Avaya Solution & Interoperability Test Lab

Application Notes for OnviSource OnviCord with Avaya Aura™ Communication Manager and Avaya Aura™ Application Enablement Services – Issue 1.1

Abstract

These Application Notes describe the configuration steps required for OnviSource OnviCord to interoperate with Avaya Aura™ Communication Manager and Avaya Aura™ Application Enablement Services.

OnviCord is a software-only solution for voice call recording that offers various recording, playback, and archiving features and options.

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

OnviSource OnviCord is a software-only solution for voice call recording that offers various recording, playback, and archiving features and options. By combining media redirection from Avaya Aura™ Communication Manager with Single Step Conferencing, call recording can be achieved without the use of physical connections to the OnviSource server other than standard network connections.

OnviCord uses the Device Media and Call Control (DMCC) interface of Avaya Aura™ Application Enablement Services to monitor stations and obtain call events. OnviCord also uses the DMCC interface to register DMCC softphones with Communication Manger. The DMCC softphones are used as recording devices. When a call is to be record, OnviCord uses the Single Step Conferencing feature to bring a DMCC softphone into the call and to obtain the audio.

1.1. Interoperability Compliance Testing

The interoperability compliance testing focused on feature functionality, serviceability, and performance. The feature functionality testing evaluated the ability of OnviSource OnviCord to monitor and record calls placed to and from stations on Communication Manager. The serviceability testing introduced failure conditions to see if OnviCord could properly resume recording calls after each failure recovery. The performance testing stressed OnviCord by continuously placing calls over extended periods of time.

The compliance testing validated the monitoring and recording performed by OnviCord of calls placed to and from analog phones, digital phones, IP phones, softphones, agents, Vector Directory Numbers (VDNs), and hunt groups on an Avaya Media Server running Communication Manager.

1.2. Support

Technical support for OnviSource OnviCord can be obtained by contacting OnviSource at:

- Phone: 1-800-388-8402
- Web: http://www.onvisource.com/support/index.php
- Email: support@onvisource.com

2. Reference Configuration

The figure below shows the configuration used during compliance testing. Site A is comprised of an Avaya S8500 Media Server with an Avaya G650 Media Gateway. Site B is comprised of an Avaya S8300 Media Server with an Avaya G450 Media Gateway. At each site, Communication Manager runs on the Avaya Media Server. The two Communication Manager systems are connected to each other via an IP (H.323) trunk and an ISDN-PRI trunk. The various telephones shown are used to generate intra-switch calls (calls between telephones on the same system), outbound/inbound calls to/from the PSTN, and inter-switch calls (calls between the two Communication Manager systems via the two trunks). The OnviSource OnviCord server is set up to record calls at Site A.

