



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.

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.

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.

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>

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

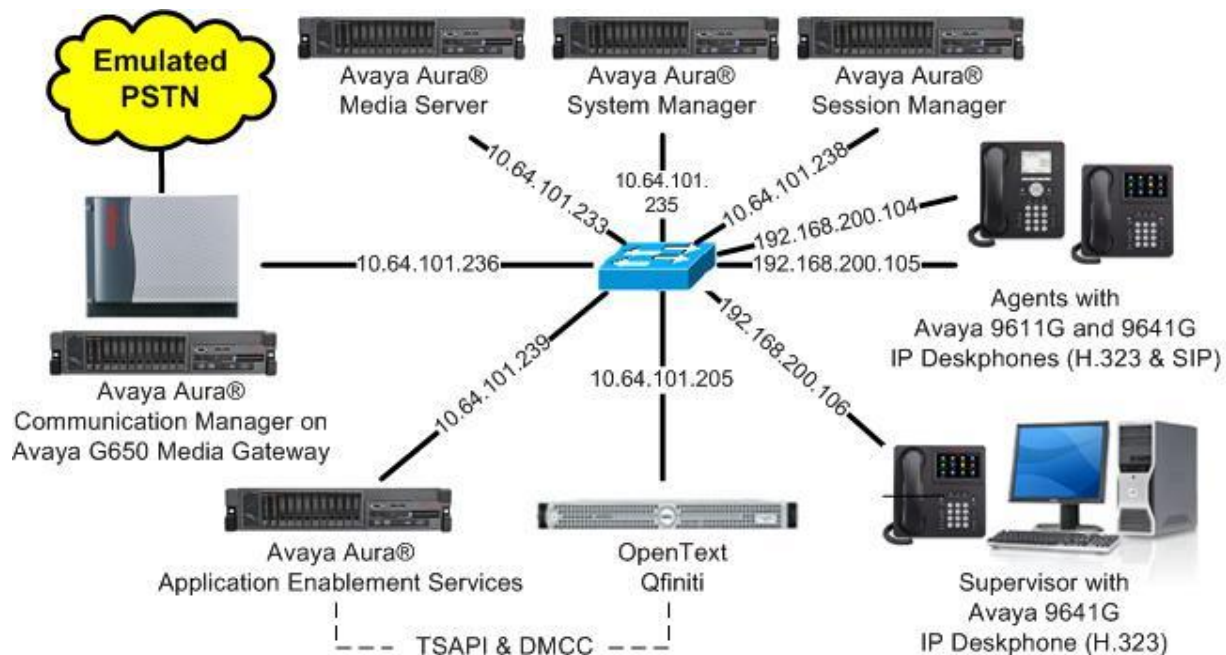


Figure 1: Compliance Testing Configuration

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 <ul style="list-style-type: none">Avaya TSAPI Windows Client (csta32.dll)Avaya DMCC XML	16.5.0 Standard 8.0.0.38 7.0.0.38

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		

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:
```


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
```

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

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:			

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/ Hunt-to	Port/ Type	Name/ Surv GK NN	Move	Cable	Room/ Jack	Cv1/ Cv2	COS	COR/ TN		
65991	S00126	Qfiniti DMCC 1						2		
	4620		no					1	1	
65992	S00127	Qfiniti DMCC 1						2		
	4620		no					1	1	

6. Configure Avaya Aura® Application Enablement Services

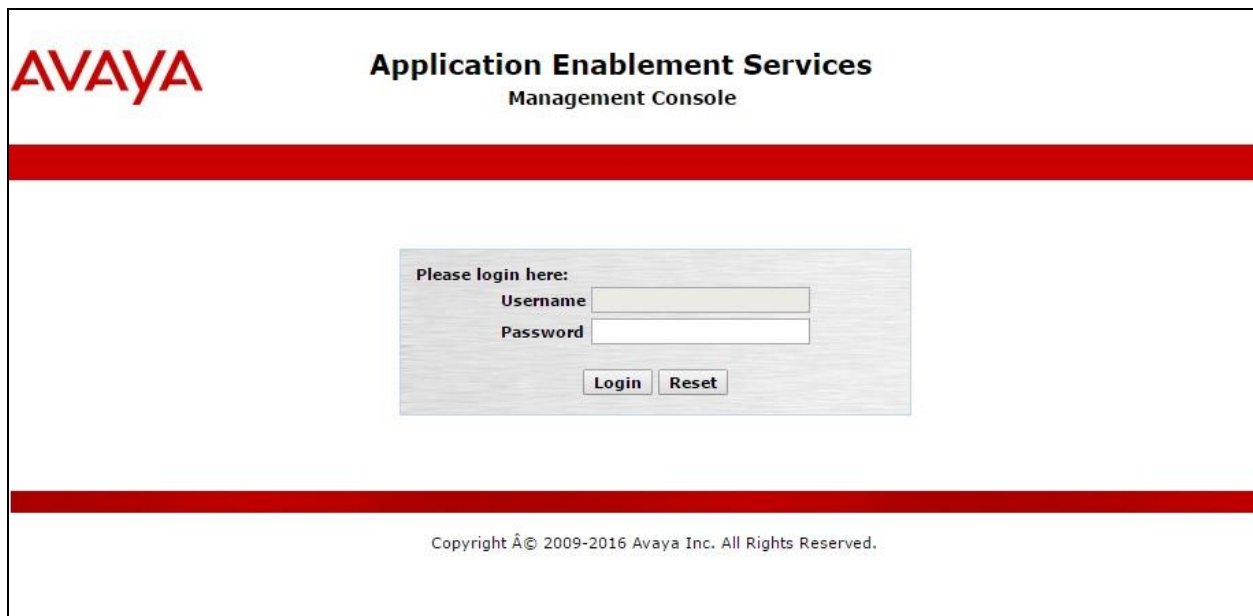
This section provides the procedures for configuring Application Enablement Services. The procedures include the following areas:

- 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.



The screenshot shows the Avaya Application Enablement Services Management Console login interface. At the top left is the Avaya logo. To its right, the text "Application Enablement Services" is displayed in a large, bold font, with "Management Console" in a smaller font below it. A thick red horizontal bar spans the width of the page. Below this bar is a light gray rectangular box containing the login form. The form has the text "Please login here:" followed by two input fields: "Username" and "Password". Below these fields are two buttons: "Login" and "Reset". Another thick red horizontal bar is located below the login box. At the bottom of the page, centered, is the copyright notice: "Copyright © 2009-2016 Avaya Inc. All Rights Reserved."

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

The screenshot shows the Avaya Application Enablement Services Management Console. The top header includes the Avaya logo and the title "Application Enablement Services Management Console". On the right, a welcome message for the user is displayed, including login details and system information. The left sidebar contains a navigation menu with options like AE Services, Communication Manager Interface, High Availability, Licensing, Maintenance, Networking, Security, Status, User Management, Utilities, and Help. The main content area displays the "Welcome to OAM" message, explaining the purpose of the console and listing the administrative domains it manages: AE Services, Communication Manager Interface, High Availability, Licensing, Maintenance, Networking, Security, Status, User Management, Utilities, and Help. It also notes that these domains can be managed by a single administrator or separate administrators.

Welcome: User
Last login: Wed Jan 9 10:34:16 2019 from 192.168.200.20
Number of prior failed login attempts: 0
HostName/IP: aes7/10.64.101.239
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.0.0.0.0.6-0
Server Date and Time: Wed Jan 09 10:59:15 EST 2019
HA Status: Not Configured

Home | Help | Logout

AE Services
Communication Manager Interface
High Availability
Licensing
Maintenance
Networking
Security
Status
User Management
Utilities
Help

Welcome to OAM

The AE Services Operations, Administration, and Management (OAM) Web provides you with tools for managing the AE Server. OAM spans the following administrative domains:

- AE Services - Use AE Services to manage all AE Services that you are licensed to use on the AE Server.
- Communication Manager Interface - Use Communication Manager Interface to manage switch connection and dialplan.
- High Availability - Use High Availability to manage AE Services HA.
- Licensing - Use Licensing to manage the license server.
- Maintenance - Use Maintenance to manage the routine maintenance tasks.
- Networking - Use Networking to manage the network interfaces and ports.
- Security - Use Security to manage Linux user accounts, certificate, host authentication and authorization, configure Linux-PAM (Pluggable Authentication Modules for Linux) and so on.
- Status - Use Status to obtain server status informations.
- User Management - Use User Management to manage AE Services users and AE Services user-related resources.
- Utilities - Use Utilities to carry out basic connectivity tests.
- Help - Use Help to obtain a few tips for using the OAM Help system

Depending on your business requirements, these administrative domains can be served by one administrator for all domains, or a separate administrator for each domain.

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).

The screenshot shows the Avaya Application Enablement Services Management Console with the "Licensing" section selected in the left sidebar. The main content area displays the "Licensing" page, which provides instructions on how to set up and maintain the WebLM, including the use of WebLM Server Address, WebLM Server Access, and Reserved Licenses. The left sidebar also shows the "WebLM Server Access" option under the "Licensing" section.

