

Avaya Solution & Interoperability Test Lab

Application Notes for OpenText Qfiniti Observe 16.3 with Avaya Proactive Contact 5.1.3 with PG230 and Avaya Aura® Application Enablement Services 7.1.1 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for OpenText Qfiniti Observe 16.3 to interoperate with Avaya Proactive Contact 5.1.3 with PG230 and Avaya Aura® Application Enablement Services 7.1.1. OpenText Qfiniti Observe is a call recording solution.

In the compliance testing, OpenText Qfiniti Observe used the Event Services interface from Avaya Proactive Contact to obtain information on calls and agent states, and used the Multiple Registration feature from 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 Observe 16.3 to interoperate with Avaya Proactive Contact 5.1.3 with PG230 and Avaya Aura® Application Enablement Services 7.1.1. Qfiniti Observe is a call recording solution.

In the compliance testing, Qfiniti Observe used the Event Services interface from Proactive Contact to obtain information on calls and agent states, and used the Multiple Registration feature from the Application Enablement Services Device, Media, and Call Control (DMCC) interface to capture media associated with the monitored agent stations for call recording.

The DMCC interface was used by Qfiniti Observe to register a virtual IP softphone against each monitored agent station to pick up media for call recording. When there was an active call at the monitored agent station, Qfiniti Observe was informed of the call via events from the Event Services interface, and started the call recording by use of media from the associated virtual IP softphone. The Event Services events were also used to determine when to stop the call recordings.

The compliance testing covered the recording of calls that were delivered by Proactive Contact for the PG230 deployment option. The recording of inbound calls delivered by Communication Manager under the agent blending mode is outside the scope of this compliance test.

2. General Test Approach and Test Results

The feature test cases were performed both automatically and manually. Upon start of the Qfiniti Observe application, the application automatically established Event Services connection with Proactive Contact and DMCC connection with Application Enablement Services.

For the manual part of the testing, each call was handled manually at the agent with generation of unique audio content for recording. Necessary agent actions such as hold and reconnect were performed from the Proactive Contact Agent application running on the agent desktops to test various call scenarios.

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

The verification of tests included use of Qfiniti Observe logs for proper message exchanges, and use of Qfiniti web interfaces for proper logging and playback of call recordings.

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 Qfiniti Observe and Proactive Contact included SSL for Event Services, and did not include encryption for DMCC connection with Application Enablement Services, as requested by TelAthena.

2.1. Interoperability Compliance Testing

The interoperability compliance testing included feature and serviceability testing.

The feature testing focused on verifying the following on Qfiniti Observe:

- Handling of Event Services agent states and call events.
- Use of DMCC registration services to register the virtual IP softphones.
- Use of DMCC monitoring services and media control events to obtain the media from the virtual IP softphones.
- Proper recording, logging, and playback of calls for scenarios involving agent drop, customer drop, hold, reconnect, simultaneous calls, conference, transfer, forward work, long duration, multiple agents, manual call, inbound call blending, outbound call blending, and outbound agent blending scenarios.

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

2.2. Test Results

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

- By design, all call recordings contained audio up to the agent finished work action.
- By design, the held interval was included in the recordings and contained audio from the agent.

2.3. Support

Technical support on Ofiniti Observe 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 Proactive Contact, between Communication Manager and Application Enablement Services, and of call center devices are not the focus of these Application Notes and will not be described.

The agent station extensions used in the compliance testing were "65001" and "65002".

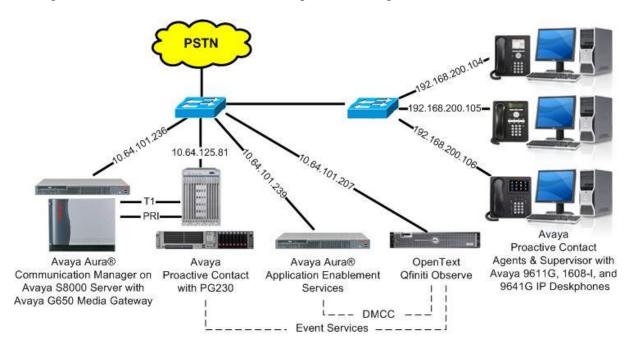


Figure 1: Compliance Testing Configuration

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 on Avaya S8800 Server	7.1.1 (7.1.1.0.0.532.23985)		
Avaya G650 Media Gateway	NA		
Avaya Aura® Media Server in Virtual Environment	7.8.0.333		
Avaya Aura® Application Enablement Services in Virtual Environment	7.1.1 (7.1.1.0.0.5-0)		
Avaya Proactive Contact	5.1.3		
Avaya Proactive Contact Agent	5.1.3		
Avaya 1608-I IP Deskphone (H.323)	1.380B		
Avaya 9611G & 9641G IP Deskphones (H.323)	6.6506		
OpenText Qfiniti Observe on Microsoft Windows Server 2012 • Avaya Event Service SDK • OpenSSL Shared Library • Avaya DMCC XML	16.3.0 R2 Standard 5.1 1.0.2a 4.1		

5. Configure Avaya Aura® Communication Manager

This section provides the procedures for administering the agent stations on Communication Manager.

Use the "change station n" command, where "n" is the first agent station extension from **Section** 3. Enable **IP SoftPhone**, to allow for virtual IP softphone to be registered against the station. Note the value of **Security Code**, which will be used later to configure Qfiniti Observe.

```
change station 65001
                                                  STATION
                                                 Lock Messages? n BCC: 0

Security Code: 65001 TN: 1

Coverage Path 1: 1 COR: 1

Coverage Path 2: COS: 1

Hunt-to Station: Tests? y
      nsion: 65001
Type: 9611
Port: S00102
Name: CM Station 1
Extension: 65001
STATION OPTIONS
        Loss Group: 19

Personalized Ringing Pattern: 1

Message Lamp Ext: 65001

Speakerphone: 2-way

Display Language: English

Button Modules: 0
                                                          Time of Day Lock Table:
 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
                                                               Customizable Labels? y
```

Repeat this section to administer all agent stations to be monitored. In the compliance testing, two agent stations were administered as shown below.

list station 65001 count 2								
STATIONS								
Ext/ Hunt-to	Port/ Type	Name/ Surv GK	NN	Move	Room/ Data Ext		COR/	Cable/ TN Jack
65001	s00102 9611	CM Station	_	no		1	1 1 1	
65002	S00118 1608	CM Station		no		1	1 1	

6. Configure Avaya Proactive Contact

This section provides the procedures for obtaining the host name of Proactive Contact.