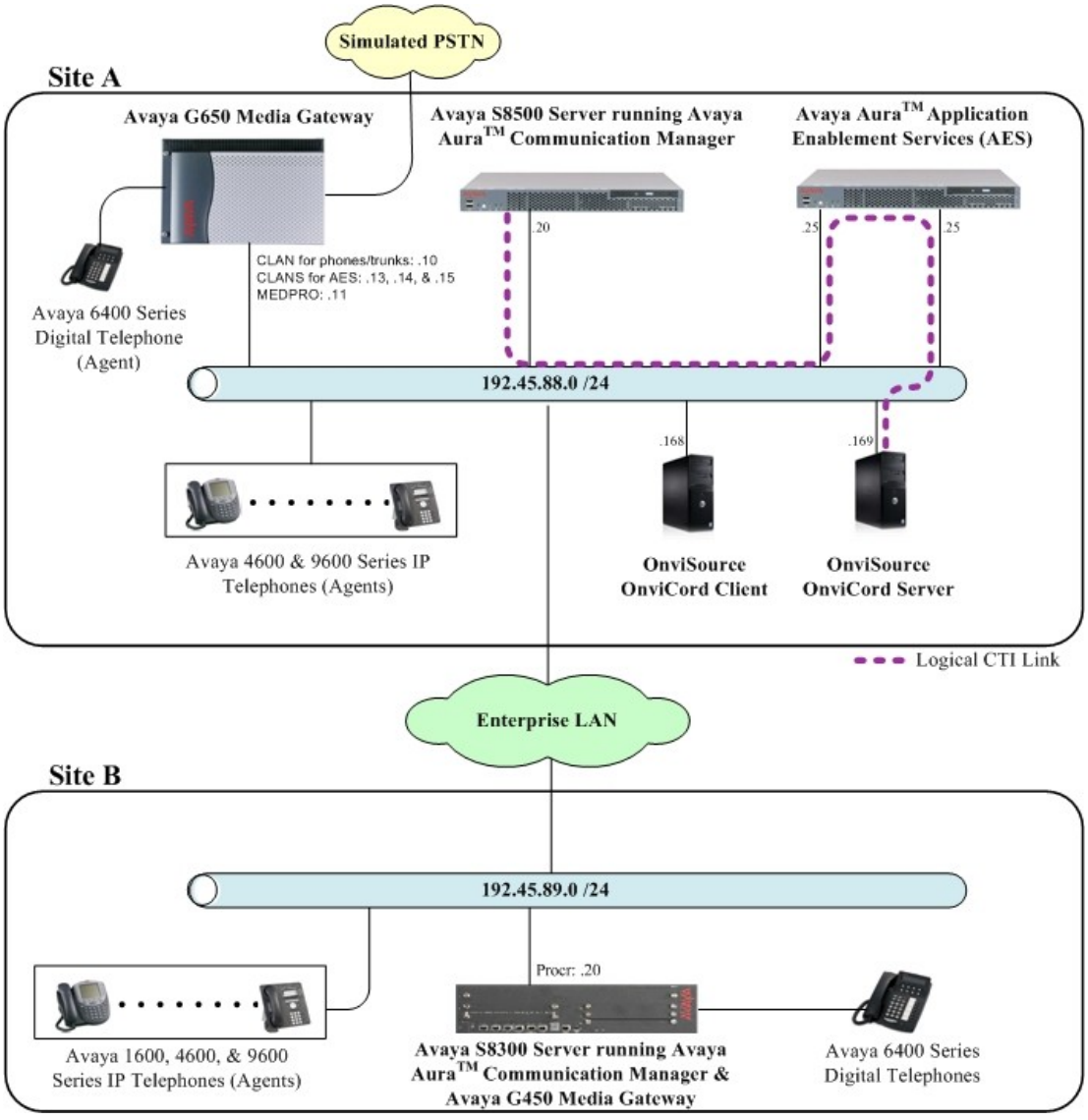


Figure 1: OnviSource OnviCord with Communication Manager and AES

3. Equipment and Software Validated

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

Equipment	Software
Avaya S8500 Server (w/ G650)	Avaya Aura™ Communication Manager 5.2 (R015x.02.0.947.3)
Avaya S8300 Server (w/ G450)	Avaya Aura™ Communication Manager 5.2 (R015x.02.0.947.3)
Avaya G650 Media Gateway: TN799DP (C-LAN) TN2602AP (MEDPRO) TN2312BP (IPSI)	 HW01, FW026 HW02, FW007 HW15, FW030
Avaya G450 Media Gateway : MM710BP (DS1) MM712AP (DCP)	 HW11, FW044 HW07, FW009
Avaya Aura™ Application Enablement Services (AES) Server	4.2
Avaya 1600 Series IP Phones : 1608SW (H.323) 1616SW (H.323)	 1.0.3 1.0.3
Avaya 4600 Series IP Phones: 4610SW (H.323) 4620SW (H.323) 4621SW (H.323)	 2.9 2.9 2.9
Avaya 9600 Series IP Phones: 9620 (H.323) 9630 (SIP)	 3.002 2.4.1
Avaya 6400 Series Digital Phones	-
OnviSource OnviCord Server	6.1.3
OnviSource OnviCord Client	6.1.3

4. Configure Communication Manager

All the configuration changes in this section for Communication Manager are performed through the System Access Terminal (SAT) interface. For more information on configuring Communication Manager, refer to the Avaya product documentation, **Reference [1].**

The information shown on the screens throughout this section indicate the values that were used during compliance testing.

4.1. Configure IP Codec Sets & IP-Network Regions

This section provides the steps required for configuring an ip-codec-set and ip-network regions.

1. Enter the **change ip-codec-set <codec set number>** command, where **<codec set number>** is the codec set number to be used with the OnviSource recording solution.