Welcome: User
Last login: Wed Jan 9 10:34:16 2019 from 192.168.200.20
Number of prior failed login attempts: 0
HostName/IP: aes7/10.64.101.239
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.0.0.0.0.6-0
Server Date and Time: Wed Jan 09 10:59:15 EST 2019
HA Status: Not Configured

Licensing | Home | Help | Logout

AE Services
Communication Manager Interface
High Availability
Licensing
WebLM Server Address
WebLM Server Access
Reserved Licenses
Maintenance
Networking

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

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.

The screenshot shows the Avaya Aura System Manager 8.0 interface. The left pane displays a navigation tree with the following items: WebLM Home, Install license, Licensed products, APPL_ENAB, Application_Enablement (expanded), View by feature, View by local WebLM, Enterprise configuration, Local WebLM Configuration, Usages, Allocations, Periodic status, COMMUNICATION_MANAGER, Call_Center, Communication_Manager, MESSAGING, Messaging, and MSR. The right pane displays the 'Application Enablement (CTI) - Release: 8 - SID: 10503000 (Enterprise license file)' screen. It includes a breadcrumb trail 'You are here: Licensed Products > Application_Enablement > View by Feature', the license installation date 'October 13, 2018 3:09:09 AM +00:00', and a text box for 'License File Host IDs: V4-42-5D-06-BF-08-01'. Below this is a table listing features and their license capacities.

Feature (License Keyword)	License Capacity
Unified CC API Desktop Edition (VALUE_AES_AEC_UNIFIED_CC_DESKTOP)	1000
CVLAN ASAI (VALUE_AES_CVLAN_ASAI)	16
Device Media and Call Control (VALUE_AES_DMCC_DMC)	1000
AES ADVANCED SMALL SWITCH (VALUE_AES_AEC_SMALL_ADVANCED)	3
DLG (VALUE_AES_DLG)	16
TSAPI Simultaneous Users (VALUE_AES_TSAPI_USERS)	1000
AES ADVANCED LARGE SWITCH (VALUE_AES_AEC_LARGE_ADVANCED)	3
CVLAN Proprietary Links (VALUE_AES_PROPRIETARY_LINKS)	16

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 screenshot shows the AVAYA Application Enablement Services Management Console. The top header includes the AVAYA logo and the text "Application Enablement Services Management Console". On the right, a welcome message for "User" is displayed, along with login details: "Last login: Wed Jan 9 10:34:16 2019 from 192.168.200.20", "Number of prior failed login attempts: 0", "HostName/IP: aes7/10.64.101.239", "Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE", "SW Version: 8.0.0.0.6-0", "Server Date and Time: Wed Jan 09 10:59:15 EST 2019", and "HA Status: Not Configured". The main navigation bar shows "AE Services | TSAPI | TSAPI Links" and "Home | Help | Logout". The left sidebar lists "AE Services" with sub-items: CVLAN, DLG, DMCC, SMS, TSAPI (expanded), TSAPI Links (selected), and TSAPI Properties. The main content area is titled "TSAPI Links" and contains a table with columns: Link, Switch Connection, Switch CTI Link #, ASAI Link Version, and Security. Below the table are buttons for "Add Link", "Edit Link", and "Delete 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.

The screenshot shows the AVAYA Application Enablement Services Management Console with the "Add TSAPI Links" screen. The top header and welcome message are the same as in the previous screenshot. The main navigation bar shows "AE Services | TSAPI | TSAPI Links" and "Home | Help | Logout". The left sidebar lists "AE Services" with sub-items: CVLAN, DLG, DMCC, SMS, TSAPI (expanded), TSAPI Links (selected), TSAPI Properties, TWS, and Communication Manager Interface. The main content area is titled "Add TSAPI Links" and contains form fields for: Link (dropdown menu with value 1), Switch Connection (dropdown menu with value cm7), Switch CTI Link Number (dropdown menu with value 1), ASAI Link Version (dropdown menu with value 9), and Security (dropdown menu with value Unencrypted). Below the form fields are buttons for "Apply Changes" and "Cancel Changes".

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 screenshot shows the Avaya Application Enablement Services Management Console. The top right corner displays user information: Welcome: User, Last login: Wed Jan 9 10:34:16 2019 from 192.168.200.20, Number of prior failed login attempts: 0, HostName/IP: aes7/10.64.101.239, Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE, SW Version: 8.0.0.0.6-0, Server Date and Time: Wed Jan 09 10:59:15 EST 2019, HA Status: Not Configured. The main header is "Communication Manager Interface | Switch Connections" with links for Home, Help, and Logout. The left sidebar shows a navigation menu with "Communication Manager Interface" expanded, highlighting "Switch Connections". The main content area is titled "Switch Connections" and contains a table with the following data:

Connection Name	Processor Ethernet	Msg Period	Number of Active Connections
<input checked="" type="radio"/> cm7	Yes	30	1

Below the table are buttons: "Add Connection", "Edit Connection", "Edit PE/CLAN IPs", "Edit H.323 Gatekeeper", "Delete Connection", and "Survivability Hierarchy".

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**.

The screenshot shows the "Edit H.323 Gatekeeper - cm7" screen. The top right corner displays the same user information as the previous screen. The main header is "Communication Manager Interface | Switch Connections" with links for Home, Help, and Logout. The left sidebar shows the same navigation menu. The main content area is titled "Edit H.323 Gatekeeper - cm7" and contains a text input field with the value "10.64.101.236" and a button "Add Name or IP". Below the input field is the label "Name or IP Address" and two buttons: "Delete IP" and "Back".

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.

AVAYA **Application Enablement Services**
Management Console

Welcome: User
Last login: Wed Jan 9 10:34:16 2019 from 192.168.200.20
Number of prior failed login attempts: 0
HostName/IP: aes7/10.64.101.239
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.0.0.0.6-0
Server Date and Time: Wed Jan 09 11:00:46 EST 2019
HA Status: Not Configured

User Management | User Admin | Add UserHome | Help | Logout

▶ AE Services

▶ Communication Manager Interface

▶ High Availability

▶ Licensing

▶ Maintenance

▶ Networking

▶ Security

▶ Status

▼ User Management

▶ Service Admin

▼ User Admin

■ Add User

■ Change User Password

■ List All Users

■ Modify Default Users

■ Search Users

▶ Utilities

▶ Help

Add User

Fields marked with * can not be empty.

* User Idqfiniti

* Common Nameqfiniti

* Surnameqfiniti

* User Password*****

* Confirm Password*****

Admin Note

Avaya RoleNone ▼

Business Category

Car License

CM Home

Css Home

CT UserYes ▼

Department Number

Display Name

Employee Number

Employee Type

Enterprise Handle

Given Name

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**.

The screenshot displays the Avaya Application Enablement Services Management Console. The top header includes the Avaya logo and the title "Application Enablement Services Management Console". A welcome message in the top right corner states: "Welcome: User", "Last login: Wed Jan 9 10:34:16 2019 from 192.168.200.20", "Number of prior failed login attempts: 0", "HostName/IP: aes7/10.64.101.239", "Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE", "SW Version: 8.0.0.0.6-0", "Server Date and Time: Wed Jan 09 10:59:15 EST 2019", and "HA Status: Not Configured".

The main navigation bar is red and contains the text "Security | Security Database | Control" on the left and "Home | Help | Logout" on the right. The left sidebar is a dark grey menu with the following items: "AE Services", "Communication Manager Interface", "High Availability", "Licensing", "Maintenance", "Networking", "Security" (expanded), "Account Management", "Audit", "Certificate Management", "Enterprise Directory", "Host AA", "PAM", "Security Database" (expanded), and "Control" (selected).

The main content area is titled "SDB Control for DMCC, TSAPI, JTAPI and Telephony Web Services". It contains two unchecked checkboxes: "Enable SDB for DMCC Service" and "Enable SDB for TSAPI Service, JTAPI and Telephony Web Services". Below these checkboxes is an "Apply Changes" button.

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**.