Log in to the Linux shell of Proactive Contact. Use the "uname -a" command to obtain the host name, which will be used later for configuring Qfiniti Observe.

In the compliance testing, the host name of Proactive Contact is "lzpds4b", as shown below.

```
$ uname -a
Linux lzpds4b 2.6.18-419.el5PAE #1 SMP Wed Feb 22 22:48:50 EST 2017 i686 i686 i3
86 GNU/Linux
LZPDS4B(xxx)@/opt/avaya/pds [1001]
$
```

7. 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 H.323 gatekeeper
- Administer Ofiniti Observe user
- Administer security database
- Administer ports
- Restart services

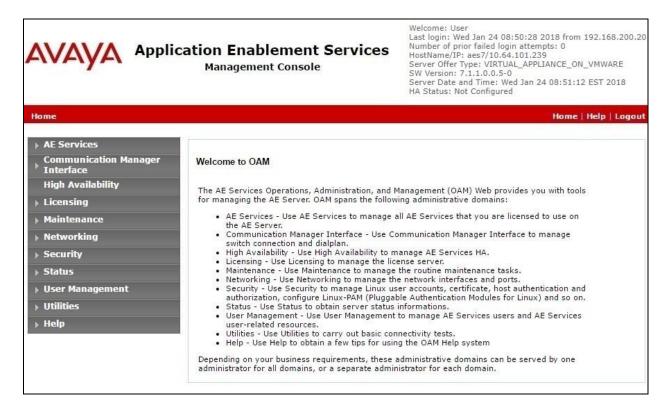
7.1. Launch OAM Interface

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.

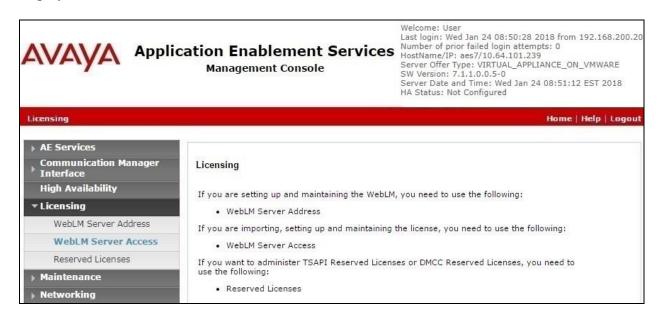
The **Please login here** screen is displayed. Log in using the appropriate credentials.



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

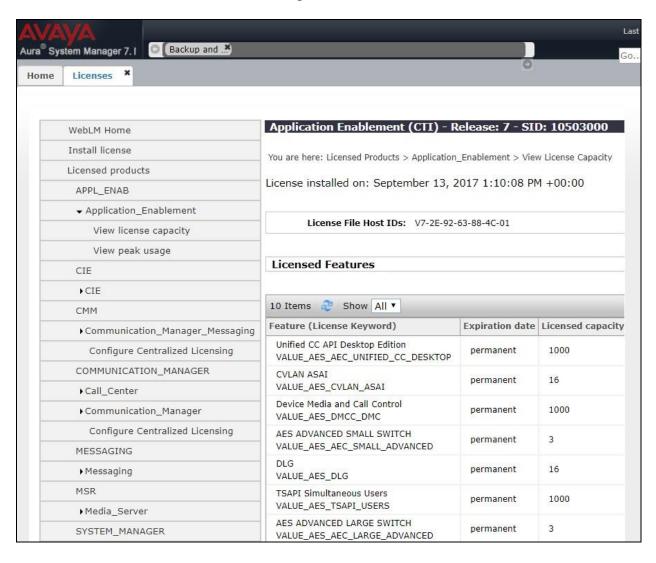


7.2. Verify License



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

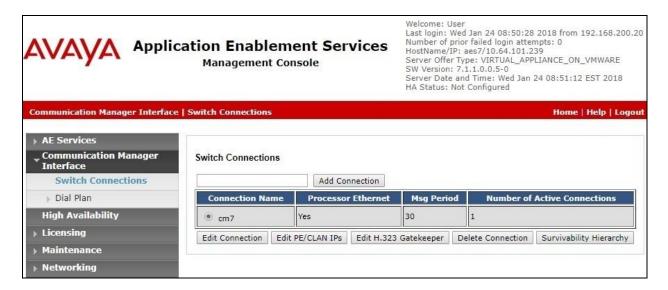
Verify that there is sufficient license for **Device Media and Call Control**, as shown below. The DMCC license is used for the virtual IP softphones.



7.3. Administer H.323 Gatekeeper

Select Communication Manager Interface \rightarrow Switch Connections from the left pane. The Switch Connections screen displays a list of existing switch connections.

Under **Connection Name**, locate the entry associated with the relevant Communication Manager, in this case "cm7", and select the corresponding radio button. Click **Edit H.323 Gatekeeper**.



