Link parameters	SwitchName=CM81XVMPG
	TSAPIServerName=AVAYA#CM81XVMPG#CSTA#AES81XVMPG
	ConnectionProtocol=7.0.0
	UseSRTP=No
	DMCCPhoneRange=18901-18904
	DMCCPhonePassword=1234

Scrolling down further. 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 event that there is a bad connection, these fields can be re-entered as shown below.



General link settings

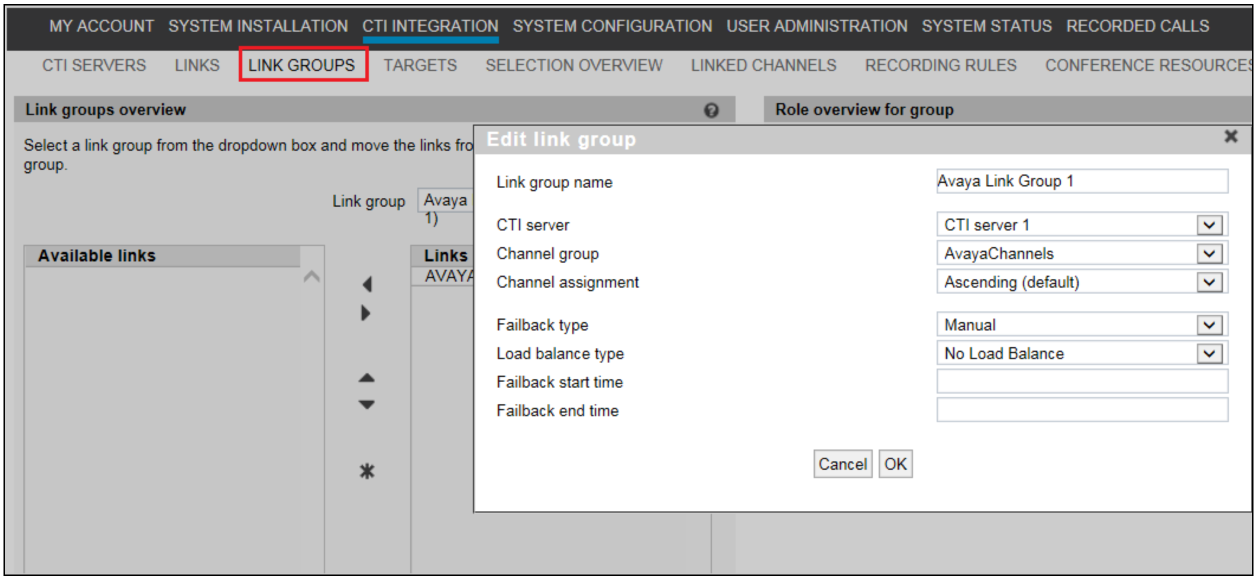
Link alias	AvayaAes1
Link name	AVAYALNK01
CTI server name	CTI server 1
Link enabled	☑
Auto-discovery enabled	□

Link parameters	ConnectionProtocol=7.0.0
	UseSRTP=No
	DMCCPhoneRange=18901-18904
	DMCCPhonePassword=1234
	ObserveCode=*56
	KeyOnLabel=RecorderOn
	KeyOffLabel=RecorderOff

Connection settings

Connection host	10.10.40.38
IP port	4721
Connection user	nice1
Connection password	••••••••••
Password (retype)	••••••••••
SSL enabled	□
Link group	Avaya Link Group 1

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 **Ascending** for compliance testing, the others were left as default as shown below.

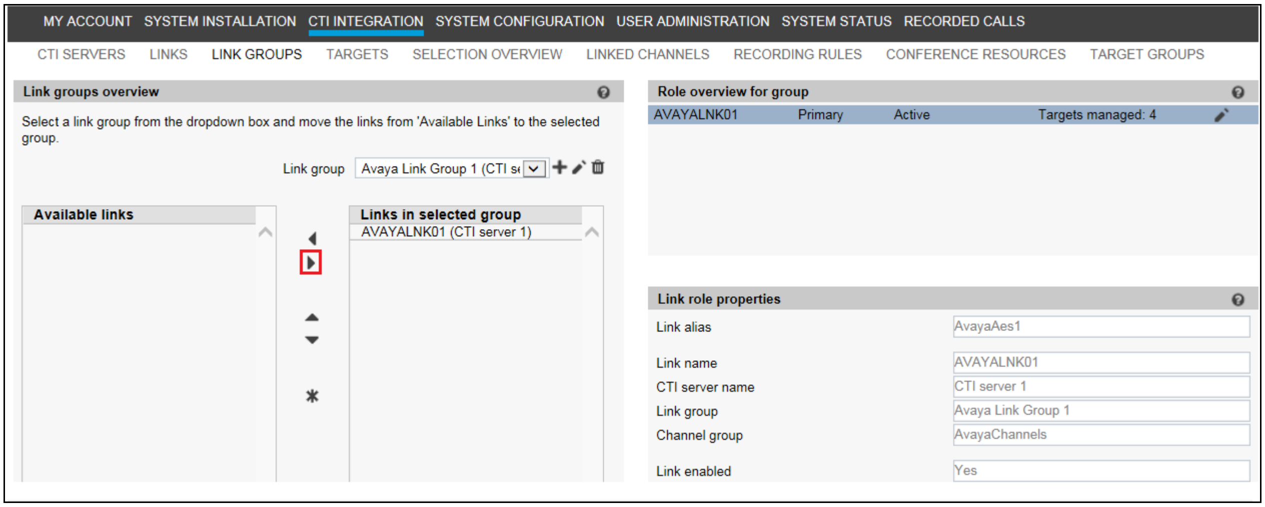


Edit link group

Link group name	Avaya Link Group 1
CTI server	CTI server 1
Channel group	AvayaChannels
Channel assignment	Ascending (default)
Failback type	Manual
Load balance type	No Load Balance
Failback start time	
Failback end time	