AVAYA **Application Enablement Services**
Management Console

Welcome: User
Last login: Wed Jan 9 10:34:16 2019 from 192.168.200.20
Number of prior failed login attempts: 0
HostName/IP: aes7/10.64.101.239
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.0.0.0.6-0
Server Date and Time: Wed Jan 09 10:59:15 EST 2019
HA Status: Not Configured

Maintenance | Service Controller

Home | Help | Logout

▶ AE Services

▶ Communication Manager Interface

High Availability

▶ Licensing

▼ Maintenance

Date Time/NTP Server

▶ Security Database

Service Controller

▶ Server Data

▶ Networking

▶ Security

▶ Status

Service Controller

Service	Controller Status
<input type="checkbox"/> ASAI Link Manager	Running
<input checked="" type="checkbox"/> DMCC Service	Running
<input type="checkbox"/> CVLAN Service	Running
<input type="checkbox"/> DLG Service	Running
<input type="checkbox"/> Transport Layer Service	Running
<input checked="" type="checkbox"/> TSAPI Service	Running

For status on actual services, please use [Status and Control](#)

StartStopRestart ServiceRestart AE ServerRestart LinuxRestart Web Server

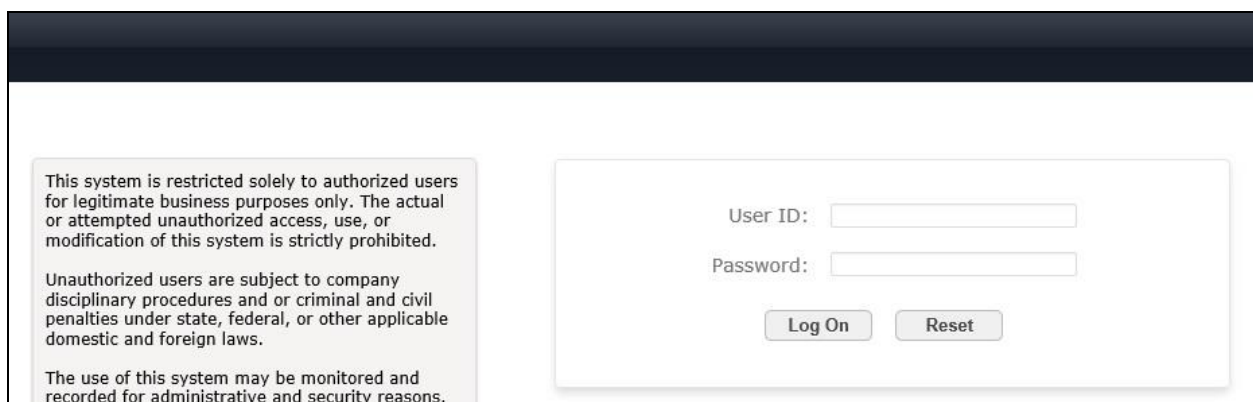
7. Configure Avaya Aura® Session Manager

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

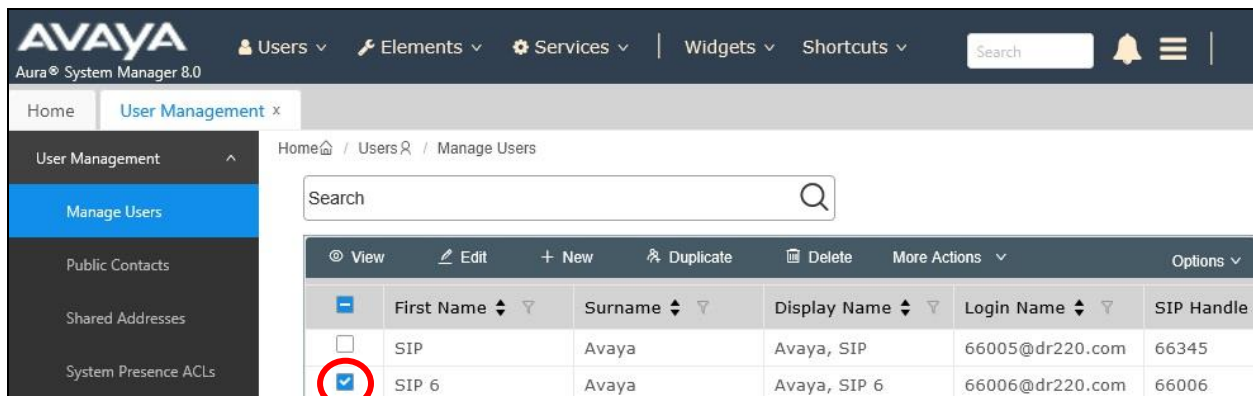
7.1. Launch System Manager

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**.



	First Name	Surname	Display Name	Login Name	SIP Handle
<input type="checkbox"/>	SIP	Avaya	Avaya, SIP	66005@dr220.com	66345
<input checked="" type="checkbox"/>	SIP 6	Avaya	Avaya, SIP 6	66006@dr220.com	66006

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.

The screenshot shows the Avaya Aura System Manager 8.0 interface. The top navigation bar includes the Avaya logo, "Aura® System Manager 8.0", and tabs for Users, Elements, Services, Widgets, and Shortcuts. A search bar and notification bell are also present. The left sidebar shows the "User Management" menu with options like "Manage Users", "Public Contacts", "Shared Addresses", "System Presence ACLs", and "Communication Profile...". The main content area is titled "User Profile | Edit | 66006@dr220.com" and features tabs for Identity, Communication Profile, Membership, and Contacts. The "Communication Profile" tab is active, showing fields for "System" (DR-CM), "Profile Type" (Endpoint), "Extension" (66006), "Set Type" (9641SIPCC), "Port" (S00018), "Preferred Handle" (Select), and "Sip Trunk" (aar). The "CM Endpoint Profile" is highlighted in the left sidebar. The "Extension" field has an Editor icon circled in red.

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.

The screenshot shows the Avaya Aura System Manager 8.0 interface. The top navigation bar includes the Avaya logo, 'Aura® System Manager 8.0', and tabs for Users, Elements, Services, Widgets, and Shortcuts. A search bar and a notification bell are on the right. The left sidebar shows a 'User Management' menu with options like 'Manage Users', 'Public Contacts', 'Shared Addresses', 'System Presence ACLs', and 'Communication Profile...'. The main content area is titled 'User Profile | Edit | 66006@dr220.com' and has tabs for Identity, Communication Profile, Membership, and Contacts. The 'Communication Profile' tab is active, showing various configuration fields. A red box highlights the 'Type of 3PCC Enabled' dropdown, which is currently set to 'Avaya'. Other fields include 'Class of Restriction (COR)', 'Emergency Location Ext', 'Tenant Number', 'SIP Trunk', 'Coverage Path 1', 'Lock Message', 'Multibyte Language', 'Class Of Service (COS)', 'Message Lamp Ext.', 'Coverage Path 2', 'Localized Display Name', 'Enable Reachability for Station Domain Control', 'SIP URI', 'Primary Session Manager' (with IPv4 and IPv6 fields), and 'Secondary Session Manager'.

General Options (G) *		Feature Options (F)		Site Data (S)		Abbreviated Call Dialing (A)	
Enhanced Call Fwd (E)		Button Assignment (B)		Profile Settings (P)		Group Membership (M)	
* Class of Restriction (COR)	1	* Class Of Service (COS)	1				
* Emergency Location Ext	66006	* Message Lamp Ext.	66006				
* Tenant Number	1	Type of 3PCC Enabled		Avaya			
* SIP Trunk	Qaar	Coverage Path 2					
Coverage Path 1		Localized Display Name		Avaya, SIP 6			
Lock Message	<input type="checkbox"/>	Enable Reachability for Station Domain Control		system			
Multibyte Language	Not Applicable						
SIP URI							
Primary Session Manager							
IPv4:		10.64.101.238		IPv6:			
Secondary Session Manager							

8. Configure OpenText Qfiniti

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

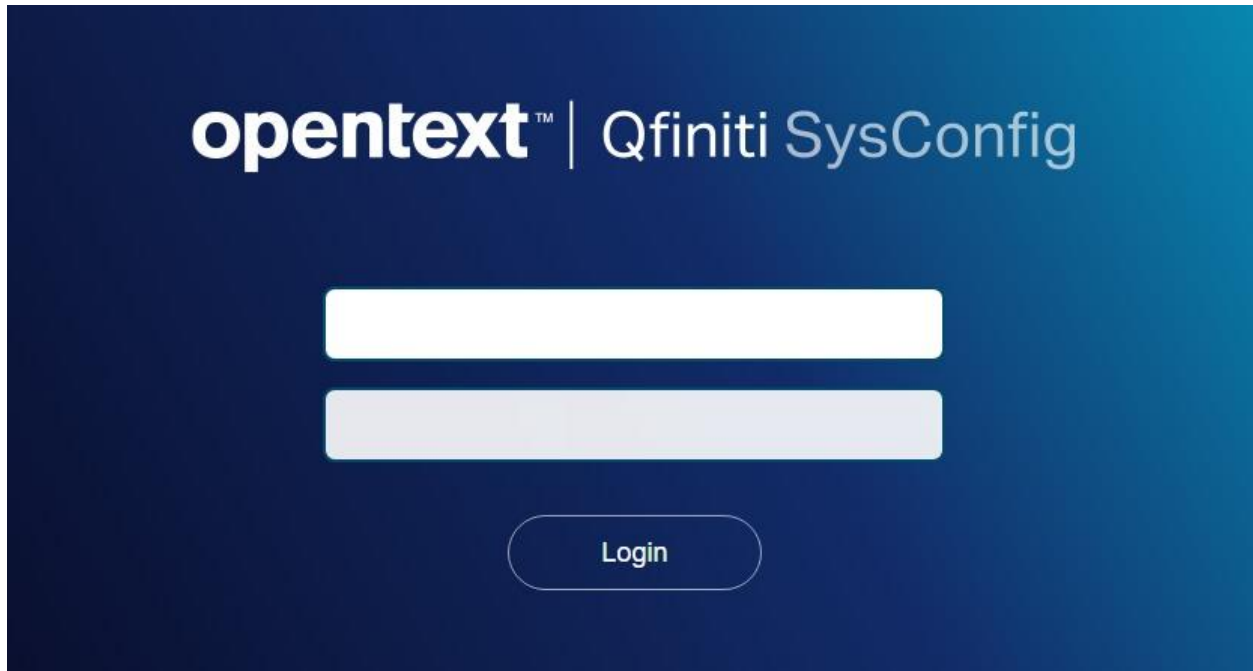
- Launch SysConfig web interface
- Administer switches
- Administer CTI server
- Administer board configuration
- Administer general
- Administer machines
- Administer components
- Administer CTI sources
- Administer phone interface
- Administer logging data – phone class of service
- Administer VRM
- 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.