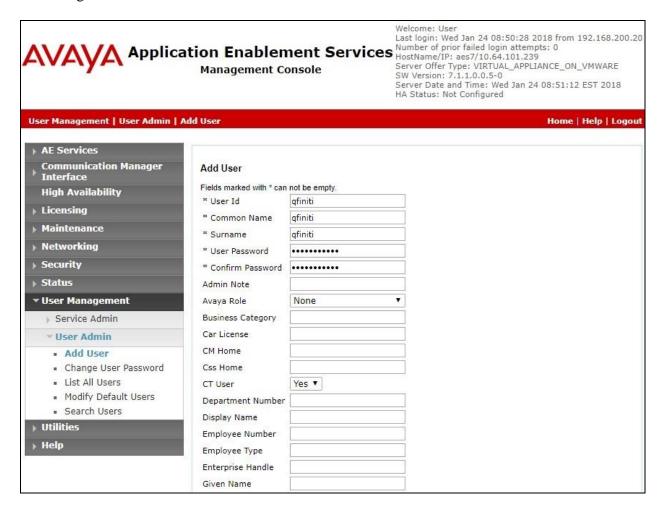
The **Edit H.323 Gatekeeper** screen is displayed next. Enter the IP address of a C-LAN circuit pack or the Processor C-LAN on Communication Manager to use as the H.323 gatekeeper, in this case "10.64.101.236" as shown below. Click **Add Name or IP**.



7.4. Administer Qfiniti Observe User

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

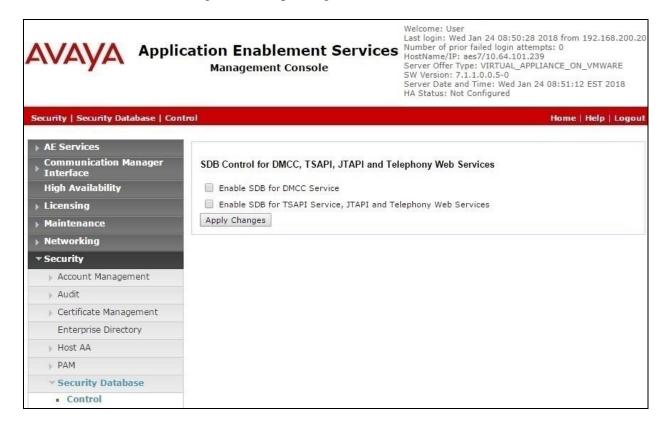
Enter desired values for **User Id**, **Common Name**, **Surname**, **User Password**, and **Confirm Password**. For **CT User**, select "Yes" from the drop-down list. Retain the default value in the remaining fields.



7.5. 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 Enable SDB for DMCC Service is unchecked, as shown below.

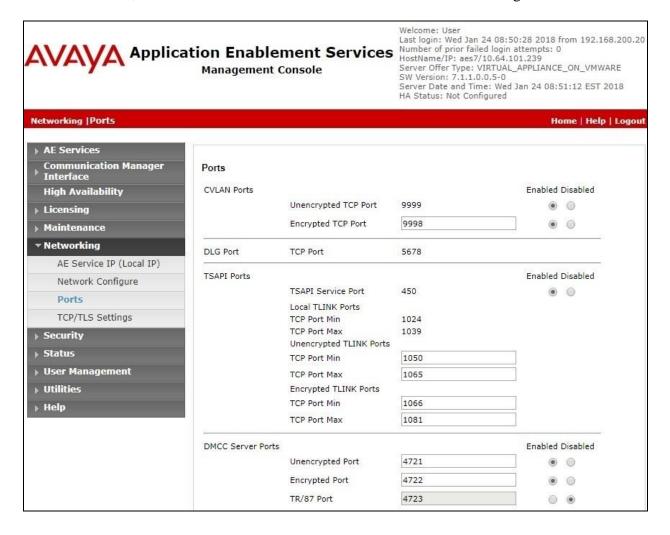
In the event that the security database is used by the customer with the parameter enabled, then follow reference [2] to configure access privileges for the Qfiniti Observe user from **Section 7.4**.



7.6. Administer Ports

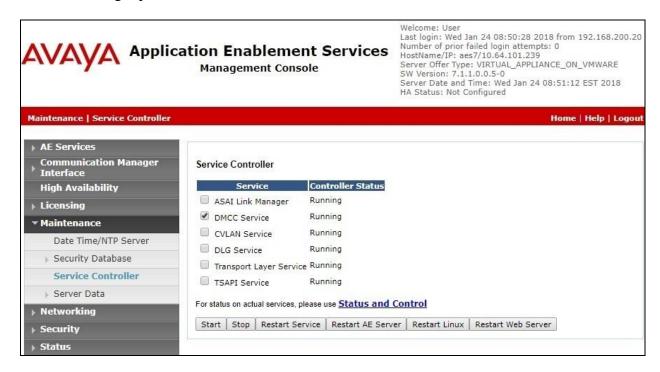
Select **Networking \rightarrow Ports** from the left pane, to display the **Ports** screen in the right pane.

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.



7.7. Restart Services

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



8. Configure OpenText Qfiniti Observe

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

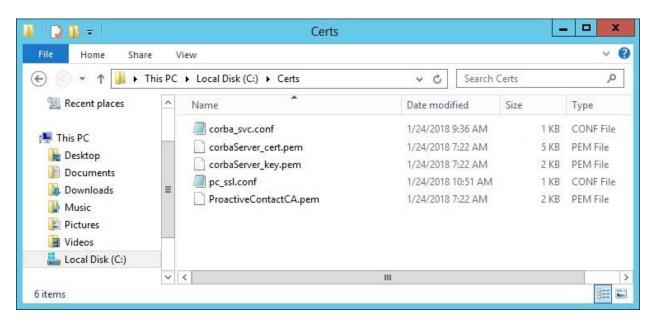
- Administer encryption keys and certificates
- Launch SysConfig web interface
- Administer switches
- Administer CTI server
- Administer board configuration
- Administer general
- Administer machines
- Administer components
- Administer CTI sources
- Administer phone interface
- Administer logging data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

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

8.1. Administer Encryption Keys and Certificates

From the Qfiniti Observe server, create a folder under the **C**: directory along with a desired name, in this case **Certs**. Note that Qfiniti Observe requires the directory name to not contain space.

