Avaya Solution & Interoperability Test Lab

Application Notes for OpenText Qfiniti 16.5 with Avaya Aura® Communication Manager 8.0 and Avaya Aura® Application Enablement Services 8.0 Using Service Observing – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for OpenText Qfiniti 16.5 to interoperate with Avaya Aura® Communication Manager 8.0 and Avaya Aura® Application Enablement Services 8.0 using Service Observing. Qfiniti is a call recording solution.

In the compliance testing, OpenText Qfiniti used the Telephony Services Application Programming Interface from Avaya Aura® Application Enablement Services to monitor skill groups and agent stations on Avaya Aura® Communication Manager, and used the Service Observing feature via the Avaya Aura® Application Enablement Services Device, Media, and Call Control interface to capture media associated with the monitored agent stations for call recording.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as any 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.

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1. Introduction

These Application Notes describe the configuration steps required for OpenText Qfiniti 16.5 to interoperate with Avaya Aura® Communication Manager 8.0 and Avaya Aura® Application Enablement Services 8.0 using Service Observing. Qfiniti is a call recording solution.

In the compliance testing, Qfiniti used the Telephony Services Application Programming Interface (TSAPI) from Application Enablement Services to monitor skill groups and agent stations on Communication Manager, and used the Service Observing feature via the Application Enablement Services Device, Media, and Call Control (DMCC) XML interface to capture media associated with the monitored agent stations for call recording.

The TSAPI interface was used by Qfiniti to monitor skill groups and agent stations on Communication Manager. The DMCC interface was used by Qfiniti to register virtual IP softphones, and for adding softphones to active calls using the Service Observing feature to pick up the media for call recording.

When there was an active call at a monitored agent station, Qfiniti was informed of the call via event reports from the TSAPI interface, and started call recording by using Service Observing via the DMCC interface to add a virtual IP softphone to the active call to obtain the media. The event reports were also used to determine when to stop the call recordings.

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2. General Test Approach and Test Results

The feature test cases were performed both automatically and manually. Upon start of Qfiniti, the application automatically performed device queries and requested monitoring of skill groups and agent stations using TSAPI, and registered the virtual IP softphones using DMCC.

For the manual part of the testing, each call was handled manually on the agent telephone with generation of unique audio content for recordings. Necessary user actions such as hold and resume were performed from the agent telephones to test various call scenarios.

The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet connection to Qfiniti.

The verification of tests included use of Application Enablement Services and Qfiniti logs for proper message exchanges, and use of Qfiniti web interface for proper logging and playback of calls.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

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 Application Enablement Services and Qfiniti did not include use of any specific encryption features as requested by OpenText.

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2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the following on Qfiniti:

- Handling of TSAPI messages in areas of event notification and value queries.
- Use of DMCC services to register virtual IP softphones, and to activate Service Observing via button press to obtain the media for call recording.
- Proper recording, logging, and playback of calls for scenarios involving inbound, outbound, internal, external, ACD, non-ACD, hold, resume, G.711, G.729, forwarding, service observing, long duration, multiple calls, multiple agents, conference, and transfer.

The serviceability testing focused on verifying the ability of Qfiniti to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet connection to Qfiniti.

2.2. Test Results

All test cases were executed. The following were the observations on Qfiniti from the compliance testing.

- By default, Qfiniti starts each recording when the call has been delivered to the destination, so can include the ringing that precedes destination answer. This behavior is configurable via the Start Recording On parameter under the Logger Voice Recording Manager component in **Section 8.7**.
- For a call that experienced a Qfiniti Ethernet link disruption and dropped post link recovery, the associated recording channel continued to reflect Recording indefinitely with audio from disrupted call lumped with subsequent new calls. The workaround is to configure the Call Disconnect Timeout (minutes) parameter under the CTI Manager component, so that the indefinite recording under such condition can be dropped by Qfiniti post the configured interval in conjunction with a subsequent new call at the impacted agent telephone.

2.3. Support

Technical support on Qfiniti can be obtained through the following:

- **Phone:** (800) 540-7292
- **Web:** http://engage.opentext.com/products/qfiniti

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3. Reference Configuration

The configuration used for the compliance testing is shown in **Figure 1**. The detailed administration of basic connectivity between Communication Manager and Application Enablement Services, and of contact center devices are not the focus of these Application Notes and will not be described.

In the compliance testing, Qfiniti monitored the skill groups and agent stations shown in the table below.

Device Type	Extension
VDN	60001, 60002
Skill Group	61001, 61002
Supervisor	65000
Agent Station	65001 (H.323), 66006 (SIP)
Agent ID	65881, 65882

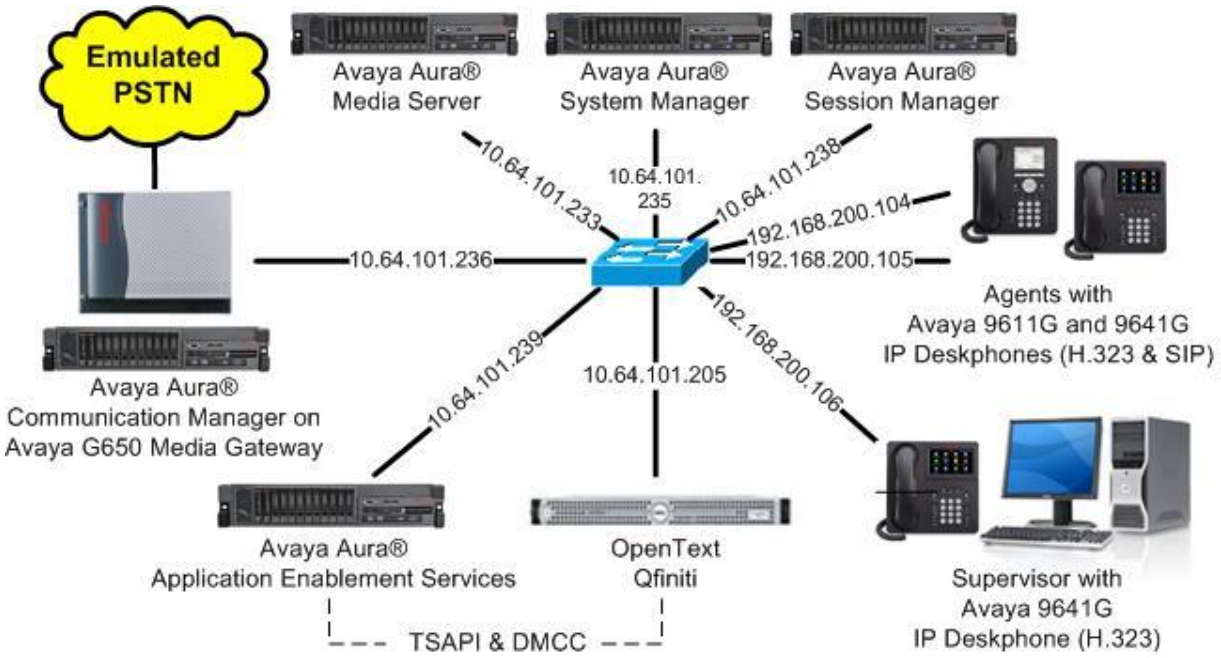

Figure 1: Compliance Testing Configuration

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4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® Communication Manager in Virtual Environment	8.0.1 (8.0.1.0.0.822.25031)
Avaya G650 Media Gateway	NA
Avaya Aura® Media Server in Virtual Environment	8.0.0.150
Avaya Aura® Application Enablement Services in Virtual Environment	8.0 (8.0.0.0.0.6-0)
Avaya Aura® Session Manager in Virtual Environment	8.0 (8.0.0.0.80035)
Avaya Aura® System Manager in Virtual Environment	8.0 (8.0.0.0.098174)
Avaya 9611G & 9641G IP Deskphone (H.323)	6.6604
Avaya 9641G IP Deskphone (SIP)	7.1.3.0.11
OpenText Qfiniti on Windows Server 2012 R2 • Avaya TSAPI Windows Client (csta32.dll) • Avaya DMCC XML	16.5.0 Standard 8.0.0.38 7.0.0.38

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5. Configure Avaya Aura® Communication Manager

This section provides the procedures for configuring Communication Manager. The procedures include the following areas:

- Verify license
- Administer CTI link
- Administer IP codec set
- Administer system parameters features
- Administer class of restriction
- Administer agent stations
- Administer virtual IP softphones

5.1. Verify License

Log in to the System Access Terminal to verify that the Communication Manager license has proper permissions for features illustrated in these Application Notes. Use the "display system-parameters customer-options" command to verify that the **Computer Telephony Adjunct Links** customer option is set to "y" on **Page 4**. If this option is not set to "y", then contact the Avaya sales team or business partner for a proper license file.

```
display system-parameters customer-options                    Page   4 of  12
                                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? n                      DCS (Basic)? y
           ASAI Link Core Capabilities? y                DCS Call Coverage? y
           ASAI Link Plus Capabilities? y               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
```

Navigate to **Page 7**, and verify that the **Service Observing (Basic)** customer option is set to "y".

```
display system-parameters customer-options                    Page   7 of  12
                        CALL CENTER OPTIONAL FEATURES

                          Call Center Release: 7.0

                                 ACD? y                         Reason Codes? y
                       BCMS (Basic)? y             Service Level Maximizer? n
          BCMS/VuStats Service Level? y          Service Observing (Basic)? y
  BSR Local Treatment for IP & ISDN? y    Service Observing (Remote/By FAC)? y
                  Business Advocate? n             Service Observing (VDNs)? y
                    Call Work Codes? y                              Timed ACW? y
      DTMF Feedback Signals For VRU? y                   Vectoring (Basic)? y
                   Dynamic Advocate? n                Vectoring (Prompting)? y
```


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5.2. Administer CTI Link

Add a CTI link using the "add cti-link n" command, where "n" is an available CTI link number. Enter an available extension number in the **Extension** field. Note that the CTI link number and extension number may vary. 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: 60111
     Type: ADJ-IP
                                                                      COR: 1
     Name: AES CTI Link
```

5.3. Administer IP Codec Set

Use the "change ip-codec-set n" command, where "n" is an existing codec set number used for integration with Qfiniti.

For customer network that use encrypted media, make certain that "none" is included for **Media Encryption**, and that **Encrypted SRTP** is set to "best-effort", these settings are needed for support of non-encrypted media from the virtual IP softphones used by Qfiniti.

In the compliance testing, this IP codec set was assigned to the virtual IP softphones used by Qfiniti.

```
change ip-codec-set 1                                           Page   1 of   2

                         IP Codec Set

    Codec Set: 1

    Audio        Silence      Frames   Packet
    Codec        Suppression  Per Pkt  Size(ms)
 1: G.711MU           n         2        20
 2: G.729
 3:
 4:
 5:
 6:
 7:

    Media Encryption                  Encrypted SRTP: best-effort
 1: 1-srtp-aescm128-hmac80
 2: aes
 3: none
 4:
 5:
```


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5.4. Administer System Parameters Features

Use the "change system-parameters features" command, and navigate to **Page 11**. Set **Service Observing: Warning Tone** to the needed setting per customer requirement, and enable **Allow Two Observers in Same Call**, as shown below.

```
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
                           Work Mode On Login: aux
  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 Threshod: 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? n     or Conference Tone? n
    Allowed with Exclusion: Service Observing? n                    SSC? n
             Allow Two Observers in Same Call? y
```


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5.5. Administer Class of Restriction

Enter the "change cor n" command, where "n" is the class of restriction (COR) number used for integration with Qfiniti. Set the **Can Be Service Observed** and **Can Be A Service Observer** fields to "y", as shown below. For the compliance testing, this COR was assigned to the agent stations and virtual IP softphones.

If desired, separate COR can be used for enablement of each parameter. The COR with **Can Be Service Observed** enabled needs to be assigned to the agent stations, and the COR with **Can Be A Service Observer** enabled needs to be assigned to the virtual IP softphones.

```
change cor 2                                                  Page   1 of  23
                              CLASS OF RESTRICTION

               COR Number: 2
          COR Description: OpenText

                      FRL: 0                                APLT? y
  Can Be Service Observed? y          Calling Party Restriction: none
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? n
     Restriction Override: none       Facility Access Trunk Test? n
     Restricted Call List? n                 Can Change Coverage? n
```

5.6. Administer Agent Stations

Use the "change station n" command, where "n" is the first H.323 agent station extension from **Section 3**. For **COR**, enter the COR number from **Section 5.5**.

Repeat this section to administer all H.323 agent stations from **Section 3**. In the compliance testing, one agent station was administered as shown below.

```
change station 65001                                          Page   1 of   5
                                    STATION

Extension: 65001                       Lock Messages? n              BCC: 0
     Type: 9611                        Security Code: *               TN: 1
     Port: S00102                    Coverage Path 1: 1              COR: 2
     Name: CM Station 1              Coverage Path 2:                COS: 1
                                     Hunt-to Station:              Tests? y
```


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5.7. Administer Virtual IP Softphones

Add a virtual IP softphone using the "add station n" command, where "n" is an available extension number. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Extension:** The available extension number.
- **Type:** Any IP telephone type, such as "4620".
- **Name:** A descriptive name.
- **Security Code:** A desired code.
- **COR:** The COR number from **Section 5.5**.
- **IP SoftPhone:** "y"

```
add station 65991                                          Page   1 of   5
                                    STATION

Extension: 65991                        Lock Messages? n               BCC: 0
     Type: 4620                         Security Code: 123456           TN: 1
     Port: IP                         Coverage Path 1:                 COR: 2
     Name: Qfiniti DMCC 1             Coverage Path 2:                 COS: 1
                                      Hunt-to Station:               Tests: y
STATION OPTIONS
               Location:                    Time of Day Lock Table:
            Loss Group: 19          Personalized Ringing Pattern: 1
                                              Message Lamp Ext: 65991
          Speakerphone: 2-way              Mute Button Enabled? y
       Display Language: english              Expansion Module? n
 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
```

Navigate to **Page 4**, and add "serv-obsrv" to the 6th button as shown below.

```
add station 65991                                          Page   4 of   5
                                    STATION
 SITE DATA
      Room:                                            Headset? n
      Jack:                                            Speaker? n
     Cable:                                           Mounting: d
     Floor:                                        Cord Length: 0
  Building:                                          Set Color:

ABBREVIATED DIALING
     List1:                     List2:                     List3:

BUTTON ASSIGNMENTS
 1: call-appr                           5:
 2: call-appr                           6: serv-obsrv
 3: call-appr                           7:
 4:                                     8:
```


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Repeat this section to administer the desired number of virtual IP softphones. In the compliance testing, two virtual IP softphones were administered as shown below.

```
list station 65991 count 2

                                  STATIONS

Ext/           Port/   Name/                          Room/      Cv1/  COR/
 Hunt-to        Type       Surv GK NN      Move  Cable   Jack   Cv2  COS  TN