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.



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**.

The screenshot displays the Qfiniti SysConfig web interface. On the left, a sidebar contains navigation links: General, Cross System, Switches, CTI Server, Board Configuration, and Simulated CTI Scripts. The 'Switches' section is active, showing a table with columns 'Name' and 'Switch'. Below the table, it states 'No records to display'. The main area features a 'Switch' configuration window with various fields. A red circle highlights a '+' icon in the top right corner of the configuration window, indicating the 'Add' button. The fields in the configuration window are as follows:

Field	Value
Name	AvayaAES
Switch Model	Avaya AES/CM
Vendor	
Post Release Delay	2
Observe Mode	By Extension
Observe String	
Interface Type	DMCC / TAPI / DRLink
Use CTI Source for Alias	<input type="checkbox"/>
APC Dialer in use?	No
Avaya CM Hostname	cm7
Port	4721
1st Line Appearance	263
AES IP Address	10.64.101.239
Service Observe Button	268
User Name	qfiniti
Password
AES Connection Alarm Trigger	Never
Wait Before Dial	500
Busy Repeat Max	6
Survey Excluded Extensions	Enter Value
Alt. AES IP Address	

At the bottom of the configuration window are three buttons: Add, Ok, and Cancel.

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”

The screenshot displays the Qfiniti SysConfig web interface. On the left, a sidebar contains navigation links: 'General', 'Cross System', 'Switches', 'CTI Server', 'Board Configuration', and 'Simulated CTI Scripts'. The 'CTI Server' section is currently selected. The main area shows a 'CTI Server' configuration window with the following fields and values:

Field	Value
Name	AvayaTSAPI
Type	Avaya CT
Available Switch	AvayaAES
ServerName	AES7
User Name	qfiniti
Password	*****
Vendor	AVAYA
Driver	CM7
Service	CSTA
BackUp ServerName	
BackUp User Name	
BackUp Password	
BackUp Vendor	
BackUp Driver	
BackUp Service	
ConnID Location	CALL ID
UCID prefix	

At the bottom of the window are 'Add', 'Ok', and 'Cancel' buttons. On the right side of the interface, a red circle highlights a '+' icon, indicating the 'New Item' button.

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)”

The screenshot shows the 'opentext | Qfiniti SysConfig' interface. A 'Board Configuration' dialog box is open, displaying the following fields:

- Name: NIC
- Model: Network Interface Card (NIC) (dropdown)
- Active 1: False (dropdown)
- Network Card Identifier 1: (empty)
- Network Card Description 1: (empty)
- Network Card IP Address 1: (empty)
- Network Card Port 1: 5060
- Active 2: False (dropdown)
- Network Card Identifier 2: (empty)
- Network Card Description 2: (empty)
- Network Card IP Address 2: (empty)
- Network Card Port 2: 5060
- Active 3: False (dropdown)
- Network Card Identifier 3: (empty)
- Network Card Description 3: (empty)
- Network Card IP Address 3: (empty)
- Network Card Port 3: 5060
- Active 4: False (dropdown)
- Network Card Identifier 4: (empty)
- Network Card Description 4: (empty)
- Network Card IP Address 4: (empty)
- Network Card Port 4: 5060

At the bottom of the dialog are 'Add', 'Ok', and 'Cancel' buttons. In the background, a red circle highlights the '+' icon in the 'Board Configuration' section of the left sidebar.

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**.

The screenshot displays the OpenText Qfiniti SysConfig web interface. At the top, the header shows 'opentext™ | Qfiniti SysConfig' and a 'Logout Qfiniti Administrator' link. Below the header, there are two tabs: 'General' and 'Cross System'. The 'General' tab is active. In the 'Systems' section, there is a '+ New' button circled in red, along with 'Save', 'Refresh', 'Start', 'Stop', 'Schedule Restart', and 'Delete' buttons. A 'Quick Find' search bar is also present. The main content area is titled 'General' and contains the following fields:

- Name:** A text input field containing 'DMCC Logger'.
- Switch:** A dropdown menu showing 'AvayaAES'.
- System Type:** A list of checkboxes with the following options:
 - ☒ Voice Recording - Logging
 - ☐ Voice Recording - QA
 - ☐ Screen Recording
 - ☐ Remote Screen Site
 - ☐ Explore
 - ☐ Survey
 - ☐ Backup
 - ☐ Cloud Connector
- Description:** A large text area.
- ☐ Available for Use ?
- ☐ NAT Environment

Below the 'General' section, there are several expandable sections: 'Machines', 'Components', 'CTI Sources', 'Phone Interface', 'VRM', and 'Line Data', each with a dropdown arrow.

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”.

The screenshot displays the 'opentext | Qfiniti SysConfig' web interface. The top navigation bar includes 'General' and 'Cross System' tabs. The main content area is divided into 'Systems' and 'Machines' sections. The 'Machines' section is expanded, showing a list of machines. A red circle highlights the '+ New' icon in the 'Machines' toolbar. A 'Machine' dialog box is open, showing the following fields:

Server Name:	win-ld0n0tk8gke
IP Address:	10 . 64 . 101 . 205
Role:	Master
State:	Down

The dialog box has 'Add', 'Ok', and 'Cancel' buttons at the bottom.

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”

The screenshot displays the 'opentext | Qfiniti SysConfig' interface. The 'General' tab is active, and the 'Components' section is expanded. On the left, the 'Systems' panel shows 'No Systems found. Start by creating a New System.' The main area is divided into 'Available Components' and 'Assigned Components'. The 'Assigned Components' list includes 'Logger Voice Recording Manager'. Below this, the 'Component Data' section contains the following configuration fields:

Field	Value
Post Service Observe dial string:	
Optimal Recording CODEC:	PCM G.711
Encryption type:	No encryption
CTI Late Attach Method:	ConnectionID
DN Late Attach Window In Sec:	30
PCM Acquisition:	Service Observe
Transaction Validation:	No
Transaction Validation Form:	trans_validation.xsl
Service Observe fail retry delay:	30
Start Recording On:	Alerting
CTI Init:	On Startup
Line Reset Threshold in Sec:	0
VoIP Transcoding:	NONE

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**.

The screenshot displays the OpenText Qfiniti SysConfig web interface. The top navigation bar includes the OpenText logo, 'Qfiniti SysConfig', and a 'Logout Qfiniti Administrator' link. Below the navigation bar, there are tabs for 'General' and 'Cross System'. The main content area is divided into several sections: 'Systems' (with a 'Quick Find' box and a message 'No Systems found. Start by creating a New System.'), 'Machines' (listing 'WIN-LD0N0TK8G'), 'Components', and 'CTI Sources'. The 'CTI Sources' section is expanded, and a red circle highlights the '+ New' button. A 'CTI Source' configuration dialog is open, showing the following fields and values:

- CTI Server:** AvayaTSAPI
- PreInitExtensions:** Yes
- Queue:** 61001-61002
- Agent Extensions:** 65001, 66006
- UUdata script name:** CTI_UUdataScripts_TSAPI.ini
- Auto Login Extensions:** (empty)

The dialog also includes 'Or Drop files here' and 'Single Export' options for each of the Queue and Agent Extensions fields. At the bottom of the dialog are 'Add', 'Ok', and 'Cancel' buttons.

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”.

The screenshot displays the OpenText Qfiniti SysConfig web interface. A modal dialog box titled "Phone Interface" is open, allowing configuration for a specific system. The background interface shows a sidebar with "General" and "Cross System" tabs, and a main area with a "Systems" section containing a "Quick Find" bar and a message "No Systems found. Start by creating a New System." The top right of the interface includes a "Logout Qfiniti Administrator" link. The "Phone Interface" dialog box contains the following fields:

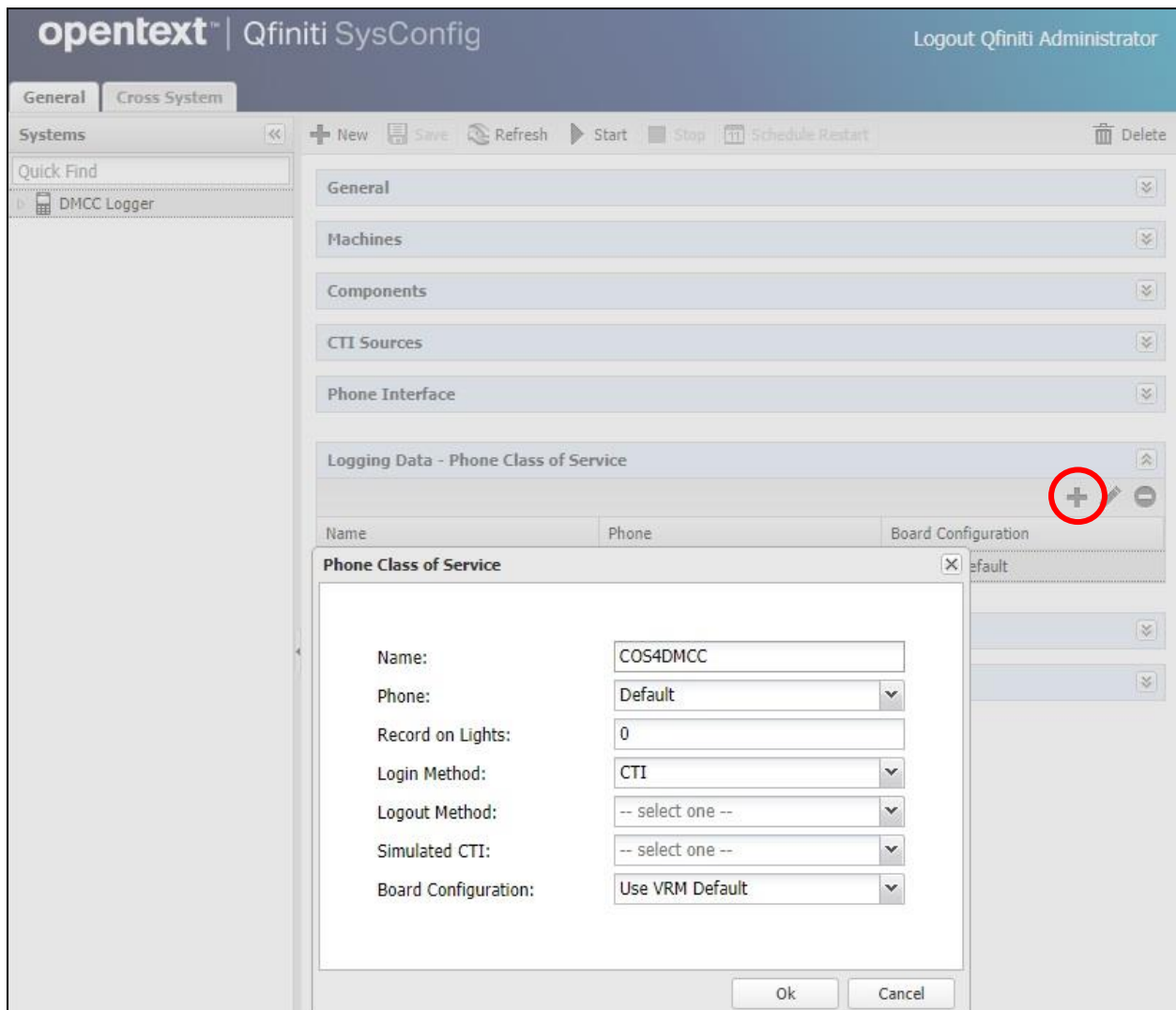
- Server Name: win-l0n0tk8gke
- Machine Type: Logger (selected from a dropdown)
- Phone Interface Type: DMCC Ver 7.0 & Up (selected from a dropdown)
- Number of Lines: 2 (selected from a spinner)
- RTP Port Range: 11000 - 11003 (selected from a range picker)
- RecMgr RTP IP: (empty fields for IP address)

At the bottom of the dialog are "Ok" and "Cancel" buttons. In the background, a table lists systems, with the first entry "win-l0n0tk8gke" having a value of "0" in the "Number of Lines" column. A red circle highlights the "Edit" icon (a pencil) next to this entry in the table.

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”.



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**.

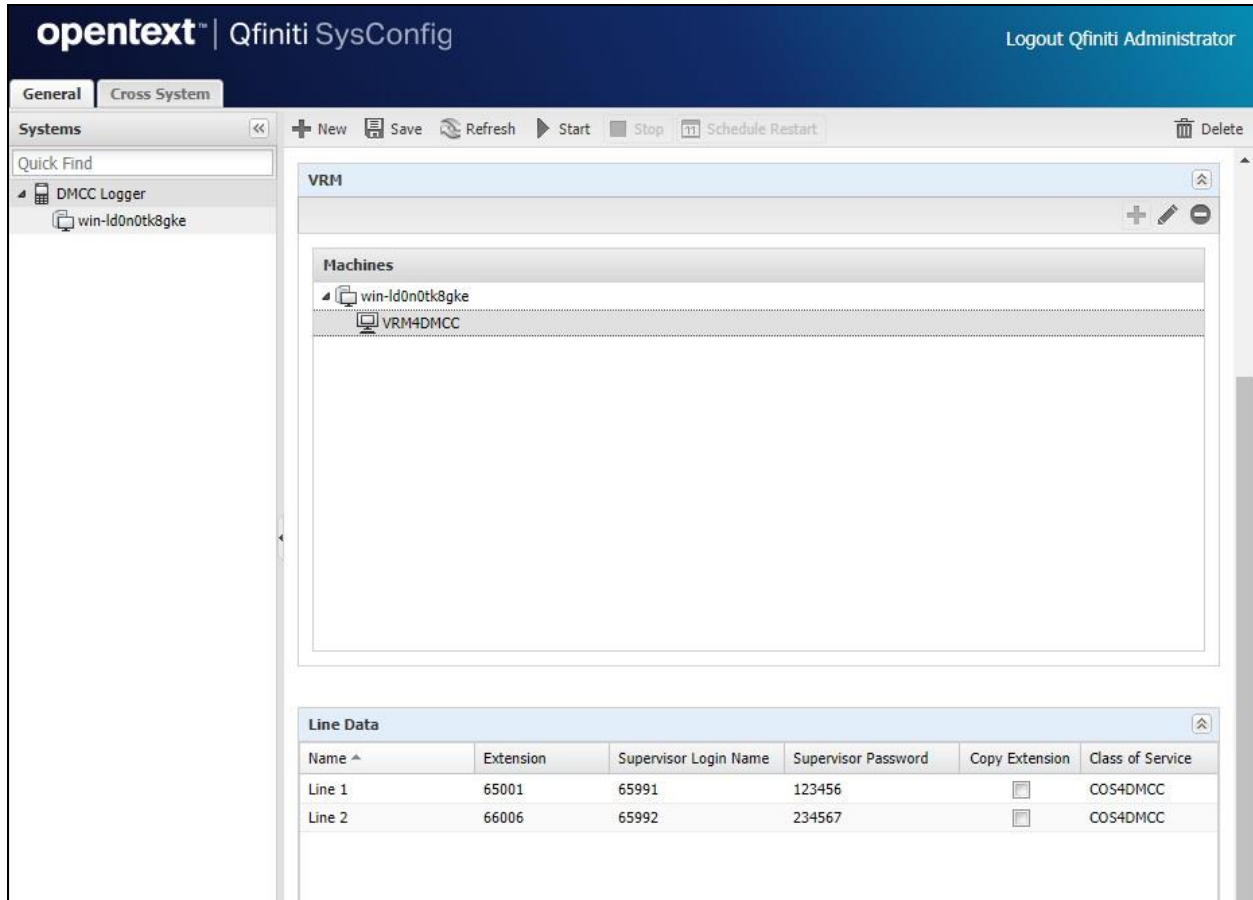
The screenshot displays the 'opentext | Qfiniti SysConfig' web interface. The top navigation bar includes 'Logout Qfiniti Administrator'. The main menu on the left has 'General' and 'Cross System' tabs. The 'Systems' section on the left shows a 'Quick Find' box and a message: 'No Systems found. Start by creating a New System.' The main content area lists several expandable sections: 'General', 'Machines', 'Components', 'CTI Sources', 'Phone Interface', 'Logging Data - Phone Class of Service', and 'VRM'. The 'VRM' section is expanded, and a red circle highlights the '+ Add' icon. Below this, a 'VRM' configuration form is shown with the following fields and values:

Field	Value
VRM Name:	VRM4DMCC
VRM Type:	Logging
Mirror from VRM:	-- select one --
Interface Type:	Station Side DMCC
Use Range:	<input type="checkbox"/> (1-5, 6-100) Or Drop files here
Line From:	1
Line To:	2
Allow Extension Duplication:	<input type="checkbox"/>
Default Class of Service:	COS4DMCC
Default Board Config:	NIC

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.