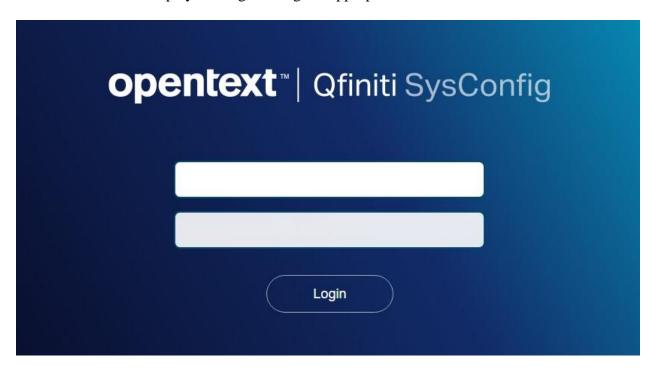
Copy the five files shown below that were provided by OpenText to the newly created folder. The five files originated from the relevant Event Services SDK used by the current version of Qfiniti Observe.



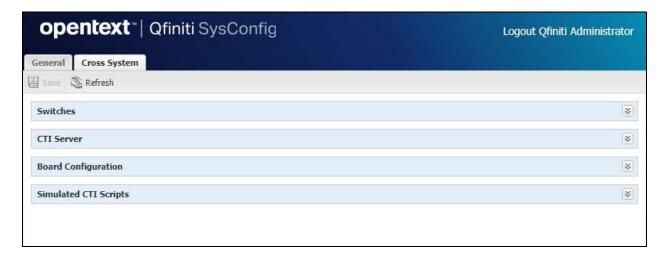
8.2. Launch SysConfig Web Interface

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 Observe.

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.



8.3. Administer Switches

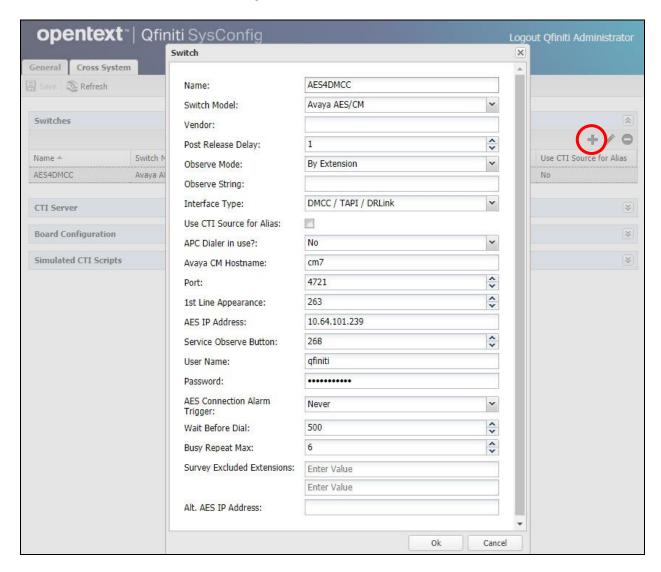
Expand the **Switches** sub-section, and click the **New Item** icon to add a new entry for Application Enablement Services. Enter the following values for the specified fields, and retain the default values for the remaining fields.

• Name: A descriptive name, in this case "AES4DMCC".

Switch Model: "Avaya AES/CM" Observe Mode: "By Extension"

• Interface Type: "DMCC / TAPI / DRLink"

Avaya CM Hostname: The relevant switch connection name from Section 7.3.
 AES IP Address: The IP address of Application Enablement Services server.
 User Name: The Qfiniti Observe user credentials from Section 7.4.
 Password: The Qfiniti Observe user credentials from Section 7.4.



8.4. Administer CTI Server

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

• Name: A descriptive name, in this case "Dialer4DMCC".

• **Type:** "Avaya Dialer"

• **Available Switch:** Select the switch name from **Section 8.3**.

User Name: The Proactive Contact Event Service client credentials.
 Password: The Proactive Contact Event Service client credentials.

• NameServe Value 1: "NameService=corbaloc:ssliop:lzpds4b:23201/NameService",

where **lzpds4b** is the Proactive Contact hostname from **Section 6**.

• NameServe Flag 2: "-ORBSvcConf"

• NameServe Value 2: Complete path of the corba_svc.conf file from Section 8.1.

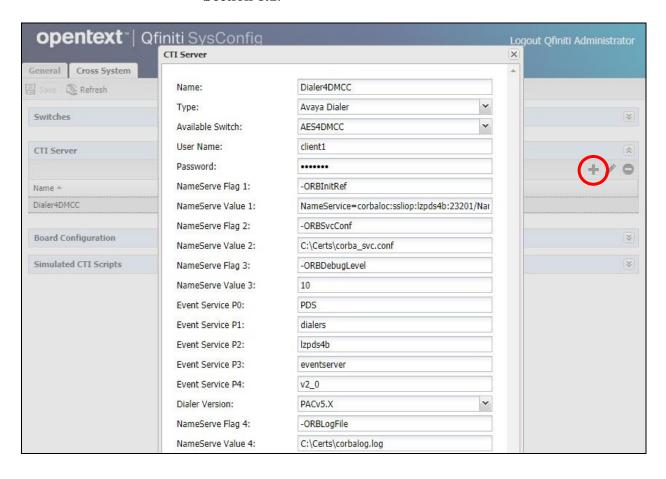
• NameServe Value 3: "10"

• **Event Service P2:** The Proactive Contact host name from **Section 6**.

• Dialer Version: "PACv5.X"

• NameServe Value 4: "C:\Certs\corbalog.log", where "C:\Certs" is the directory path from

Section 8.1.

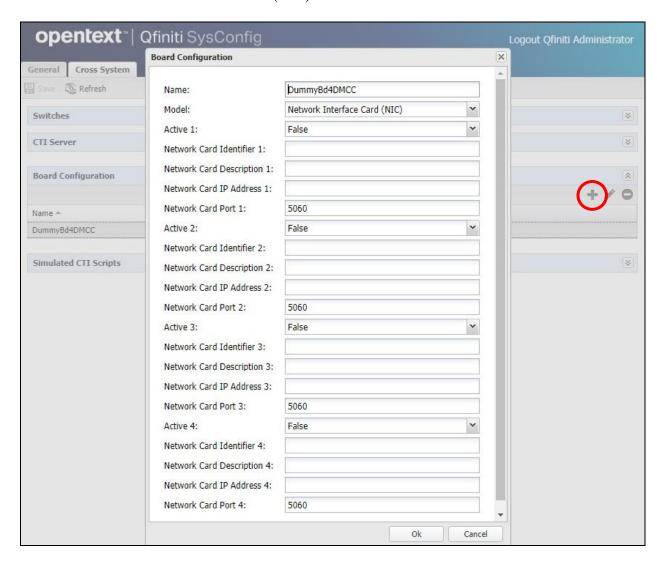


8.5. Administer Board Configuration

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 "DummyBd4DMCC".