Cancel OK

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



Link groups overview

Select a link group from the dropdown box and move the links from 'Available Links' to the selected group.

Link group: Avaya Link Group 1 (CTI se

Available links

Links in selected group

AVAYALNK01 (CTI server 1)

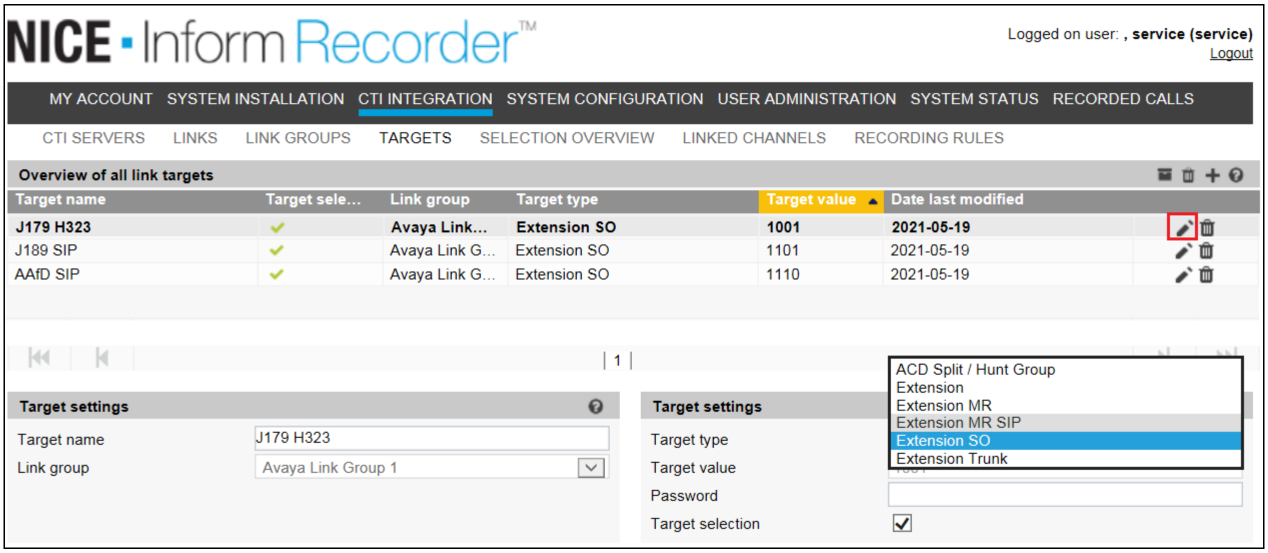
Role overview for group

AVAYALNK01	Primary	Active	Targets managed: 4

Link role properties

Link alias	AvayaAes1
Link name	AVAYALNK01
CTI server name	CTI server 1
Link group	Avaya Link Group 1
Channel group	AvayaChannels
Link enabled	Yes

Targets can be added by clicking on the **TARGETS** tab and clicking on the **+** icon below. Targets are Avaya phones that need to be monitored. The screen below shows an existing list of phones that are already being monitored and the details of **J179 H323** are shown by clicking on the edit icon, highlighted.



Overview of all link targets

Target name	Target sele...	Link group	Target type	Target value	Date last modified
J179 H323	✓	Avaya Link...	Extension SO	1001	2021-05-19
J189 SIP	✓	Avaya Link G...	Extension SO	1101	2021-05-19
AAfD SIP	✓	Avaya Link G...	Extension SO	1110	2021-05-19

