Avaya Solution & Interoperability Test Lab

Application Notes for etalk Qfiniti Quality Assurance Recording with Avaya Proactive Contact - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for etalk Qfiniti Quality Assurance Recording to successfully interoperate with Avaya Proactive Contact. Qfiniti is a call recording solution capable of recording calls placed to and from agents on Avaya Communication Manager. Qfiniti uses the Event Service of Avaya Proactive Contact 3.0 and the Telephony Services API (TSAPI) of Avaya Application Enablement Services (AES) to extract agent and call event information. The T1 lines on the Avaya Media Gateway are used to obtain the audio. Information in these Application Notes has been obtained through interoperability compliance testing and additional technical discussions. Testing was conducted via the Developer*Connection* Program at the Avaya Solution and Interoperability Test Lab.

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1. Introduction

These Application Notes describe a compliance-tested configuration comprised of Avaya Proactive Contact 3.0 (PC3) and etalk Qfiniti Quality Assurance Recording 3.1. etalk Qfiniti delivers a recording solution that records all calls for compliance management, or selectively captures voice and desktop activity for quality assurance. For quality monitoring applications, Qfiniti delivers the following features:

- Extensive monitoring functionality with multiple calls acquisition options including record-on-demand and live monitor.
- Intelligent business rules allow interactions to be recorded based on the source of an incoming call, the responding agent, time intervals, application activity or other telephony and desktop events.
- Users can quickly search for recordings based on customer data such as account number, social security number or other user information.
- Playback features include remote telephony playback, optional web-based playback, visual CTI and coaching markers and continuous playback.
- Allows comments and playback markers to be directly linked with recordings. In addition to coaching notes, voice comments and screen edits can be used to improve the quality and efficiency of agent coaching.

Qfiniti uses the Event Service of Avaya Proactive Contact 3.0 and the Telephony Services API (TSAPI) of Avaya Application Enablement Services (AES) to receive events concerning particular stations, agents, and agent hunt/skill groups. Qfiniti uses these events as recording triggers. There are many methods that Qfiniti can use for call recording; in this test configuration Qfiniti uses the Service Observing feature of Avaya Communication Manager to record calls. The Qfiniti server has a Dialogic D240 Voice Card that connects to a T1 interface on Avaya Communication Manager. The T1 channels are configured as DS1FD type stations on Avaya Communication Manager and are used for recording the calls on the agents' telephones.

There are three possible system deployments of Avaya Proactive Contact 3.0.

- Avaya Proactive Contact with computer telephony interface (CTI)
- Avaya Proactive Contact with Avaya Proactive Contact Gateway PG230
- Avaya Proactive Contact with the System Cabinet (the System Cabinet contains the PG230)

The compliance testing was configured with Avaya Proactive Contact with the System Cabinet.

Figure 1 depicts an overview of the etalk Qfiniti integration to Avaya Proactive Contact 3.0 (PC3). The configuration consists of a pair of redundant Avaya S8700 Media Servers, an Avaya MCC1 Media Gateway, an Avaya AES server, Avaya digital and IP Telephones, an Avaya Proactive Contact System Cabinet, agent workstations, and a Qfiniti server.

The dashed lines show the Ethernet connections between the components. The dotted lines show the CTI and Event Service API applications used by Avaya Proactive Contact 3.0. The solid line

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shows the direct connection between the DS1 circuit pack on the Avaya MCC1 Media Gateway and the Dialogic Voice card on the etalk Qfiniti server.

There is one TSAPI CTI link configured between Avaya Communication Manager and AES in this test environment. This CTI link is used jointly by Avaya PC3 and Qfiniti as TSAPI CTI users. The Qfiniti server contains a Dialogic Voice Card that is used to capture the audio using the Service Observing feature and T1 channels on Avaya Communication Manager.

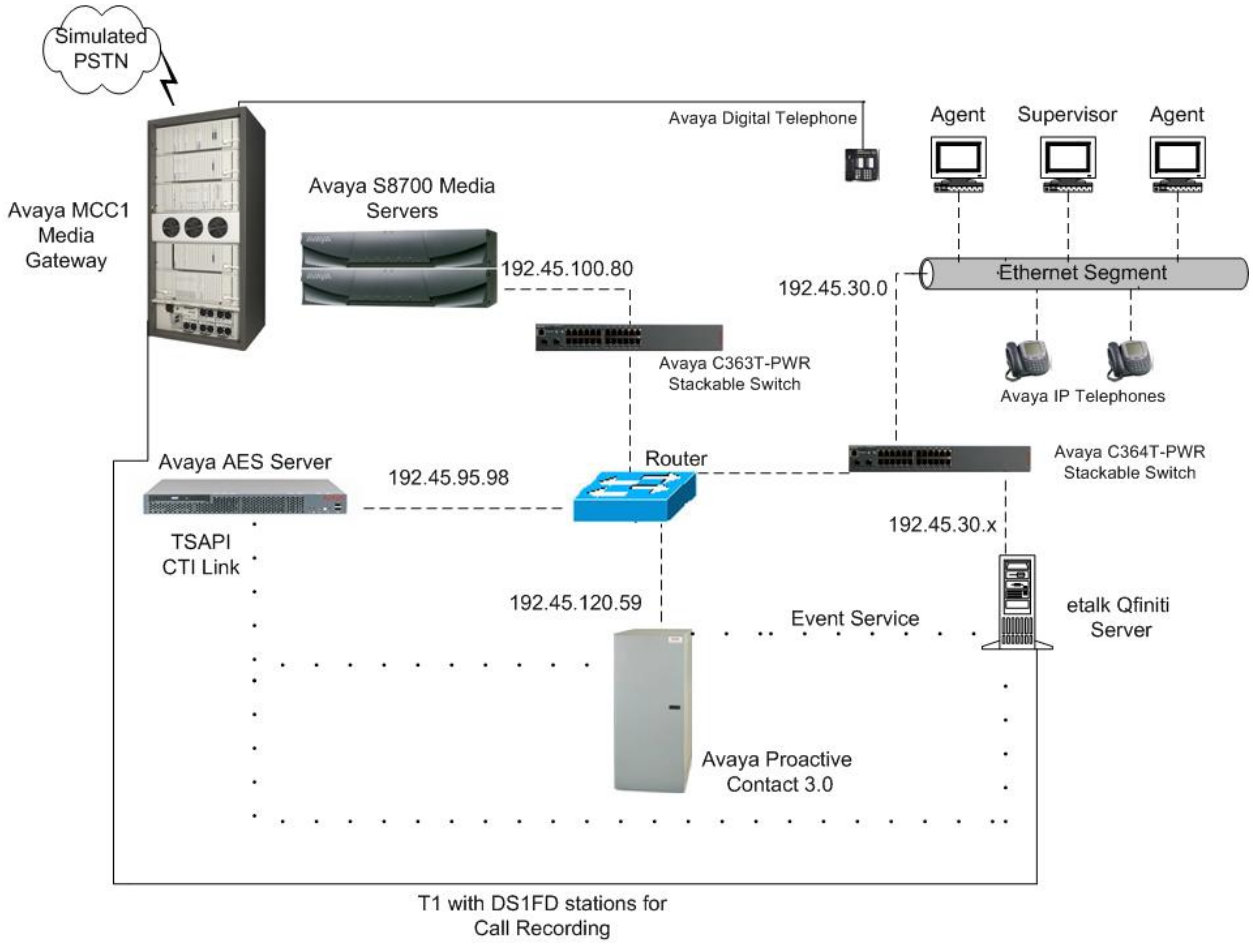

Figure 1: Avaya Proactive Contact 3.0, Avaya Communication Manager, Avaya AES and etalk Qfiniti Configuration

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2. Equipment and Software Validated

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

Equipment	Software
Hewlett Packard C8000 Server	Avaya Proactive Contact 3.0 SP 1, Build 36
Avaya S8700 Media Servers	Avaya Communication Manager 3.1.2 (R013X.01.2.632.1)
Avaya MCC1 Media Gateway	
TN2312BP IP Server Interface	HW03 FW031
TN799DP C-LAN Interface	HW01 FW017
TN2302AP IP Media Processor	HW13 FW111
TN464GP DS1 Interface	HW02 FW018
Avaya 4610 and 4621 IP Telephones	FW 2.2
Avaya Application Enablement Services Server	3.1.1 Patch 1, Build 43.2
Avaya C363T-PWR Converged Stackable Switch	4.5.14
Avaya C364T-PWR Converged Stackable Switch	4.5.14
etalk Qfiniti Compaq 320 Server	QA Recording 3.1
Dialogic Voice Card (D/240 PC1-T1) in etalk Qfiniti Server	Release 6.0

3. Configure Avaya Communication Manager

This section provides the procedures for configuring Avaya Communication Manager. The following steps will be followed:

- Configure service observing.
- Configure DS1FD stations.
- Configure Computer Telephony Integration (CTI) link.

The Avaya Communication Manager to Avaya Proactive Contact configuration is outside the scope of these Application Notes and should already be operating successfully. For all other provisioning information, refer to the Avaya Communication Manager Product documentation.

The administration on Avaya Communication Manager is performed through the System Access Terminal (SAT) interface. The Avaya Site Administration application can be used to access the SAT interface.

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3.1. Configure Service Observing

Qfiniti uses the Avaya Communication Manager Service Observing feature to record calls on agent telephones. Implementation of the required Service Observing feature on Avaya Communication Manager can be achieved using the following series of steps.

Step	Description
1.	Verify that the **Service Observing (Basic)** and **Service Observing (Remote/By FAC)** fields are set to "y" using the **display system-parameters customer-options** command. If those fields are not set to "y", contact an authorized Avaya sales team or business partner. A system license file controls the settings on the **system-parameters customer-options** form.

```
display system-parameters customer-options                      Page   6 of  11
                        CALL CENTER OPTIONAL FEATURES

                          Call Center Release: 3.0

                                 ACD? y                       Reason Codes? y
                       BCMS (Basic)? y               Service Level Maximizer? y
         BCMS/VuStats Service Level? y              Service Observing (Basic)? y
  BSR Local Treatment for IP & ISDN? n      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? n                  Vectoring (Basic)? y
                  Dynamic Advocate? n                Vectoring (Prompting)? y
       Expert Agent Selection (EAS)? y              Vectoring (G3V4 Enhanced)? y
                           EAS-PHD? y               Vectoring (3.0 Enhanced)? n
                 Forced ACD Calls? n      Vectoring (ANI/II-Digits Routing)? y
               Least Occupied Agent? n      Vectoring (G3V4 Advanced Routing)? y
          Lookahead Interflow (LAI)? y                    Vectoring (CINFO)? y
Multiple Call Handling (On Request)? y       Vectoring (Best Service Routing)? n
    Multiple Call Handling (Forced)? y                  Vectoring (Holidays)? n
  PASTE (Display PBX Data on Phone)? y                Vectoring (Variables)? n
        (NOTE: You must logoff & login to effect the permission changes.)
```


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Step	Description
2.	Add a feature access code for service observing listen only. Enter "*05**"** or a feature access code that conforms to the local dial plan in the **Service Observing Listen Only Access Code** field using the **change feature-access-codes** command. Submit these changes.

```
change feature-access-codes                                    Page   5 of   8
                              FEATURE ACCESS CODE (FAC)

                         Automatic Call Distribution Features

                    After Call Work Access Code: *13
                            Assist Access Code:
                          Auto-In Access Code: *15
                         Aux Work Access Code: *16
                            Login Access Code: *17
                           Logout Access Code: *20
                        Manual-in Access Code: *12
      Service Observing Listen Only Access Code: *05
      Service Observing Listen/Talk Access Code: *06
                  Add Agent Skill Access Code:
               Remove Agent Skill Access Code:
            Remote Logout of Agent Access Code:
```


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3.2. Configure DS1FD stations

Qfiniti uses T1 or E1 lines configured as DS1FD stations to record telephone calls. Implementation of the required DS1FD stations on Avaya Communication Manager can be achieved using the following series of steps.

Step	Description
1.	Enter the **add ds1 n** command, where **n** is the location of the circuit pack. Enter a descriptive name in the **Name** field. Set the **Line Coding**, **Framing Mode**, and **Signaling Mode** fields as shown. The remaining fields can retain the default values.

```
add ds1 1b17
                                DS1 CIRCUIT PACK

            Location: 01B17                          Name: etalk
            Bit Rate: 1.544                   Line Coding: ami-zcs
   Line Compensation: 1                      Framing Mode: d4
      Signaling Mode: robbed-bit


Interface Companding: mulaw
           Idle Code: 11111111




      Slip Detection? n                Near-end CSU Type: other
```


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Step	Description
2.	Enter the **change cor n** command, where **n** is the class of restriction number. This COR will be used by the DS1FD stations. Set the **Can Be a Service Observer** field to "y". change cor 4 Page 1 of 4 CLASS OF RESTRICTION COR Number: 4 COR Description: etalk FRL: 7 APLT? y Can Be Service Observed? n 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: all Facility Access Trunk Test? n Restricted Call List? n Can Change Coverage? n Access to MCT? y Fully Restricted Service? n Group II Category For MFC: 7 Hear VDN of Origin Annc.? n Send ANI for MFE? n Add/Remove Agent Skills? n MF ANI Prefix: Automatic Charge Display? n Hear System Music on Hold? y PASTE (Display PBX Data on Phone)? n Can Be Picked Up By Directed Call Pickup? n Can Use Directed Call Pickup? n Group Controlled Restriction: inactive
3.	Use the **add station n** command, where **n** is a valid extension. Configure each DS1 channel as a station with the **Type** field set to "DS1FD". Set the **Port** field to an unused channel on the DS1 board. Set the **COR** field to the class of restriction number configured in Step 2. Repeat this configuration for each DS1 channel. In this configuration, 4 DS1 channels were configured with an extension range of 22285 to 22288. add station 22285 Page 1 of 3 STATION Extension: 22285 Lock Messages? n BCC: 0 **Type: DS1FD** Security Code: TN: 1 **Port: 01B1701** Coverage Path 1: **COR: 4** Name: CR Port 25 Coverage Path 2: COS: 1 Hunt-to Station: Tests? y STATION OPTIONS Loss Group: 4 Off Premises Station? y R Balance Network? n

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3.3. Configure the Computer Telephony Integration (CTI) Link

The following steps demonstrate the configuration on Avaya Communication Manager for the CTI link. See Section 4 for details on configuring the CTI link on AES.

Note: The TSAPI CTI link does not require any license on Avaya Communication Manager. Only a "TSAPI Basic Users" license is required on AES.

Step	Description
1.	Enter the **display node-names ip** command. Note the IP address of the AES server. Note the node names and IP addresses of the C-LAN boards. In the compliance-tested configuration, one C-LAN board (**clan-1b04**) was used for connectivity to AES (aes98). It is assumed that the C-LAN board has already been administered.
2.	Enter the **change ip-services** command. On Page 1 of the **ip-services** form, configure entries for C-LAN boards for the AES link as follows: • **Service Type** – set to "AESVCS". • **Enabled** – set to "y". • **Local Node** – set to the node name of a C-LAN (clan-1b04 in the example). • **Local Port** – set to "8765".

```
display node-names ip                                          Page   1 of   1
                            IP NODE NAMES
    Name              IP Address          Name              IP Address
abacus-5000         192.45 .100.201                          .   .   .
aes98               192.45 .95 .98                           .   .   .
cceserver           192.45 .120.15                           .   .   .
clan-1a03           192.45 .100.97                           .   .   .
clan-1b04           192.45 .100.84                           .   .   .
clan-1b09           192.45 .100.87                           .   .   .
clanP2-1a04         192.168.61 .21                           .   .   .
clanP27-2a03        172.16 .252.200                          .   .   .
clanP7-3a04         192.168.1  .10                           .   .   .
default             0  .0  .0  .0                           .   .   .
devcon32-1a03       192.45 .100.36                           .   .   .
devcon33-1a03       192.45 .100.16                           .   .   .
ipoffice-room3      192.45 .30 .162                          .   .   .
medpro-1b05         192.45 .100.85                           .   .   .
procr               192.45 .100.81                           .   .   .
prowlerP2-1a05      192.168.61 .22                           .   .   .
```

```
change ip-services                                             Page   1 of   3

                                    IP SERVICES
 Service     Enabled     Local        Local       Remote       Remote
  Type                   Node         Port        Node         Port
SAT           y      clanP27-2a03     5023    any              0
SAT           y      clan-1b04        5023    any              0
AESVCS        y      clan-1b04        8765
AESVCS        y      clan-1b09        8765
```


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Step	Description

3.	On Page 3, enter the hostname of the AES server for **AE Services Server** and an alphanumeric password for **Password**. Set **Enabled** to "y". The same password will be configured on the AES server in Section 4.2 Step 4.
	