65991          S00126  Qfiniti DMCC 1                                 2
               4620                          no                      1  1
65992          S00127  Qfiniti DMCC 1                                 2
               4620                          no                      1  1
```


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6. Configure Avaya Aura® Application Enablement Services

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

- Launch OAM interface
- Verify license
- Administer TSAPI link
- Administer H.323 gatekeeper
- Administer Qfiniti user
- Administer security database
- Administer ports
- Restart services

6.1. Launch OAM Interface

Access the OAM web-based interface by using the URL "https://ip-address" in an Internet browser window, where "ip-address" is the IP address of the Application Enablement Services server.

The **Please login here** screen is displayed. Log in using the appropriate credentials.

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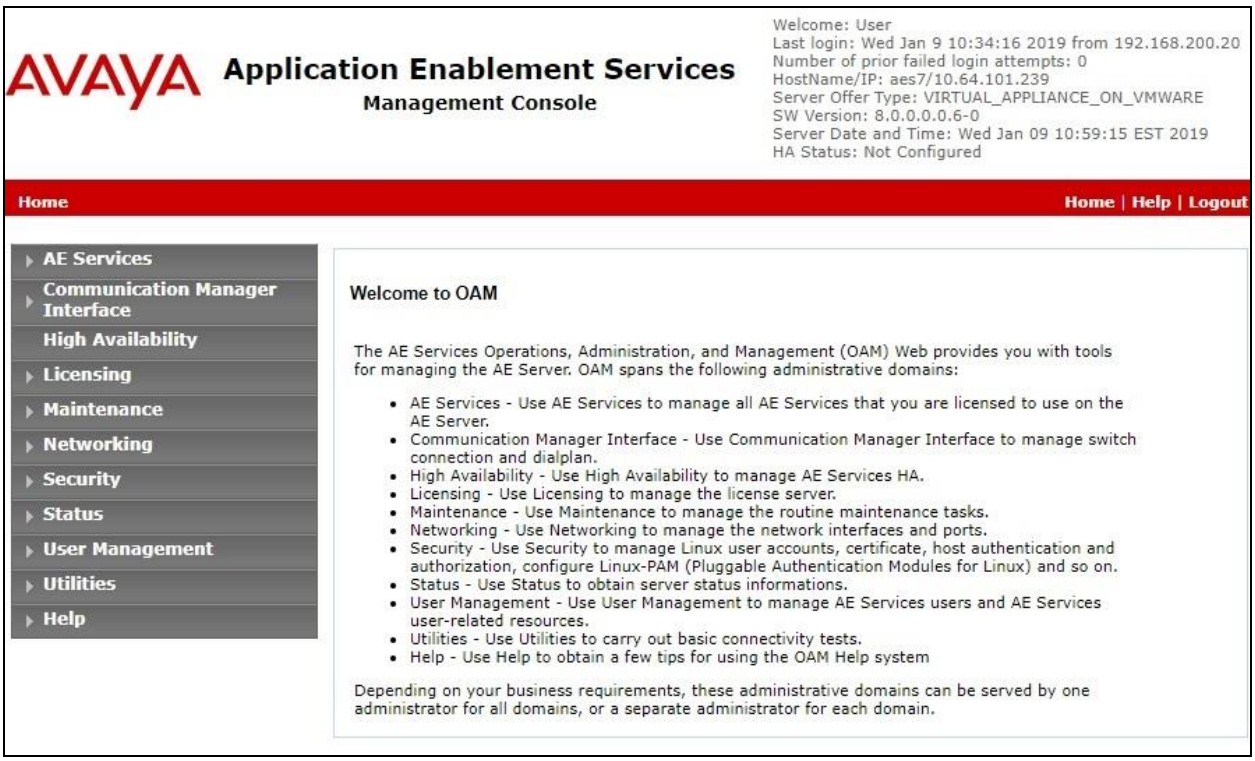
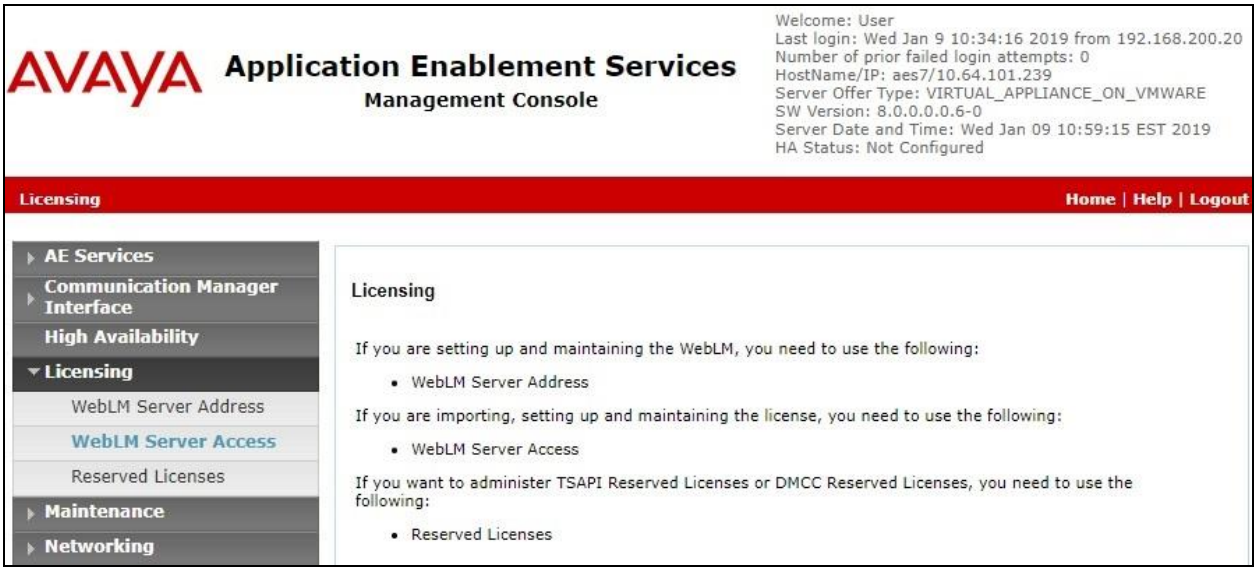
The **Welcome to OAM** screen is displayed next.



6.2. Verify License

Select **Licensing → WebLM Server Access** in the left pane, to display the applicable WebLM server log in screen (not shown). Log in using the appropriate credentials, and navigate to display installed licenses (not shown).



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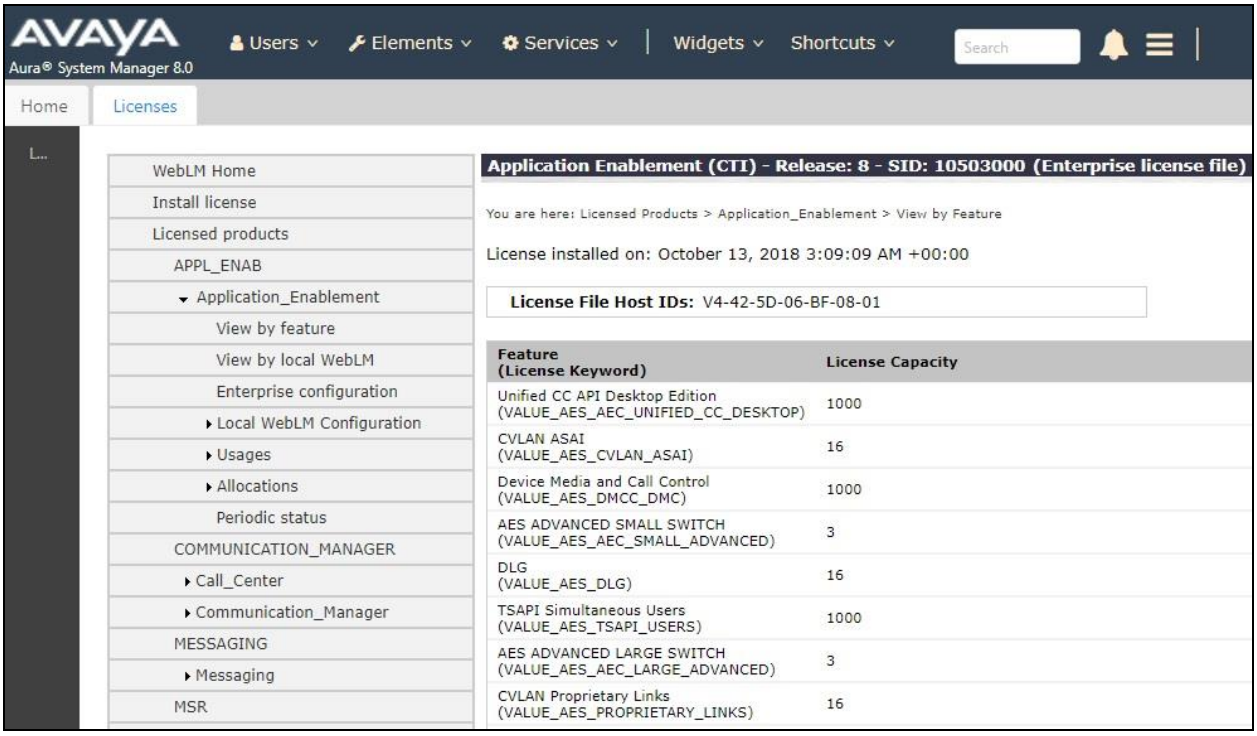
Select **Licensed products → APPL_ENAB → Application_Enablement** in the left pane, to display the **Application Enablement (CTI)** screen in the right pane.

Verify that there are sufficient licenses for **Device Media and Call Control** and **TSAPI Simultaneous Users**, as shown below. The DMCC license is used for the virtual IP softphones, and the TSAPI license is used for device monitoring.



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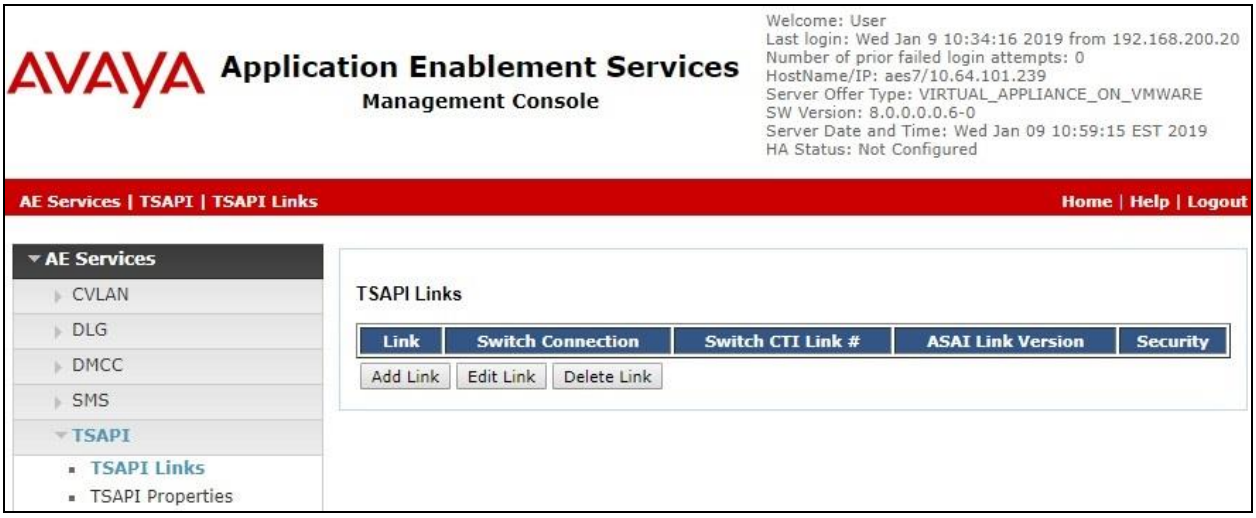
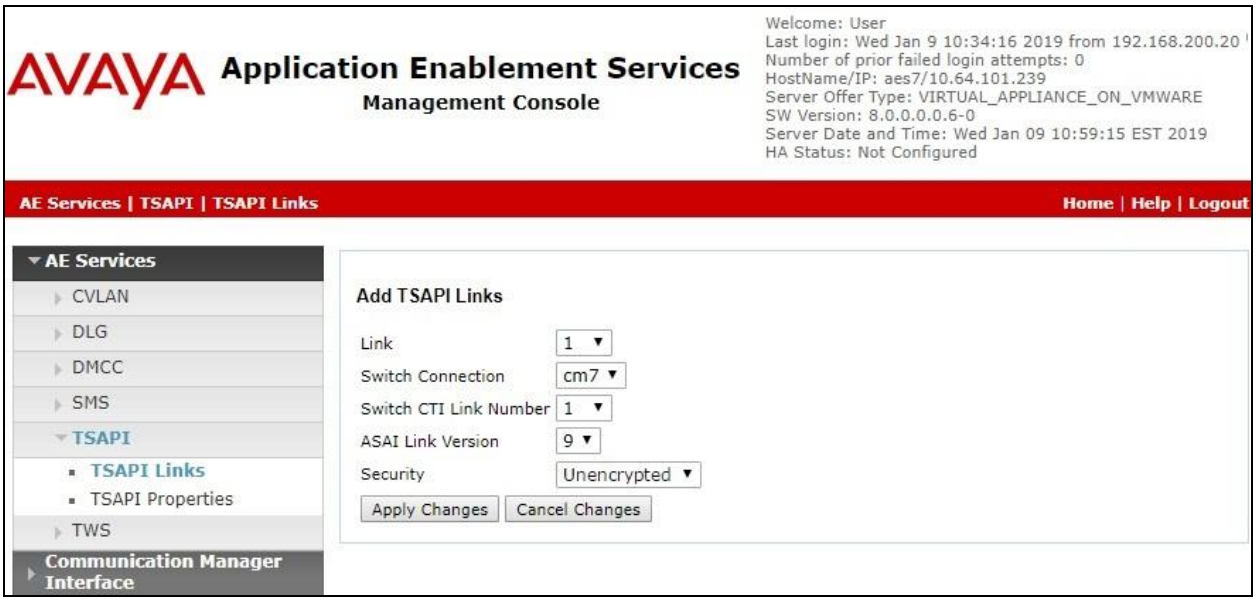
6.3. Administer TSAPI Link

Select **AE Services → TSAPI → TSAPI Links** from the left pane of the **Management Console**, to administer a TSAPI link. The **TSAPI Links** screen is displayed, as shown below. Click **Add Link**.



The **Add TSAPI Links** screen is displayed next.

The **Link** field is only local to the Application Enablement Services server, and may be set to any available number. For **Switch Connection**, select the relevant switch connection from the drop-down list. In this case, the existing switch connection "cm7" is selected. For **Switch CTI Link Number**, select the CTI link number from **Section 5.2**. Retain the default values in the remaining fields.



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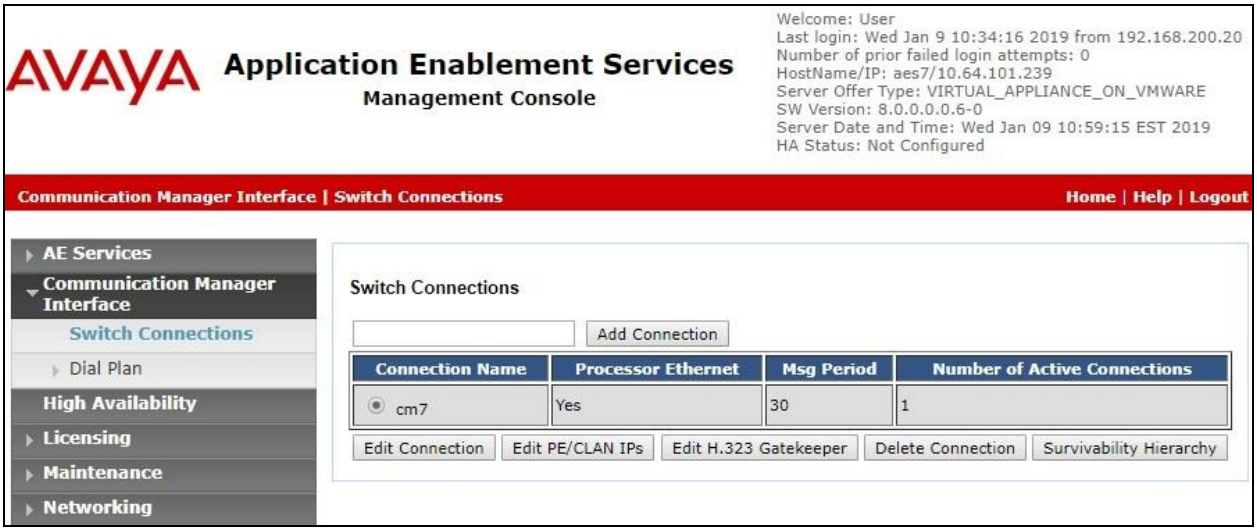
6.4. Administer H.323 Gatekeeper

Select **Communication Manager Interface → Switch Connections** from the left pane. The **Switch Connections** screen shows a listing of the existing switch connections.