| 1 |

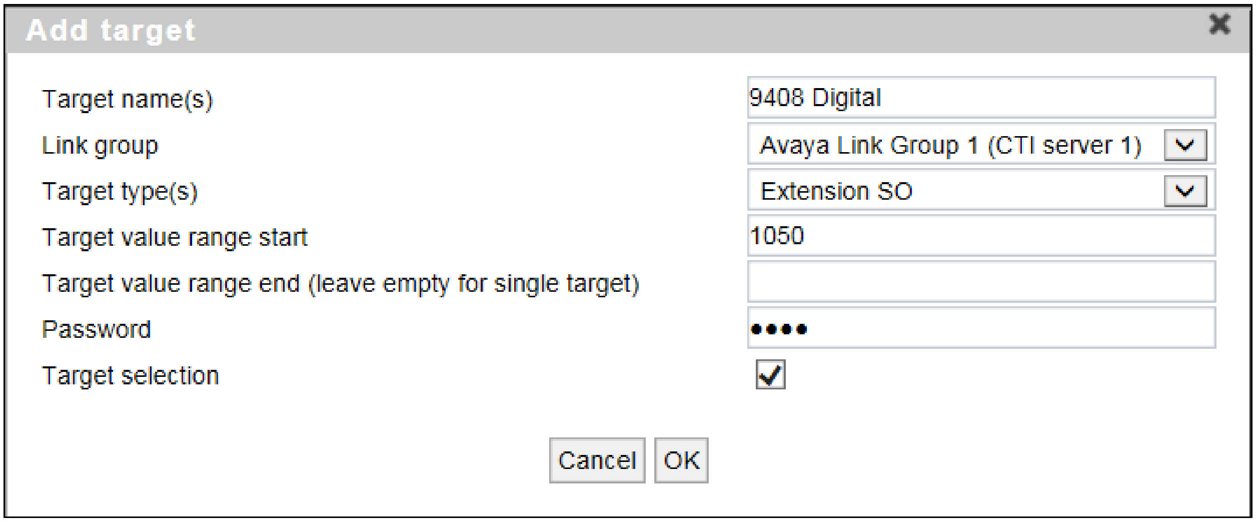
Target settings

Target name	J179 H323
Link group	Avaya Link Group 1

Target settings

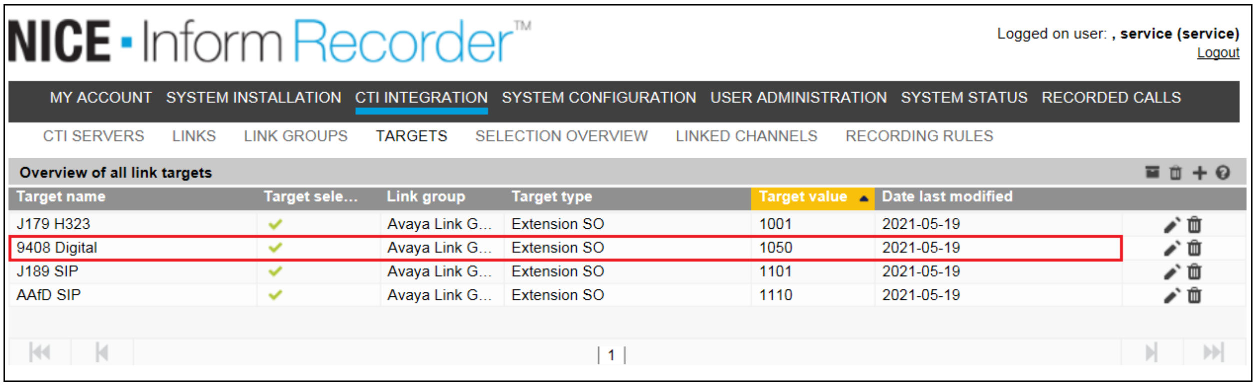
Target type	Extension SO
Target value	1001
Password	
Target selection	☑

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 **9408 Digital**. 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. The **Password** for this station can be added here also.



Target name(s)	9408 Digital
Link group	Avaya Link Group 1 (CTI server 1)
Target type(s)	Extension SO
Target value range start	1050
Target value range end (leave empty for single target)	
Password	••••
Target selection	☑

This newly added target is displayed below.



Overview of all link targets

Target name	Target sele...	Link group	Target type	Target value	Date last modified
J179 H323	✓	Avaya Link G...	Extension SO	1001	2021-05-19
9408 Digital	✓	Avaya Link G...	Extension SO	1050	2021-05-19
J189 SIP	✓	Avaya Link G...	Extension SO	1101	2021-05-19
AAfD SIP	✓	Avaya Link G...	Extension SO	1110	2021-05-19

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 (not shown).

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 Inform Recorder and Application Enablement Services.

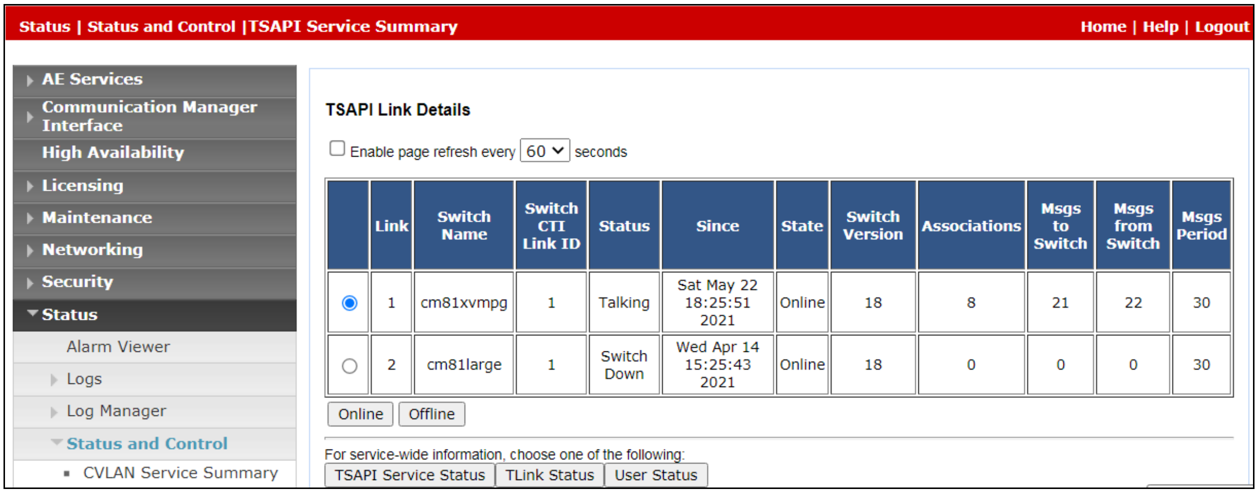
8.1. Verify Avaya Aura® Communication Manager CTI Service State