	`change ip-services` `Page 3 of 3`
	`AE Services Administration`
	
	`Server ID` `AE Services Server` `Password` `Enabled` `Status`
	`1:` **`devconaes01`** **`*`** **`y`**
	`2:` `AES-DevCon2` `*` `y` `in use`
	`3:`
	`4:`
	`5:`

4.	Enter the **add cti-link m** command, where **m** is an available number between 1 and 16, inclusive. Enter an **Extension,** a valid number under the provisioned dial plan in Avaya Communication Manager. Set **Type** to "ADJ-IP", and assign a descriptive **Name** to the CTI link.
	
	`add cti-link 15` `Page 1 of 2`
	`CTI LINK`
	`CTI Link: 15`
	`Extension: 24998`
	`Type: ADJ-IP`
	`COR: 1`
	`Name: AES DEVCON2715`

4. Configure Avaya Application Enablement Services

This section details the administration of a TSAPI CTI link on the Avaya Application Enablement Services (AES) server. The TSAPI link is used by Avaya Proactive Contact 3.0 (PC3) to communicate with Avaya Communication Manager when the Predictive Agent Blending feature is enabled on Avaya PC3. This administration should have already been completed during the installation of Avaya PC3 along with the creation of a TSAPI user ID.

The only additional configuration on AES needed for the etalk Qfiniti solution is the configuration of a new TSAPI CTI user for Qfiniti. The steps describing the configuration of the "Switch Connection" to Avaya Communication Manager and the TSAPI CTI link are included here for reference.

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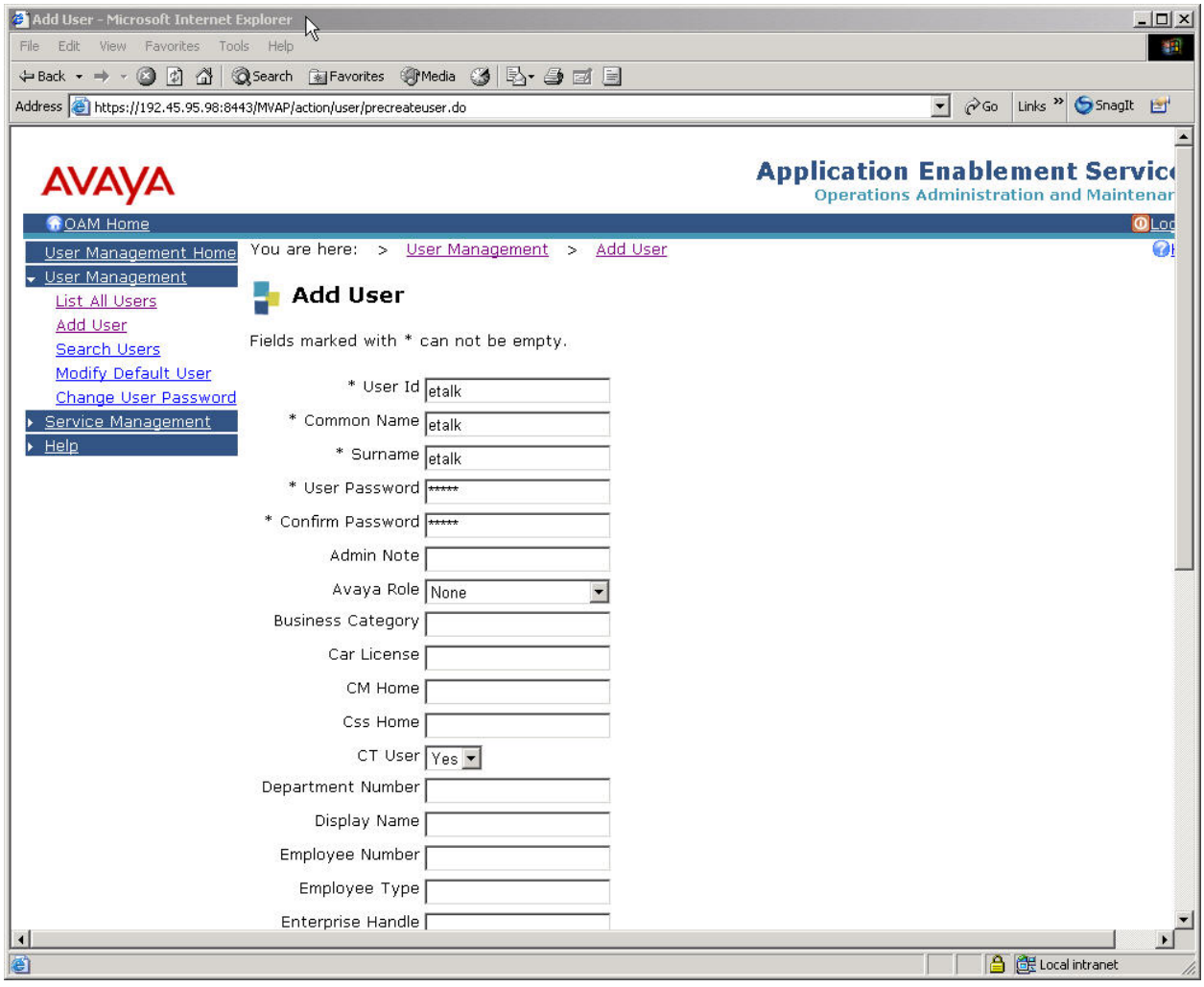
4.1. User Management

Step	Description
1.	Launch a web browser, enter https://<IP address of AES server>:8443/MVAP in the URL, and log in with the appropriate credentials for accessing the AES User Management pages.
2.	Click on **User Management**, then **User Management → Add User** in the left pane. Configure the asterisked fields and set **CT User** to "Yes". Qfiniti will use this **User Id** and **Password** to access the AES server. Scroll down to the bottom of the page and click on **Apply**. 

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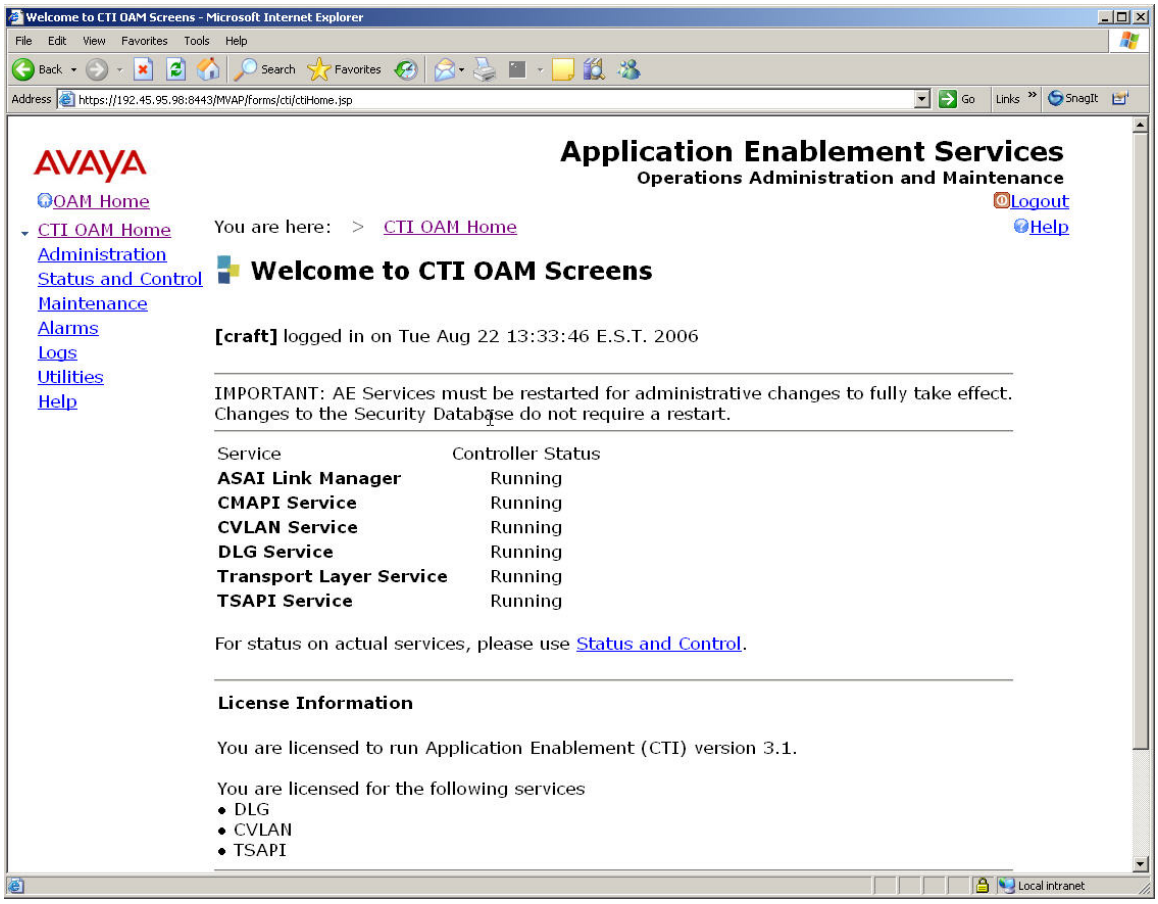
4.2. CTI OAM Admin

Step	Description
1.	Launch a web browser, enter https://<IP address of AES server>:8443/MVAP in the URL, and log in with the appropriate credentials for accessing the AES CTI OAM pages.
2.	Click **CTI OAM Home** in the left pane to display the **Welcome to CTI OAM Screens** window. Verify that the Avaya Application Enablement Services is licensed for the TSAPI service. If the TSAPI service is not licensed, contact the Avaya sales team or business partner for a proper license file. 

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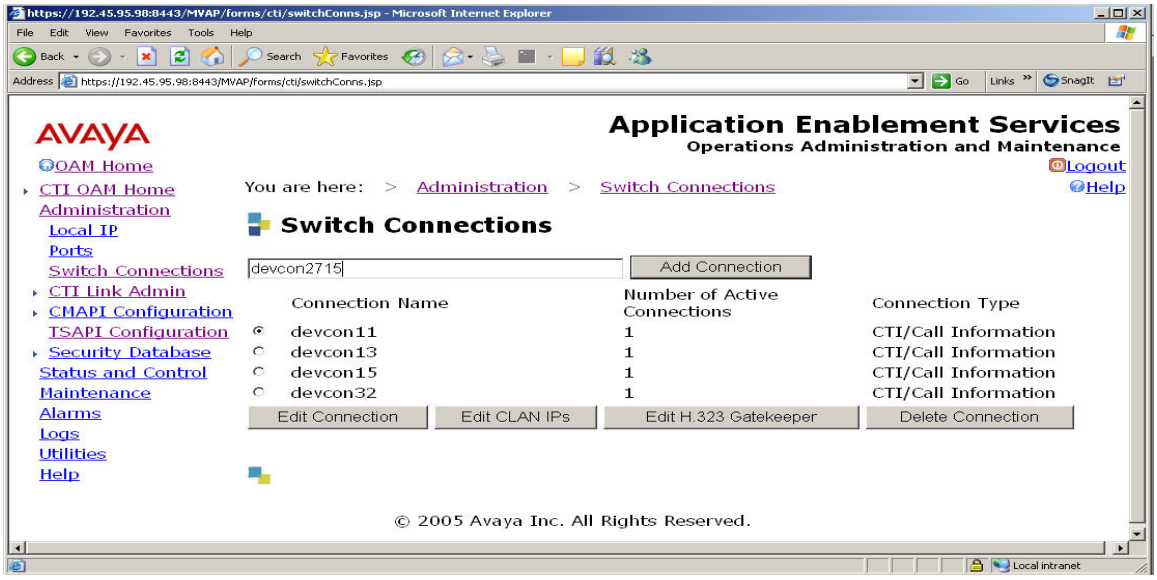
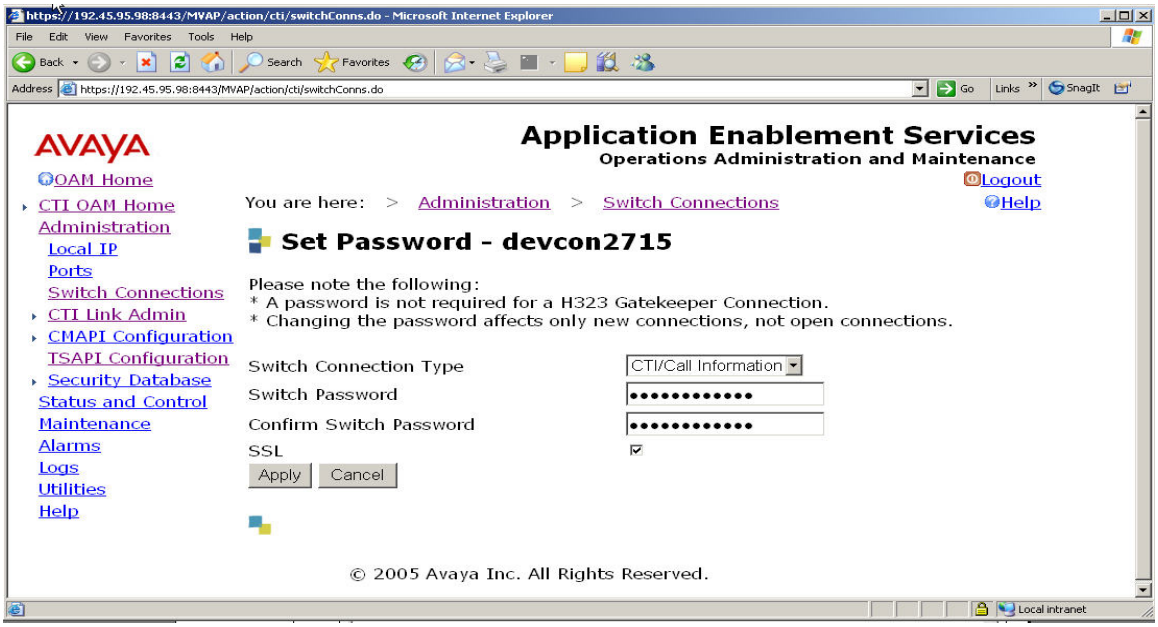
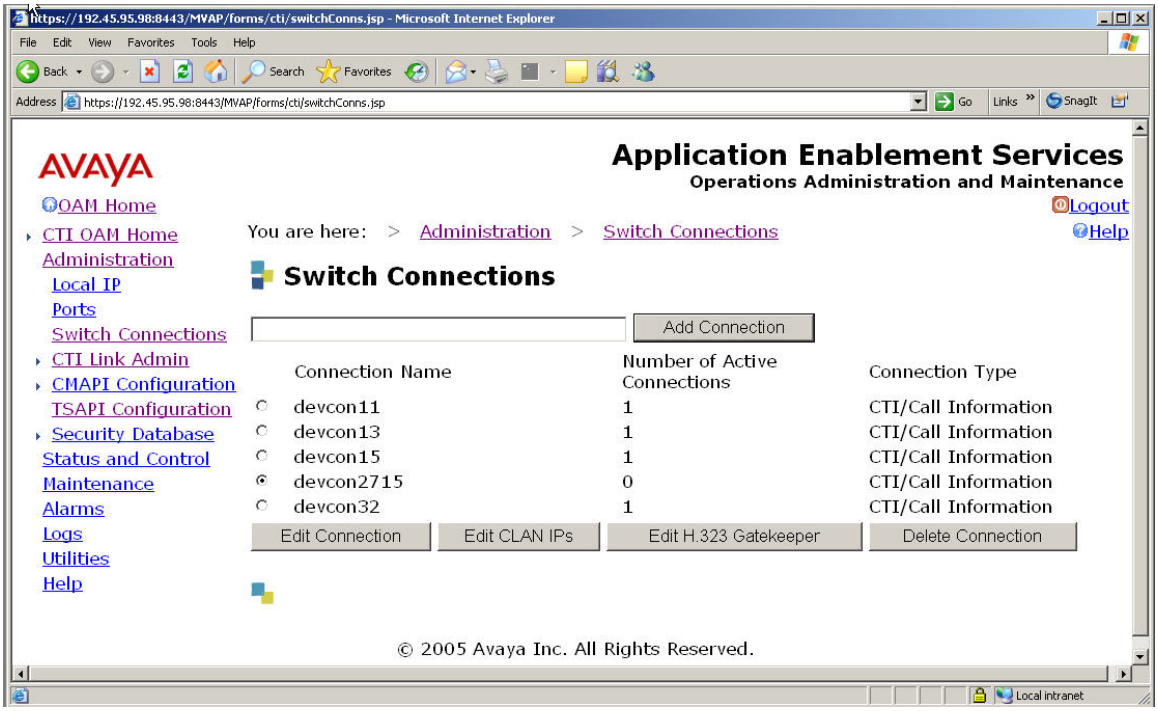
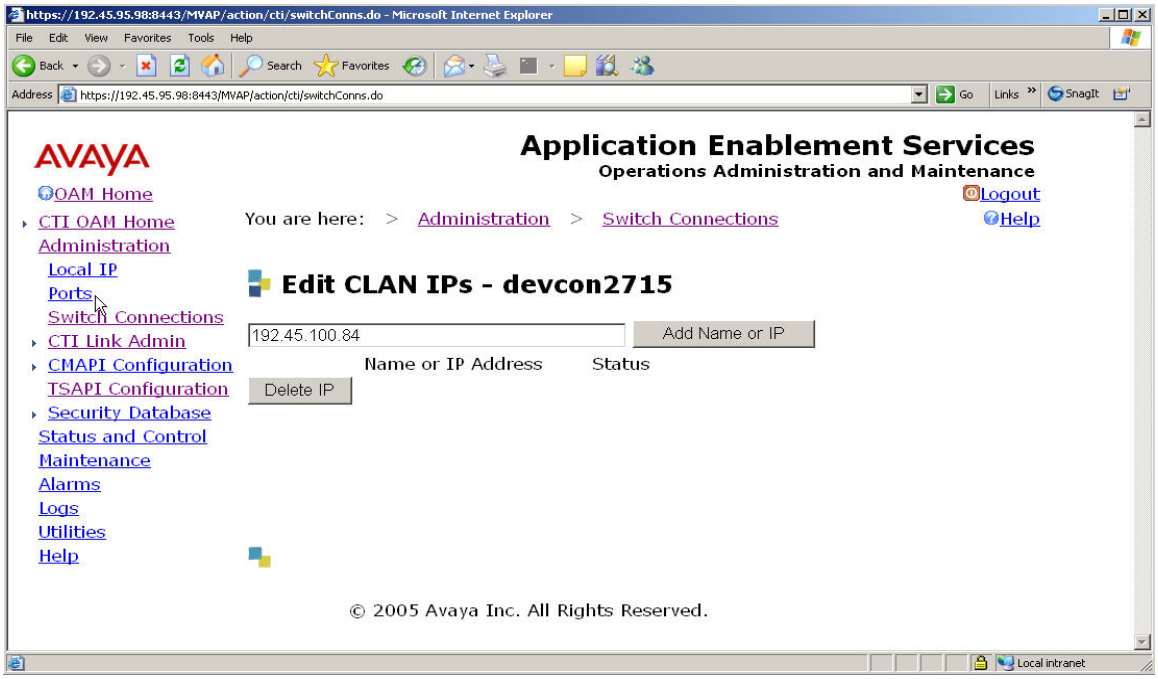
Step	Description
3.	Click **CTI OAM Home → Administration → Switch Connections** in the left pane to display the **Switch Connections** page. A switch connection defines a connection between the AES server and Avaya Communication Manager. Enter a descriptive name for the **Switch Connection** and click **Add Connection**. 
4.	The next window that appears prompts for the switch connection password. Select "CTI/Call Information" from the drop down list for **Switch Connection Type**. Enter the same password that was administered on Avaya Communication Manager in Section 3.3 Step 3. Check the **SSL** checkbox and click **Apply**. 