Locate the connection name associated with the relevant Communication Manager, in this case "cm7", and select the corresponding radio button. Click **Edit H.323 Gatekeeper**.



The **Edit H.323 Gatekeeper** screen is displayed next. Enter the IP address of a C-LAN circuit pack or the Processor C-LAN on Communication Manager to use as the H.323 gatekeeper, in this case "10.64.101.236" as shown below. Click **Add Name or IP**.

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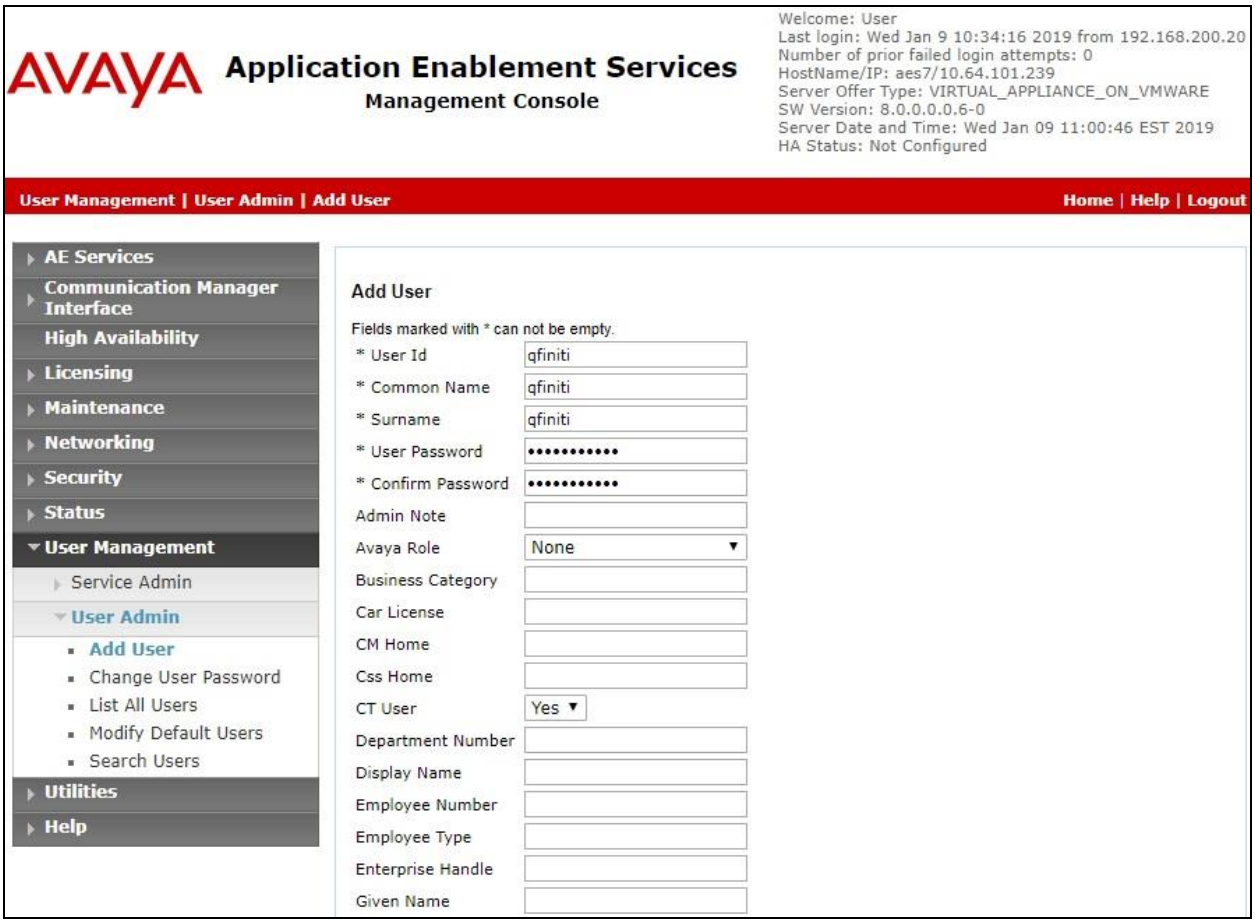
6.5. Administer Qfiniti User

Select **User Management → User Admin → Add User** from the left pane, to display the **Add User** screen in the right pane.

Enter desired values for **User Id**, **Common Name**, **Surname**, **User Password**, and **Confirm Password**. For **CT User**, select "Yes" from the drop-down list. Retain the default value in the remaining fields.



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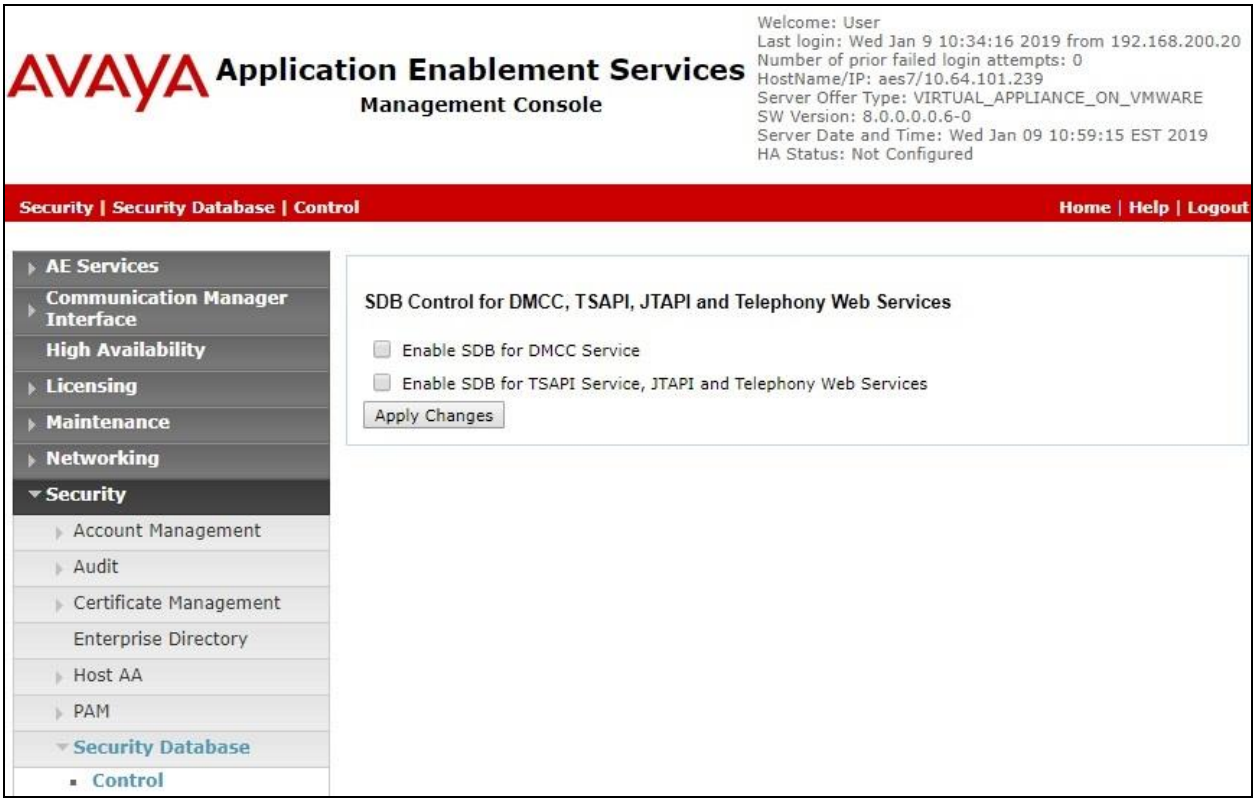
6.6. Administer Security Database

Select **Security → Security Database → Control** from the left pane, to display the **SDB Control for DMCC, TSAPI, JTAPI and Telephony Web Services** screen in the right pane. Make certain that both parameters are unchecked, as shown below.

In the event that the security database is used by the customer with parameters already enabled, then follow reference [2] to configure access privileges for the Qfiniti user from **Section 6.5**.



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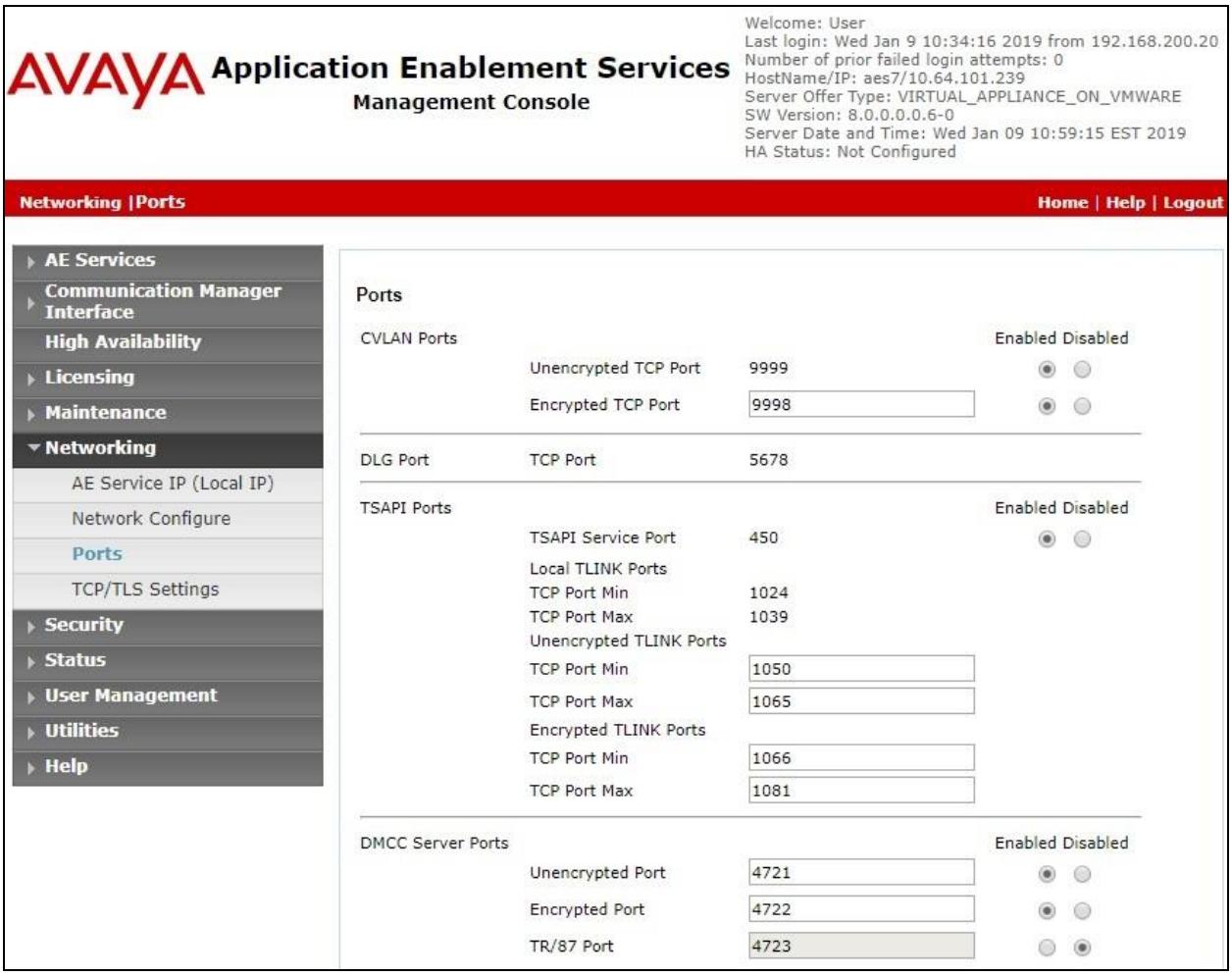
6.7. Administer Ports

Select **Networking → Ports** from the left pane, to display the **Ports** screen in the right pane.

In the **DMCC Server Ports** section, select the radio button for **Unencrypted Port** under the **Enabled** column, as shown below. Retain the default values in the remaining fields.



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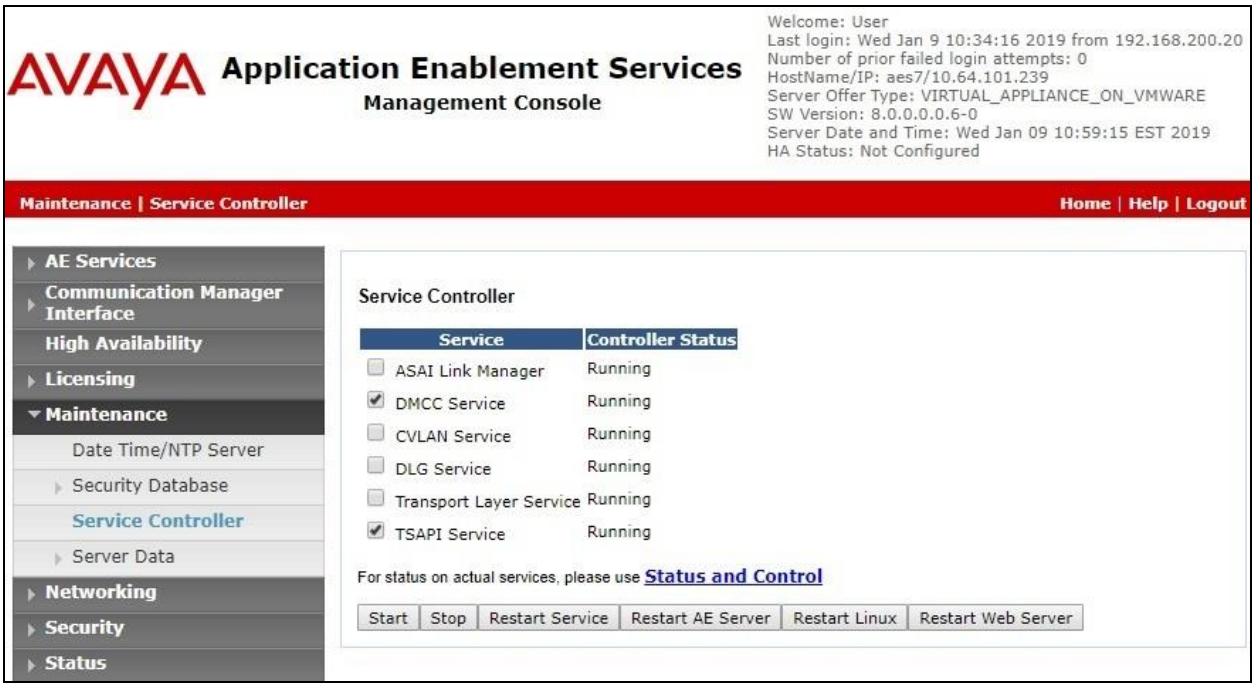
6.8. Restart Service

Select **Maintenance → Service Controller** from the left pane, to display the **Service Controller** screen in the right pane. Check **DMCC Service** and **TSAPI Service**, and click **Restart Service**.



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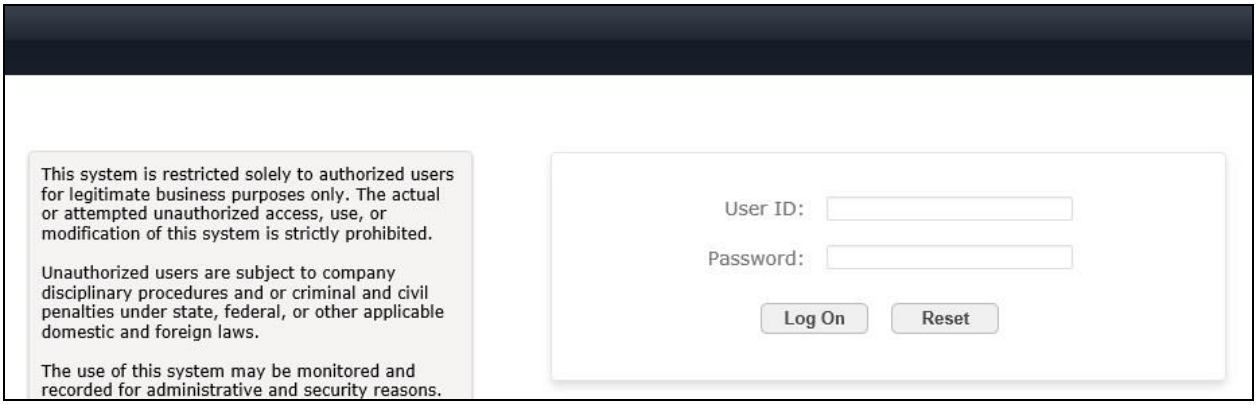
7. Configure Avaya Aura® Session Manager

This section provides the procedures for configuring Session Manager, which is performed via the web interface of System Manager. The procedures include the following areas:

- Launch System Manager
- Administer users

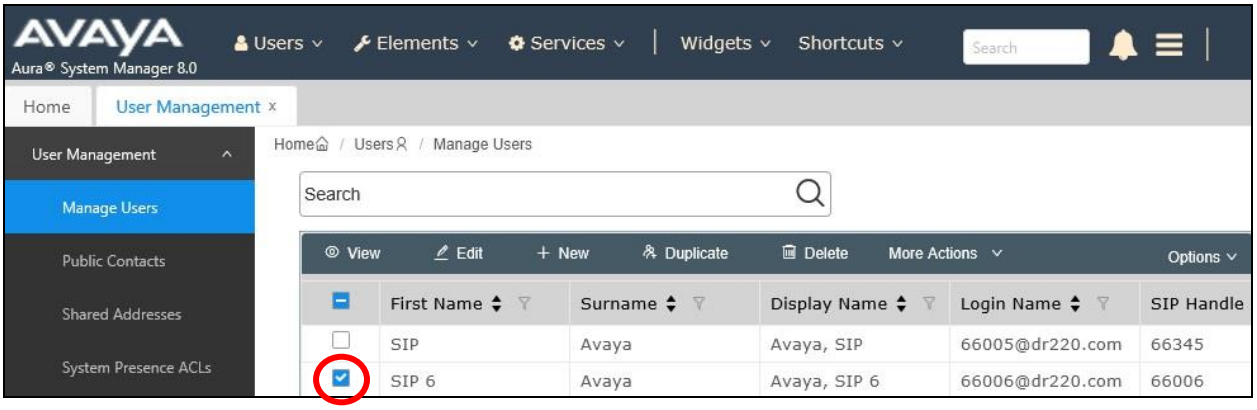
7.1. Launch System Manager

Access the System Manager web interface by using the URL "https://ip-address" in an Internet browser window, where "ip-address" is the IP address of System Manager. Log in using the appropriate credentials.



7.2. Administer Users