Before checking the connection between NICE Inform Recorder 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          11       no       aes81vmpg          established   865       865
```

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**.



TSAPI Link Details

☐ Enable page refresh every 60 seconds

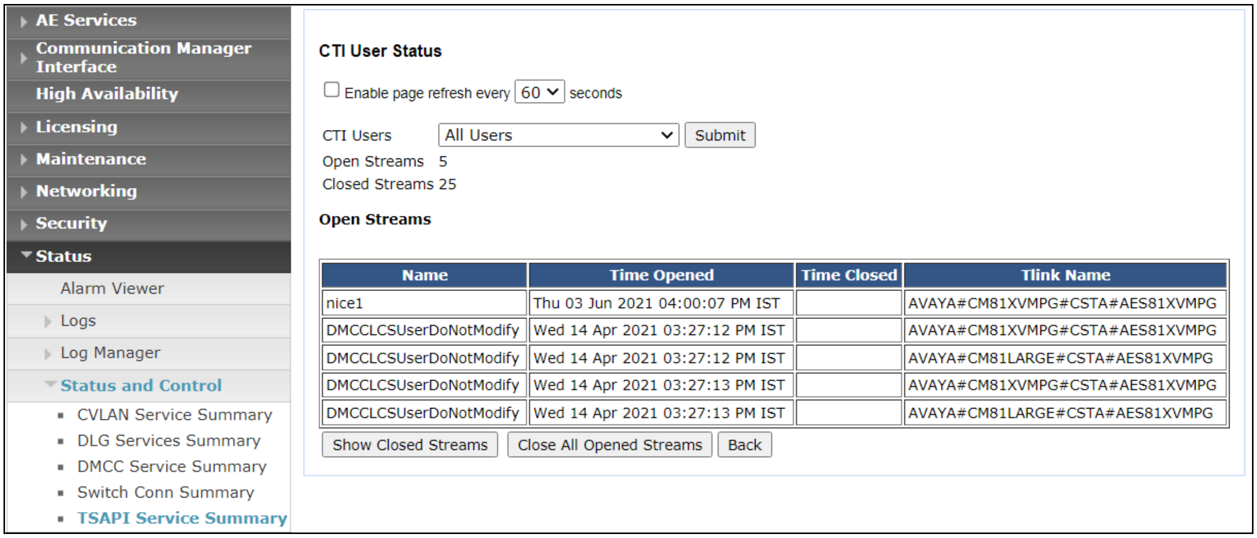
	Link	Switch Name	Switch CTI Link ID	Status	Since	State	Switch Version	Associations	Msgs to Switch	Msgs from Switch	Msgs Period
●	1	cm81xvmpg	1	Talking	Sat May 22 18:25:51 2021	Online	18	8	21	22	30
○	2	cm81large	1	Switch Down	Wed Apr 14 15:25:43 2021	Online	18	0	0	0	30

Online | Offline

For service-wide information, choose one of the following:

TSAPI Service Status | TLink Status | User Status

Clicking on **User Status** from the screen on the previous page should display something similar to that shown below, where the NICE user and corresponding **Tlink Name** are shown.



CTI User Status

☐ Enable page refresh every 60 seconds

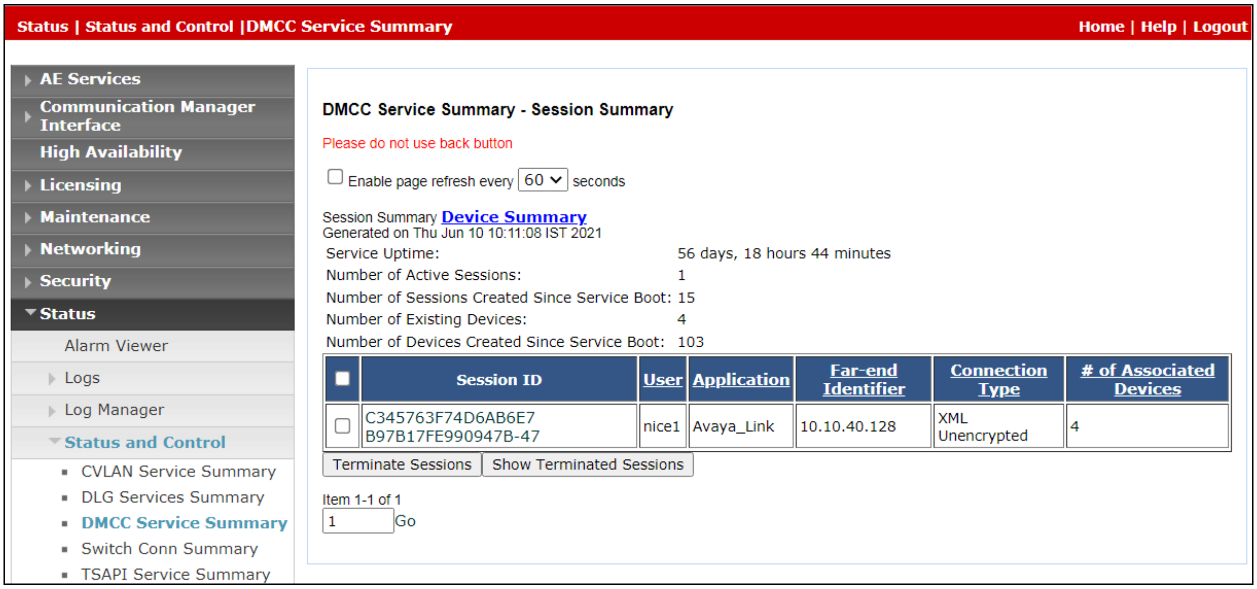
CTI Users: All Users [Submit]
Open Streams 5
Closed Streams 25

Open Streams

Name	Time Opened	Time Closed	Tlink Name
nice1	Thu 03 Jun 2021 04:00:07 PM IST		AVAYA#CM81XVMPG#CSTA#AES81XVMPG
DMCCLCSUserDoNotModify	Wed 14 Apr 2021 03:27:12 PM IST		AVAYA#CM81XVMPG#CSTA#AES81XVMPG
DMCCLCSUserDoNotModify	Wed 14 Apr 2021 03:27:12 PM IST		AVAYA#CM81LARGE#CSTA#AES81XVMPG
DMCCLCSUserDoNotModify	Wed 14 Apr 2021 03:27:13 PM IST		AVAYA#CM81XVMPG#CSTA#AES81XVMPG
DMCCLCSUserDoNotModify	Wed 14 Apr 2021 03:27:13 PM IST		AVAYA#CM81LARGE#CSTA#AES81XVMPG

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 **nice1** is connected from the IP address **10.10.40.128**, which is the NICE server.



DMCC Service Summary - Session Summary