Step	Description
5.	After returning to the **Switch Connections** page, select the radio button corresponding to the switch connection added in Step 3, and click **Edit CLAN IPs**. 
6.	Enter the IP address of a C-LAN board from Section 3.3 Step 2, and click **Add Name or IP**. 

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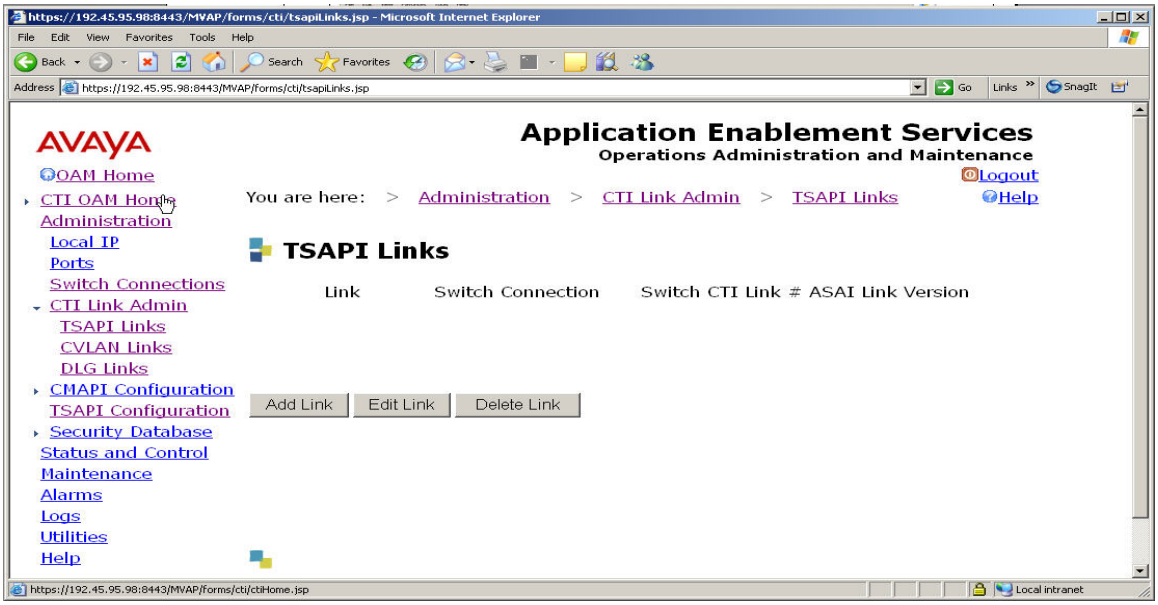
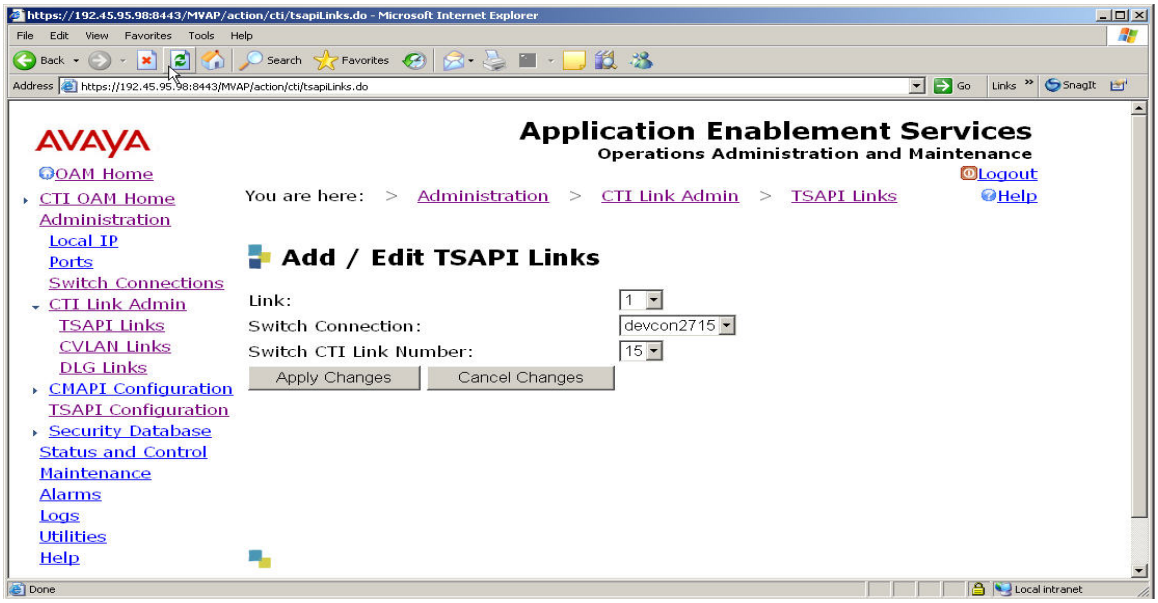
Step	Description
7.	Under **Administration** in the left pane, click **CTI Link Admin → TSAPI Links**. Click **Add Link**. 
8.	Set **Switch Connection** to the switch connection added in Step 3, and **Switch CTI Link Number** to the CTI link number configured on Avaya Communication Manager in Section 3.3 Step 4. The TSAPI **Link** field is significant to this AES server only and may be set to any unused value. Click **Apply Changes**. 

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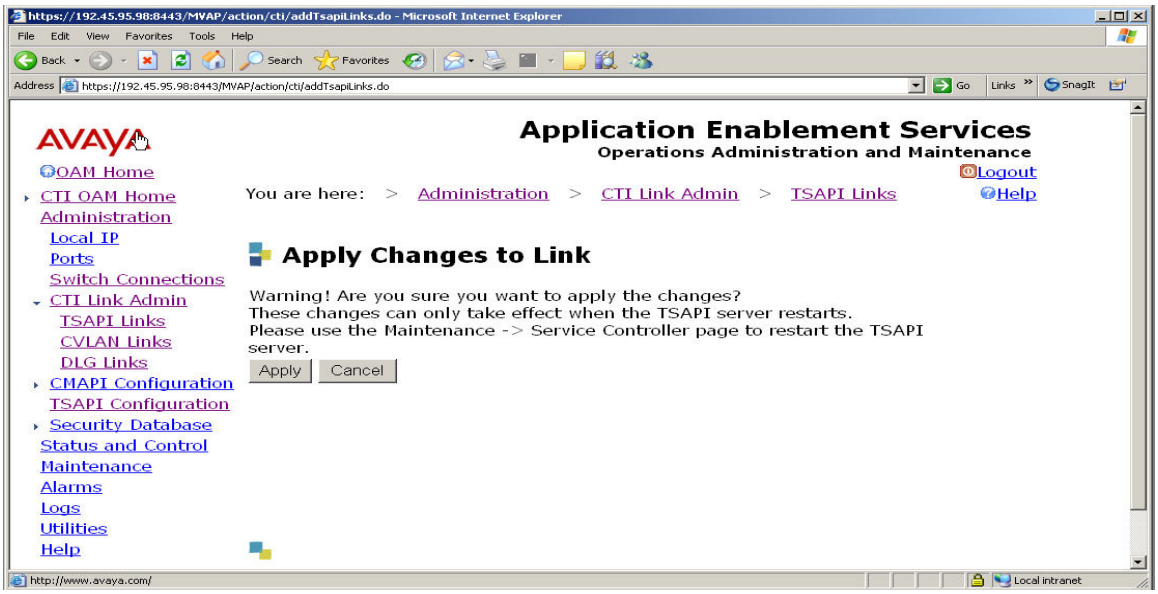
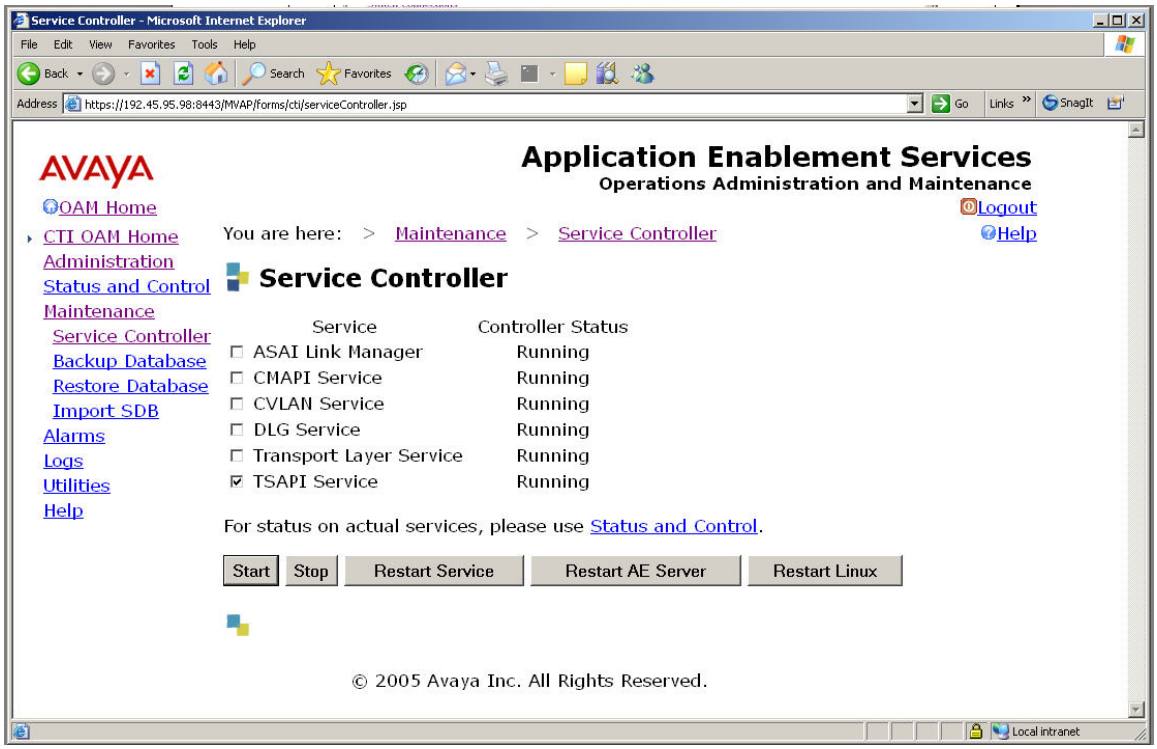
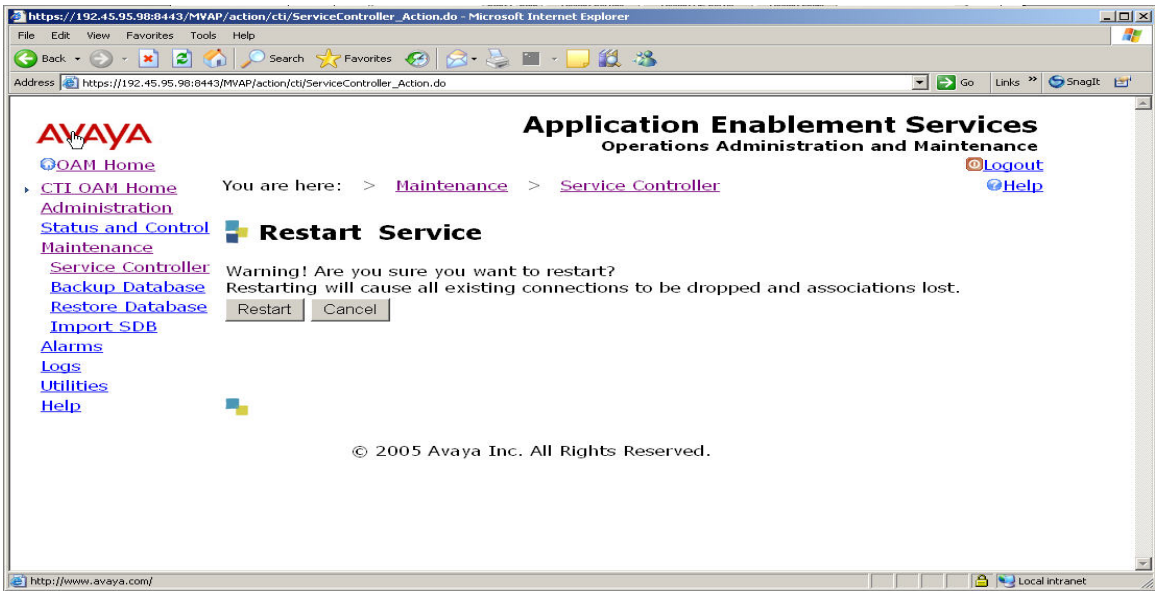
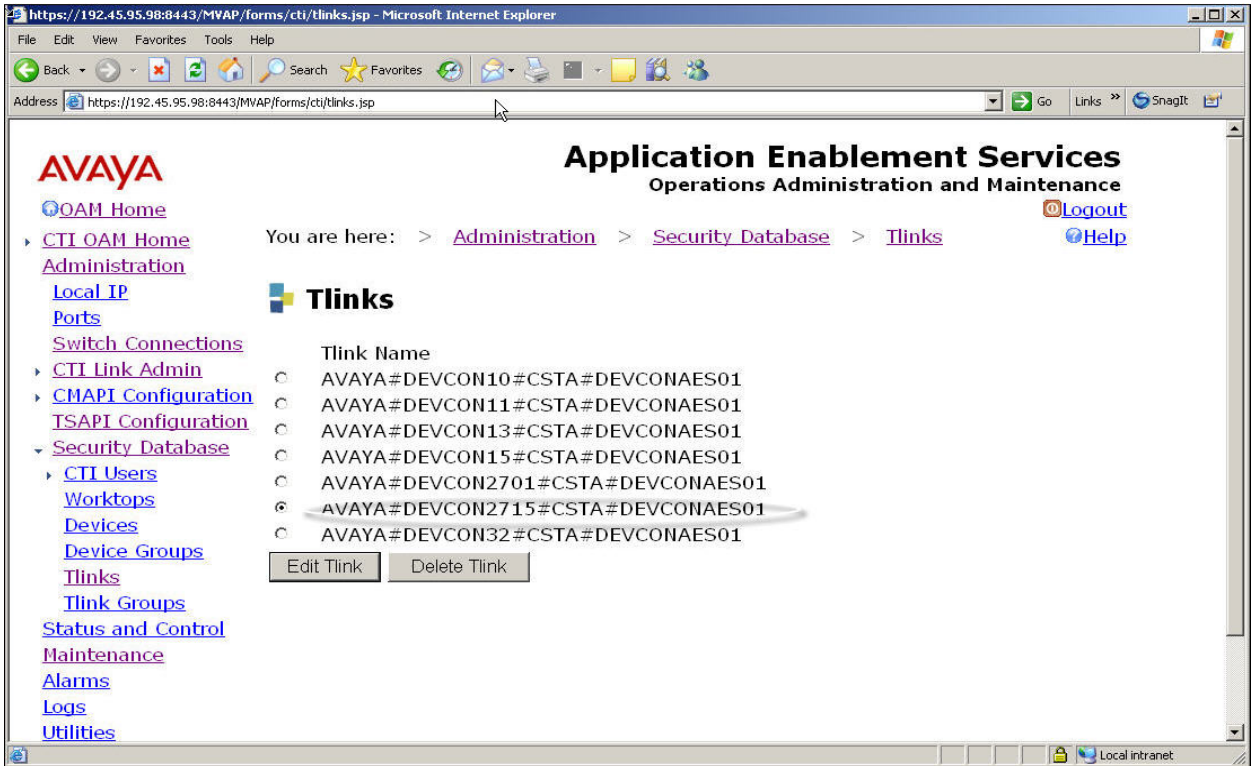
Step	Description
9.	Click **Apply** to confirm the changes. 
10.	Under **Maintenance** in the left pane, click **Service Controller**. Check the **TSAPI Service** checkbox and click **Restart Service**. 