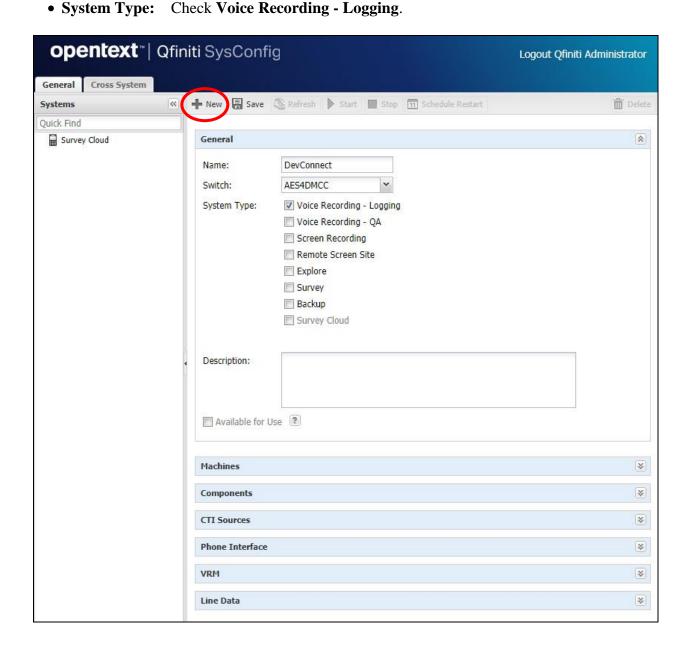
• Model: "Network Interface Card (NIC)"



8.6. Administer General

Select the **General** tab. Expand the **General** sub-section, and click the **New Item** 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 descriptive name, in this case "DevConnect".
Switch: Select the switch name from Section 8.3.



8.7. Administer Machines

Expand the **Machines** sub-section (not shown), and click the **New Item** 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 Observe server.
IP Address: The IP address of the Qfiniti Observe server.

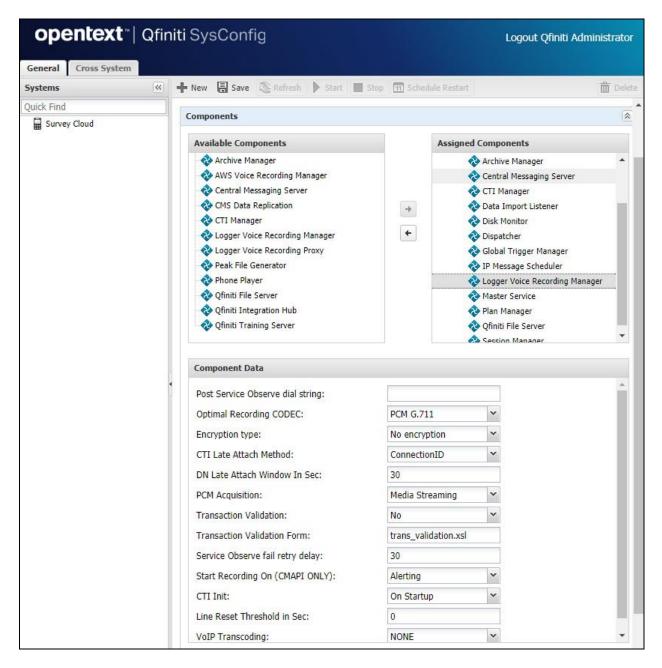
• **Role:** "Master".



8.8. Administer Components

Expand the **Components** sub-section, and follow reference [4] 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: "Media Streaming"



8.9. Administer CTI Sources

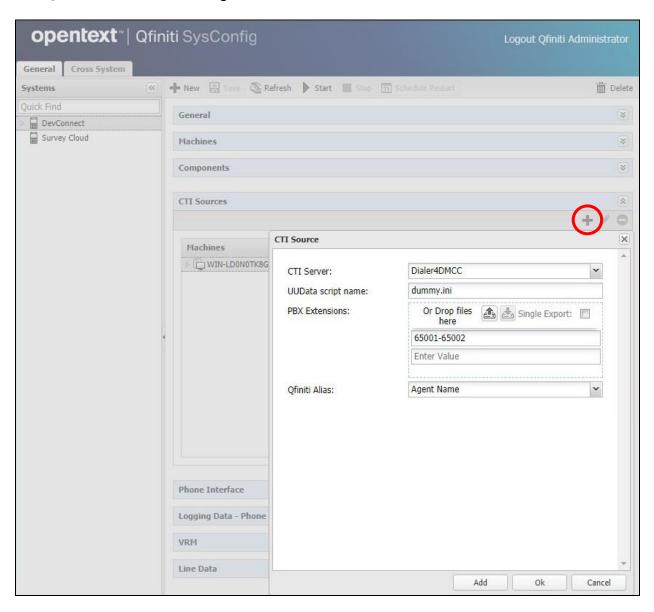
Expand the **CTI Sources** sub-section. Select the applicable machine server name from **Section 8.7**, followed by the **Add CTI Source** icon. Enter the following values for the specified fields, and retain the default values for the remaining fields.

• **CTI Server:** Select the CTI server name from **Section 8.4**.

• UUData script name: Script is not used in integration but required to be configured.

• **PBX Extensions:** The agent station extensions from **Section 3**.