   - In the **Audio Codec** field, type **G.711MU**.

```
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:
 3:
 4:
 5:
 6:
 7:


    Media Encryption
 1: none
 2:
 3:
```

2. Enter the **change ip-network-region <region number>**, where **<region number>** is the ip network region number to be used with the OnviSource recording solution.

   - In the **Code Set** field, enter the **<codec set number>** administered in **Step 1**. The **Codec Set** field reflects the codec set that must be used for connections between phones within this region or between phones and the media processor boards in the Avaya Media Gateway within this region.

```
change ip-network-region 1                                    Page   1 of  19
                            IP NETWORK REGION
  Region: 1
Location: 1       Authoritative Domain: dev8.com
    Name: interop
MEDIA PARAMETERS                Intra-region IP-IP Direct Audio: yes
      Codec Set: 1              Inter-region IP-IP Direct Audio: yes
   UDP Port Min: 2048                     IP Audio Hairpinning? y
   UDP Port Max: 65535
DIFFSERV/TOS PARAMETERS                RTCP Reporting Enabled? y
 Call Control PHB Value: 48      RTCP MONITOR SERVER PARAMETERS
        Audio PHB Value: 48       Use Default Server Parameters? y
        Video PHB Value: 26
802.1P/Q PARAMETERS
 Call Control 802.1p Priority: 6
        Audio 802.1p Priority: 6
        Video 802.1p Priority: 5      AUDIO RESOURCE RESERVATION PARAMETERS
H.323 IP ENDPOINTS                                     RSVP Enabled? n
  H.323 Link Bounce Recovery? y
 Idle Traffic Interval (sec): 20
   Keep-Alive Interval (sec): 5
            Keep-Alive Count: 5
```

During compliance testing, two IP Network regions were used. It is best practice for all CLANs dedicated to Application Enablement Services to be in a separate network region from those CLANs servicing endpoints (i.e. phones). For compliance testing, a single CLAN in network region 1 was used to service endpoints, while 3 CLANs in network region 2 were dedicated to Application Enablement Services. Both IP network regions were configured to use IP codec set 1.

4.2. Configure Connectivity to Application Enablement Services and Endpoints

This section provides the steps required for configuring connectivity from Communication Manager to Application Enablement Services and endpoints.

The Application Enablement Services server communicates with Communication Manager by using one or more CLANs to create a switch connection. The following steps show only the configuration required in Communication Manager to set up a switch connection. See **Section 5.1** for the configuration steps required in Application Enablement Services to complete the administration of the switch connection.

1. Enter the **change node-names ip** command.

   - In the **Name** field, type a descriptive name to assign to a CLAN to be administered.
   - In the **IP Address** field, type the IP address assigned to the CLAN.

```
change node-names ip                                          Page   1 of   2
                                  IP NODE NAMES
    Name                  IP Address
8300                  192.45.89.20
CLAN                  192.45.88.10
CLAN2                 192.45.88.13
CLAN3                 192.45.88.14
CLAN4                 192.45.88.15
LSP-8300              192.45.88.30
Member-CDR            192.168.199.69
RDTT-CDR              192.45.88.45
SES                   192.45.88.50
cf-medpro             192.45.88.11
default               0.0.0.0
ipoffice              192.45.88.40
procr                 192.45.88.20
```

Repeat this step for each CLAN.

In the compliance tested configuration, the **CLAN** node was used for registering endpoints and the **CLAN2**, **CLAN3**, and **CLAN4** nodes were used for connectivity to Application Enablement Services.

2. Enter the **add ip-interface <board location>** command, where **<board location>** is the board location for the CLAN, for example: 01A02.

   - In the **Enable Interface** field, type **y**.
   - In the **Network Region** field, type the network region number administered in **Section 4.1**.
   - In the **Node Name** field, enter the **Name** from **Step 1**.
   - In the **Ethernet Link** field, type an available Ethernet link number.

```
add ip-interface 01a02                                    Page   1 of   3
                                IP INTERFACES


                 Type: C-LAN
                 Slot: 01A02        Target socket load and Warning level: 400
          Code/Suffix: TN799  D           Receive Buffer TCP Window Size: 8320
      Enable Interface? y                          Allow H.323 Endpoints? y
                 VLAN: n                           Allow H.248 Gateways? y
        Network Region: 1                           Gatekeeper Priority: 5



                               IPV4 PARAMETERS
            Node Name: CLAN
          Subnet Mask: /24
     Gateway Node Name:

          Ethernet Link: 1
```

Repeat this step for each CLAN

In the compliance tested configuration, the **CLAN** node was assigned to network region 1 and the **CLAN2**, **CLAN3**, and **CLAN4** nodes were assigned to network region 2.