Please do not use back button

☐ Enable page refresh every 60 seconds

Session Summary Device Summary
Generated on Thu Jun 10 10:11:08 IST 2021

Service Uptime:	56 days, 18 hours 44 minutes
Number of Active Sessions:	1
Number of Sessions Created Since Service Boot:	15
Number of Existing Devices:	4
Number of Devices Created Since Service Boot:	103

☐	Session ID	User	Application	Far-end Identifier	Connection Type	# of Associated Devices
☐	C345763F74D6AB6E7 B97B17FE990947B-47	nice1	Avaya_Link	10.10.40.128	XML Unencrypted	4

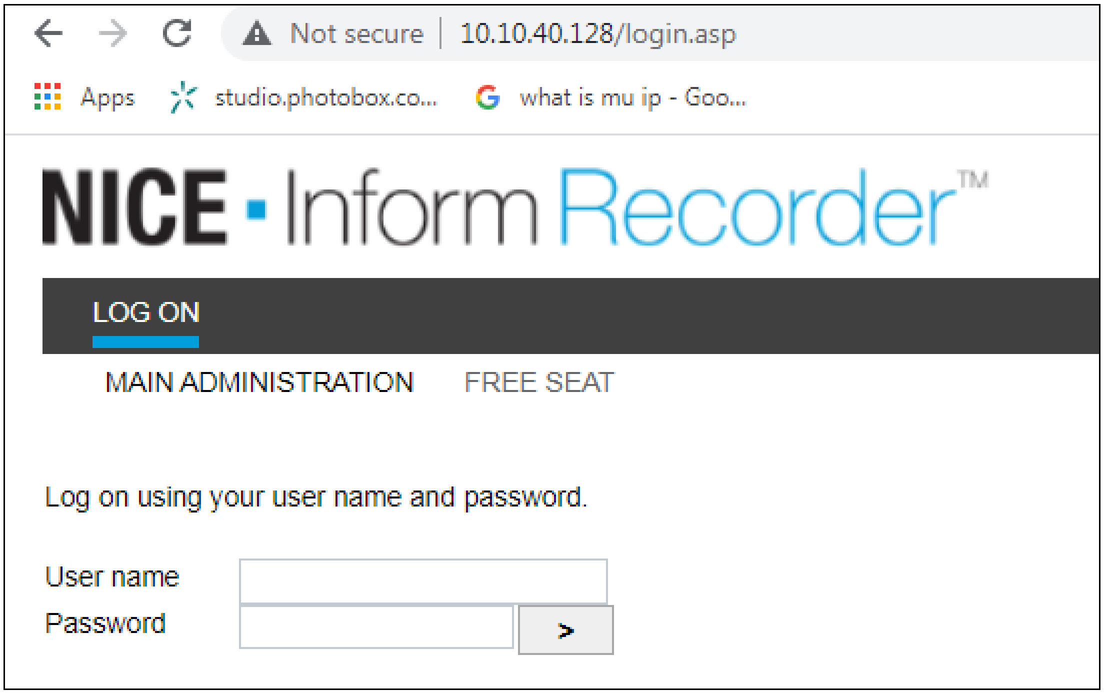
Item 1-1 of 1
1 Go

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 Inform Recorder server.

Note: Recorded calls can also be replayed using the NICE Inform suite of applications.

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

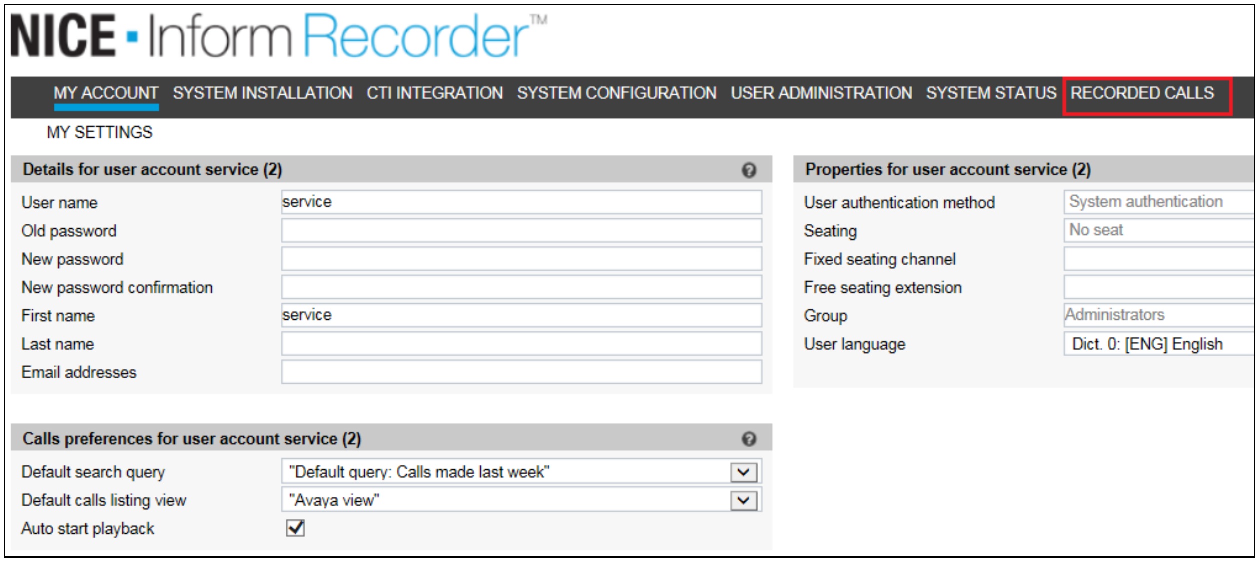


Log on using your user name and password.

User name

Password

Click on **recorded calls** at the top of the screen.



Details for user account service (2)

User name	service
Old password	
New password	
New password confirmation	
First name	service
Last name	
Email addresses	

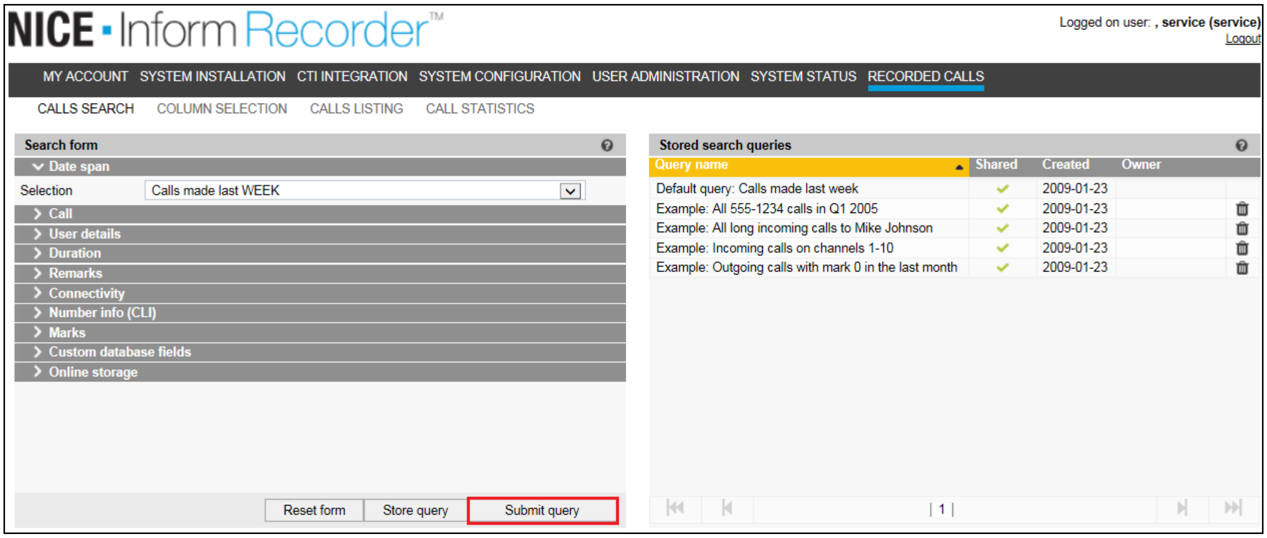
Properties for user account service (2)

User authentication method	System authentication
Seating	No seat
Fixed seating channel	
Free seating extension	
Group	Administrators
User language	Dict. 0: [ENG] English

Calls preferences for user account service (2)

Default search query	"Default query: Calls made last week"
Default calls listing view	"Avaya view"
Auto start playback	☑

Enter an appropriate **Date span** and click on **Submit query**.



Logged on user: , service (service)
Logout

Search form

Date span

Selection	Calls made last WEEK

Call

User details

Duration

Remarks