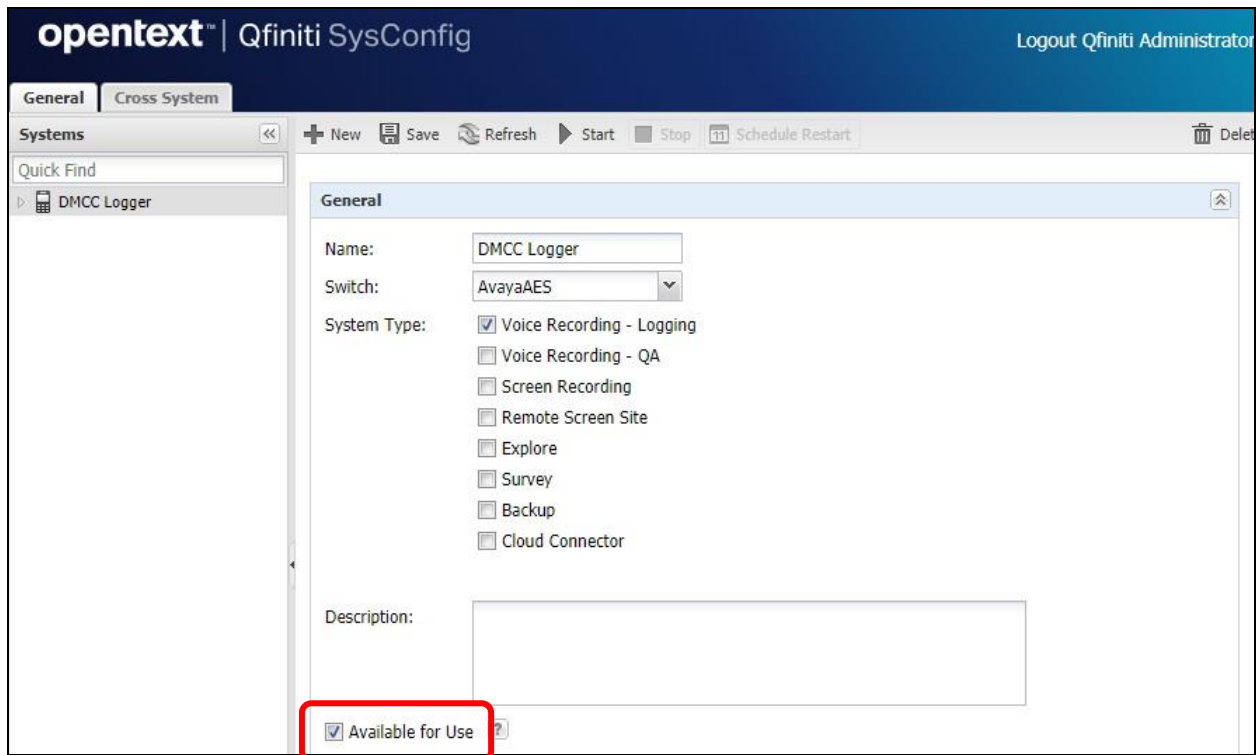


The screenshot shows the OpenText Qfiniti SysConfig interface. The 'General' tab is selected, and the 'Cross System' sub-tab is active. The 'Systems' section on the left shows a tree view with 'DMCC Logger' and 'win-l0n0tk8gke'. The main area displays the 'VRM' configuration page. The 'Machines' section shows 'win-l0n0tk8gke' with a sub-entry 'VRM4DMCC'. The 'Line Data' section is expanded, showing a table with two lines of data.

Name ^	Extension	Supervisor Login Name	Supervisor Password	Copy Extension	Class of Service
Line 1	65001	65991	123456	<input type="checkbox"/>	COS4DMCC
Line 2	66006	65992	234567	<input type="checkbox"/>	COS4DMCC

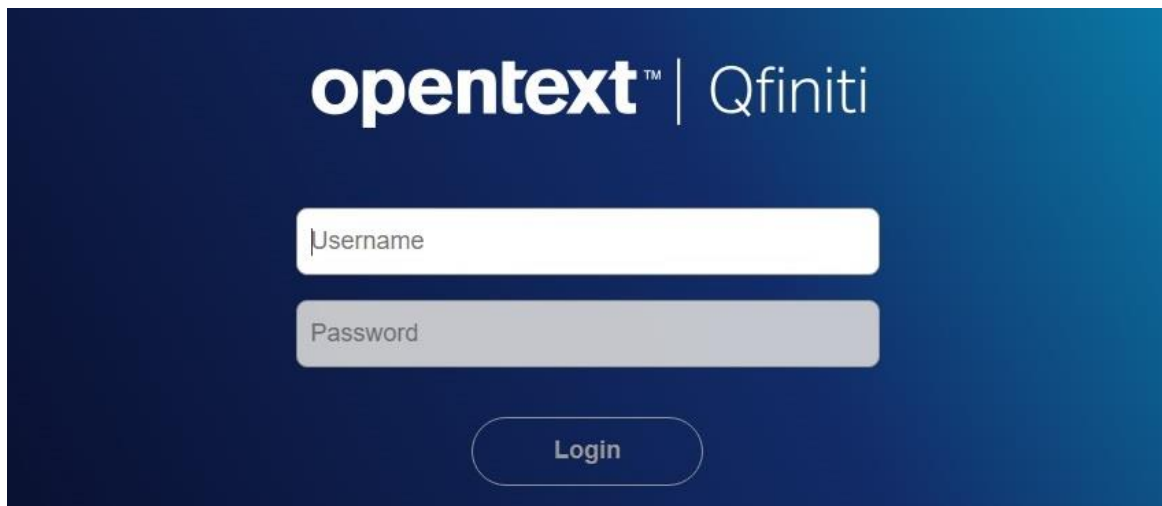
8.13. Enable Use

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.



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.

The screenshot shows the 'Administer > Settings > Observe Settings' page in the Opentext Qfiniti interface. The left sidebar contains a list of settings: Alarm Settings, License Settings, Observe Settings (selected), Platform Settings, Survey Settings, and Web Access Settings. The main content area has a 'Save' button and three sections: 'Recording Options', 'Phone Player', and 'UUData Mapping'.

Recording Options
Select the option and check the boxes to activate the desired recording options.

Option: Continuous Record (dropdown menu)

Type:

- ☒ Allow voice recordings
- ☐ Allow screen recordings
- ☐ Allow voice and screen recordings
- ☐ Allow screen recordings on transfer

Phone Player
Enter the UNC path to store the phone player prompts.

UNC Path:

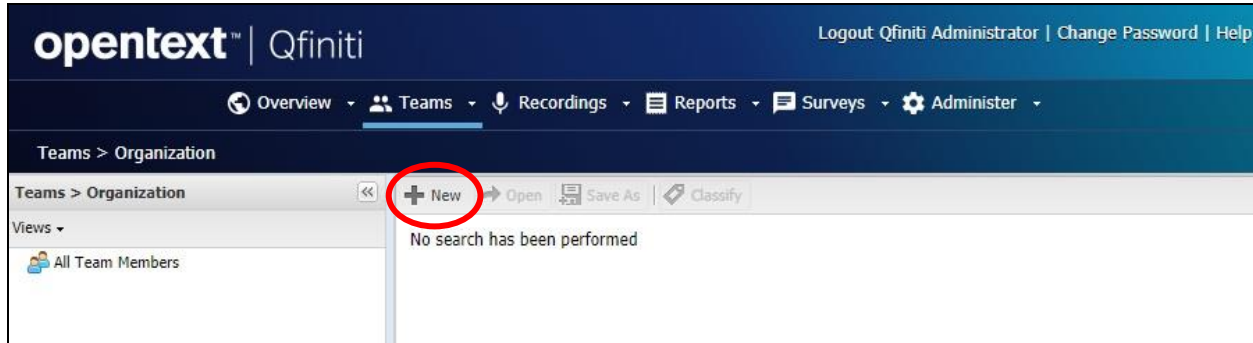
UUData Mapping
Map UUData fields to friendly column names for use in recording schedule triggers.

Buttons: + New, Open, Delete

CTI Event	UserData Field Name	Friendly Name	Description	In Use
No data to display				

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.

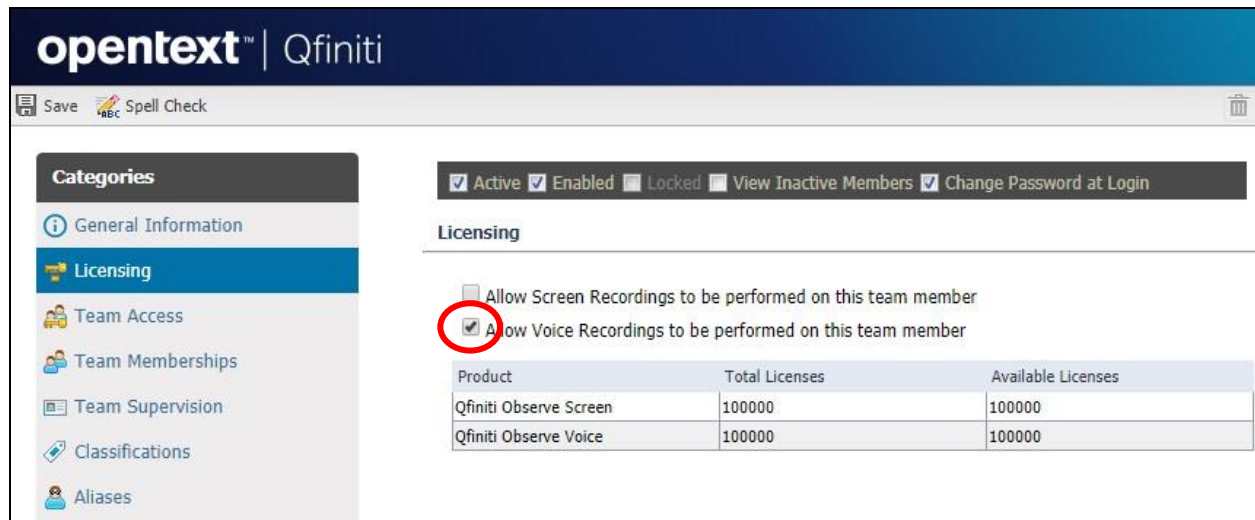


In the pop up screen below, enter the following values for the specified fields, and retain the default values for the remaining fields.