3. Enter the **change ip-services** command.

   - In the **Service Type** field, type **AESVCS**.
   - In the **Enabled** field, type **y**.
   - In the **Local Node** field, type **<nodename>**, where **<nodename>** is the name of the CLAN board used for connectivity to Application Enablement Services.
   - In the **Local Port** field, accept the default port (**8765**).

```
change ip-services                                          Page   1 of   4

                                  IP SERVICES
 Service      Enabled      Local        Local       Remote      Remote
  Type                     Node         Port        Node        Port
AESVCS         y       CLAN2           8765
AESVCS         y       CLAN3           8765
AESVCS         y       CLAN4           8765
```

Repeat this step for each CLAN used for connectivity to Application Enablement Services. On **Page 4**,

- In the **AE Services Server** field, type the **<name>** of the Application Enablement Services server. On the Application Enablement Services server, the name can be obtained by typing "uname –n" at the command prompt. The name entered on Communication Manager must match the Application Enablement Services server name exactly.
- In the **Password** field, enter an alphanumeric password. The passwords must exactly match on both Communication Manager and the Application Enablement Services (administered in **Section 5.1**).
- In the **Enabled** field, type **y**.

```
change ip-services                                          Page   4 of   4
                          AE Services Administration

   Server ID    AE Services       Password          Enabled    Status
                   Server
      1:      aeserver25        xxxxxxxxxxxx          y        in use
      2:
      3:
```

4.3. Configure CTI Link

This section provides the steps required for configuring a CTI link on Communication Manager. See **Section 5.3** for the configuration steps required on Application Enablement Services to complete the administration.

1. Enter the **display system-parameters customer-options** command.

   - On **Page 3**, verify that the **Computer Telephony Adjunct Links** field is set to **y**. If not, contact an authorized Avaya account representative to obtain the license.

```
display system-parameters customer-options                    Page   3 of  11
                              OPTIONAL FEATURES

    Abbreviated Dialing Enhanced List? y          Audible Message Waiting? y
        Access Security Gateway (ASG)? n              Authorization Codes? y
        Analog Trunk Incoming Call ID? y                      CAS Branch? n
 A/D Grp/Sys List Dialing Start at 01? n                        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? n
          ARS/AAR Dialing without FAC? y                       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
                                ATMS? y             DS1 Echo Cancellation? y
                  Attendant Vectoring? y
```

2. Enter **add cti-link <link number>** command, where **<link number>** is an available CTI link number.

   - In the **Extension** field, type **<station extension>**, where **<station extension>** is a valid station extension.
   - In the **Type** field, type **ADJ-IP**.
   - In the **Name** field, type a descriptive name.

```
add cti-link 10                                               Page   1 of   3
                                   CTI LINK
 CTI Link: 10
Extension: 39010
     Type: ADJ-IP
                                                                      COR: 1
     Name: TSAPI Link 1 - aeserver25
```

4.4. Configure Stations (DMCC Recording Devices)

This section provides the steps required for configuring stations on Communication Manager that will function as recording devices for OnviSource OnviCord.

For the purpose of this document, devices that have been registered using the DMCC service will be called "DMCC devices". When a client application registers itself as a DMCC device at an extension, it can act like an IP softphone to control and monitor physical aspects of the extension (button pushes, lamps, the display, etc.) or access and control the media streams at the extension. For a client application to be able to control the media at an extension, and record calls at that extension, it must register itself as a DMCC device with the media mode set to "Client". Client media mode indicates that the client application will handle the media streams from the DMCC device. DMCC devices that have been registered in Client media mode will be called "DMCC recording devices".

The DMCC recording devices used by OnviSource OnviCord are administered as IP softphones on Avaya Communication Manager. Each DMCC recording device requires either an "IP_API_A" license on Communication Manager or a "VALUE_DMCC_DMC" license on Application Enablement Services.

Note that these licenses are separate and independent from the Avaya IP Softphone licenses that are required on Communication Manager for Avaya IP Softphones, but not for DMCC recording devices.