Step	Description
11.	Click **Restart** to confirm the restart. 
12.	In the left panel of the **CTI OAM Home,** click **Administration → Security Database → Tlinks** to view the Tlink names (these names are automatically generated by AES). The Tlink Name that includes the switch connection created in Step 3 will be used by the Qfiniti server. 

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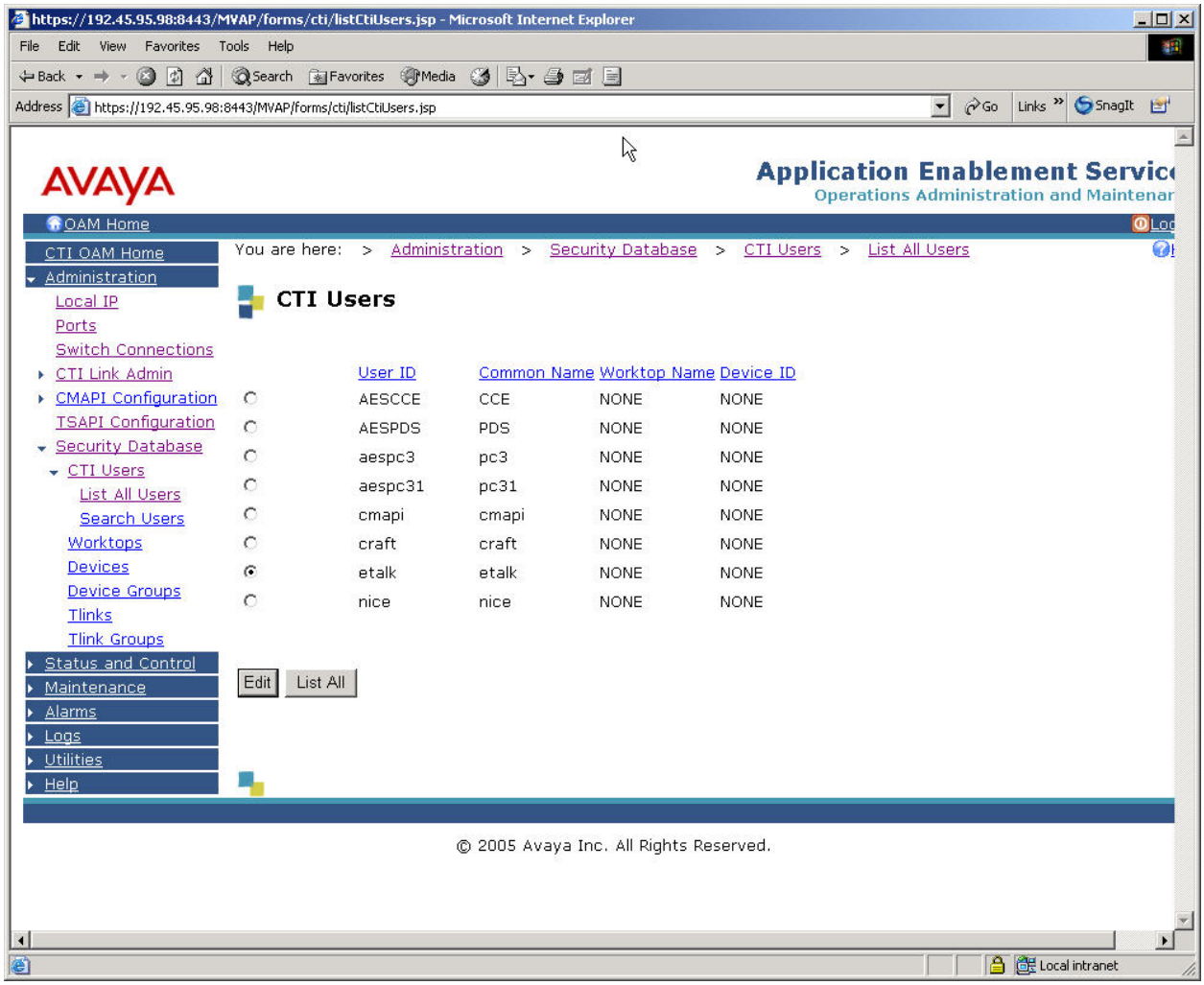
Step	Description
13.	Under **Administration** in the left pane, click on **Security Database → CTI Users → List All Users**. Select the **User ID** created in Section 4.1 Step 2 and click **Edit**. 

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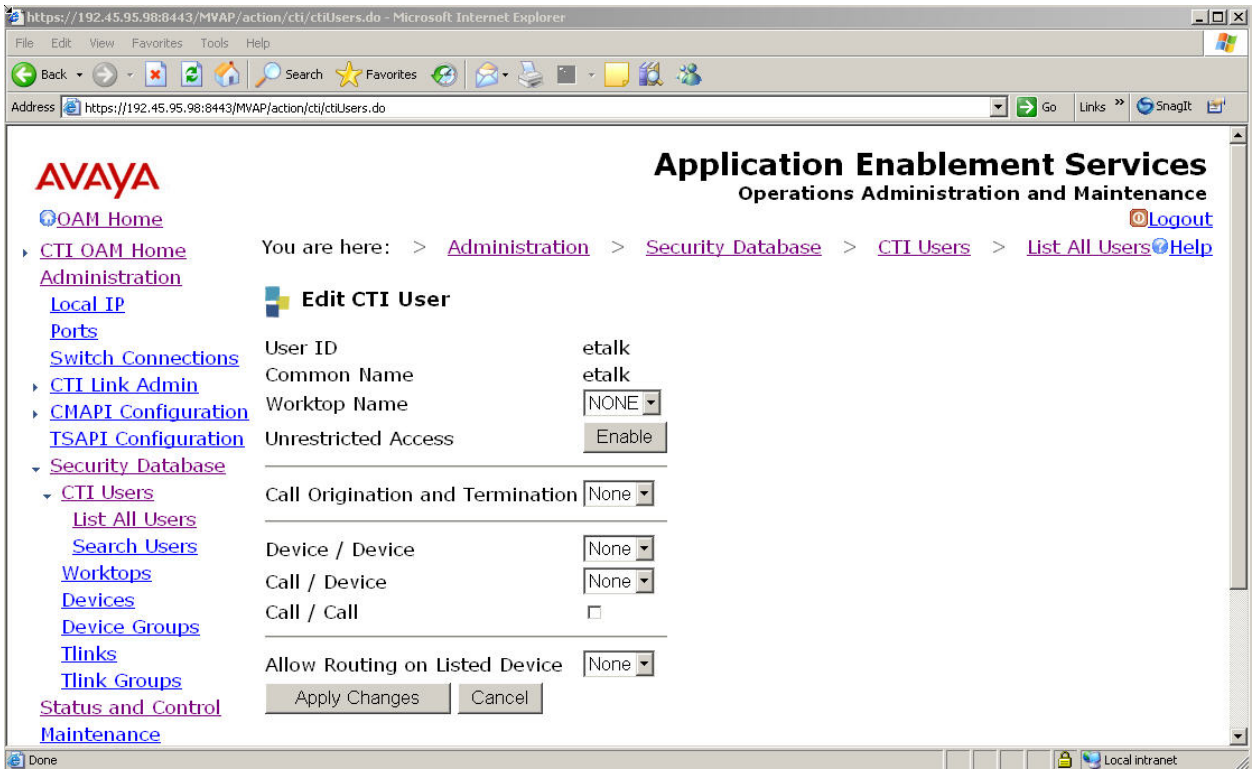
Step	Description
14.	Assign access rights and call/device privileges according to customer requirements. Unrestricted access was enabled during compliance testing. If Unrestricted Access is not desired, then consult the *Avaya MultiVantage™ Application Enablement Services 3.0 Administration and Maintenance Guide* for guidance on configuring the call/device privileges as well as devices and device groups. Click **Apply Changes**. 

5. Configure Avaya Proactive Contact 3.0

These Application Notes assume that the interface between the Avaya Proactive Contact 3.0 (PC3), Avaya S8700 Media Server and Avaya Application Enablement Services has been configured and is operational, and that a calling list has been successfully downloaded to PC3. The Avaya Proactive Contact that is deployed for this test configuration is the Avaya PC3 with the System Cabinet. Predictive Agent Blending and Intelligent Call Blending features were configured on PC3.

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6. Configure etalk Qfiniti

The following steps describe the configuration of the etalk Qfiniti server.

- Configure etalk Qfiniti System Configuration
- Configure etalk Qfiniti Desktop

6.1. Configure etalk Qfiniti System Configuration

Step	Description
1.	On the Qfiniti server, open the TSLIB.ini file located in the C:\WINDOWS folder. Add the following line in the **[Telephony Servers]** section of the file: <AES Server Client Connectivity IP address>=450. The line specifies the IP address and port that Qfiniti will use to connect to the TSAPI service on the AES server. For example, the following line was entered during compliance testing: **192.45.95.98=450**
2.	On the Qfiniti server, open the HOST file located in the C:\WINDOWS\SYSTEM32\DRIVERS\ETC folder. Add the IP address and host name of the PC3 and AES server. For example, the following lines were entered during compliance testing: **192.45.120.59 lzpds** **192.45.95.98 devconaes01**
3.	On the Qfiniti server, launch the Qfiniti System Configuration application and log in with the appropriate credentials.
4.	In the **System** folder, select the **Cross System Equipment** tab.

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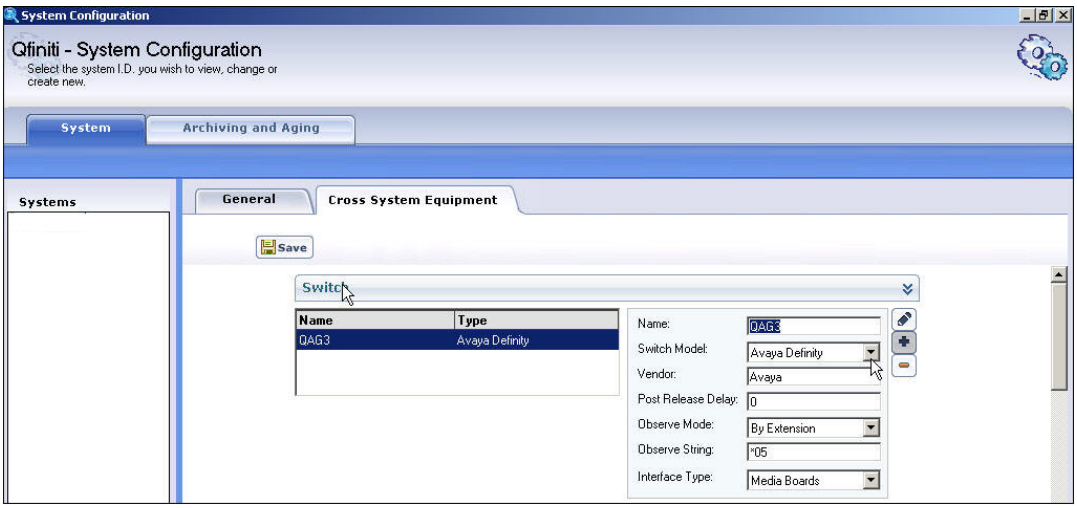
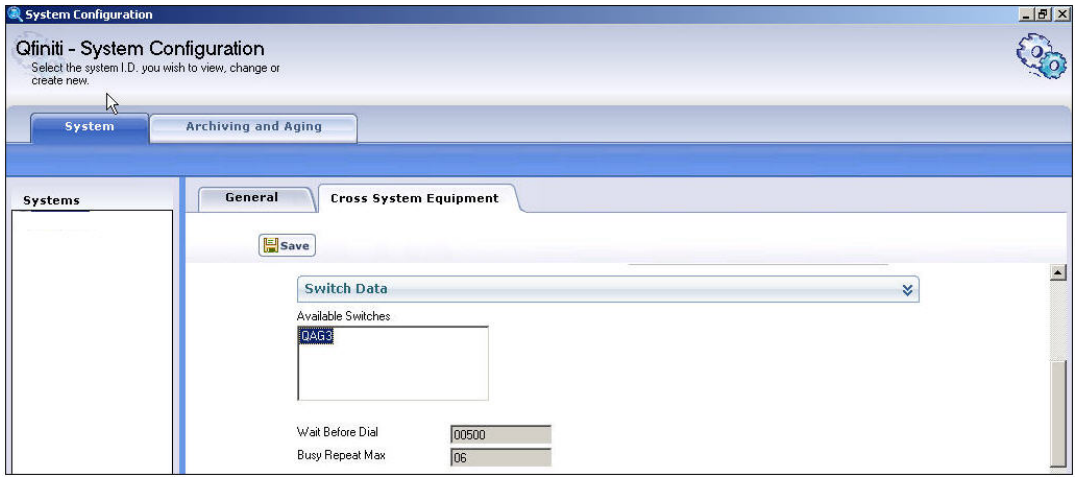
Step	Description
5.	In the **Switch** section, click to add a new switch. Configure the following. • **Name** – set to "QAG3" or any unique name. • **Switch Model** – select "Avaya Definity" from the drop down list. • **Vendor** – set to "Avaya". • **Post Release Delay** – set to "0". • **Observe Mode** – select "By Extension" from the drop down list. • **Observe String** – set to "*05*, as configured in Section 3.1 Step 2. • **Interface Type** – set to "Media Boards" from the drop down list. Click the "+" icon. 
6.	Scroll down to the **Switch Data** section and from the **Available Switches** list, select the switch configured in Step 5. Keep the default values. 

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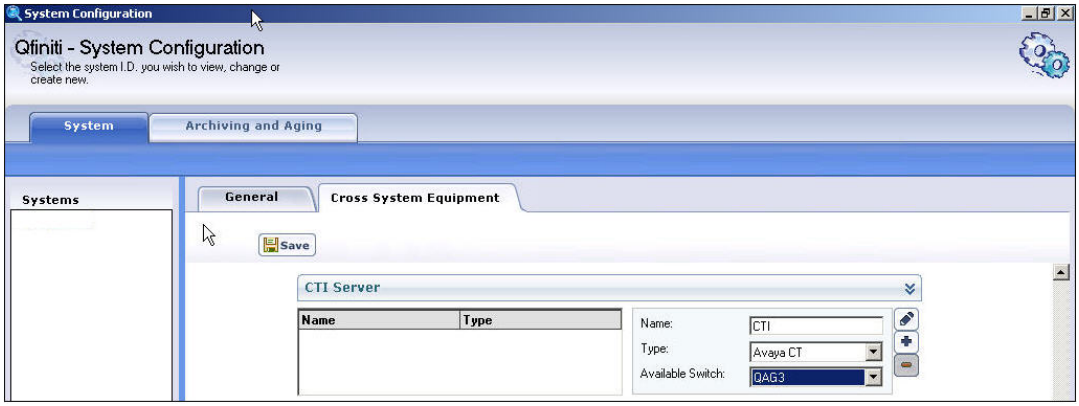
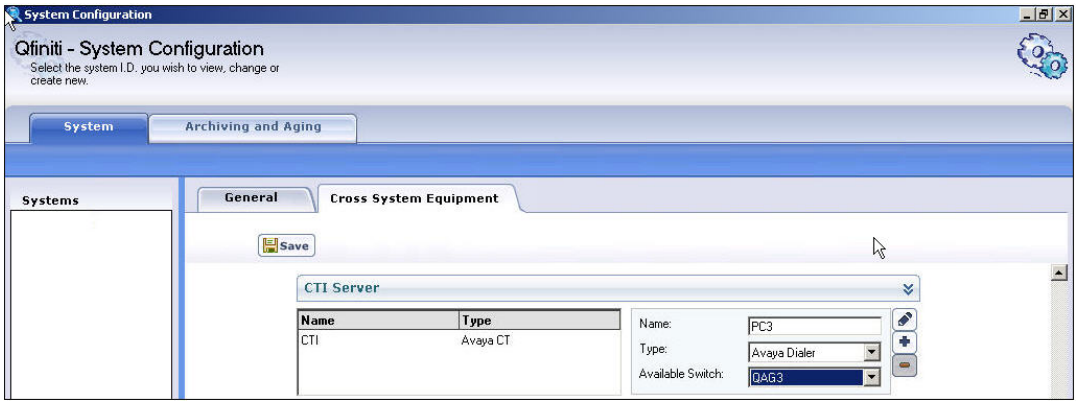
Step	Description
7.	Scroll down to the **CTI Server** section. Click to add a new CTI Server. Configure the following. • **Name** – set to "CTI" or any unique name. • **Type** – select "AvayaCT" from the drop down list. • **Available Switch** – select the switch configured in Step 5 from the drop down list. Click the "+" icon. 
8.	Click to add another CTI Server. Configure the following. • **Name** – set to "PC3" or any unique name. • **Type** – select "Avaya Dialer" from the drop down list. • **Available Switch** – select the switch configured in Step 5 from the drop down list. Click the "+" icon. 