• **Qfiniti Alias:** "Agent Name"



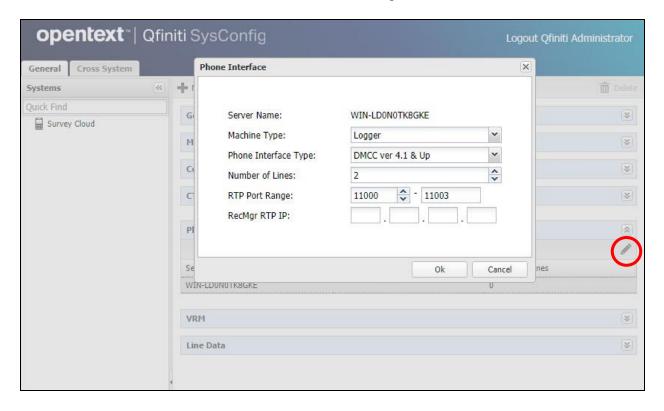
8.10. Administer Phone Interface

Expand the **Phone Interface** sub-section (not shown). Select the machine server name from **Section 8.7**, 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 4.1 & Up"

• **Number of Lines:** Select the total number of agents from **Section 3**.

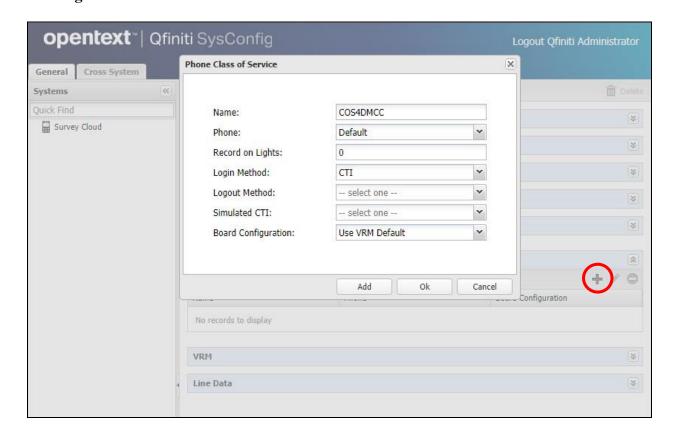


8.11. Administer Logging Data - Phone Class of Service

Expand the **Logging Data – Phone Class of Service** sub-section (not shown). 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".



8.12. Administer VRM

Expand the **VRM** sub-section. Select the machine server name from **Section 8.7**, followed by the **Add VRM** icon. Enter the following values for the specified fields.

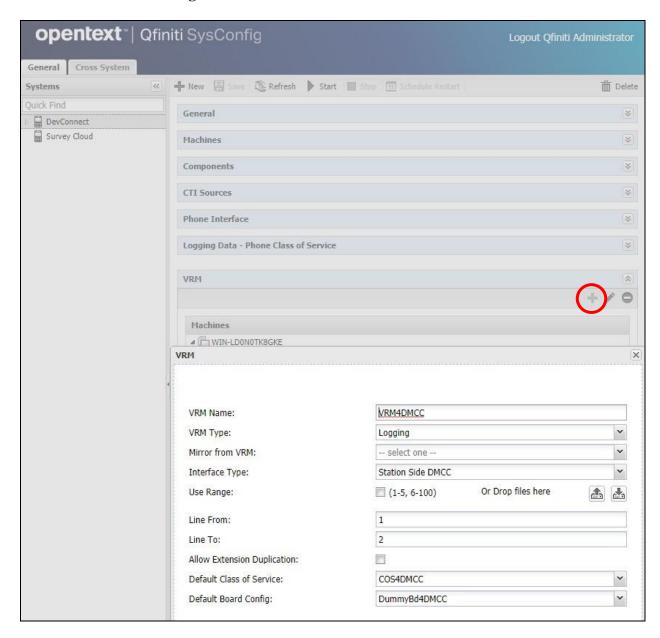
• **VRM Name:** A desired name, in this case "VRM4DMCC".

• 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 8.11.

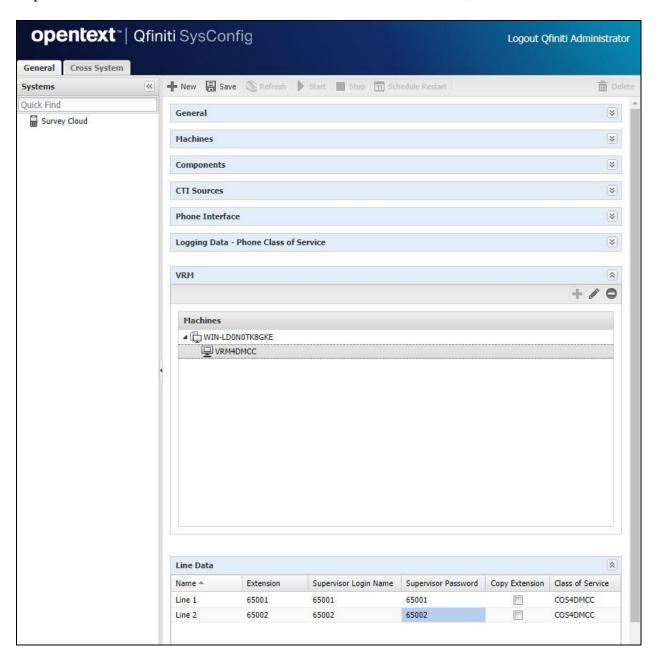
• **Default Board Config:** Select the board name from **Section 8.5**.



8.13. Administer Line Data

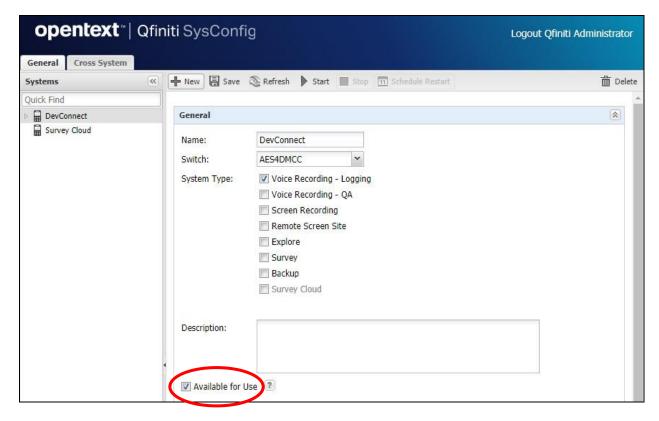
Select the newly added VRM from **Section 8.12**, and expand the **Line Data** sub-section. Select the first line. For **Extension** and **Supervisor Login Name**, enter the first agent station extension from **Section 5**. For **Supervisor Password**, enter the first agent station security code from **Section 5**.