1. Enter the **display system-parameters customer-options** command to verify that there are sufficient **IP_API_A** licenses for the DMCC recording devices. If not, contact an authorized Avaya account representative to obtain these licenses.

```
display system-parameters customer-options                    Page  10 of  11
                     MAXIMUM IP REGISTRATIONS BY PRODUCT ID

Product ID  Rel. Limit          Used
IP_API_A       : 1000           0
IP_API_B       : 1000           0
IP_API_C       : 1000           0
IP_Agent       : 1000           0
IP_IR_A        : 0              0
IP_Phone       : 2400           3
IP_ROMax       : 2400           0
IP_Soft        : 2              0
IP_eCons       : 0              0
oneX_Comm      : 2400           0
               : 0              0
```

2. Enter the **add station <extension>** command, where **<extension>** is a valid station extension.

   - In the **Type** field, type an IP telephone set type with configurable buttons; for example, **4620**.
   - In the **Security Code**, type the value entered for **<extension>** (the station extension and security code must match).
   - In the **Name** field, type a descriptive name.
   - In the **IP SoftPhone**, type **y**.

```
add station 31126                                          Page   1 of   5
                                    STATION

Extension: 31126                       Lock Messages? n              BCC: 0
     Type: 4620                        Security Code: 31126           TN: 1
     Port: IP                        Coverage Path 1:                COR: 1
     Name: DMCC Softphone            Coverage Path 2:                COS: 1
                                     Hunt-to Station:
STATION OPTIONS
                                          Time of Day Lock Table:
             Loss Group: 19         Personalized Ringing Pattern: 1
                                              Message Lamp Ext: 31126
           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? n


                                            Customizable Labels? Y
```

Repeat **Step 2** for each DMCC recording device required for the configuration. During compliance testing, 23 DMCC recording devices were administered to be able to record up to 23 calls simultaneously.

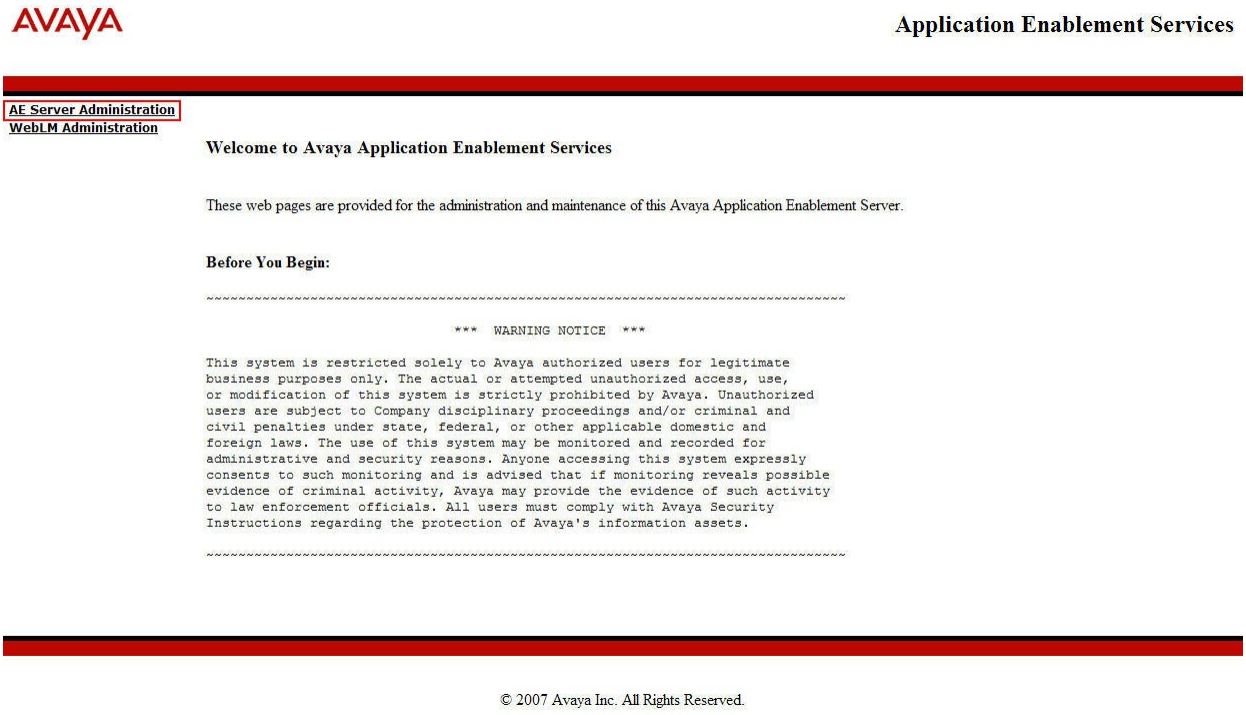
This completes the Communication Manager configuration.