Connectivity

Number info (CLI)

Marks

Custom database fields

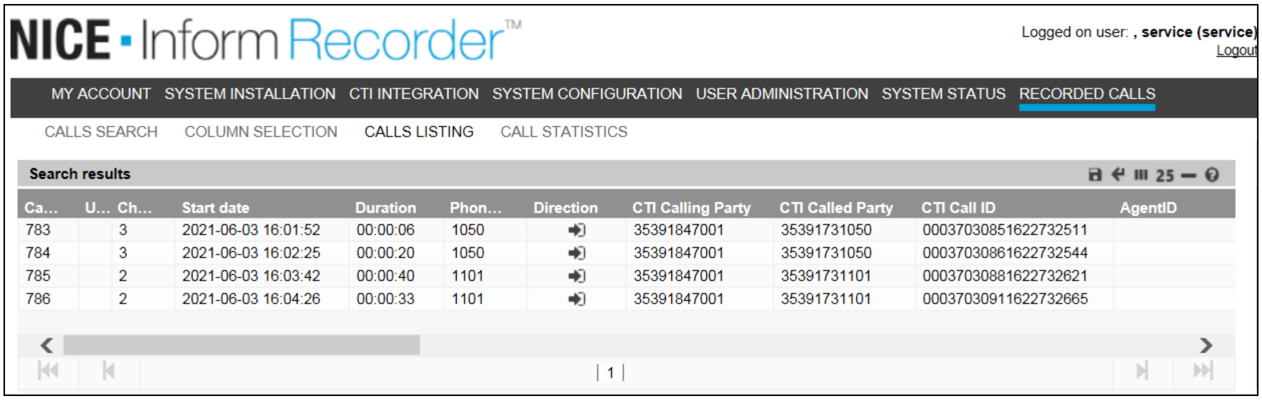
Online storage

Stored search queries

Query name	Shared	Created	Owner
Default query: Calls made last week	✓	2009-01-23	
Example: All 555-1234 calls in Q1 2005	✓	2009-01-23	
Example: All long incoming calls to Mike Johnson	✓	2009-01-23	
Example: Incoming calls on channels 1-10	✓	2009-01-23	
Example: Outgoing calls with mark 0 in the last month	✓	2009-01-23	

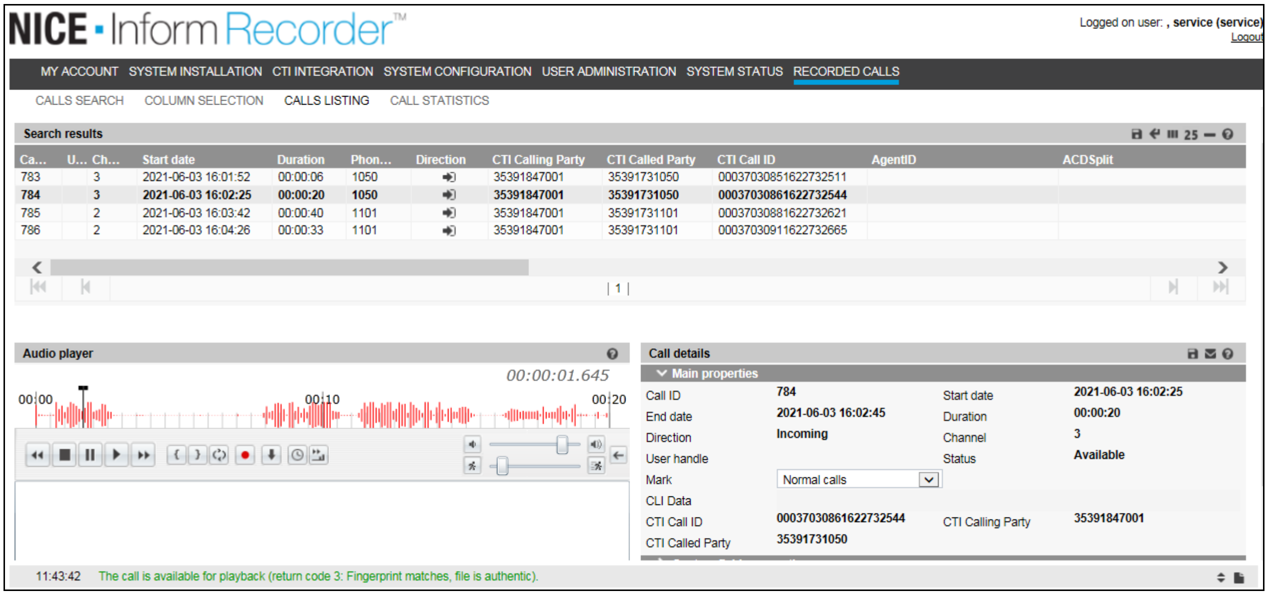
| 1 |

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.



Ca...	U...	Ch...	Start date	Duration	Phon...	Direction	CTI Calling Party	CTI Called Party	CTI Call ID	AgentID
783		3	2021-06-03 16:01:52	00:00:06	1050	➜	35391847001	35391731050	00037030851622732511	
784		3	2021-06-03 16:02:25	00:00:20	1050	➜	35391847001	35391731050	00037030861622732544	
785		2	2021-06-03 16:03:42	00:00:40	1101	➜	35391847001	35391731101	00037030881622732621	
786		2	2021-06-03 16:04:26	00:00:33	1101	➜	35391847001	35391731101	00037030911622732665	

The call is played back as shown below.



Ca...	U...	Ch...	Start date	Duration	Phon...	Direction	CTI Calling Party	CTI Called Party	CTI Call ID	AgentID	ACDSplit
783		3	2021-06-03 16:01:52	00:00:06	1050	➜	35391847001	35391731050	00037030851622732511		
784		**3**	**2021-06-03 16:02:25**	**00:00:20**	**1050**	➜	**35391847001**	**35391731050**	**00037030861622732544**		
785		2	2021-06-03 16:03:42	00:00:40	1101	➜	35391847001	35391731101	00037030881622732621		
786		2	2021-06-03 16:04:26	00:00:33	1101	➜	35391847001	35391731101	00037030911622732665		

Call ID	784	Start date	2021-06-03 16:02:25
End date	2021-06-03 16:02:45	Duration	00:00:20
Direction	Incoming	Channel	3
User handle		Status	Available
Mark	Normal calls		