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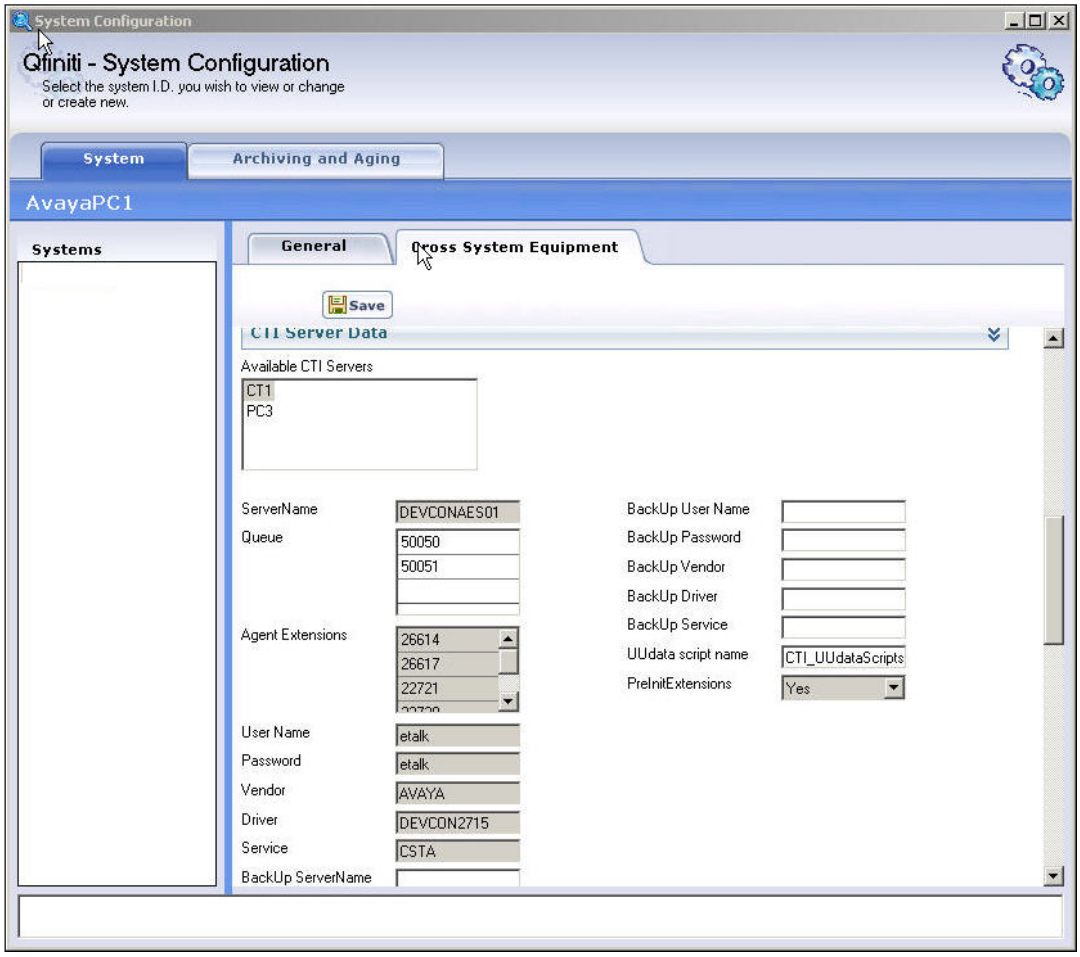
Step	Description
9.	Scroll down to the **CTI Server Data** section and from the **Available CTI Servers** list, select **CTI**. For **ServerName**, **Vendor**, **Driver** and **Service**, use the Tlink name (given in the format <Vendor>#<Driver>#<Service>#<ServerName>) from Section 4.2 Step 12. Configure the following. • **ServerName** – set to the hostname of the AES server. • **Queue** – set to the ACD skill groups that the agents will log into for inbound calls. These should have been configured on Avaya Communication Manager for the Predictive Agent Blending feature. • **Agent Extensions** – set to the extensions of the physical phones that the agents will use. • **User Name** and **Password** – set to the user account created in Section 4.1 Step 2. • **Vendor** – set to "AVAYA". • **Driver** – set to the Advertised Switch Name of the CTI link. • **Service** – set to "CSTA". Keep the default values for all other fields. 

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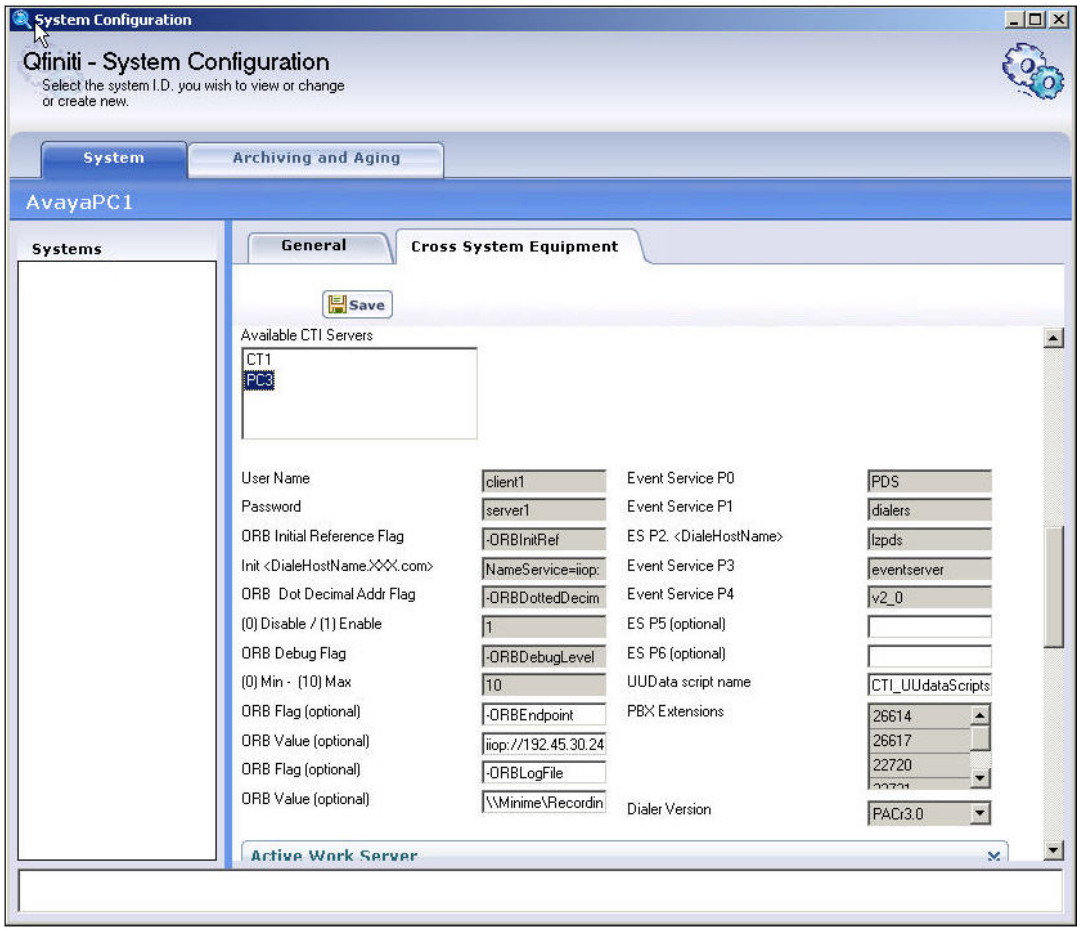
Step	Description
10.	From the **Available CTI Servers** list, select **PC3**. Configure the following. • **User Name** and **Password** – set to the user account for Event Service on PC3. • **Init <DialerHostName XXX.com>** - set to "NameService=iop://IP:23200/NameService", where IP is the IP address of the PC3 server. • **ES P2 <DialeHostName>** - set to the hostname of the PC3 server. • **Event Service P4** – set to "v2_0". • **PBX Extensions** – set to the extensions of the physical phones that the agents will use. • **Dialer Version** – select "PACr3.0" from the drop down list. Keep the default values for all other fields. **Click** Save **.** 

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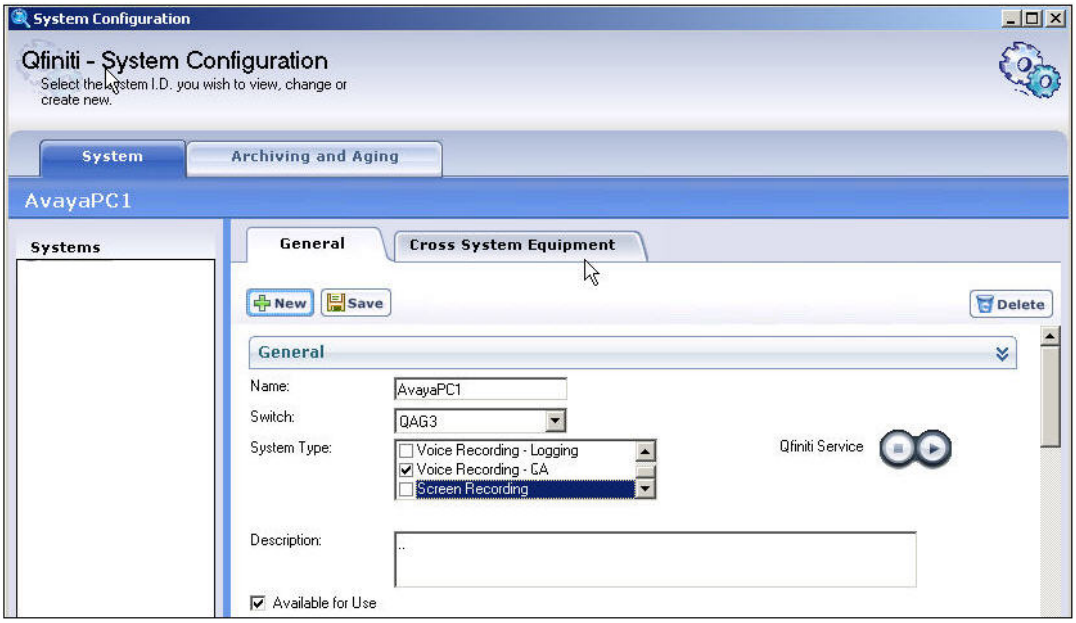
Step	Description
11.	In the **System** folder, select the **General** tab. Click New. Configure the following in the **General** section. • **Name** – set to "AvayaPC1" or any unique name. • **Switch** – select the switch configured in Step 5 from the drop down list. • **System Type** – check the "Voice Recording – QA" checkbox. Click Save. 

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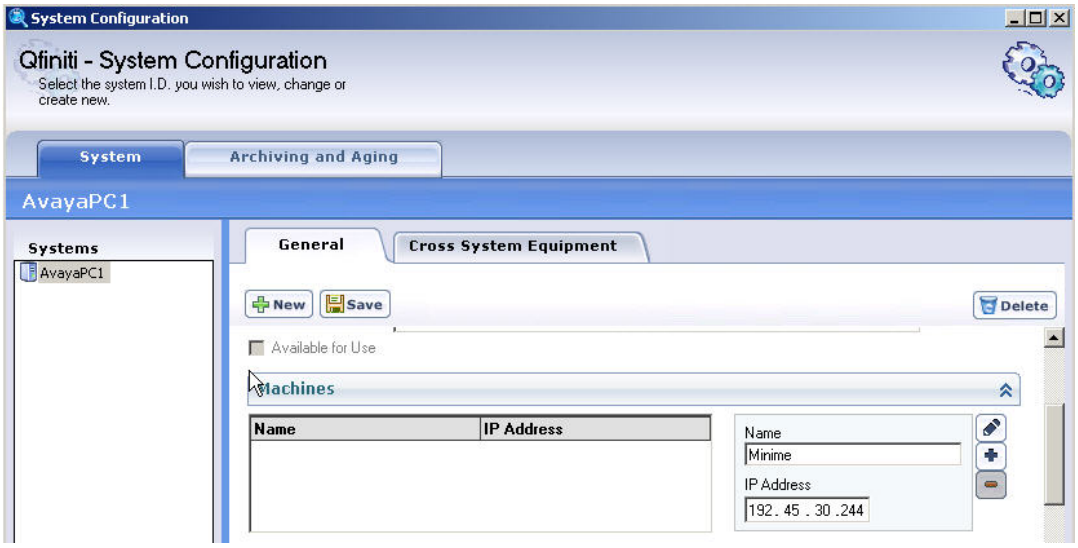
Step	Description
12.	From the **Systems** list in the left pane, select the system created in Step 11. Scroll down to the **Machines** section and click to add a new machine. Configure the following. • **Name** – set to the hostname of the Qfiniti server. • **IP Address** – set to the IP address of the Qfiniti server. Click the "+" icon. 

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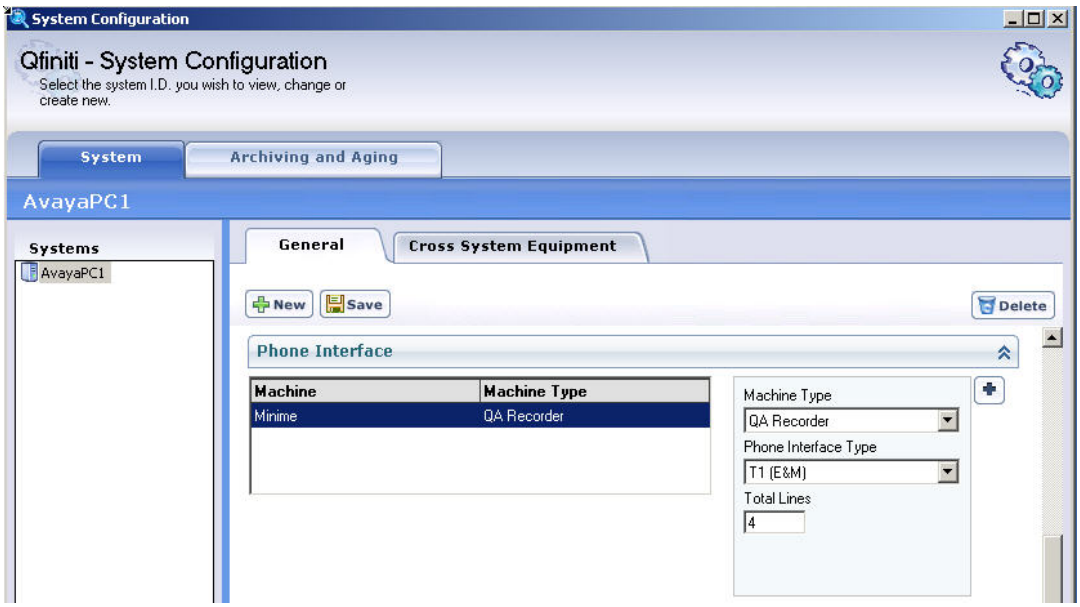
Step	Description
13.	Scroll down to the **Phone Interface** section. In the **Machine** list, select the machine configured in Step 12. Configure the following. • **Machine Type** – select "QA Recorder" from the drop down list. • **Phone Interface Type** – select "T1 (E&M)" from the drop down list. • **Total Lines** – set to the number of recording lines. This is the number of DS1FD stations administered on the T1 from Section 3.2 Step 3. Click the "+" icon. 