In the subsequent screen (not shown), select **Users → User Management**. Select **User Management → Manage Users** from the left pane to display the screen below. Select the entry associated with the first SIP agent station from **Section 3**, in this case "66006", and click **Edit**.



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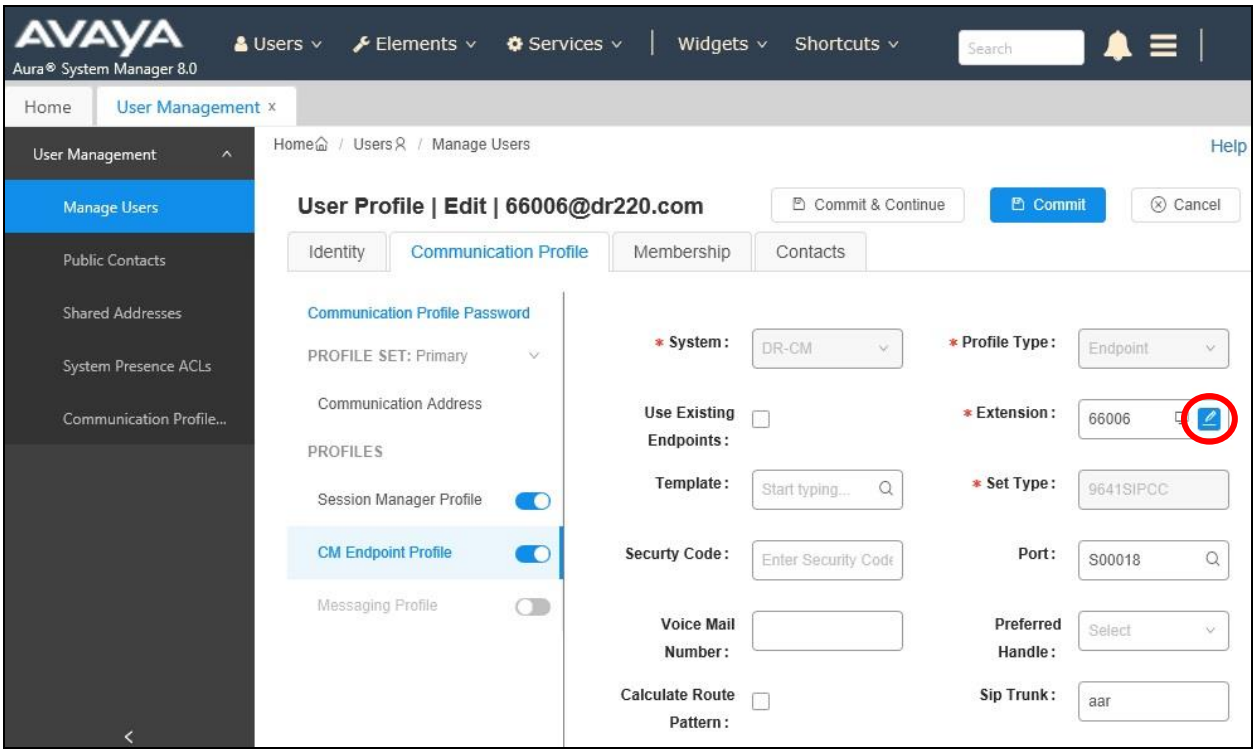
The **User Profile | Edit** screen is displayed. Select the **Communication Profile** tab, followed by **CM Endpoint Profile** to display the screen below.

Click on the **Editor** icon shown below.



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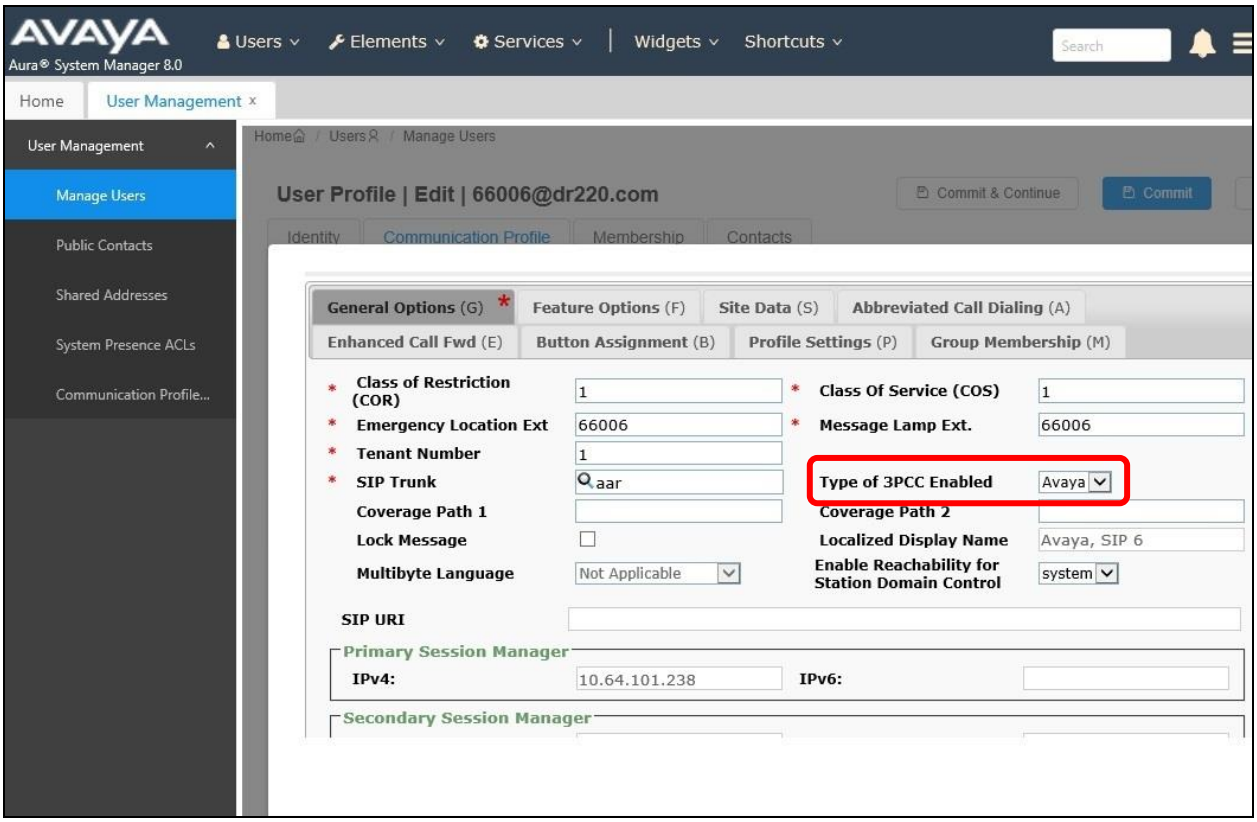
In the popped up screen, locate the **Type of 3PCC Enabled** parameter, and select "Avaya" from the drop-down list as shown below. Retain the existing values in the remaining fields.



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8. Configure OpenText Qfiniti

This section provides the procedures for configuring Qfiniti. The procedures include the following areas:

- Launch SysConfig web interface
- Administer switches
- Administer CTI server
- Administer board configuration
- Administer general
- Administer machines
- Administer components
- Administer CTI sources
- Administer phone interface
- Administer logging data – phone class of service
- Administer VRM
- Administer line data
- Enable use
- Launch Qfiniti web interface
- Administer observe settings
- Administer agents
- Start services

The configuration of Qfiniti is performed by OpenText field service engineers. The procedural steps are presented in these Application Notes for informational purposes.

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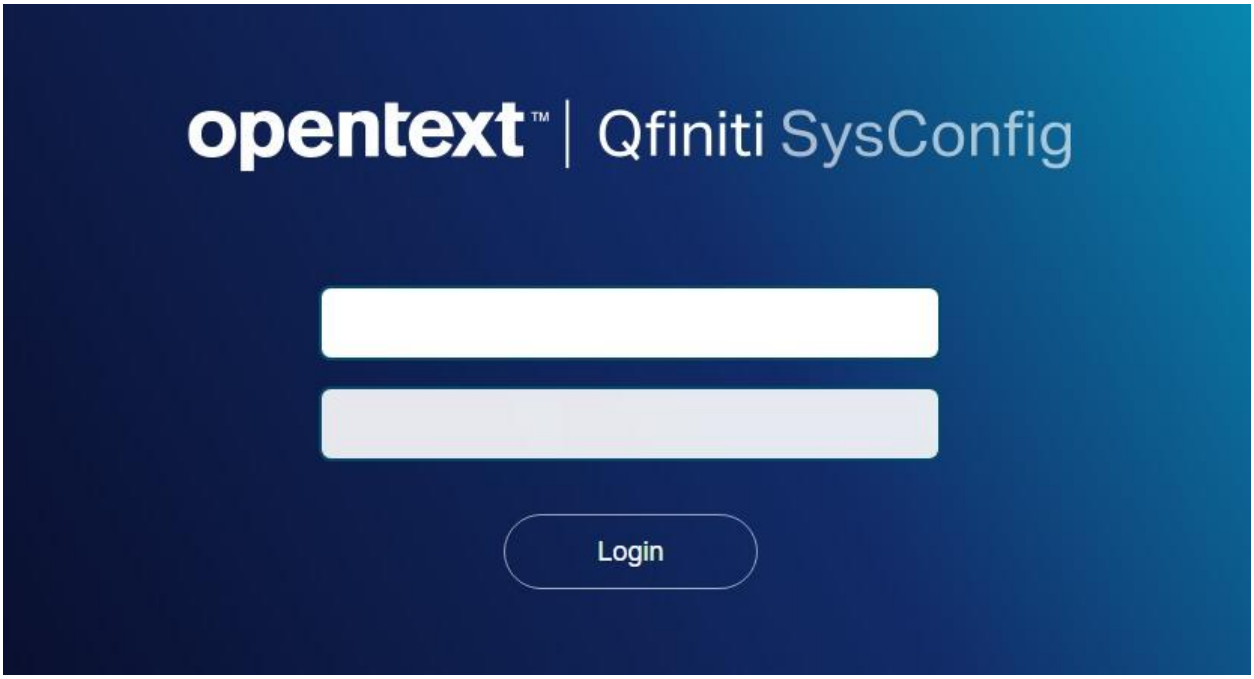
8.1. Launch SysConfig Web Interface

Access the SysConfig web interface by using the URL "http://ip-address/sysconfig" in an Internet browser window, where "ip-address" is the IP address of Qfiniti.

The screen below is displayed. Log in using the appropriate credentials.



In the subsequent screen, select the **Cross System** tab to display the screen below.

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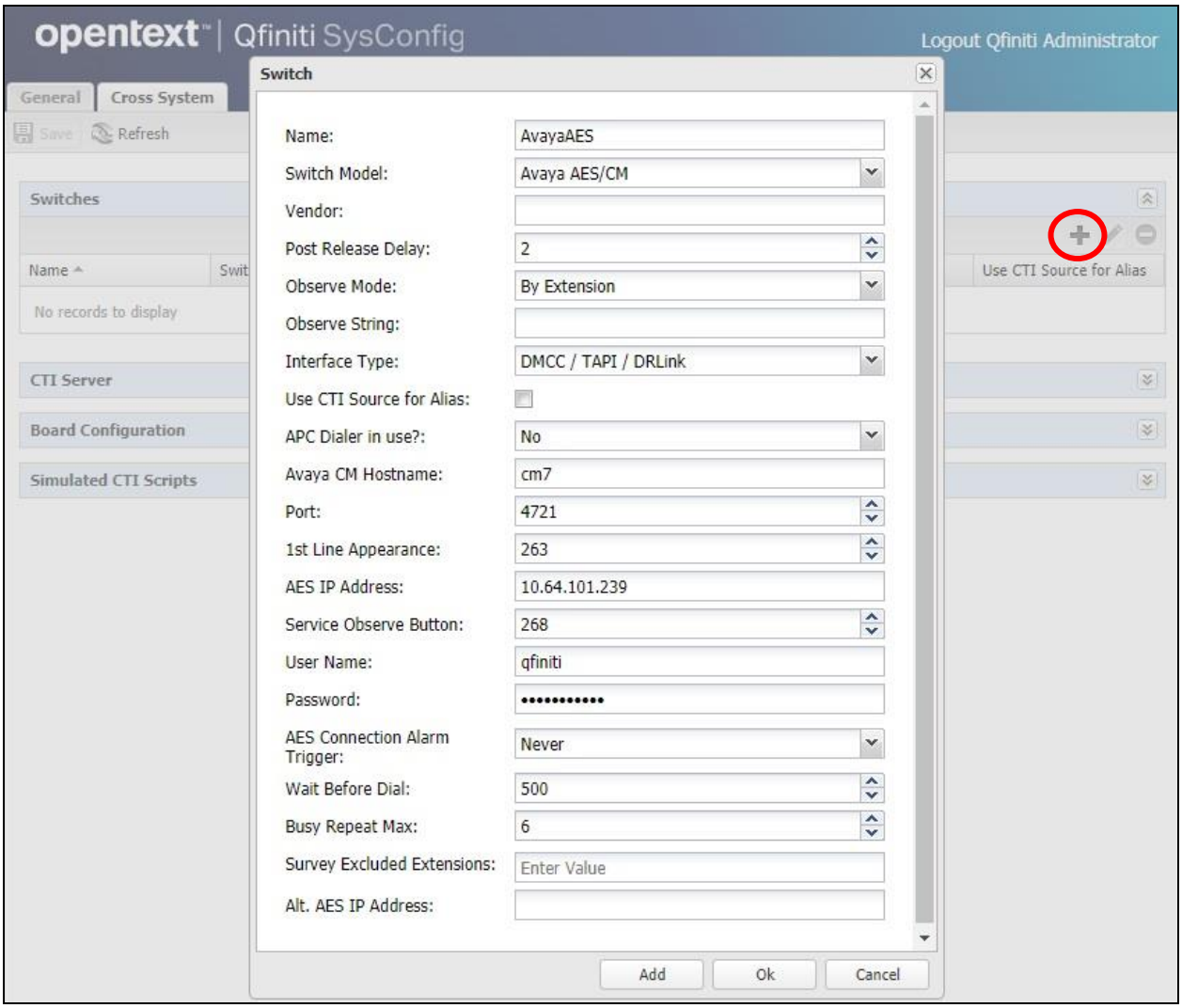
8.2. Administer Switches

Expand the **Switches** sub-section, and click the **New Item** icon to add a new entry for Application Enablement Services. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Name:** A descriptive name, in this case "AvayaAES".
- **Switch Model:** "Avaya AES/CM"
- **Post Release Delay:** Desired wait interval in seconds for registration response.
- **Observe Mode:** "By Extension"
- **Interface Type:** "DMCC / TAPI / DRLink"
- **Avaya CM Hostname:** The relevant switch connection name from **Section 6.3**.
- **AES IP Address:** The IP address of Application Enablement Services server.
- **User Name:** The Qfiniti user credentials from **Section 6.5**.
- **Password:** The Qfiniti user credentials from **Section 6.5**.