- **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.

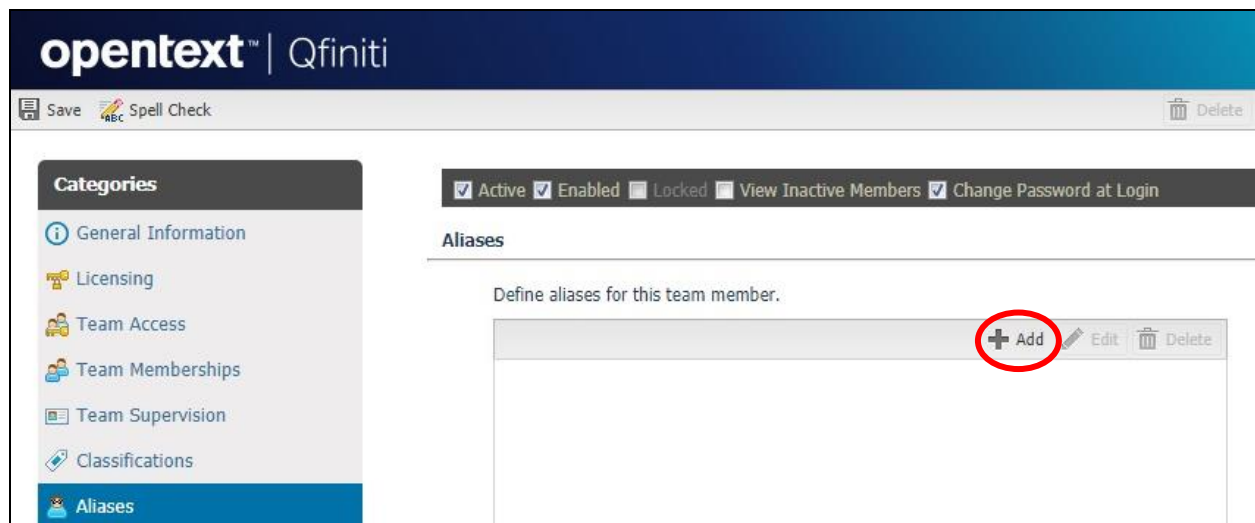
A screenshot of the OpenText Qfiniti 'General Information' form for adding a new agent. The form is titled 'General Information' and includes a sidebar with 'Categories' such as 'General Information', 'Licensing', 'Team Access', 'Team Memberships', 'Team Supervision', 'Classifications', 'Aliases', and 'Additional Information'. The main form area contains several fields and checkboxes. At the top, there are checkboxes for 'Active', 'Enabled', 'Locked', 'View Inactive Members', and 'Change Password at Login'. Below these, the 'Id' is 'Not Saved'. The form fields include: '* First Name' (FNAgent1), 'Middle Name', '* Last Name' (LNAgent1), 'Email Address', 'Role' (Administrators), '* Login Type' (Qfiniti), '* Username' (agent1), '* Password' (masked with dots), and '* Confirm Password' (masked with dots). There is also an 'Add Role' button next to the 'Role' dropdown.

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.

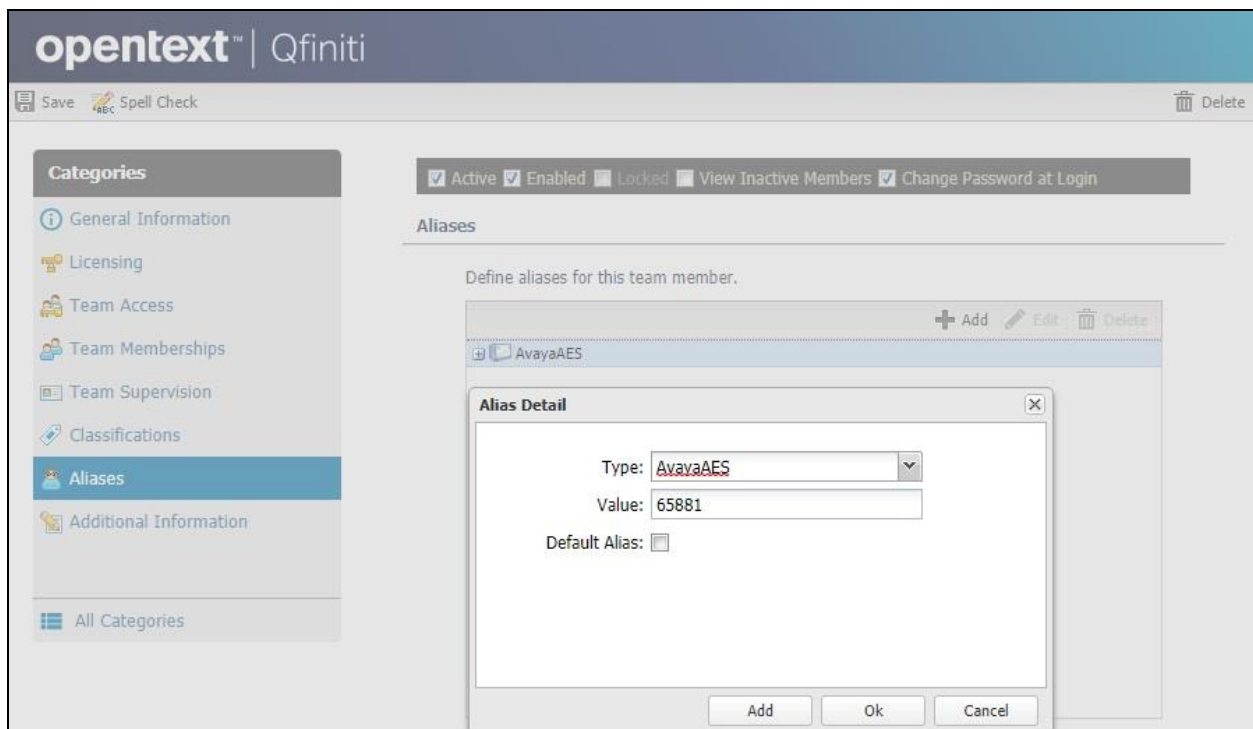


Product	Total Licenses	Available Licenses
Qfiniti Observe Screen	100000	100000
Qfiniti Observe Voice	100000	100000

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.



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.



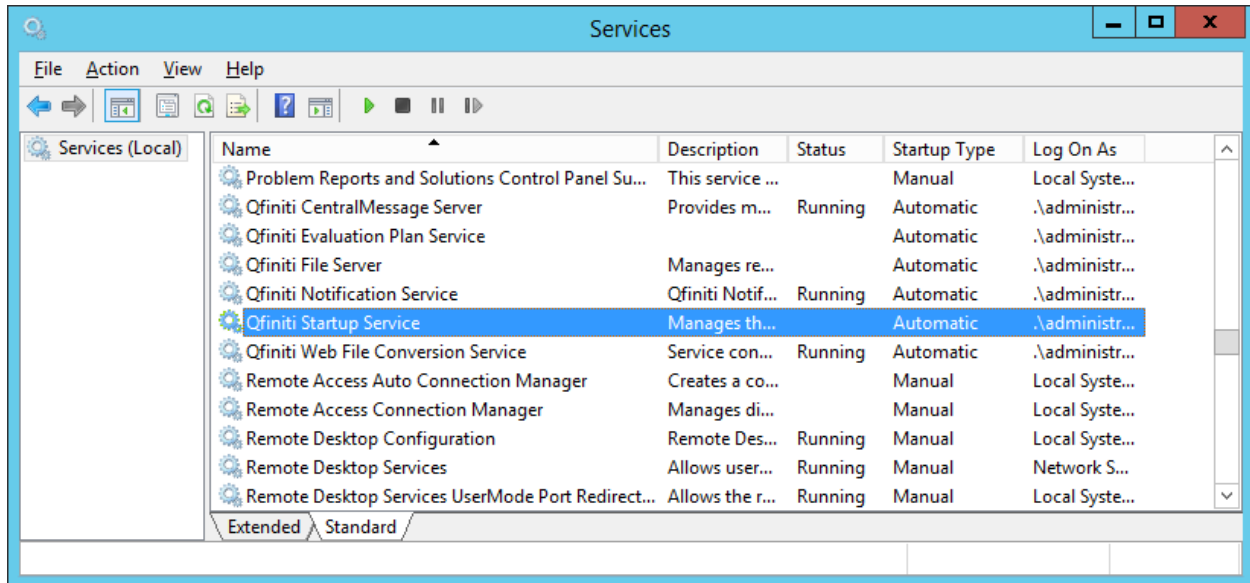
Repeat this section to add a team member for each agent line from **Section 8.12**. In the compliance testing, two team members with alias values “65881” and “65882” were configured.

The screenshot shows the 'opentext | Qfiniti' interface with the 'Teams > Organization > All Team Members' page. The top navigation bar includes 'Logout Qfiniti Administrator | Change Password | Help'. Below is a menu with 'Overview', 'Teams' (selected), 'Recordings', 'Reports', 'Surveys', and 'Administer'. The page title is 'Teams > Organization > All Team Members'. On the left, there's a 'Views' dropdown and a list of views including 'All Team Members'. The main area contains a table with columns: First Name, Middle Name, Last Name, Login ID, Status, and Account Disabled. The table lists three team members: Qfiniti Administrator, FNAgent1, and FNAgent2.