5. Configure Application Enablement Services

The Application Enablement Services (AES) server enables Computer Telephony Interface (CTI) applications to monitor and control telephony resources on Communication Manager. The Application Enablement Services server receives requests from CTI applications, and forwards them to Communication Manager. Conversely, the Application Enablement Services server receives responses and events from Communication Manager and forwards them to the appropriate CTI applications.

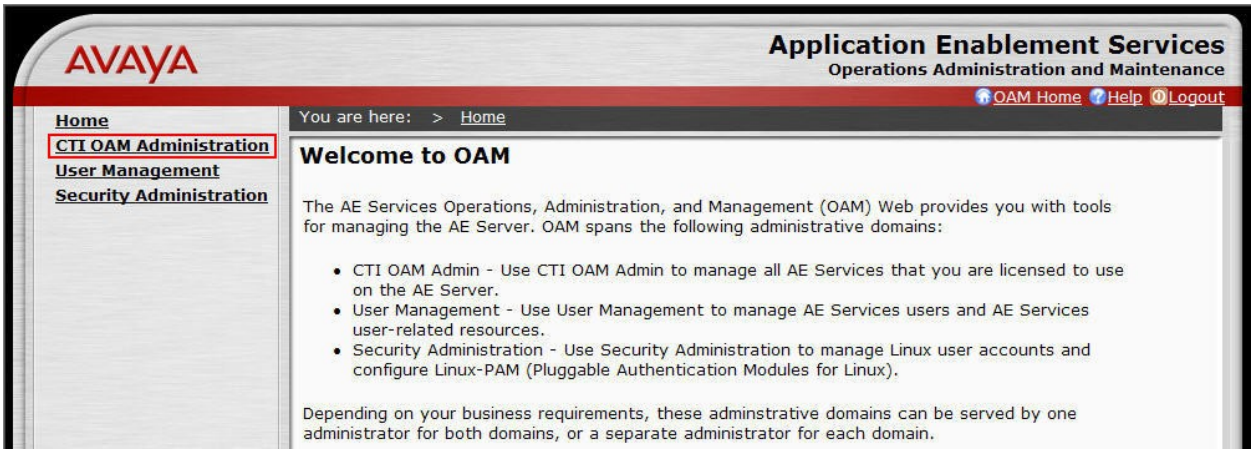
This section assumes that the installation and basic administration of the Application Enablement Services server has already been performed. For more information on administering Application Enablement Services, refer to the Avaya product documentation, **Reference [2]**.

1. Launch a web browser and enter https://<IP address of AES Server> in the address field. Click **AE Server Administration**.