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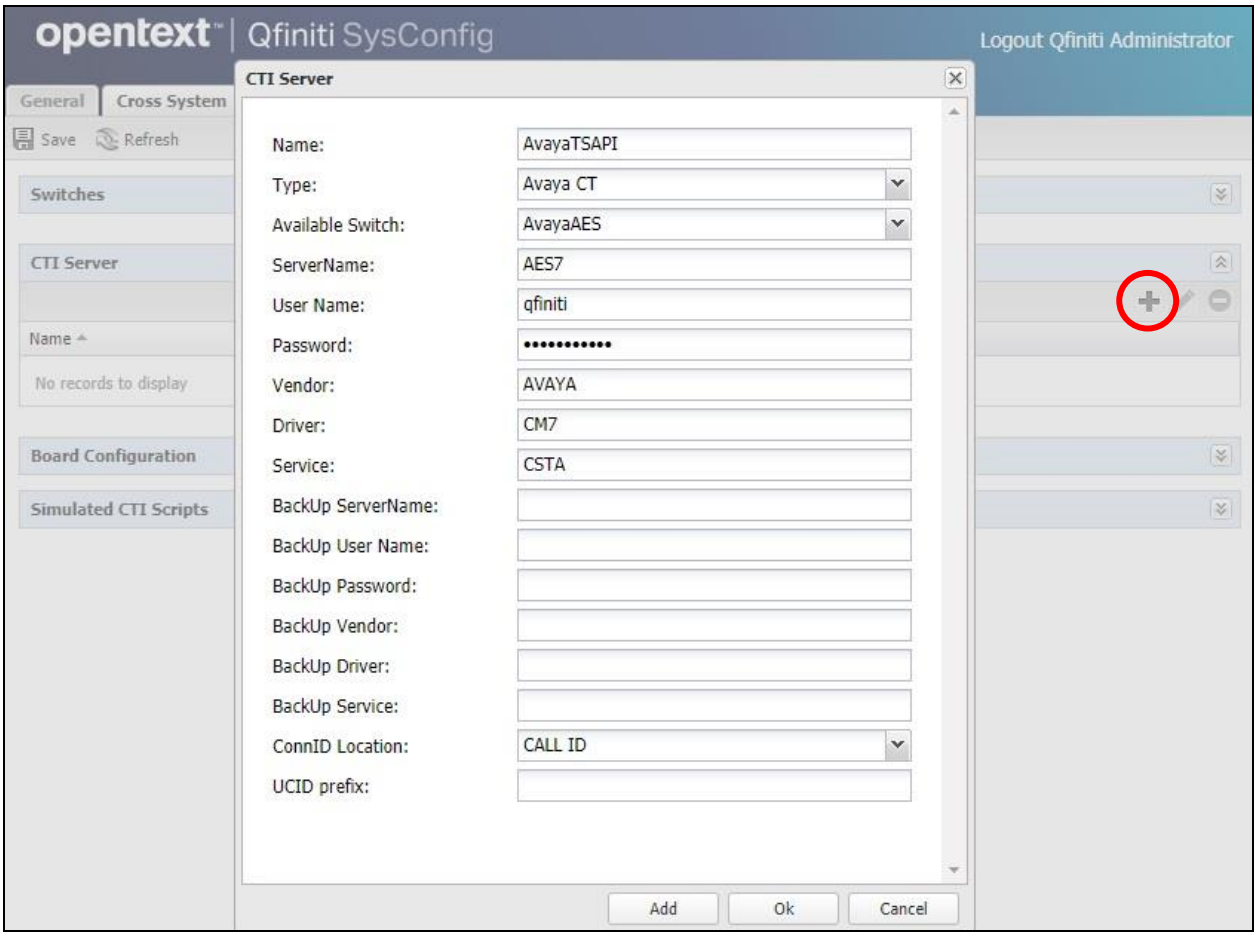
8.3. Administer CTI Server

Expand the **CTI Server** sub-section, and click the **New Item** icon to add a new entry for TSAPI connection. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Name:** A descriptive name, in this case "AvayaTSAPI".
- **Type:** "Avaya CT"
- **Available Switch:** Select the switch name from **Section 8.2**.
- **User Name:** The Qfiniti user credentials from **Section 6.5**.
- **Password:** The Qfiniti user credentials from **Section 6.5**.
- **Vendor:** "AVAYA"
- **Driver:** The relevant switch connection name from **Section 6.3**.
- **Service:** "CSTA"



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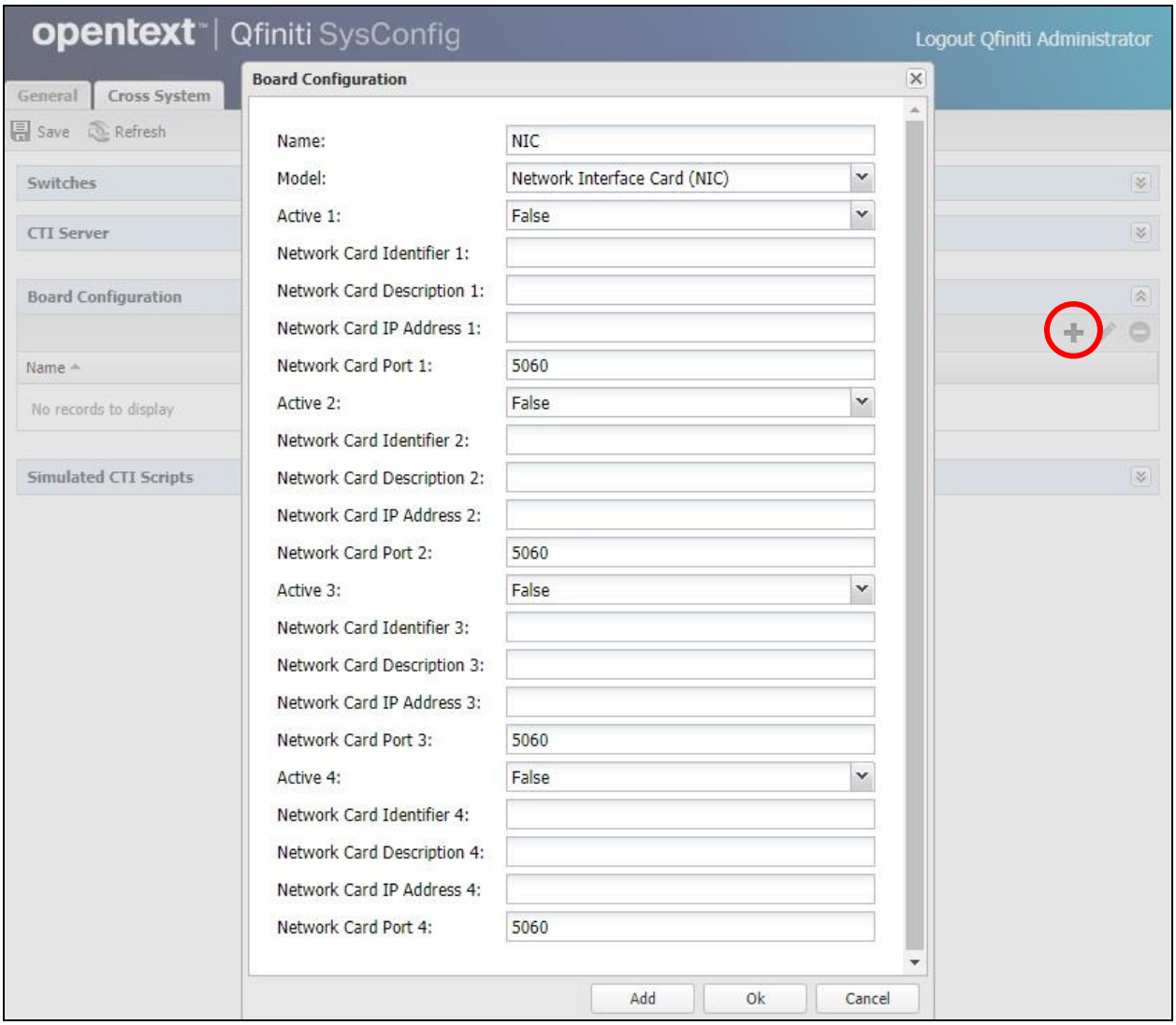
8.4. Administer Board Configuration

Expand the **Board Configuration** sub-section, and click the **New Item** icon. Note that board is not used in the integration but required to be configured. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Name:** A descriptive name, in this case "NIC".
- **Model:** "Network Interface Card (NIC)"



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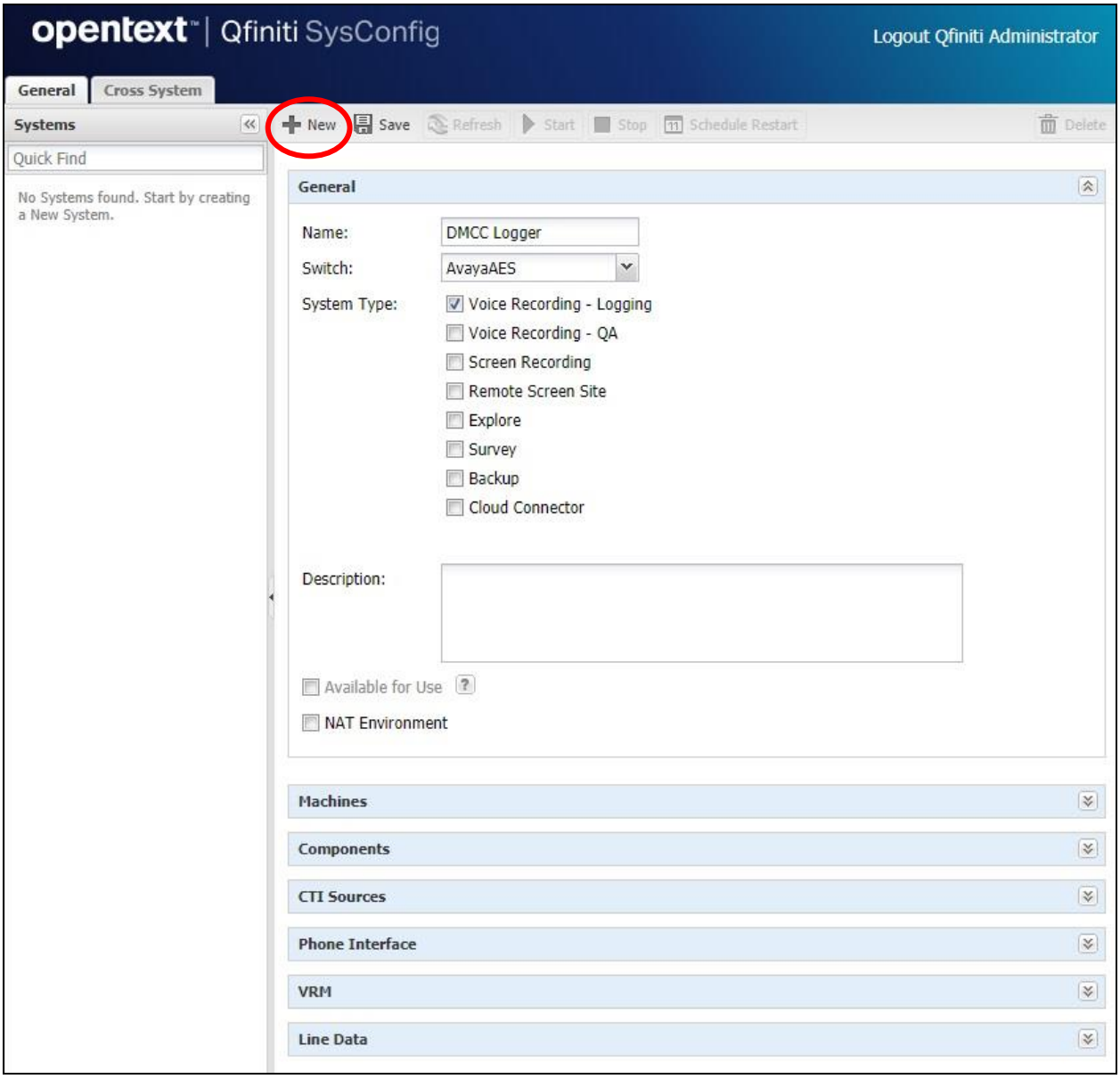
8.5. Administer General

Select the **General** tab. Expand the **General** sub-section, and click the **New** icon to add a new system. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Name:** A desired name, in this case "DMCC Logger".
- **Switch:** Select the switch name from **Section 8.2**.
- **System Type:** Check **Voice Recording - Logging**.



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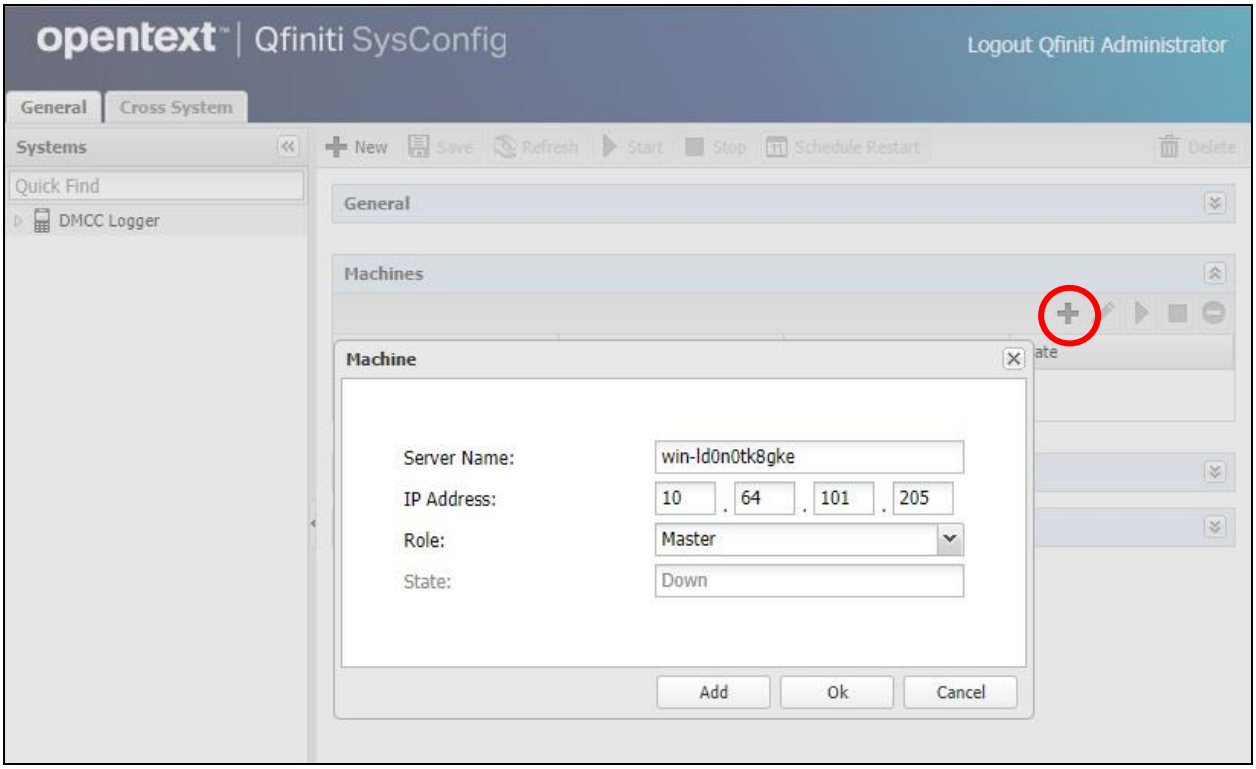
8.6. Administer Machines

Expand the **Machines** sub-section, and click the **New Item** icon to add a new machine. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Server Name:** The host name of the Qfiniti server.
- **IP Address:** The IP address of the Qfiniti server.
- **Role:** "Master".



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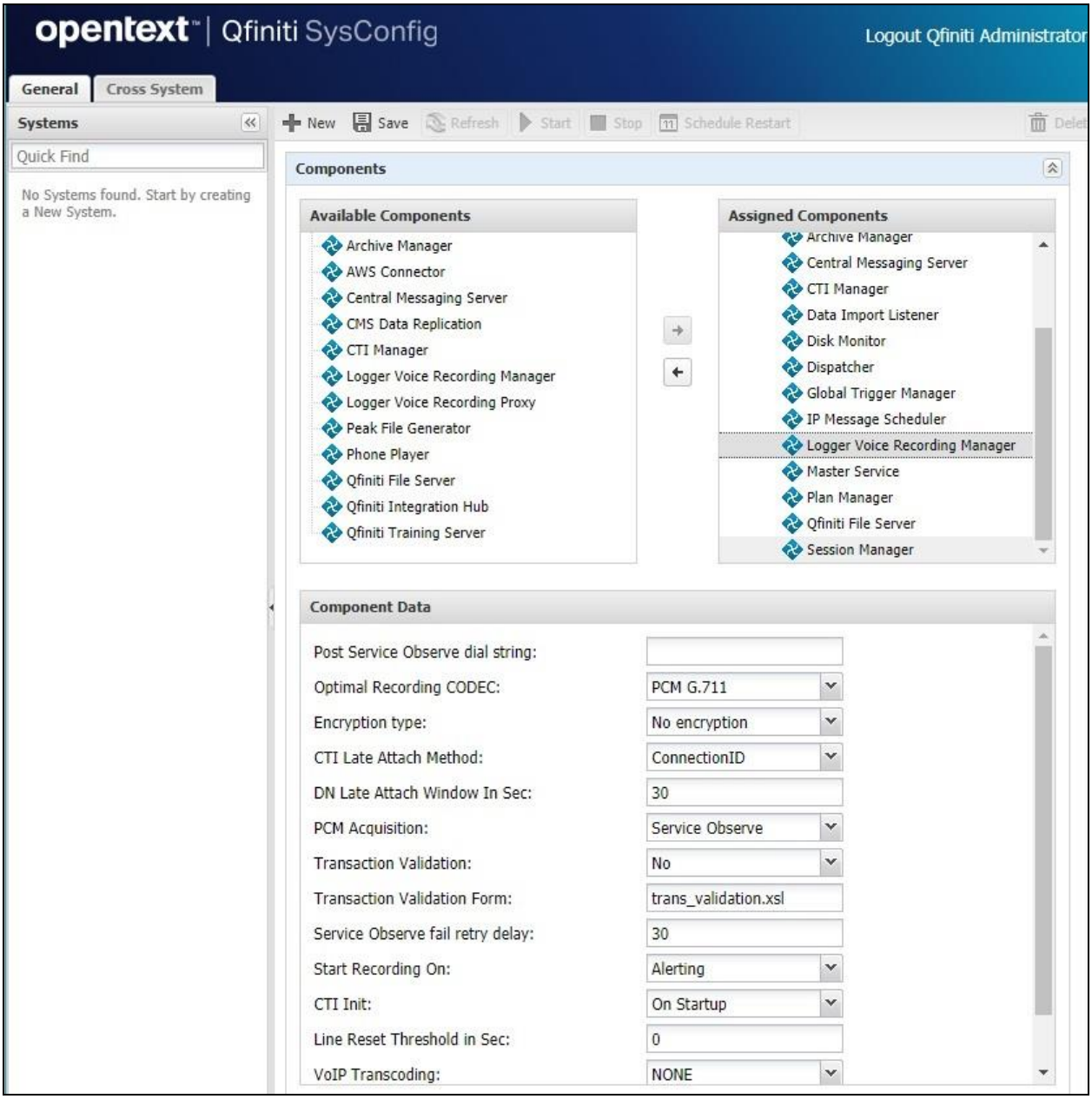
8.7. Administer Components

Expand the **Components** sub-section, and follow reference [3] to assign and configure the required components. Under **Assigned Components**, select **Logger Voice Recording Manager**. Under **Component Data**, enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Optimal Recording CODEC:** "PCM G.711".
- **PCM Acquisition:** "Service Observe"



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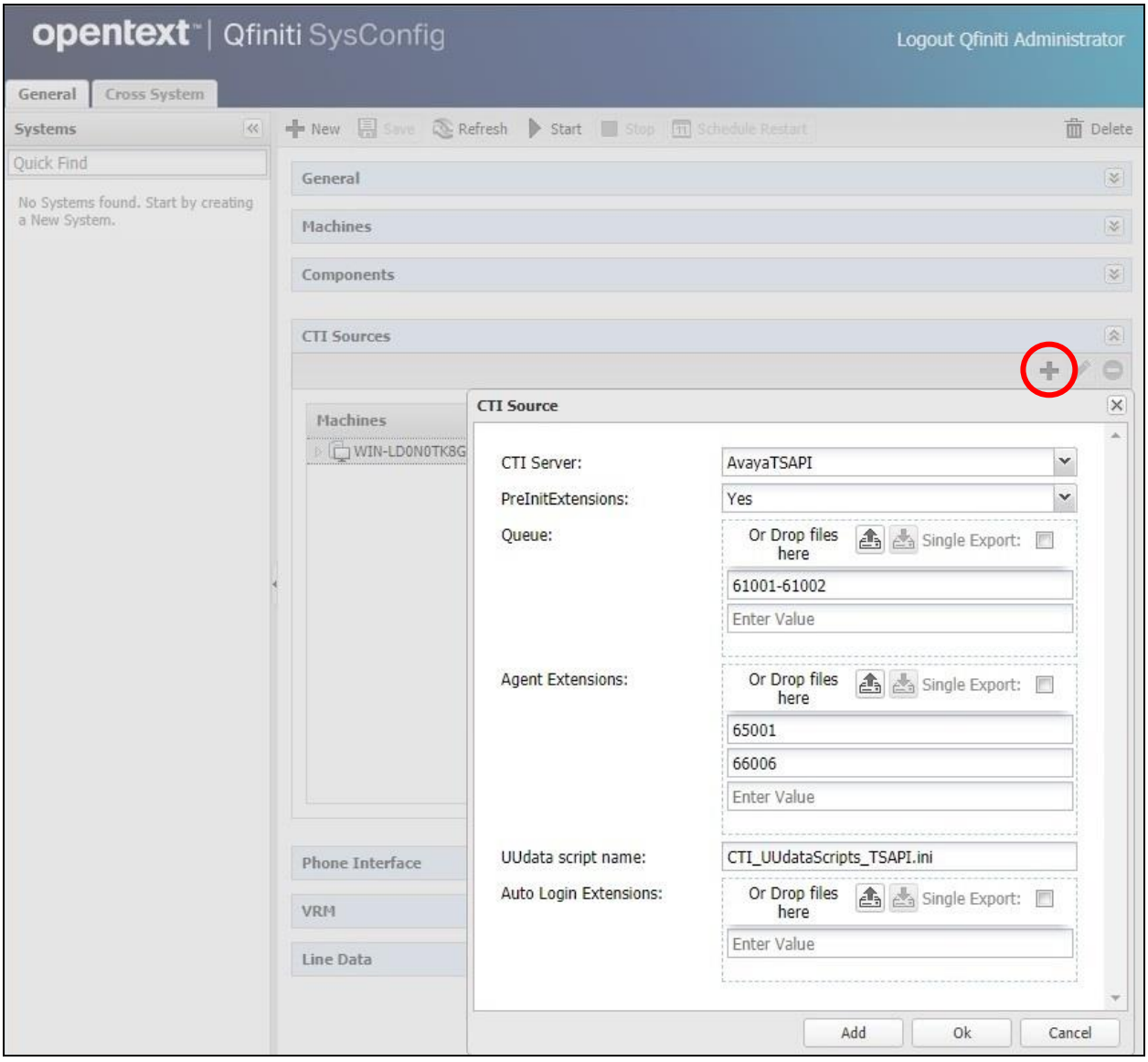
8.8. Administer CTI Sources

Expand the **CTI Sources** sub-section. Select the applicable machine server name from **Section 8.6**, followed by the **Add CTI Source** icon. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **CTI Server:** Select the CTI server name from **Section 8.3**.
- **Queue:** The skill group extensions from **Section 3**.
- **Agent Extensions:** The agent station extensions from **Section 3**.