CLI Data			
CTI Call ID	00037030861622732544	CTI Calling Party	35391847001
CTI Called Party	35391731050		

11:43:42 The call is available for playback (return code 3: Fingerprint matches, file is authentic).

9. Conclusion

These Application Notes describe the configuration steps required for NICE Inform Recorder R9.x to interoperate with the Avaya solution consisting of an Avaya Aura® Communication Manager R8.1 and Avaya Aura® Application Enablement Services R8.1using 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*, Release 8.1.x, Issue 7, October 2020.

[2] *Administering Avaya Aura® ApplicationEnablement Services*, Release 8.1.x Issue 10 April 2021.

[3] *Administering Avaya Aura® System Manager* for Release 8.1.x, Issue 8, November 2020.

[4] *Administering Avaya Aura® Session Manager*, Release 8.1.x, Issue 7, October 2020.

[5] *Administering Avaya Session Border Controller for Enterprise*, Release 8.1.x, Issue 3, August 2020.

[6] *Implementing and Administering Avaya Aura® Media Server*. Release 8.0.x, Issue 11, October 2020.

[7] *RFC 3261 SIP: Session Initiation Protocol*, http://www.ietf.org/

[8] *RFC 2833 RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals*, http://www.ietf.org/

Product documentation for NICE products may be found on ExtraNICE at:
https://www.extranice.com/Security/Pages/default.aspx
(ExtraNICE user account and password required)

The information provided in these Application Notes is subject to change without notice. The configurations, technical data, and recommendations provided in these Application Notes are believed to be accurate and dependable but are presented without express or implied warranty. Users are responsible for their application of any products specified in these Application Notes.