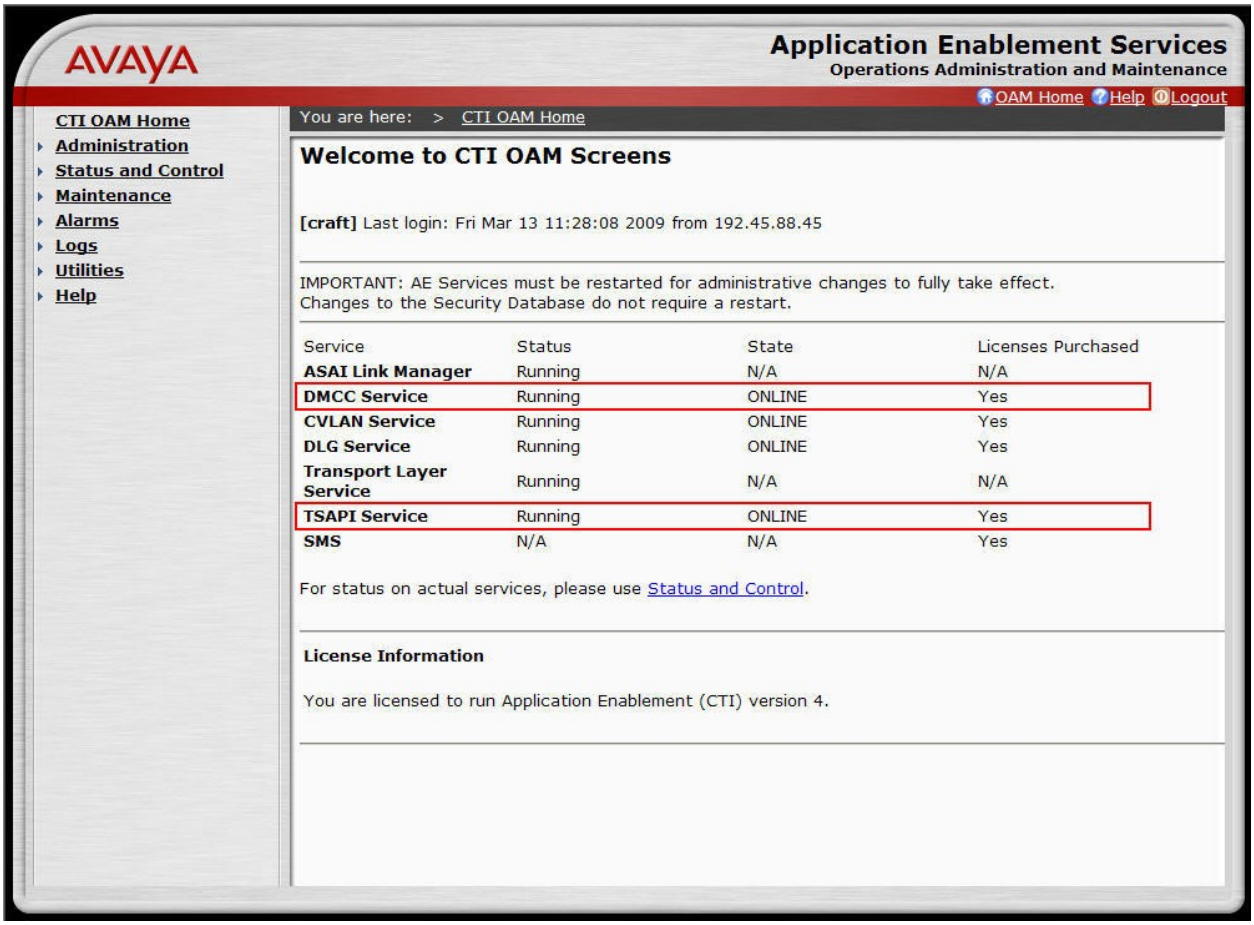


2. Log in with the appropriate credentials for accessing the Application Enablement Services CTI OAM web pages.

3. Click **CTI OAM Administration** in the left pane menu.



4. Verify that Application Enablement Services is licensed for the TSAPI and DMCC services. If these services are not licensed, contact an authorized Avaya account representative to obtain these licenses.

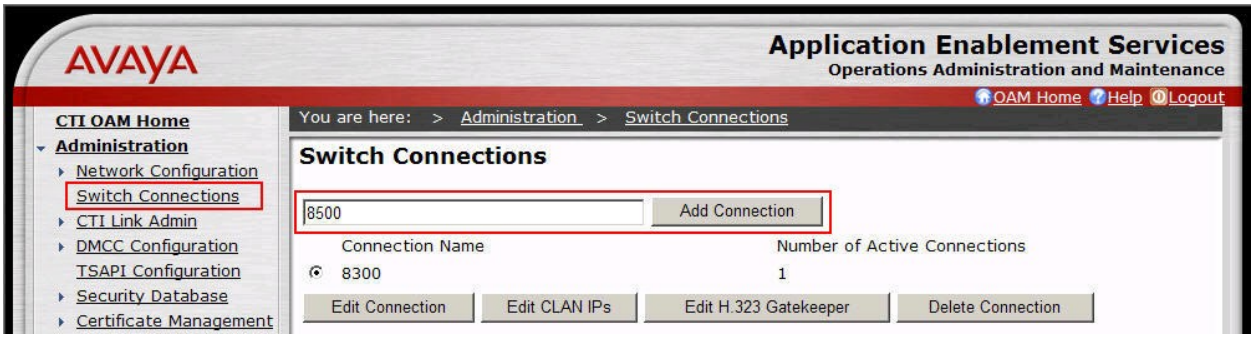


5. Each DMCC recording device used by OnviSource OnviCord requires either an "IP_API_A" license on Avaya Communication Manager or a "VALUE_DMCC_DMC" license on Application Enablement Services. If "VALUE_DMCC_DMC" licenses are being used, log in to the Avaya Web License Manager (WebLM) and verify that there are sufficient licenses for the DMCC recording devices. Additionally, verify there are sufficient TSAPI licenses. If not, contact an authorized Avaya account representative to obtain these licenses.