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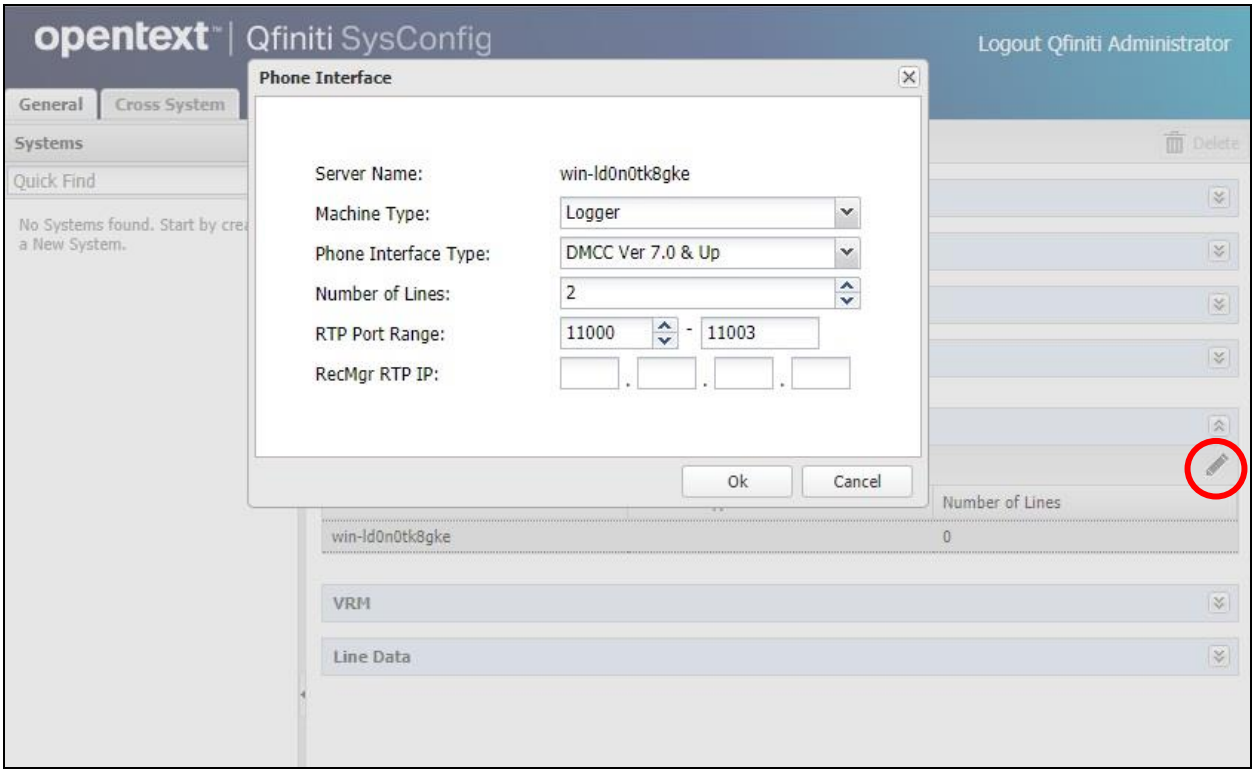
8.9. Administer Phone Interface

Expand the **Phone Interface** sub-section (not shown). Select the machine server name from **Section 8.6**, and click on the **Edit** icon to edit the entry. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Machine Type:** "Logger"
- **Phone Interface Type:** "DMCC Ver 7.0 & Up"
- **Number of Lines:** The total number of agent stations from **Section 3**, in this case "2".



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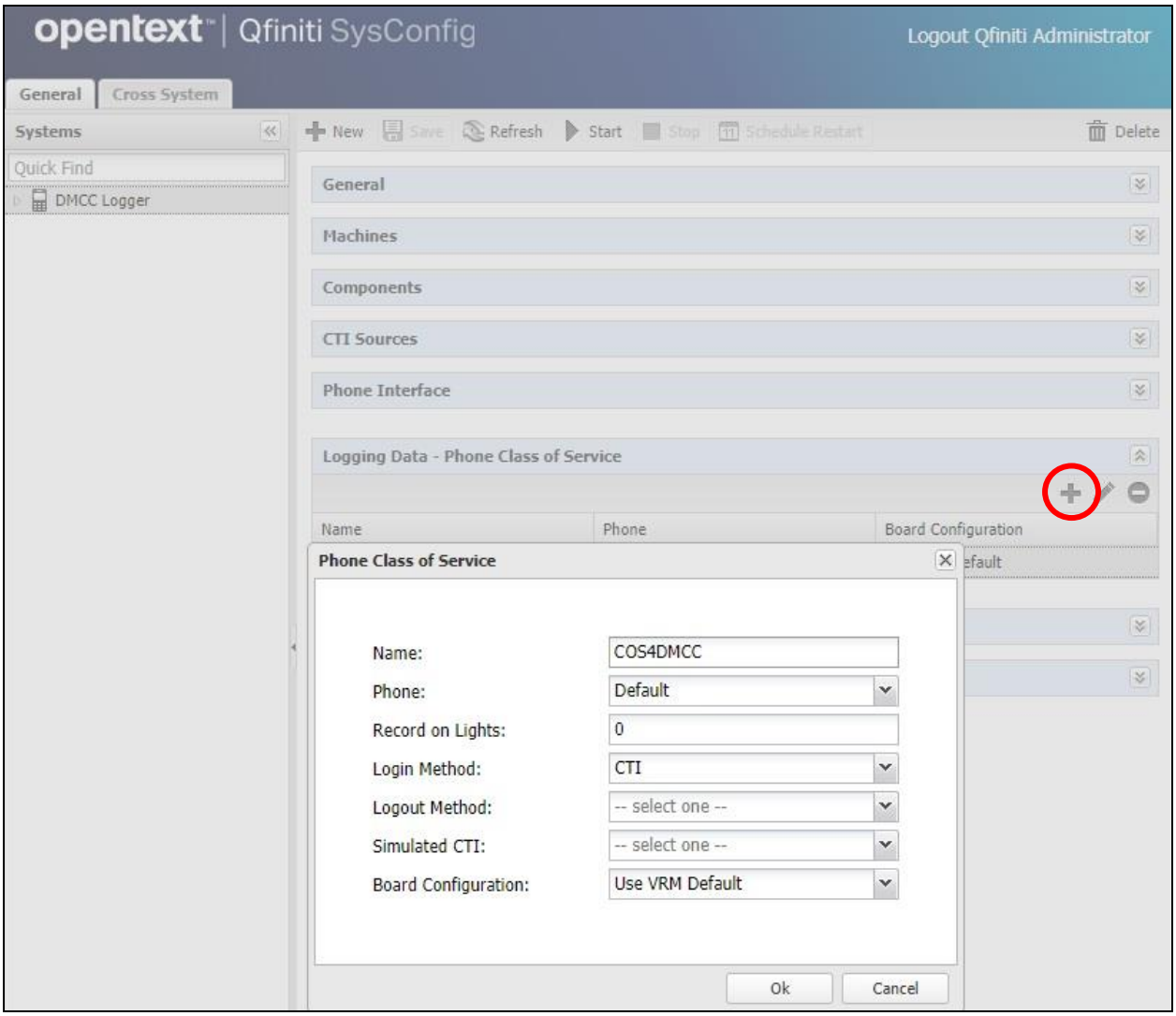
8.10. Administer Logging Data – Phone Class of Service

Expand the **Logging Data – Phone Class of Service** sub-section. Select the **New Item** icon. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Name:** A desired name, in this case "COS4DMCC".
- **Phone:** "Default"
- **Record on lights:** "0"
- **Login Method:** "CTI".



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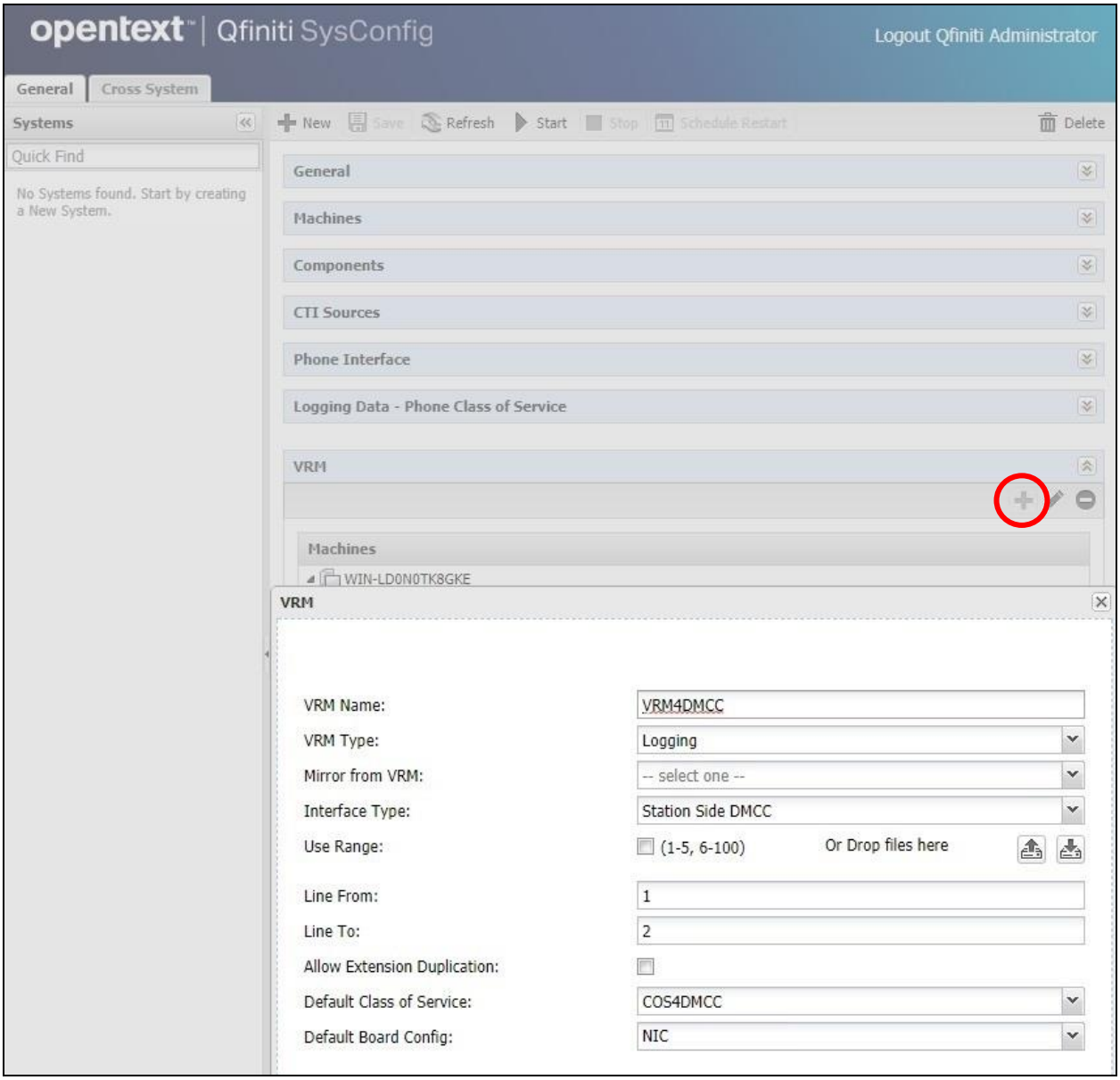
8.11. Administer VRM

Expand the **VRM** sub-section. Select the machine server name from **Section 8.6**, followed by the **Add VRM** icon. Enter the following values for the specified fields.

- **VRM Name:** A desired name, in this case "VRM4DMCC".
- **VRM Type:** "Logging"
- **Interface Type:** "Station Side DMCC"
- **Line From** and **Line To:** Range of agent stations, in this case two stations so "1" to "2".
- **Default Class of Service:** Select the phone class of service name from **Section 8.10**.
- **Default Board Config:** Select the board name from **Section 8.4**.



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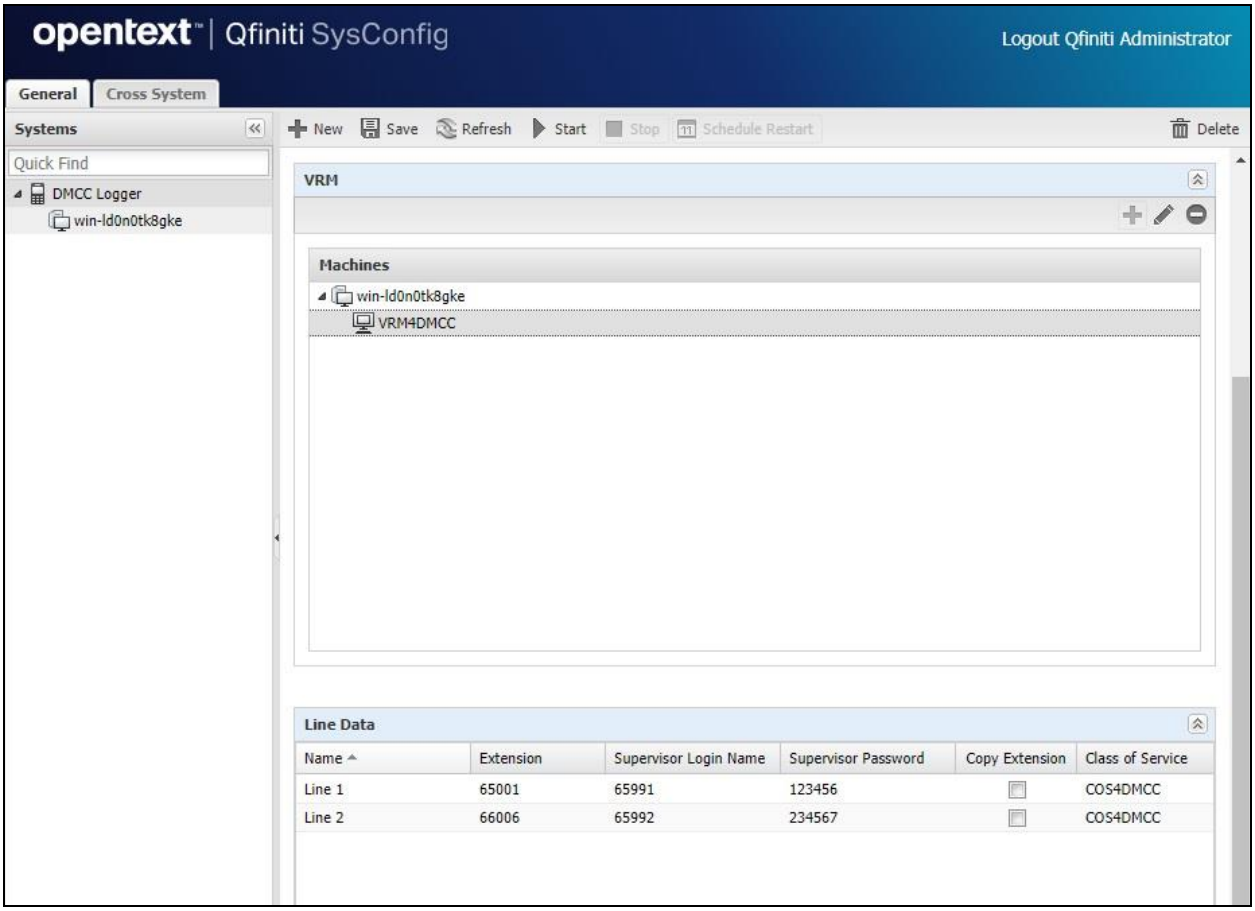
8.12. Administer Line Data

Select the newly added VRM from **Section 8.11**, and expand the **Line Data** sub-section. Select the first line. For **Extension**, enter the first agent station extension from **Section 3**. For **Supervisor Login Name** and **Supervisor Password**, enter the first virtual IP softphone extension and associated security code from **Section 5.7** respectively.

Repeat this section to administer all virtual IP softphones from **Section 5.7**, as shown below.



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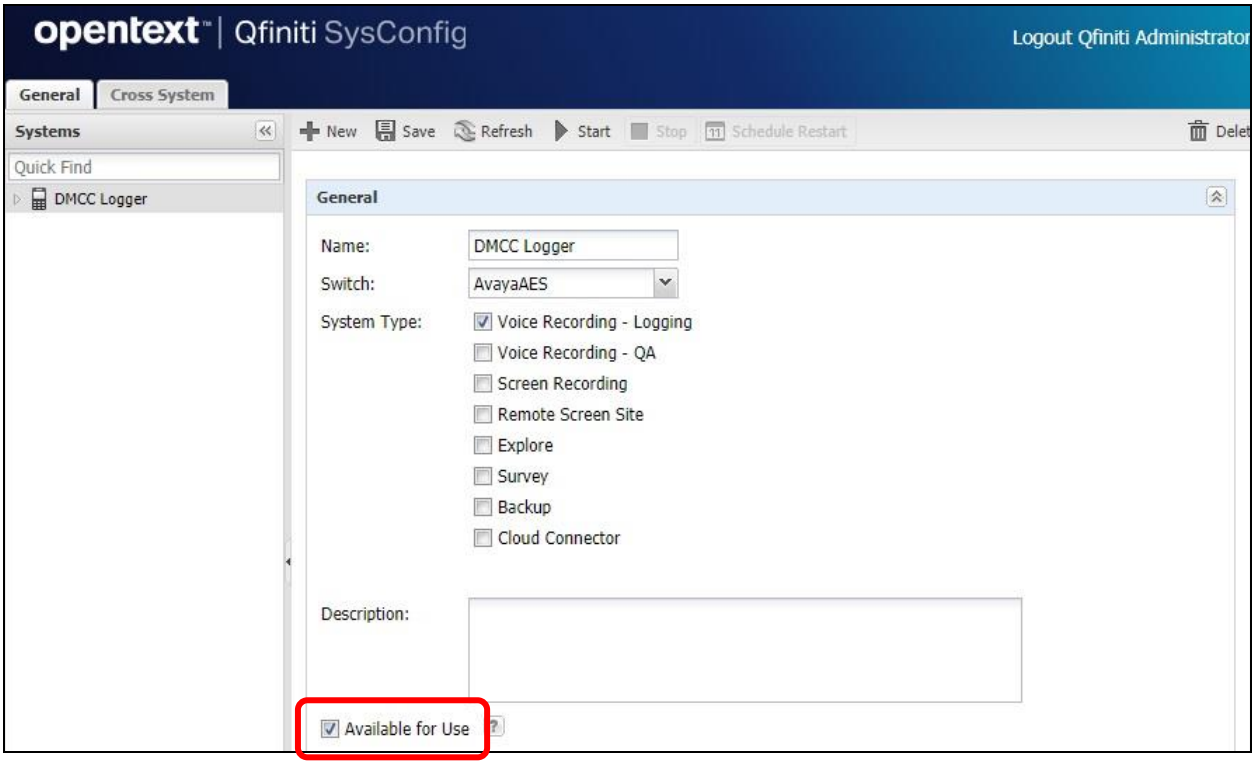
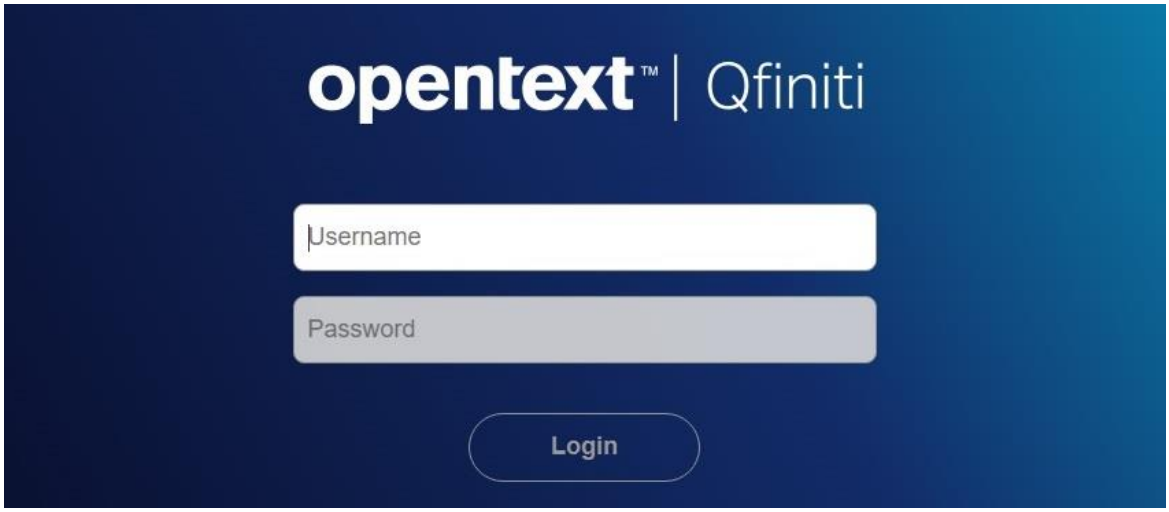
8.13. Enable Use

Scroll up the right pane and expand the **General** sub-section. Check **Available for Use**.



8.14. Launch Qfiniti Web Interface

Access the Qfiniti web interface by using the URL "http://ip-address/QWA/Login.aspx" in an Internet browser window, where "ip-address" is the IP address of the Qfiniti server. The screen below is displayed. Log in using the appropriate credentials.



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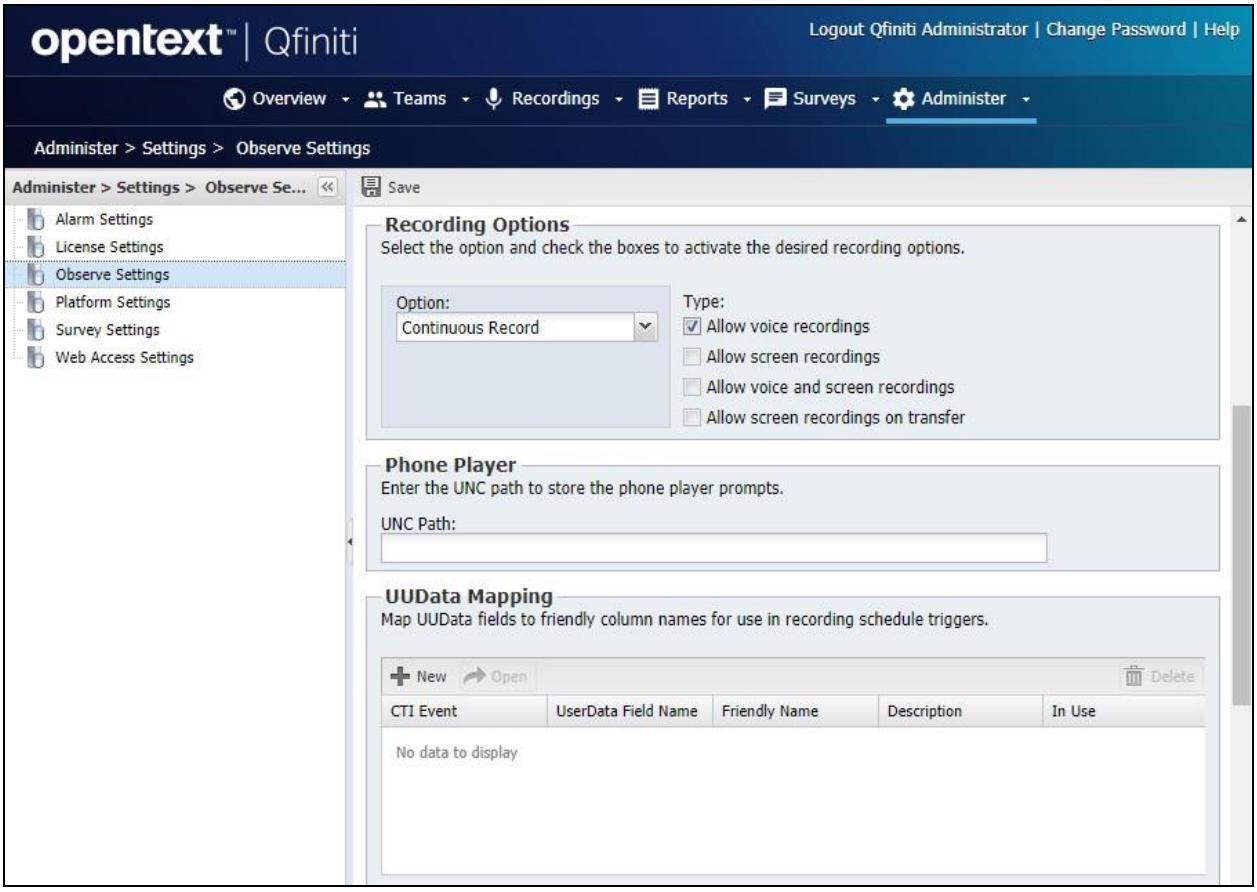
8.15. Administer Observe Settings

In the subsequent screen (not shown), select **Administer → Settings** from the top menu, followed by **Observe Settings** in the left pane.