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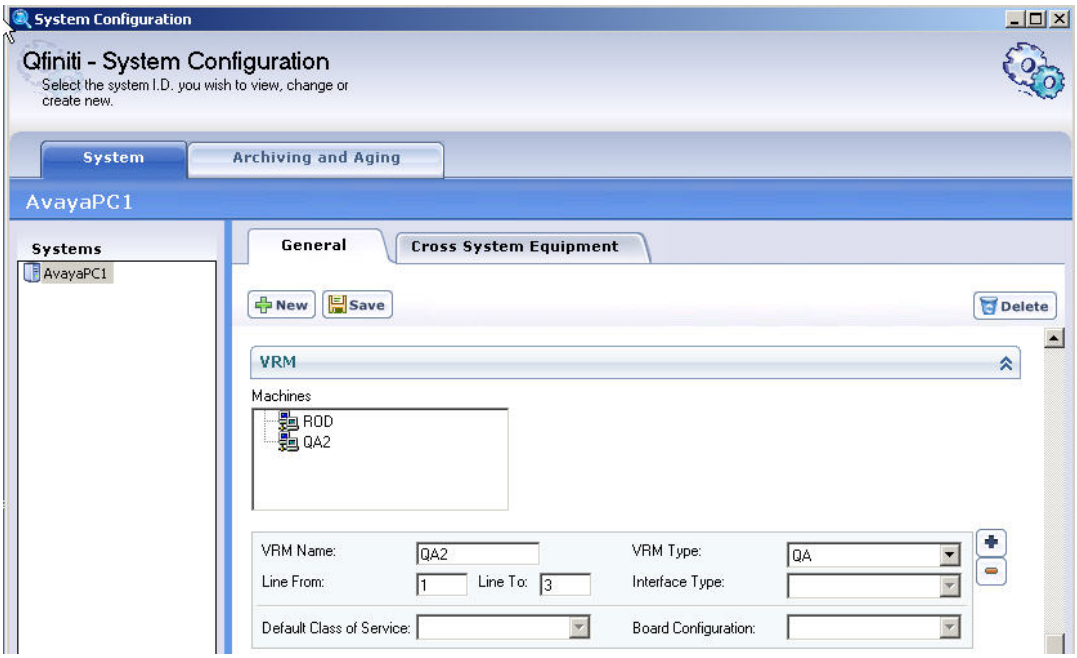
Step	Description
14.	Scroll down to the **VRM** section. To create a "QA Virtual Recording Machine", configure the following. • **VRM Name** - set to "QA2"" or any unique name. • **VRM Type** – select "QA" from the drop down list. • **Lines From** and **Lines To** – set with the range of recording lines for QA recording. These are a subset of the T1 ports administered as DS1FD stations in Section 3.2 Step 3. Click the "+" icon. 

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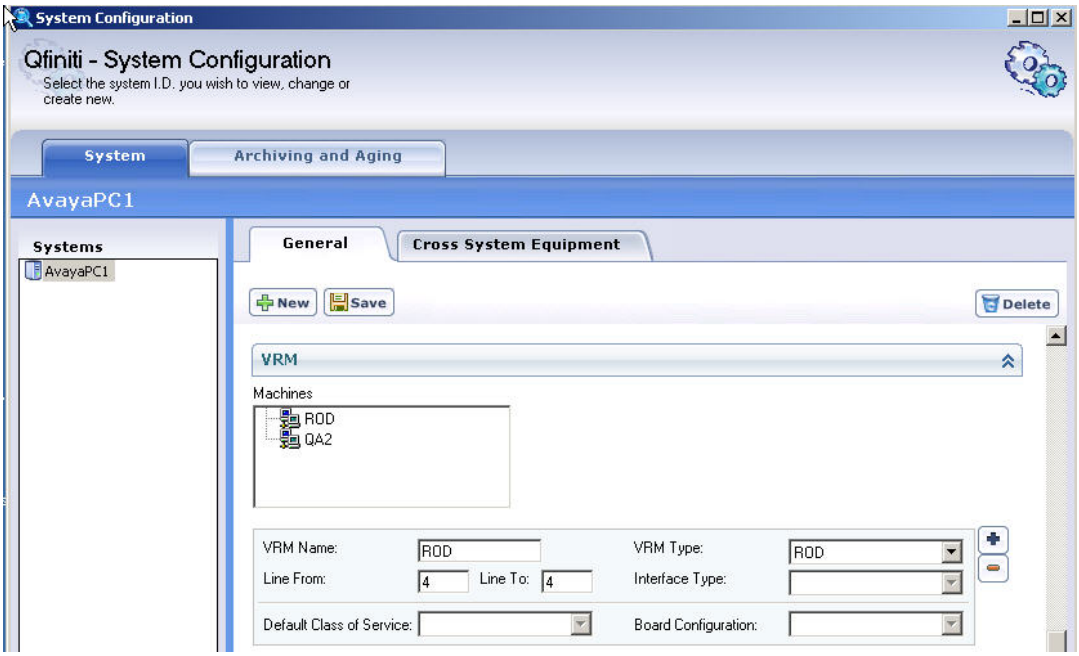
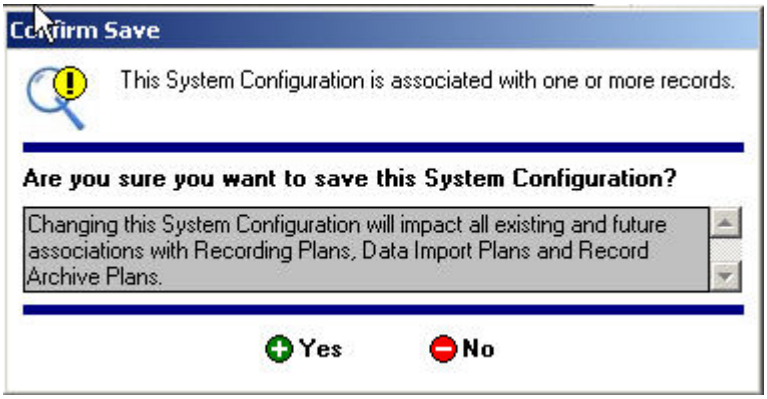
Step	Description
15.	To create a “Record on Demand Virtual Recording Machine”, configure the following. • **VRM Name** - set to “ROD”” or any unique name. • **VRM Type** – select “ROD” from the drop down list. • **Lines From** and **Lines To** – set with the range of recording lines to be used for on-demand recording. This is subset of the T1 ports administered as DS1FD stations in Section 3.2 Step 3. Click the “+” icon. 
16.	Click Save. Click **Yes** in the confirmation window that appears. 

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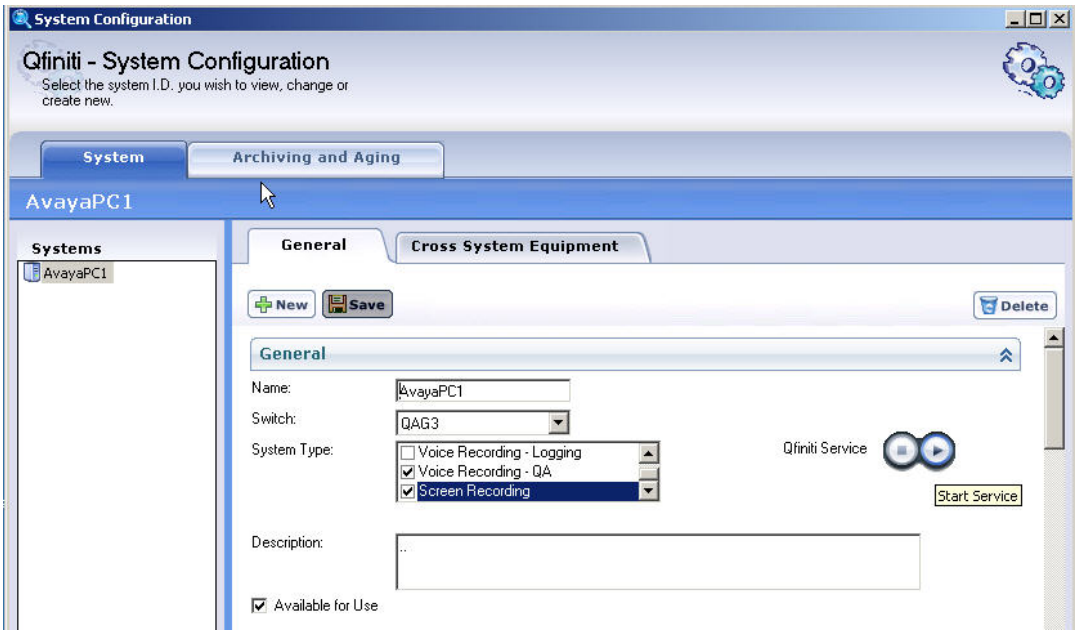
Step	Description
17.	Scroll up to the **General** section. Click the **Start Service** icon. 

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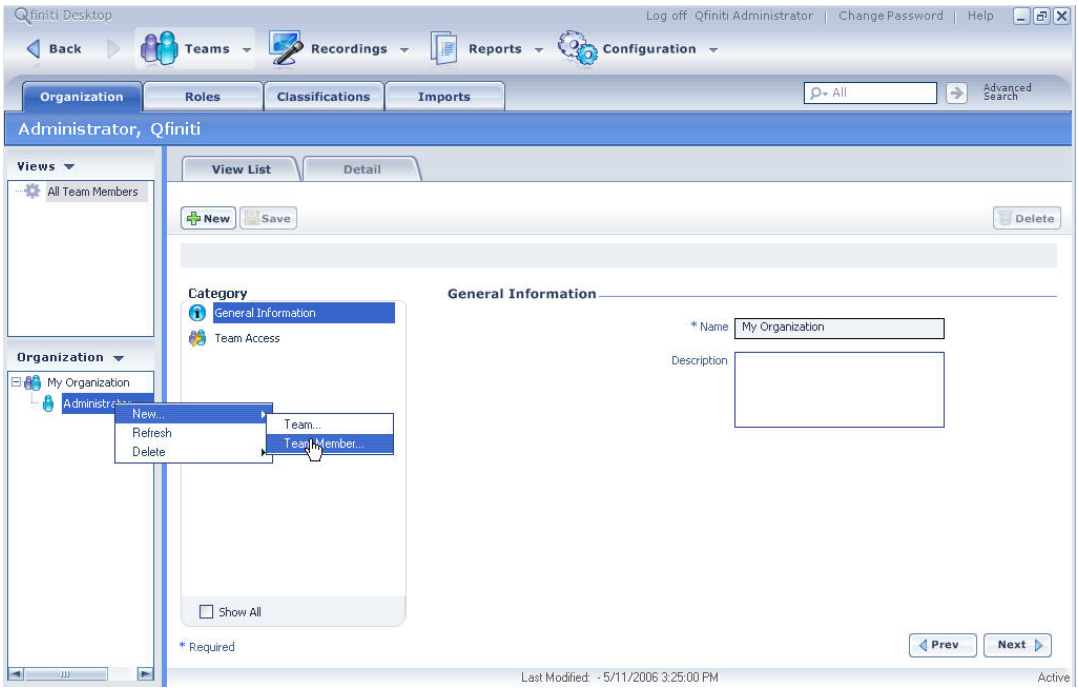
6.2. Configure etalk Qfiniti Desktop

In this section, the agents to be recorded will be configured with both an ACD agent ID (for inbound calls) and a PC3 agent ID (for outbound calls).

Step	Description
1.	On the etalk Qfiniti server, launch the Qfiniti Desktop application and log in with the appropriate credentials.
2.	Select the **Organization** tab. In the **Organization** section, select **Administrator → New → Team Member**. 

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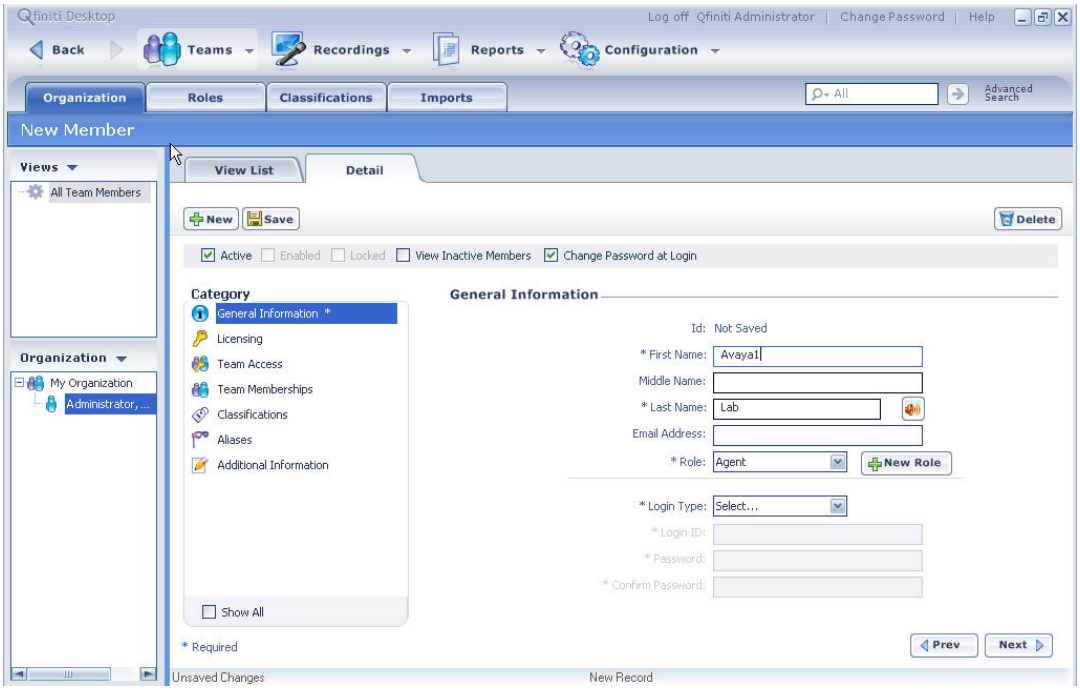
Step	Description
3.	In the **General Information** section, configure the following. • **First Name** – set to any unique name. • **Last Name** – set to any unique name. • **Role** – select "Agent" from the drop down list. Click **Next**. 

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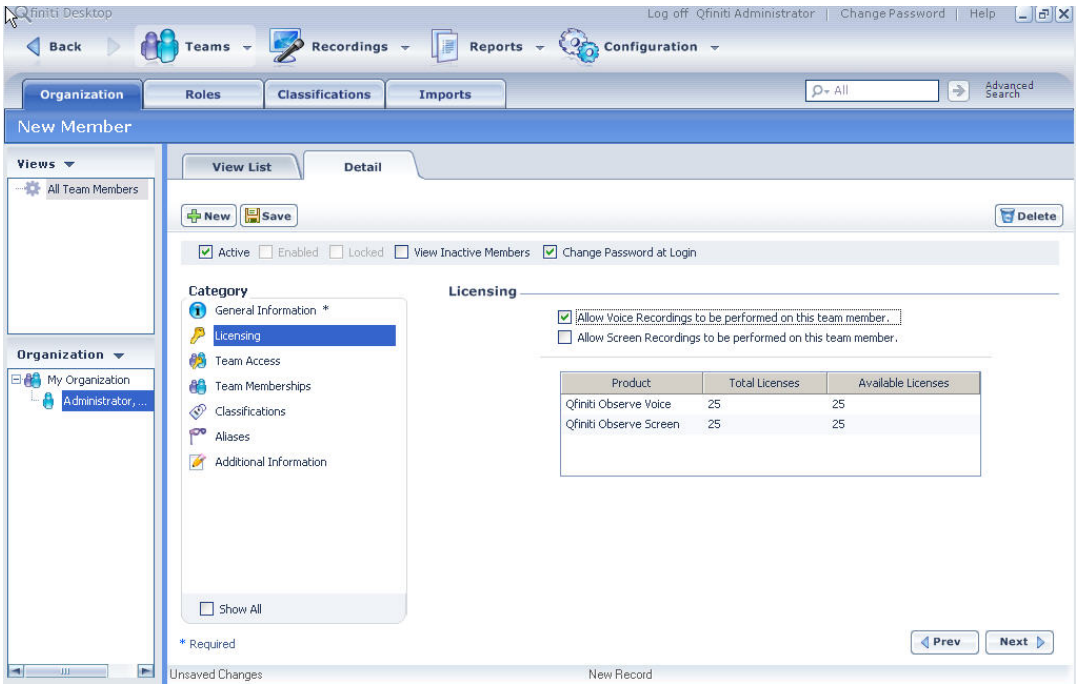
Step	Description
4.	In the **Licensing** section, check the checkbox for "Allow Voice Recordings to be performed on this team member". Click **Next**. 
5.	No configuration is required in the **Team Access**, **Team Membership** and **Classification** sections. Click **Next** on each of these sections.