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.

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13th October 2021

To whom it may concern

NICE NIR and NTR recording platforms interoperability with Avaya Aura 8.1

NICE confirms that the NICE Inform Recorder (NIR) and NICE Trading Recorder (NTR) share a common software base. Both recording platforms offer a NICE-Avaya Aura DMCC integration which share common components, primarily the “Link Controller” to interface and interoperate with the Avaya Aura system.

The table below shows the version (feature) equivalence of the NIR and NTR integrations.

Recording Platform	Platform Version	Avaya Aura Integration	Applicability
NICE Inform Recorder (NIR)	9.2	80.3	NICE Public Safety Line of Business
NICE Trading Recorder (NTR)	6.7	10.5	Financial Markets Compliance Line of Business

The table below shows NIR and NTR feature differences with respect to the Avaya Aura integration

Recording Platform	Platform Version	Feature differences
NICE Inform Recorder (NIR)	9.2	**Replay of recorded calls:** NICE Inform suite of applications
NICE Trading Recorder (NTR)	6.7	**Replay of recorded calls:** NICE Compass suite of applications **Avaya Integration:** Support for Recording Announcement

Given the above information, we view the latest DevConnect Compliance Testing of NIR 9.2 with Avaya Aura DMCC integration 80.3 to also cover the NTR equivalent above.

A more detailed description of the integration between Avaya DMCC, NICE Inform Recorder, and NICE Trading Recorder can be found in the **NICE Avaya DMCC Integration 80.3 Release Note** here: ExtraNICE (Public Safety) Avaya DMCC and ExtraNICE (Enterprise) Connectivity Guides > Avaya .

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