Scroll down to the **Recording Options** sub-section. For **Option**, select "Continuous Record". For **Type**, check **Allow voice recordings**, as shown below. Retain the default values for the remaining fields.



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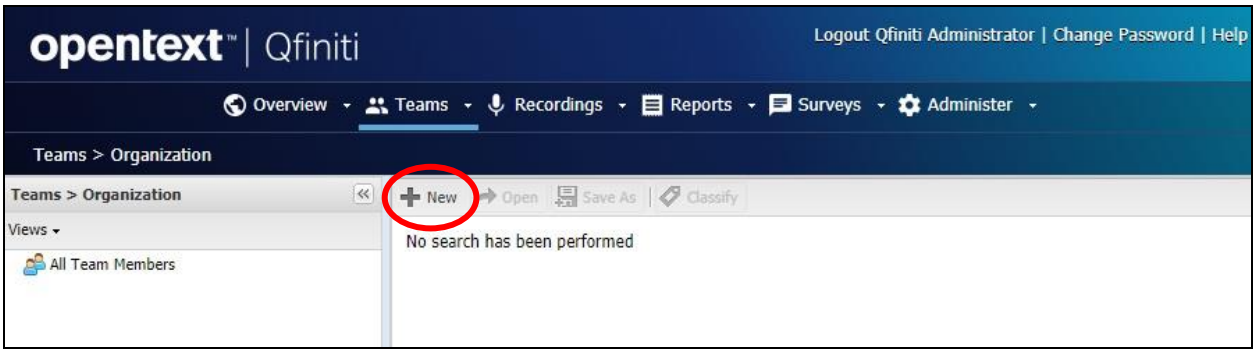
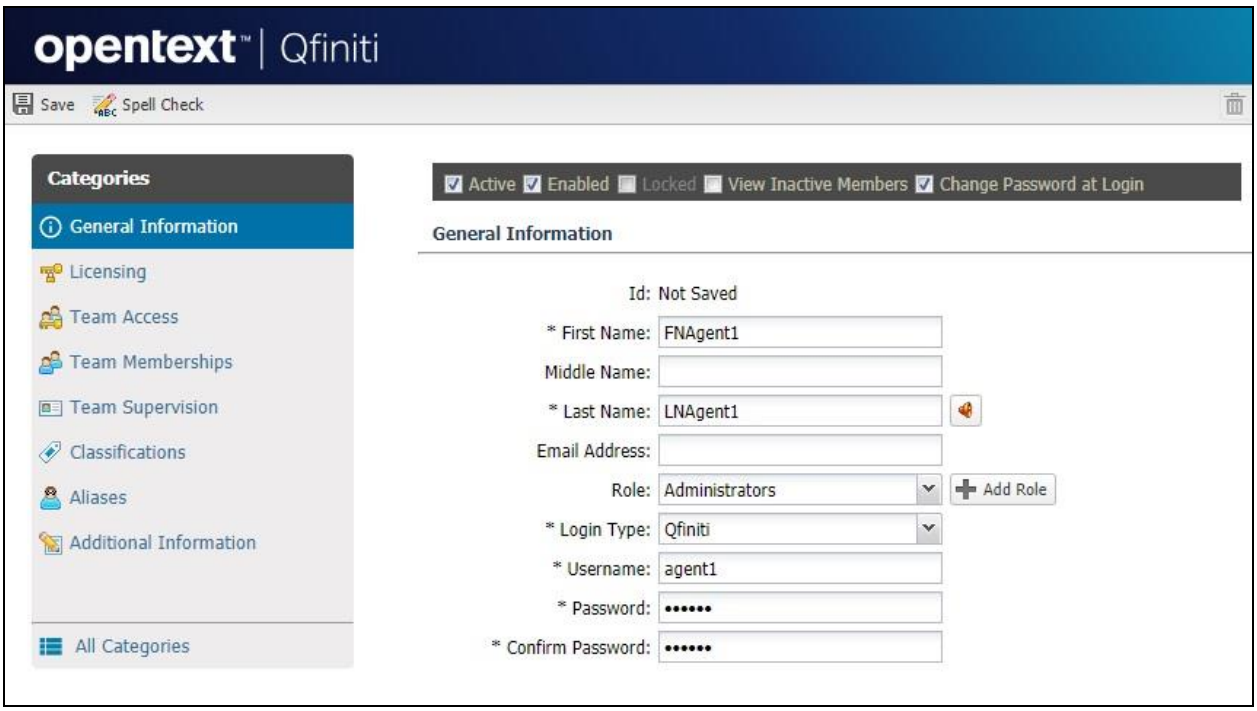
8.16. Administer Agents

Select **Teams → Organization** from the top menu to display the screen below. Select the **New** icon in the right pane to add an agent.



In the pop up screen below, enter the following values for the specified fields, and retain the default values for the remaining fields.

- **First Name:** A desired first name for the first agent line from **Section 8.128.12**.
- **Last Name:** A desired last name for the first agent line from **Section 8.12**.
- **Role:** Select a desired and existing role.
- **Login Type:** "Qfiniti"
- **Login ID:** The desired login credentials for the agent.
- **Password:** The desired login credentials for the agent.
- **Confirm Password:** The same desired login credential for the agent.



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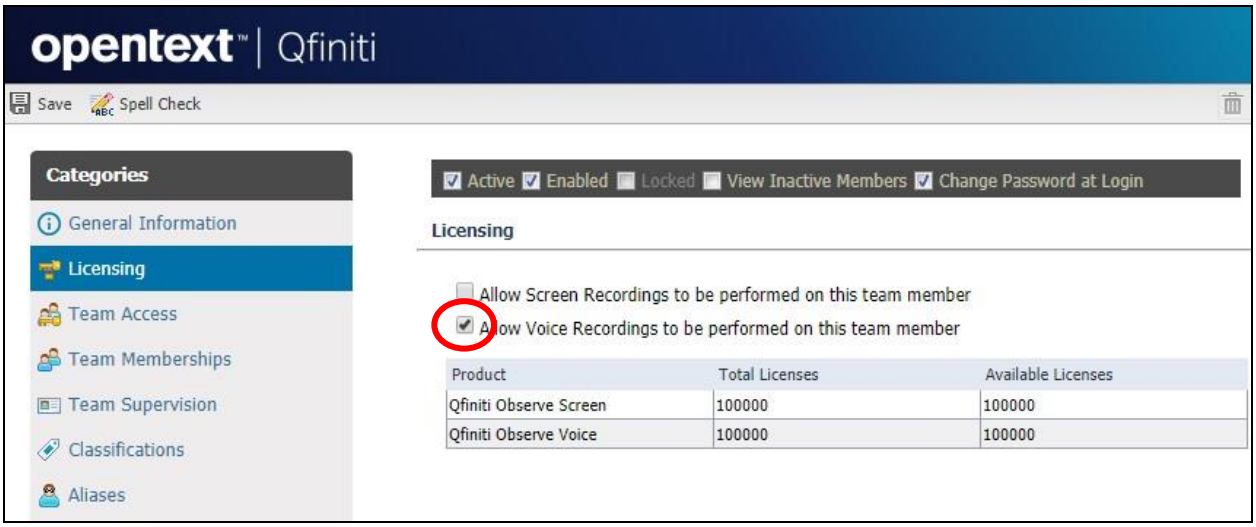
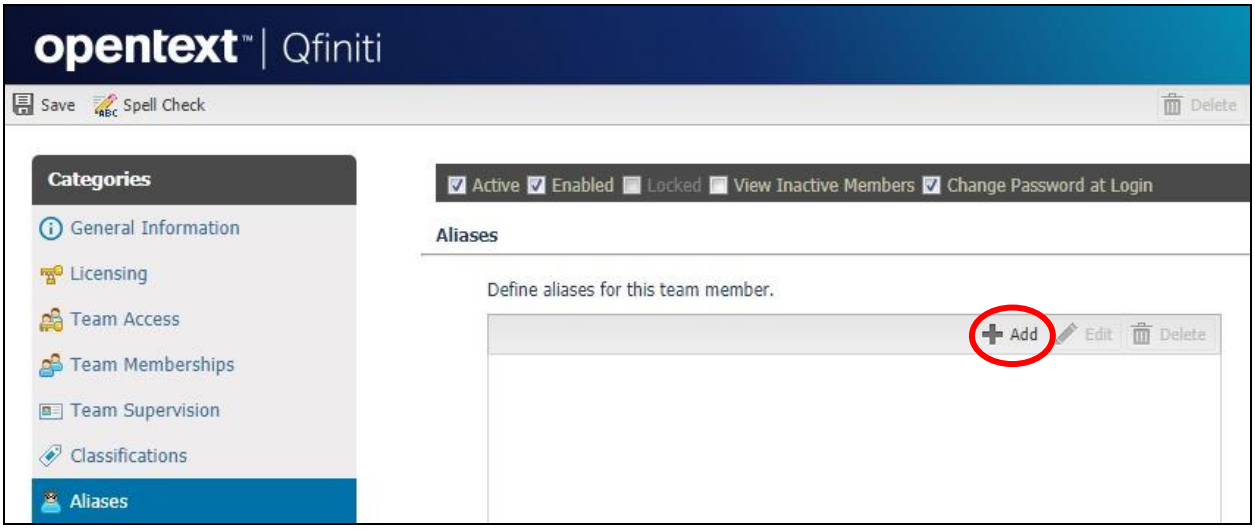
Select **Licensing** from the left pane to display the **Licensing** screen. Check **Allow Voice Recordings to be performed on this team member**, as shown below.



Follow reference [3] to configure subsequent steps for the new agent (not shown). Upon reaching the **Aliases** step, click the **Add** icon to create an alias.



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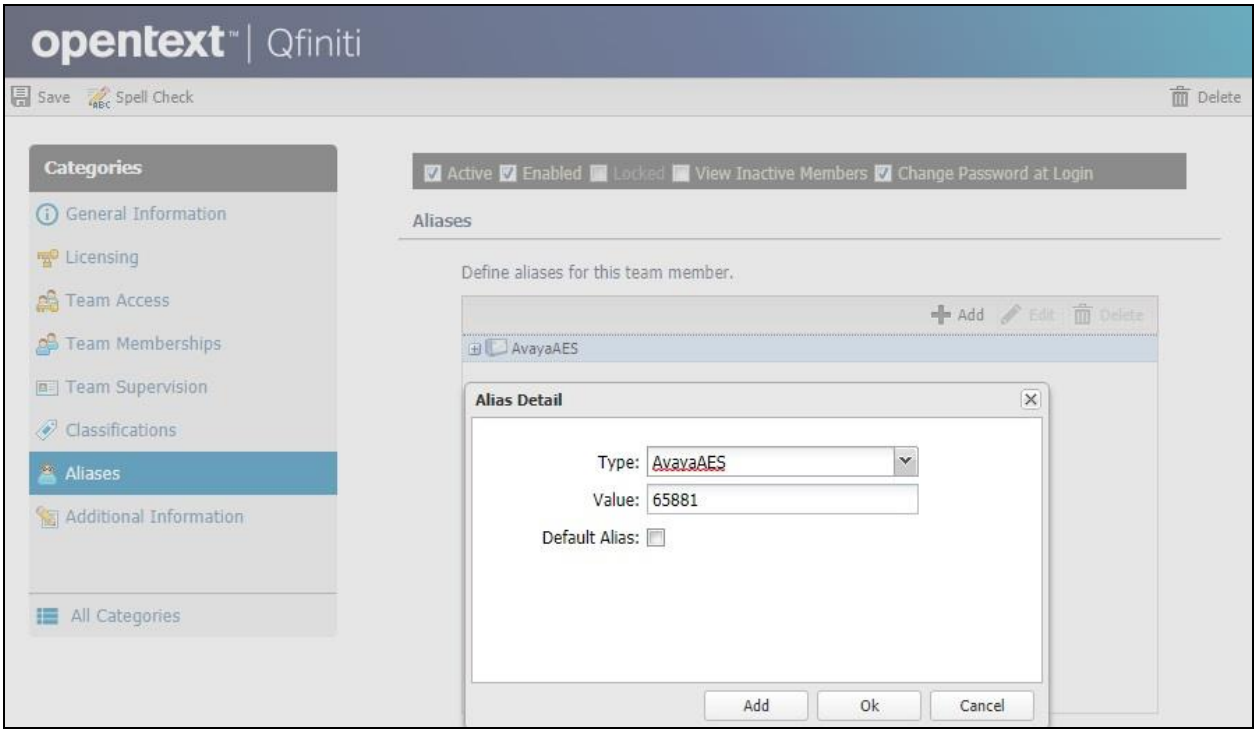
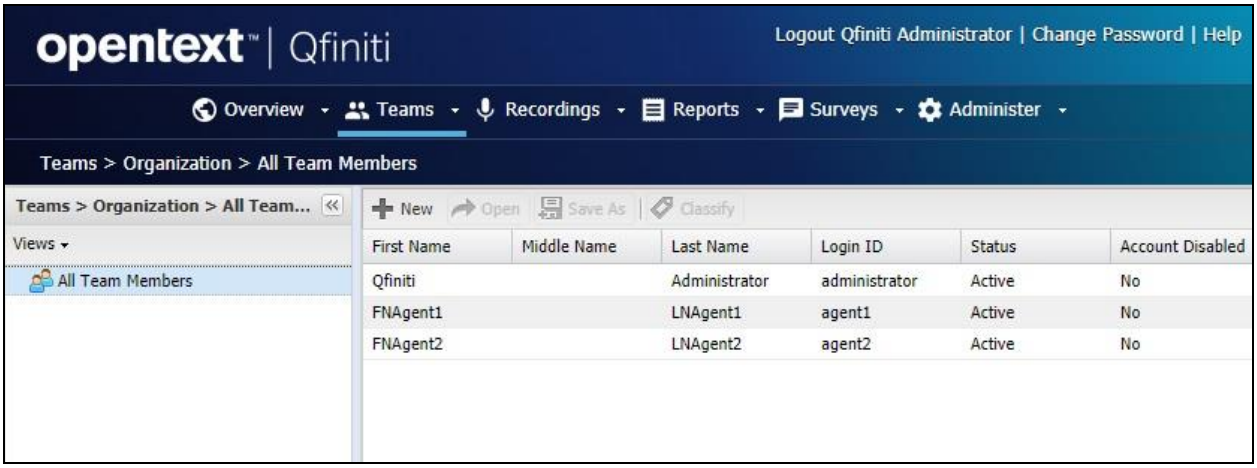
The **Alias Detail** pop up screen is displayed. For **Type**, select the switch server name from **Section 8.2**. For **Value**, enter the agent ID from **Section 3** that is used by the first agent in **Section 8.12**, in this case "65881". Retain the default value in the remaining field.



Repeat this section to add a team member for each agent line from **Section 8.12**. In the compliance testing, two team members with alias values "65881" and "65882" were configured.



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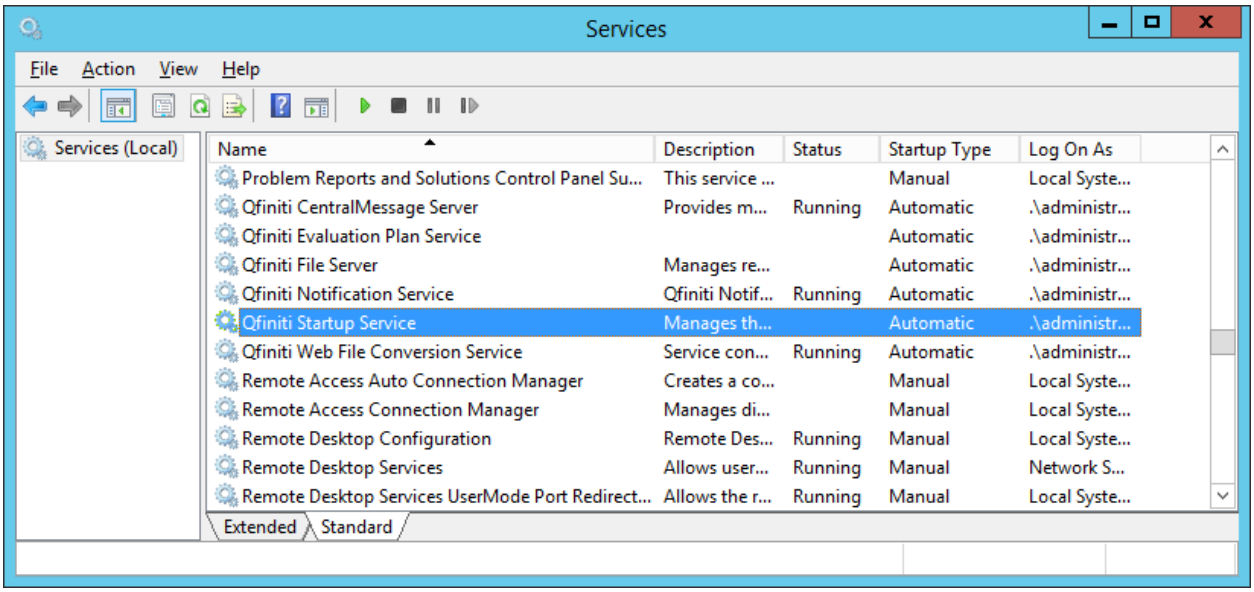
8.17. Start Services

From the Qfiniti server, select **Windows → Control Panel → Administrative Tools → Services** to display the **Services** screen. Start the **Qfiniti Startup Service** shown below.



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9. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Communication Manager, Application Enablement Services, and Qfiniti.

9.1. Verify Avaya Aura® Communication Manager

On Communication Manager, verify status of the administered CTI link by using the "status aesvcs cti-link" command. Verify that the **Service State** is "established" for the CTI link number administered in **Section 5.2**, as shown below.