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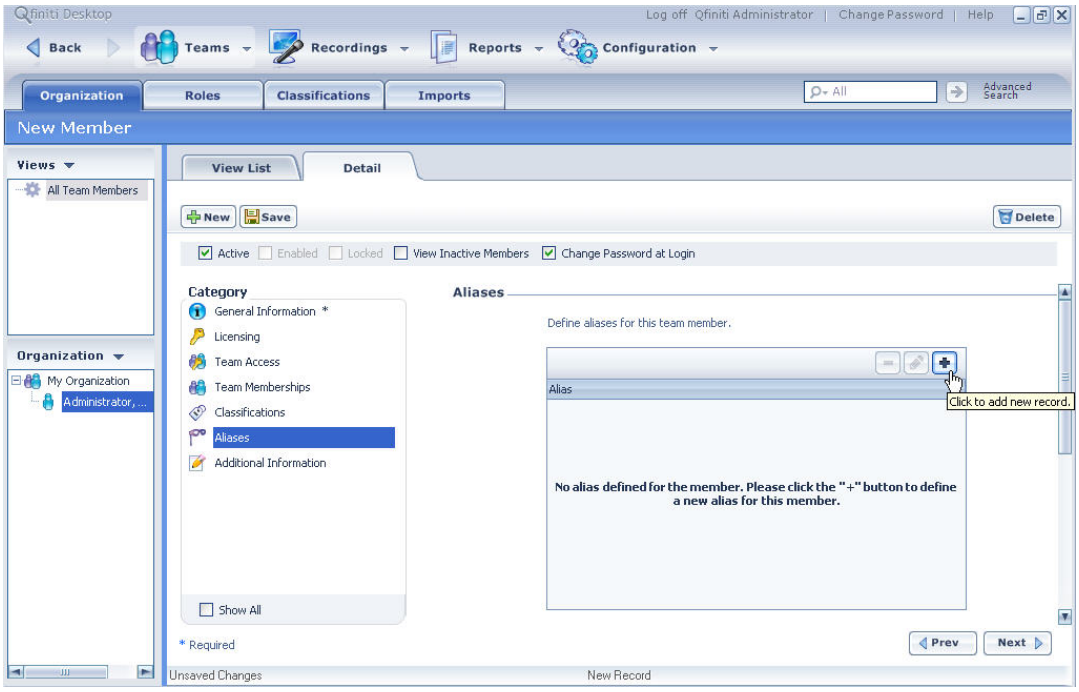
Step	Description
6.	In the **Aliases** section, click the "+" icon to add a new record for the PC3 agent ID. 

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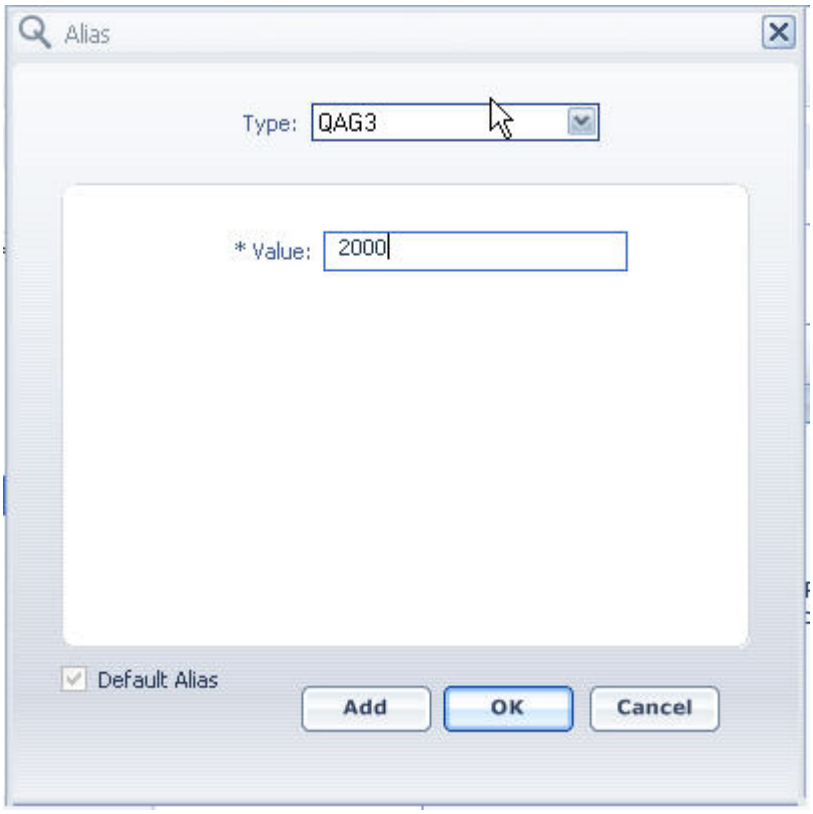
Step	Description
7.	In the **Alias** window, for the **Type** field select the switch created in Section 6.1 Step 5 from the drop down list. Set the **Value** to the PC3 agent ID. The agent IDs can be found in the /etc/passwd file on the PC3 server. **Note**: The agent IDs are automatically generated by PC3 and corresponds to the PC3 login IDs that the PC3 administrator creates. Click **OK**. 

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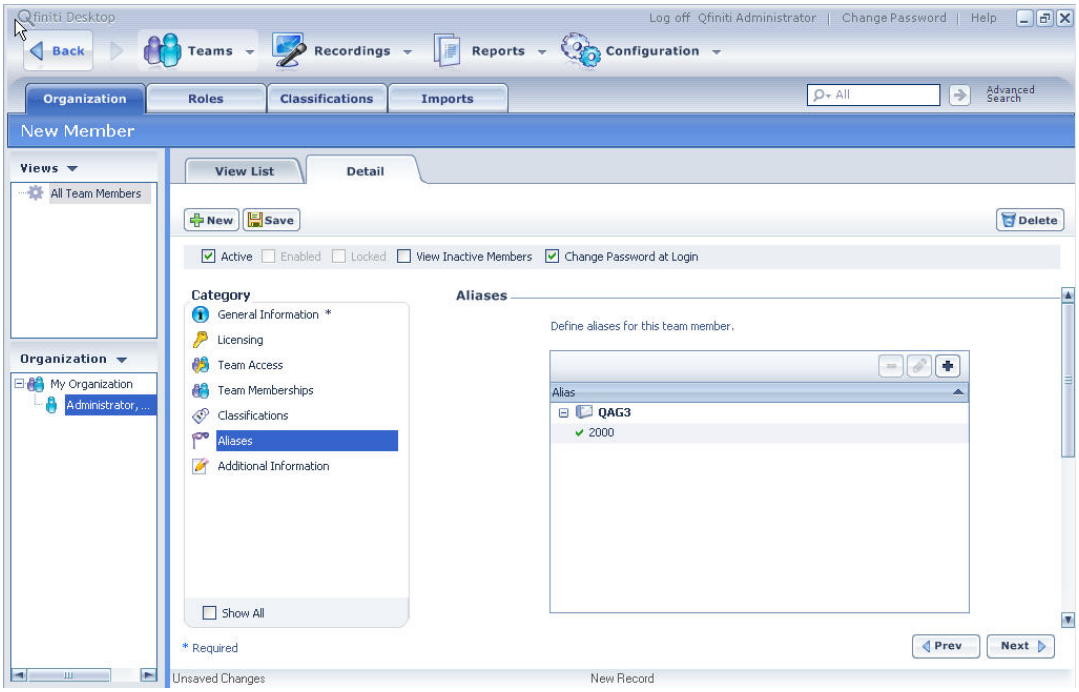
Step	Description
8.	In the **Aliases** section, click the "+" icon to add a new record for the ACD agent ID. 

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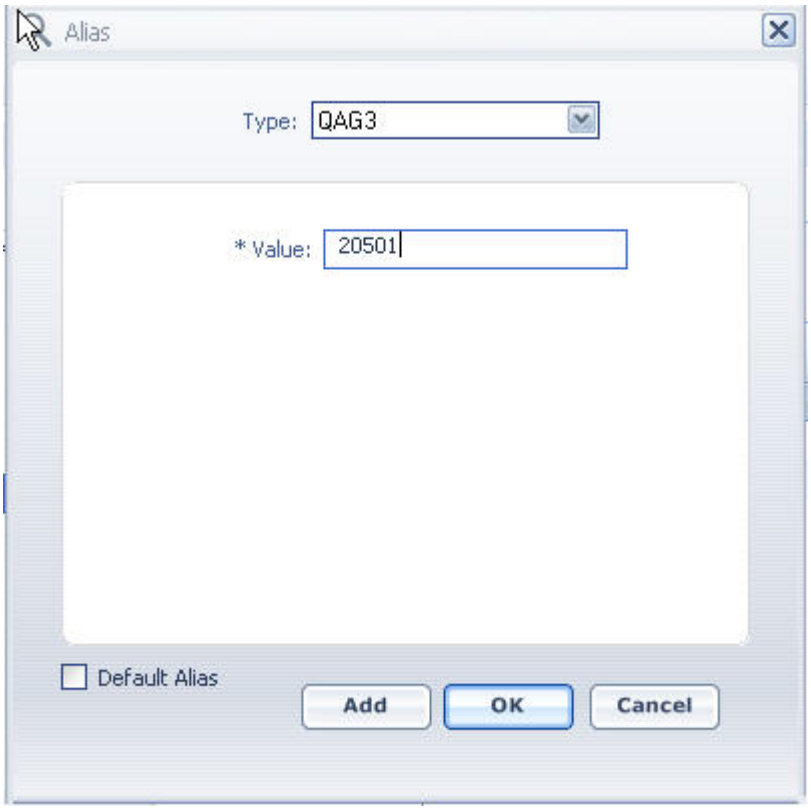
Step	Description
9.	In the **Alias** window, for the **Type** field select the switch created in Section 6.1 Step 5 from the drop down list. Set the **Value** to the ACD agent ID configured on Avaya Communication Manager. **Note:** These ACD agent IDs need to be administered on this screen when the Predictive Agent Blending feature is used on PC3 for inbound calls. Click **OK**. 

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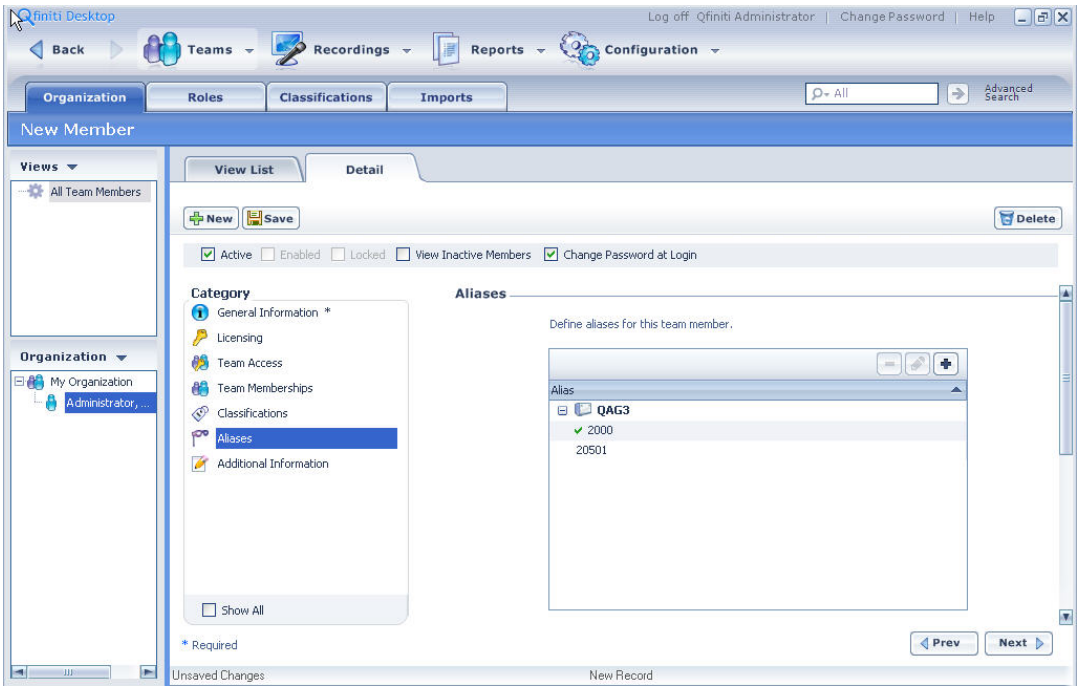
Step	Description
10.	The **Aliases** section will display both a PC3 agent ID and an ACD agent ID. The green check mark denotes which alias is the default alias. For recording purposes, it does not matter which alias is the default. Click **Next**. Then click **Next** again in the **Additional Information** section. 

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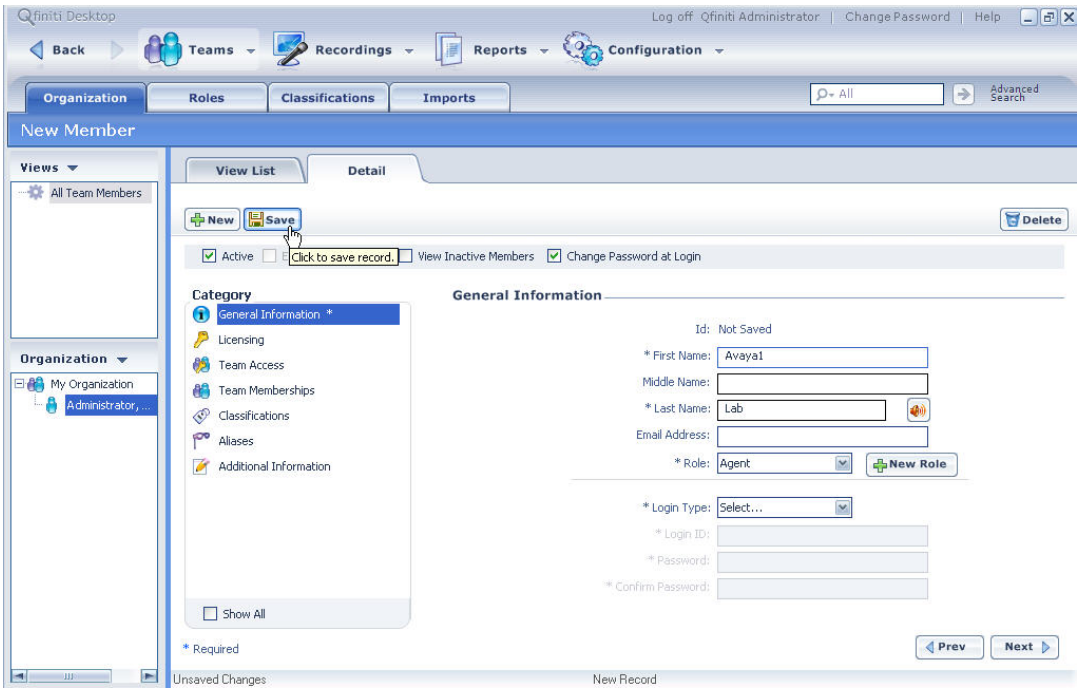
Step	Description
11.	Click Save. 

7. Interoperability Compliance Testing

This interoperability compliance testing covered feature functionality, serviceability and basic load testing. Feature functionality focused on verifying that etalk Qfiniti QA Recording 3.1 could successfully record calls when using events from Avaya Proactive Contact 3.0 and an Avaya AES TSAPI CTI link. Serviceability testing verified that the Qfiniti server recovered from adverse conditions, such as rebooting, power failure and network disconnect. Basic load testing verified that Qfiniti could successfully record calls for an extended period of time.

7.1. General Test Approach

All feature functionality test cases were performed manually to verify proper operation. The general test approach entailed:

- Establishing connectivity between Qfiniti and Avaya AES using TSAPI.
- Establishing connectivity between Qfiniti and Avaya Proactive Contact 3.0.
- Verifying calls could be recorded using station side T1 and the Service Observing feature of Avaya Communication Manager.
- Verifying call recording using basic telephony operations such as answer, hold/retrieve, transfer, consult, conference, and disconnect.
- Verifying call recording with outbound and inbound calls.
- Verifying on-demand call recording.

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- Verifying call recording with Predictive Agent Blending Feature on PC3.
- Verifying call recording with Intelligent Call Blending Feature on PC3.

The basic load testing was automated with outbound calls delivered to agents from Avaya PC3. The Avaya PC3 executed a calling list which delivered answered calls to agents.

7.2. Test Results

All feature and performance tests passed. The etalk Qfiniti QA Recording 3.1 successfully recorded, displayed and replayed the recordings of agent. For serviceability testing, Qfiniti was able to resume call recording after restoration of connectivity to the PC3 server, from network disconnect/re-connect, and Qfiniti server resets. For performance testing, Qfiniti successfully recorded calls for a sustained period of time.

The following observations were obtained from testing:

- When an outbound call is transferred/conferenced, Qfiniti does not associate the transfer with the original call via the FOT (Follow on Transfer) field.
- Qfiniti does not record calls that are manually placed from the PC3 agent using the "Place Manual Call" feature on the agent's desktop application.
- There is a 10 to 12 second delay when using the Live Monitoring feature of Qfiniti.
- When the Predictive Agent Blending feature of PC3 is used, agents should log in to the ACD as "manual in" and not as "auto in" agents. If the agents are logged in as "auto in", some of the outbound and inbound calls will not be recorded because of the very short time delay between each call.