Repeat this section to administer all station extensions from **Section 5**, as shown below.



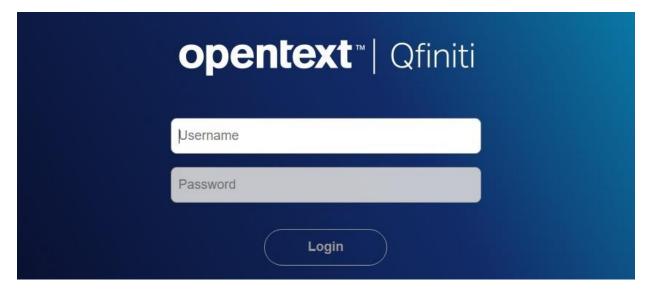
8.14. Enable Use

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



8.15. Launch Qfiniti Web Interface

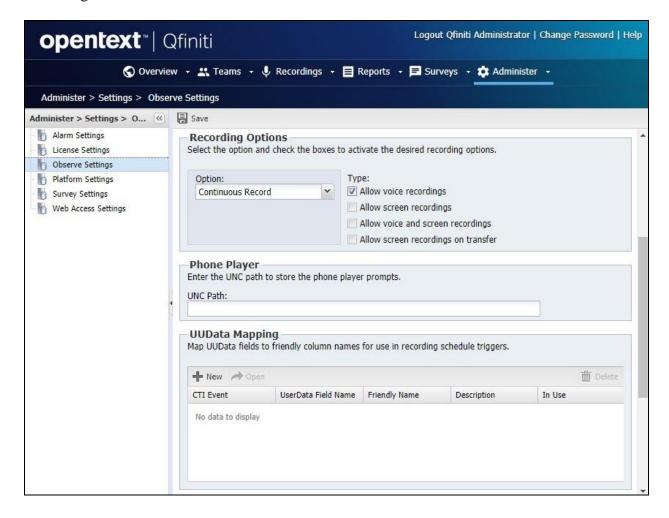
Access the Qfiniti web interface by using the URL "http://ip-address/QWA/Login.aspx" in an Internet browser window, where "ip-address" is the IP address of the Qfiniti Observe server. The screen below is displayed. Log in using the appropriate credentials.



8.16. Administer Observe Settings

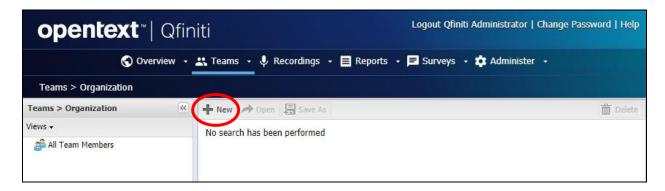
In the subsequent screen, select **Administer** → **Settings** from the top menu, followed by **Observe Settings** in the left pane.

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.



8.17. Administer Agents

Select **Teams** \rightarrow **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.

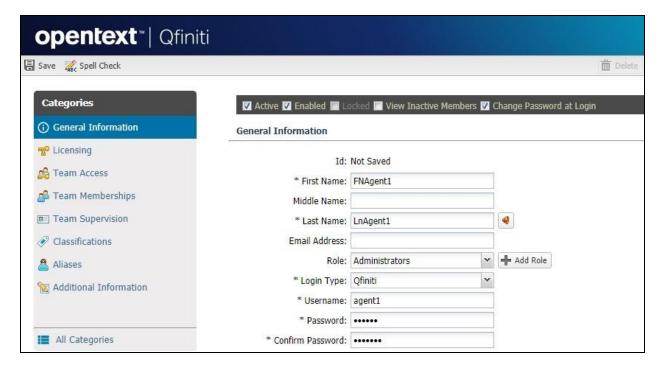
First Name: A desired first name for the first agent line from Section 8.13.
Last Name: A desired last name for the first agent line from Section 8.13.

• **Role:** Select a desired and existing role.

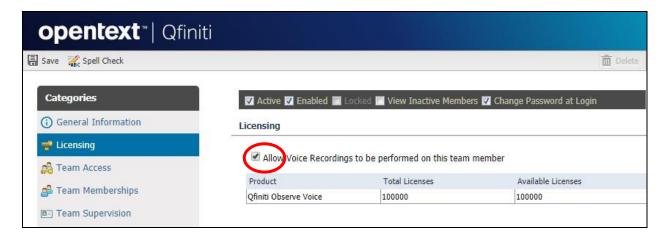
• Login Type: "Qfiniti"

Login ID: The desired login credentials for the agent.
 Password: The desired login credentials for the agent.

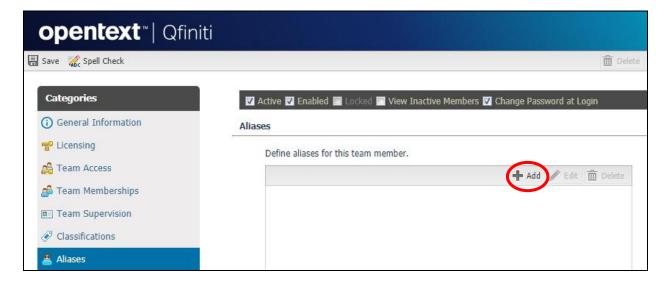
• **Confirm Password:** The same desired login credential for the agent.



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.