```
status aesvcs cti-link

                        AE SERVICES CTI LINK STATUS

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

1     9        no    aes7             established   42       26
```

Verify registration status of the virtual IP softphones by using the "list registered-ip-stations" command. Verify that all virtual IP softphones from **Section 5.7** are displayed along with the IP address of the Application Enablement Services server, as shown below.

```
list registered-ip-stations

                           REGISTERED IP STATIONS

Station Ext      Set Type/ Prod ID/    Station IP Address/
or Orig Port     Net Rgn   Release     Gatekeeper IP Address
  Socket
65000            9641      IP_Phone    192.168.200.106
  tls            1         6.6604      10.64.101.236
65001            9611      IP_Phone    192.168.200.104
  tls            1         6.6604      10.64.101.236
65991            4620      IP_API_A    10.64.101.239
  tcp            1         3.2040      10.64.101.236
65992            4620      IP_API_A    10.64.101.239
  tcp            1         3.2040      10.64.101.236
```


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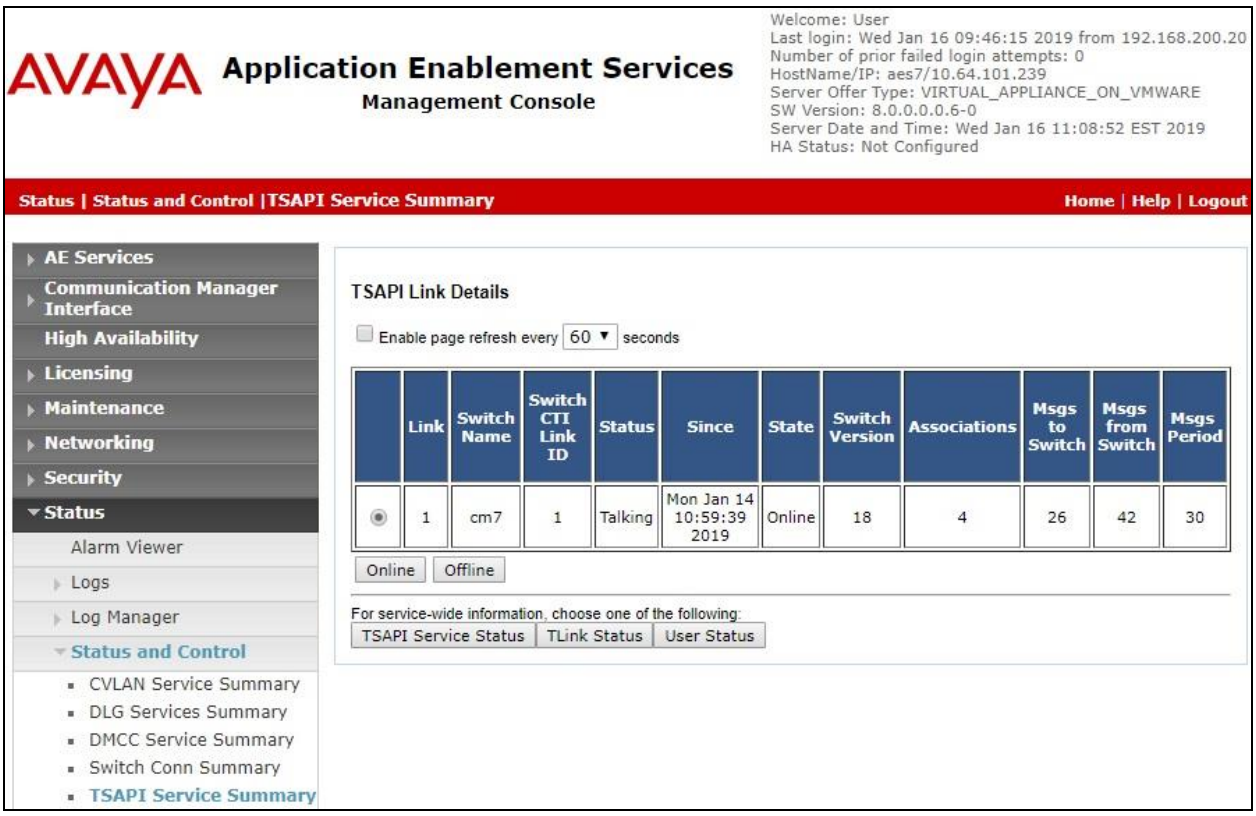
9.2. Verify Avaya Aura® Application Enablement Services

On Application Enablement Services, verify status of the TSAPI link by selecting **Status → Status and Control → TSAPI Service Summary** from the left pane. The **TSAPI Link Details** screen is displayed.

Verify the **Status** is "Talking" for the TSAPI link administered in **Section 6.3**, and that the **Associations** column reflects the total number of monitored skill groups and agent stations from **Section 3**, in this case "4", as shown below.



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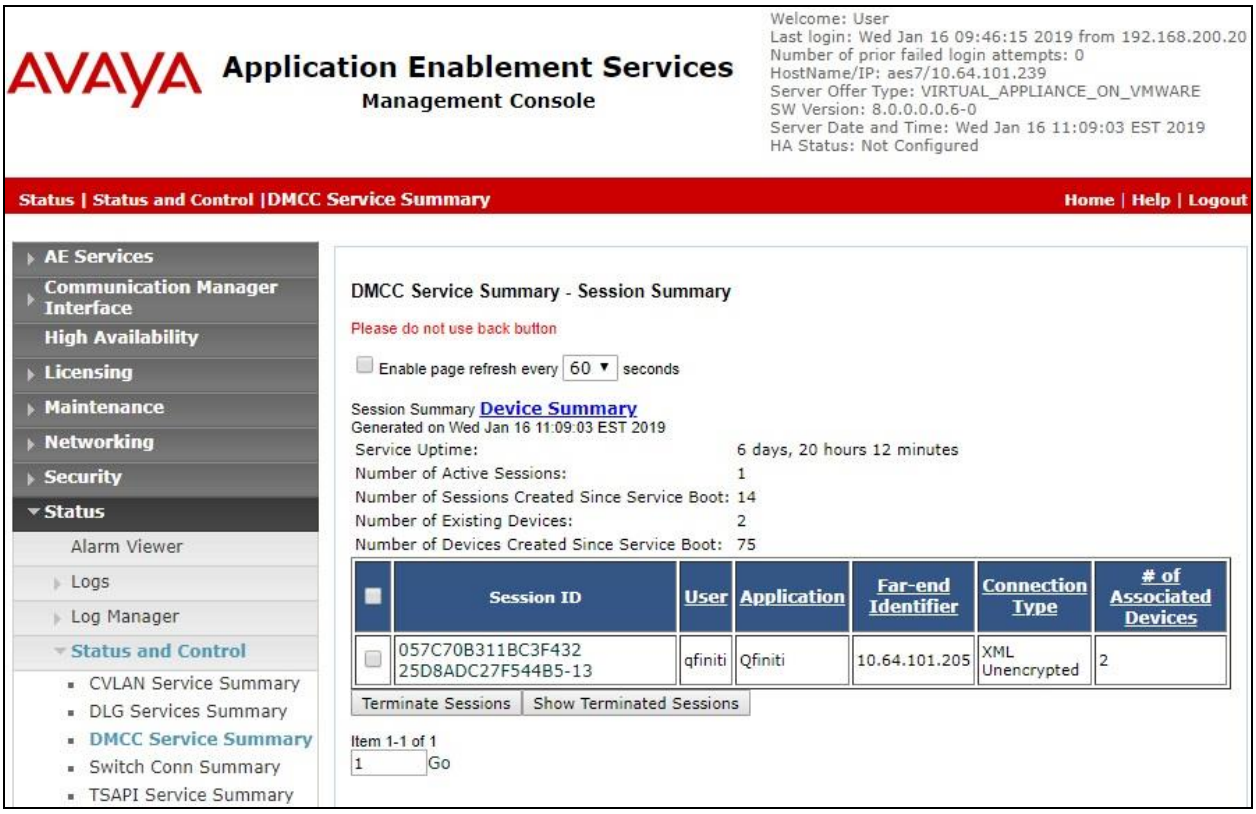
Verify status of the DMCC link by selecting **Status → Status and Control → DMCC Service Summary** from the left pane. The **DMCC Service Summary – Session Summary** screen is displayed.

Verify the **User** column shows an active session with the Qfiniti user name from **Section 6.5**, and that the **# of Associated Devices** column reflects the number of virtual IP softphones from **Section 5.7**, in this case "2", as shown below.



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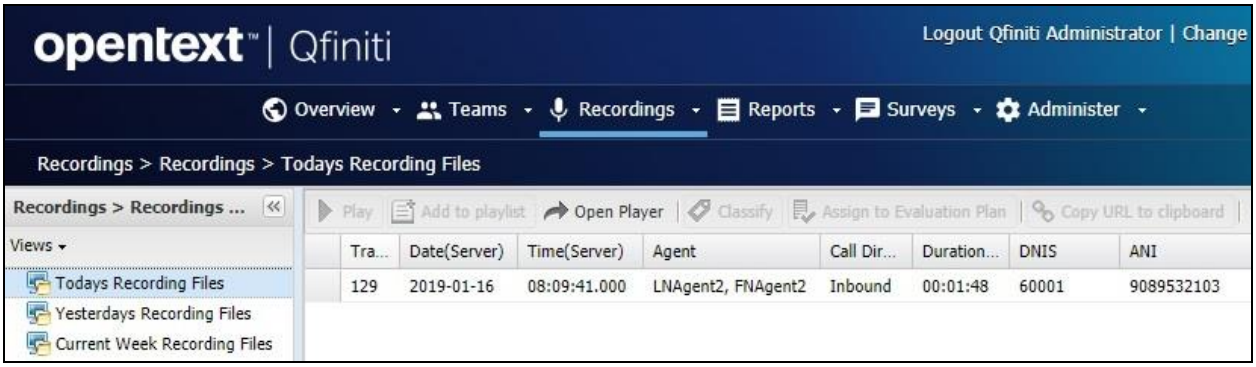
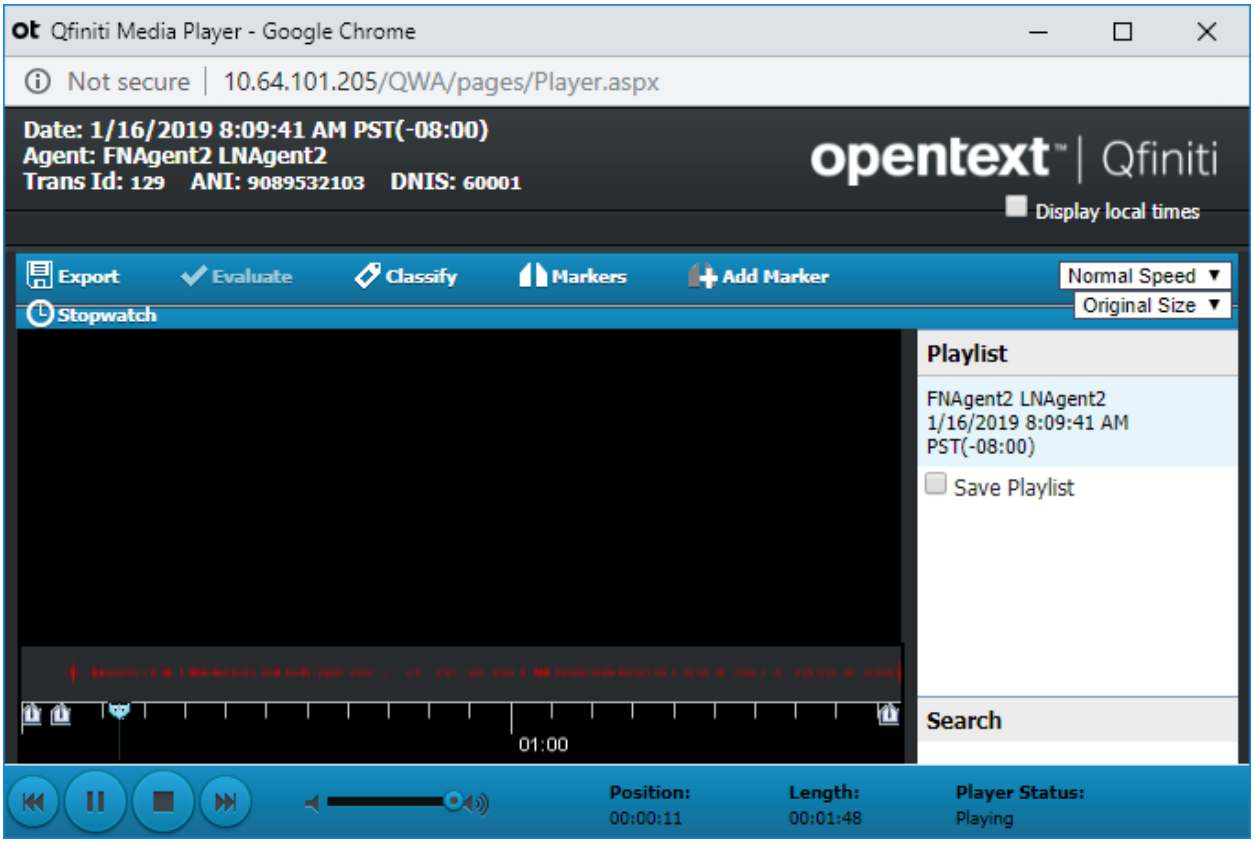
9.3. Verify OpenText Qfiniti

Log an agent in to handle and complete an ACD call. Follow the procedure in **Section 8.14** to launch the Qfiniti web interface, and log in using the appropriate user credentials.

Select **Recordings → Recordings** from the top menu, followed by **Todays Recording Files** from the left pane, to display a list of recordings for today. Verify that there is an entry reflecting the last call, with proper values in the relevant fields.



Double click on the entry, and verify that the recording can be played back.



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10. Conclusion

These Application Notes describe the configuration steps required for Qfiniti to successfully interoperate with Avaya Aura® Communication Manager and Avaya Aura® Application Enablement Services using Service Observing. All feature and serviceability test cases were completed with observations noted in **Section 2.2**.

11. Additional References

This section references the product documentation relevant to these Application Notes.

1. *Administering Avaya Aura® Communication Manager*, Release 8.0, Issue 2.1, November 2018, available at http://support.avaya.com.

2. *Administering Aura® Application Enablement Services*, Release 8.0, Issue 1, July 2018, available at http://support.avaya.com.

3. *OpenText Qfiniti User Guide*, Version 16.5, October 2018, available to existing customers at https://knowledge.opentext.com/knowledge.

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