First Name	Middle Name	Last Name	Login ID	Status	Account Disabled
Qfiniti		Administrator	administrator	Active	No
FNAgent1		LNAgent1	agent1	Active	No
FNAgent2		LNAgent2	agent2	Active	No

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.



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 Link	Version	Mnt Busy	AE Services Server	Service State	Msgs Sent	Msgs 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 or Orig Port Socket	Set Type/ Net Rgn	Prod ID/ Release	Station IP Address/ Gatekeeper IP Address
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

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.

AVAYA Application Enablement Services
Management Console

Welcome: User
Last login: Wed Jan 16 09:46:15 2019 from 192.168.200.20
Number of prior failed login attempts: 0
HostName/IP: aes7/10.64.101.239
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 8.0.0.0.6-0
Server Date and Time: Wed Jan 16 11:08:52 EST 2019
HA Status: Not Configured

Status | Status and Control | TSAPI Service SummaryHome | Help | Logout

▶ AE Services

▶ Communication Manager Interface

▶ High Availability

▶ Licensing

▶ Maintenance

▶ Networking

▶ Security

▼ Status

Alarm Viewer

▶ Logs

▶ Log Manager

▼ Status and Control

■ CVLAN Service Summary

■ DLG Services Summary

■ DMCC Service Summary

■ Switch Conn Summary

■ TSAPI Service Summary

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
<input checked="" type="radio"/>	1	cm7	1	Talking	Mon Jan 14 10:59:39 2019	Online	18	4	26	42	30


OnlineOffline

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

TSAPI Service StatusTLink StatusUser Status

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.



Application Enablement Services
 Management Console

Welcome: User
 Last login: Wed Jan 16 09:46:15 2019 from 192.168.200.20
 Number of prior failed login attempts: 0
 HostName/IP: aes7/10.64.101.239
 Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
 SW Version: 8.0.0.0.6-0
 Server Date and Time: Wed Jan 16 11:09:03 EST 2019
 HA Status: Not Configured

Status | Status and Control | **DMCC Service Summary**
Home | Help | Logout

- ▶ AE Services
- ▶ Communication Manager Interface
- ▶ High Availability
- ▶ Licensing
- ▶ Maintenance
- ▶ Networking
- ▶ Security
- ▼ **Status**
- Alarm Viewer
- ▶ Logs
- ▶ Log Manager
- ▼ **Status and Control**
- CVLAN Service Summary
- DLG Services Summary
- **DMCC Service Summary**
- Switch Conn Summary
- TSAPI Service Summary

DMCC Service Summary - Session Summary

Please do not use back button

☐ Enable page refresh every

60

 seconds

Session Summary [Device Summary](#)
Generated on Wed Jan 16 11:09:03 EST 2019

Service Uptime:
6 days, 20 hours 12 minutes

Number of Active Sessions:
1

Number of Sessions Created Since Service Boot:
14

Number of Existing Devices:
2

Number of Devices Created Since Service Boot:
75

■	Session ID	User	Application	Far-end Identifier	Connection Type	# of Associated Devices
<input type="checkbox"/>	057C70B311BC3F432 25D8ADC27F544B5-13	qfiniti	Qfiniti	10.64.101.205	XML Unencrypted	2

Terminate Sessions
Show Terminated Sessions

Item 1-1 of 1

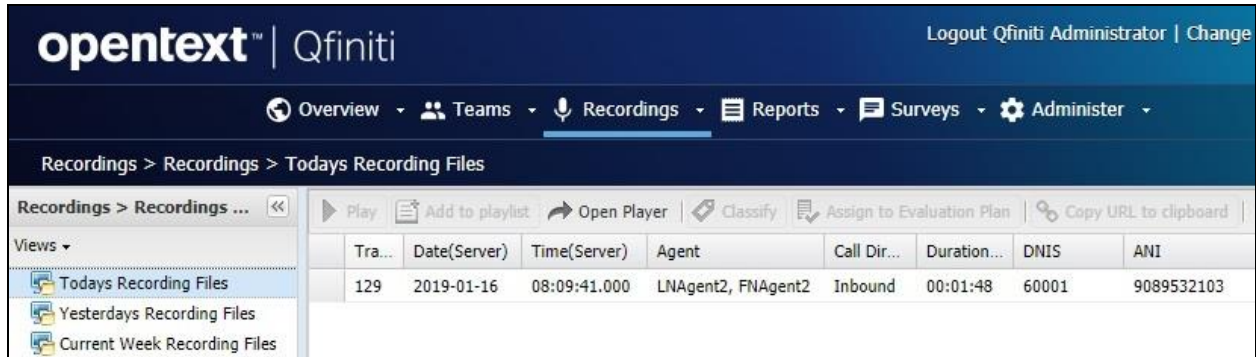
1

Go

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.

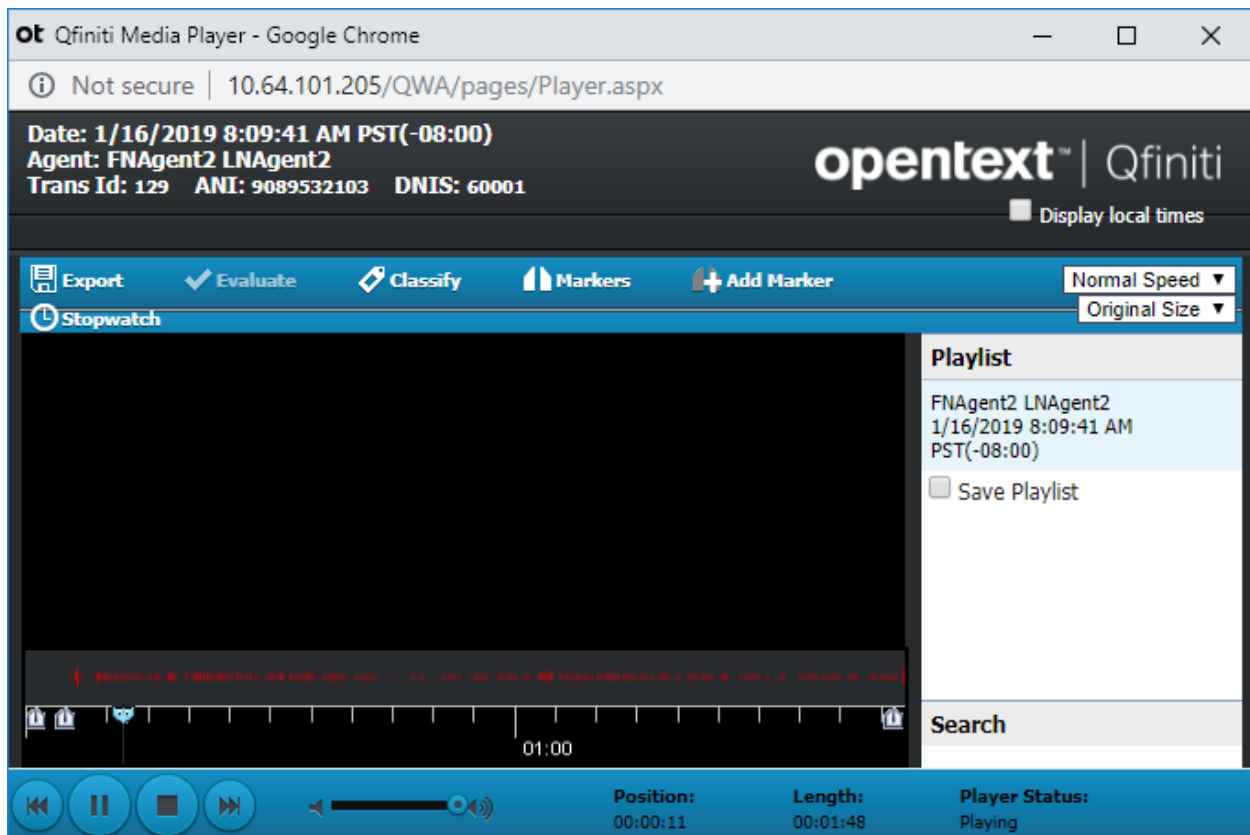
Select **Recordings** → **Recordings** from the top menu, followed by **Todays Recording Files** from the left pane, to display a list of recordings for today. Verify that there is an entry reflecting the last call, with proper values in the relevant fields.



The screenshot shows the OpenText Qfiniti web interface. The top navigation bar includes 'Overview', 'Teams', 'Recordings', 'Reports', 'Surveys', and 'Administer'. The 'Recordings' menu is selected, and the breadcrumb path is 'Recordings > Recordings > Todays Recording Files'. On the left, a 'Views' dropdown shows 'Todays Recording Files' selected. The main area displays a table of recordings with the following data:

Tra...	Date(Server)	Time(Server)	Agent	Call Dir...	Duration...	DNIS	ANI
129	2019-01-16	08:09:41.000	LNAgent2, FNAgent2	Inbound	00:01:48	60001	9089532103

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



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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