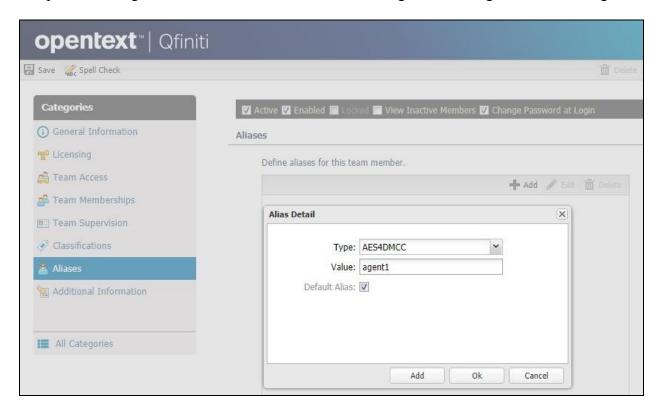


Follow reference [4] to configure subsequent steps for the new agent (not shown). Upon reaching the **Aliases** step, click the **Add** icon to create an alias.



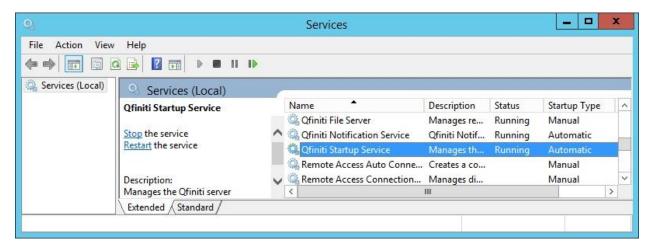
The **Alias Detail** pop up screen is displayed. For **Type**, select the switch server name from **Section 8.3**. For **Value**, enter the agent ID the first agent in **Section 8.13** uses to log into Proactive Contact Agent, in this case "agent1". Retain the default value in the remaining field.

Repeat this section to add a team member for each agent line from **Section 8.13**. In the compliance testing, two team members with alias values "agent1" and "agent2" were configured.



8.18. Start Services

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



9. Verification Steps

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

9.1. Verify Avaya Aura® Communication Manager

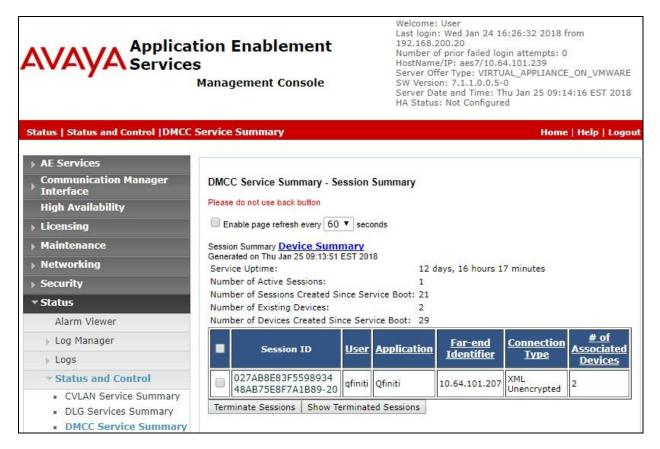
On Communication Manager, verify registration status of the virtual IP softphones by using the "list registered-ip-stations" command. Verify that all agent stations from **Section 3** are displayed along with the IP address of Application Enablement Services, as shown below.

list registered-ip-stations				
		REGISTE	ERED	IP STATIONS
				Station IP Address/ Gatekeeper IP Address
65000		_		192.168.200.106
65001	9611	IP_Phone	tls	10.64.101.236 192.168.200.104
65001		IP_API_A		10.64.101.236 10.64.101.239
65002	1 1608	_	_	10.64.101.236 192.168.200.105
65002				10.64.101.236 10.64.101.239
	1	3.2040		10.64.101.236

9.2. Verify Avaya Aura® Application Enablement Services

On Application Enablement Services, 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 a session with the Qfiniti Observe user from **Section 7.4**, and that the **# of Associated Devices** reflects the number of agents from **Section 3**, as shown below.



9.3. Verify Avaya Proactive Contact

Log in to the Linux shell of Proactive Contact, and issue the "netstat | grep enserver" command. Verify that there is an entry showing an **ESTABLISHED** connection with Qfiniti Observe, as shown below.

tcp	0	0 lzpds4b:13870	lzpds4b:enserver ssl	ESTABLISHED
tcp	0	0 lzpds4b:enserver ssl	lzpds4b:13870	ESTABLISHED
tcp	0	0 lzpds4b:enserver ssl	10.64.101.207:51045	ESTABLISHED
		_		

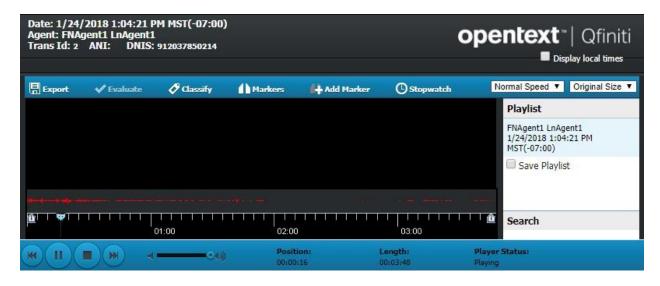
9.4. Verify OpenText Qfiniti Observe

Start a job on Proactive Contact, and log an agent in to handle and complete an outbound call. Follow the procedural steps in **Section 8.15** 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.



10. Conclusion

These Application Notes describe the configuration steps required for OpenText Qfiniti Observe 16.3 to successfully interoperate with Avaya Proactive Contact 5.1.3 with PG230 and Avaya Aura® Application Enablement Services 7.1.1. 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 7.1.1, Issue 2, August 2017, available at http://support.avaya.com.
- **2.** Administering and Maintaining Aura® Application Enablement Services, Release 7.1.1, Issue 3, September 2017, available at http://support.avaya.com.
- **3.** Administering Avaya Proactive Contact, Release 5.1.2, May 2016, available at http://support.avaya.com.
- **4.** *OpenText Qfiniti User Guide*, Version 16.3, October 2017, available to existing customers at https://knowledge.opentext.com/knowledge.

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