8. Verification

8.1. Avaya Verification

The following steps will ensure that the communication between Avaya Communication Manager and Avaya Application Enablement Services server is working.

Step	Description
1.	From the System Access Terminal (SAT) interface on Avaya Communication Manager, verify that the **Service State** of the TSAPI link is "established".

```
status aesvcs cti-link

                          AE SERVICES CTI LINK STATUS

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

1              no                     down          0        0
2     4        no    AES-DevCon2      restarted     30       15
3     4        no    AES-DevCon2      restarted     30       15
4     4        no    AES-DevCon2      established   15       15
15    4        no    devconaes01      established   18       18
```


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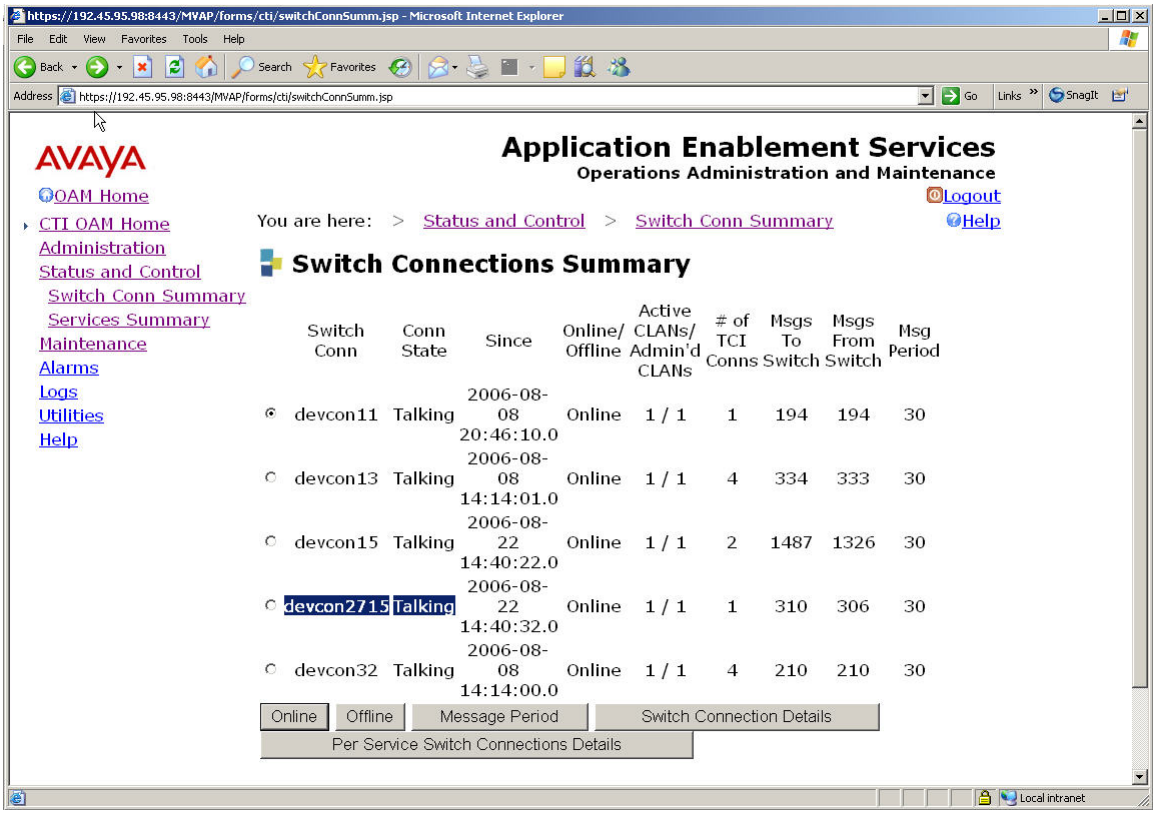
Step	Description
2.	From the **AES OAM** page, click **Status and Control → Switch Conn Summary**. This summary gives the status of the connection between Avaya Communication Manager and the AES Server. Verify that the **Conn State** indicates "Talking".



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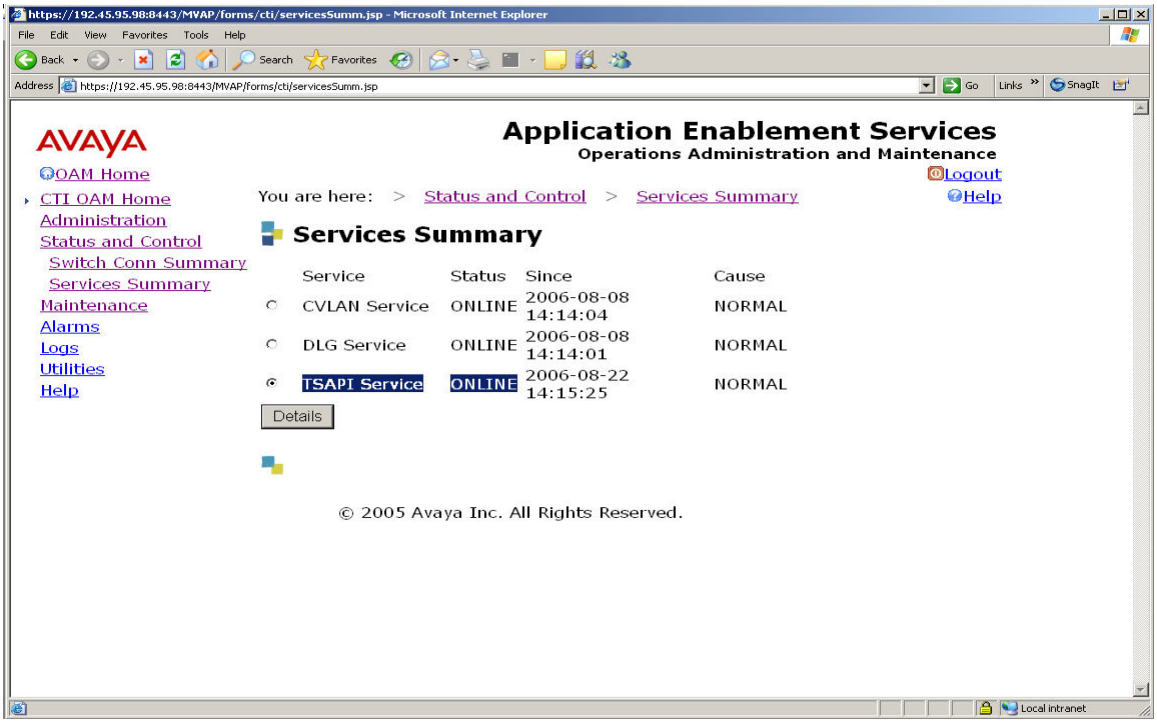
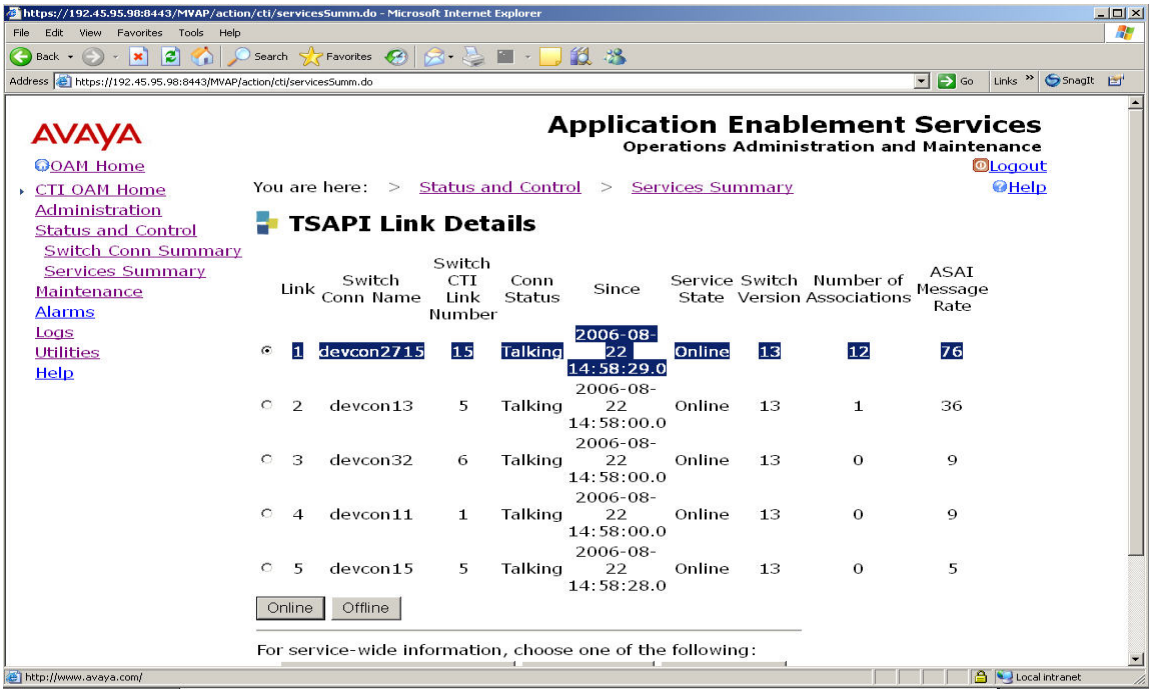
Step	Description
3.	From the **AES OAM** page, click **Status and Control → Services Summary**. This summary gives the status of each service. The **TSAPI Service** should show the status as "ONLINE".  Click **Details**. Verify the **Number of Associations** is a number greater than 0. 

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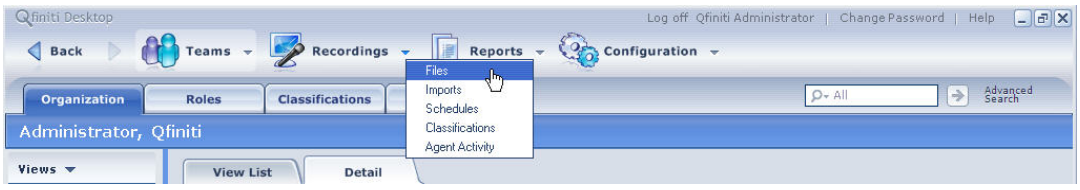
8.2. Qfiniti Verification

The following steps can ensure that the communication between Qfiniti, Avaya Application Enablement Server and Avaya Proactive Contract 3.0 is working.

Step	Description
1.	In the **CTIManager.log** file, verify the connection between the Qfiniti server and TSAPI CTI link on the AES. A successful connection should display the following message "Connected to CTIServer". 08/08 13:50:39.46 [ClientSockImpl::CloseConnection] Connection ALREADY closed to 192.45.30.244, port 9033 08/08 13:50:39.46 [ClientSockImpl::InitConnection] Attempting to connect to Client on (null), port 38950792 08/08 13:50:39.50 [TSAPI: ServerThread] Tsapi_ServerThread start OK. 08/08 13:50:39.56 *** CTI Manager will fully start in 5 seconds. *** 08/08 13:50:39.62 [RecvServer::OnSockConnected] connId is: 0 IP is 192.45.30.244:9001 08/08 13:50:39.62 [ClientSockImpl::OnSockConnected] **Connected To CTIServer**: 1
2.	In the **CTIManager.log** file, verify the connection between the Qfiniti server and the Event Service of Avaya PC3. A successful connection should display the following message "APDS Connection Status – UP". 08/08 13:51:10.10 [APDSIsConnected] Entering APDSIsConnected(). 08/08 13:51:10.10 [APDSIsConnected] 08/08/06 13:51:10 APDS Connection Status - UP 08/08 13:51:10.10 [APDSIsConnected] Exiting APDSIsConnected() Normally - Connection Status - UP 08/08 13:51:40.10 [APDSIsConnected] Entering APDSIsConnected(). 08/08 13:51:40.14 [APDSIsConnected] 08/08/06 13:51:40 **APDS Connection Status - UP** 08/08 13:51:40.14 [APDSIsConnected] Exiting APDSIsConnected() Normally - Connection Status - UP

8.3. Replaying the Voice Recordings

Step	Description
1.	On the etalk Qfiniti server, launch the Qfiniti Desktop application and log in with the appropriate credentials. Select **Files** from the **Recording** drop down list. 

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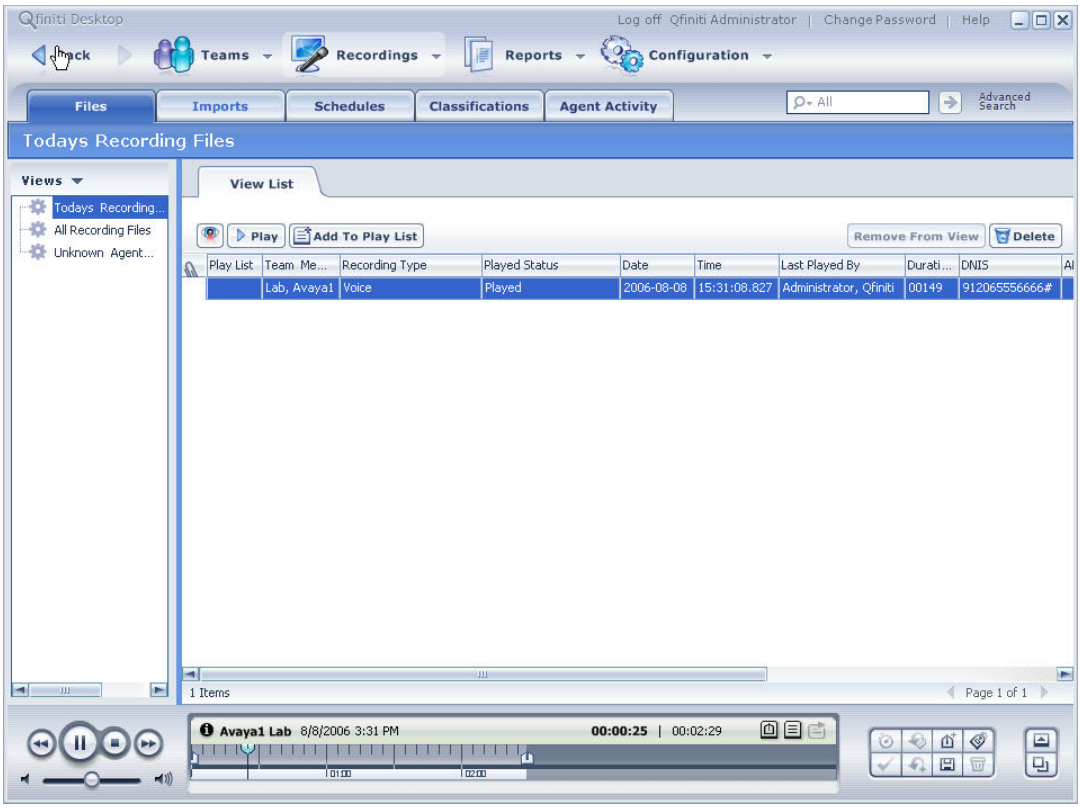
Step	Description
2.	The **View List** tab will have a list of all the call recordings. Double-click on one of the call records to hear the call recording. Verify that the recording can be heard from the computer speakers. 

9. Support

If technical support is required for the etalk Qfiniti QA Recording 3.1 solution, contact etalk Technical Support on 1(800)346-4436 or send email to support@etalk.com.

10. Conclusion

These Application Notes describe the required configuration steps for etalk Qfiniti QA Recording 3.1 to successfully interoperate with the Event Service of Avaya Proactive Contact 3.0 for outbound and inbound call recording. Qfiniti used the station side T1 and the Service Observing feature of Avaya Communication Manager to perform the recording. Functionality and performance were successfully validated. The configuration described in these Application Notes has been successfully compliance tested.

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11. Additional References

The following documents may be found at http://support.avaya.com:

- *Administrator's Guide for Avaya Communication Manager*, Release 3.1, Issue 2.1, May 2006; Doc ID: 03-300509
- *Avaya Proactive Contact 3.0 Installation and Configuration*, November 2005; Doc ID: 07-300491
- *Avaya Proactive Contact 3.0 Administration (UNIX-based)*, October 2005; Doc ID: 07-300488
- *Avaya MultiVantage Application Enablement Services TSAPI, JTAPI, and CVLAN Client and SDK Installation Guide*, Release 3.1.0, June 2006, DocID: 02-300543

etalk product documentation is available on request from http://www.etalk.com.

- *etalk Qfiniti 3.1 Installation Guide*
- *etalk Qfiniti 3.1 Server Requirements Datasheet*
- *etalk Qfiniti 3.1 Desktop Requirements Datasheet*
- *etalk Qfiniti/Avaya PC Integration White Paper*
- *etalk Qfiniti/Avaya CT Integration White Paper*

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