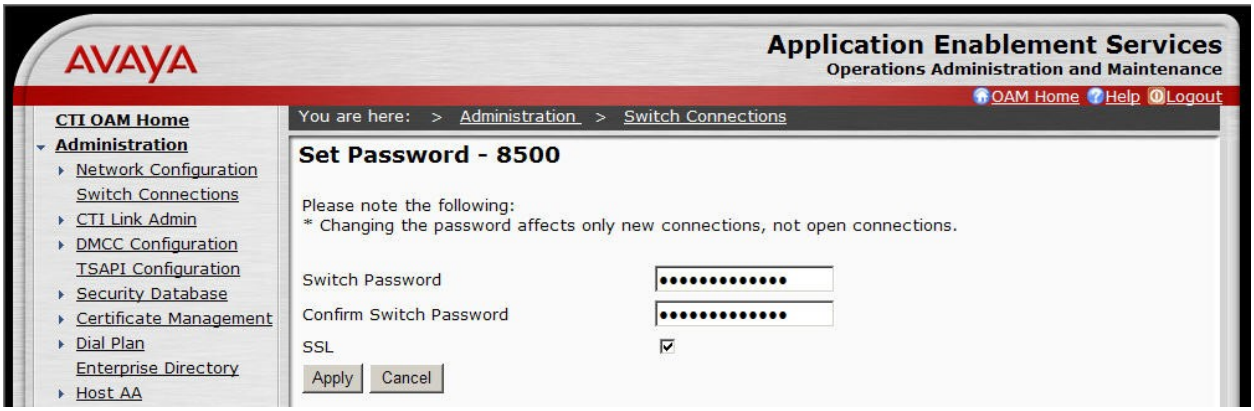
5.1. Configure a Switch Connection

This section provides the steps required for configure a Switch Connection. A Switch Connection defines a connection between the Application Enablement Services server and Communication Manager.

1. Select **Administration > Switch Connections** from the left pane menu. In the **Add Connection** field, type a descriptive name and click **Add Connection**.

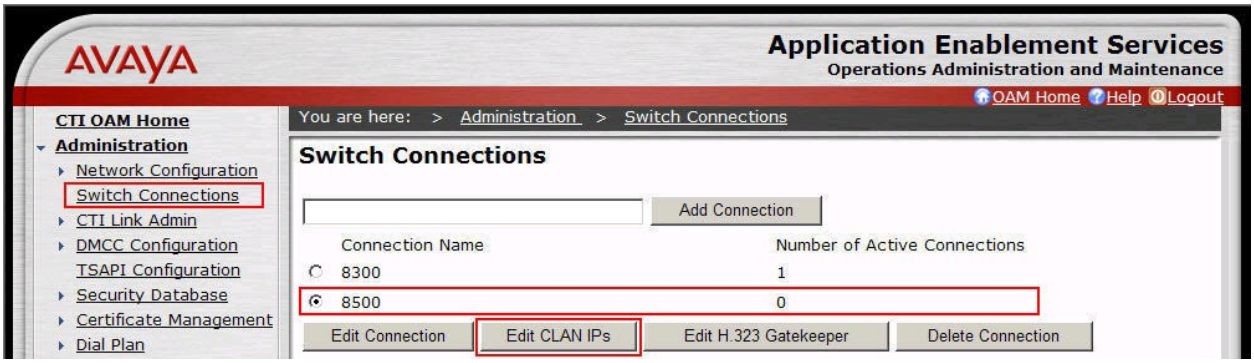


2. In the **Switch Password** field, type the password that was entered during **Step 3** of **Section 4.2**. Re-type the password in the **Confirm Switch Password** field. Leave **SSL** checked if using a secure connection to Communication Manager. Click **Apply**.

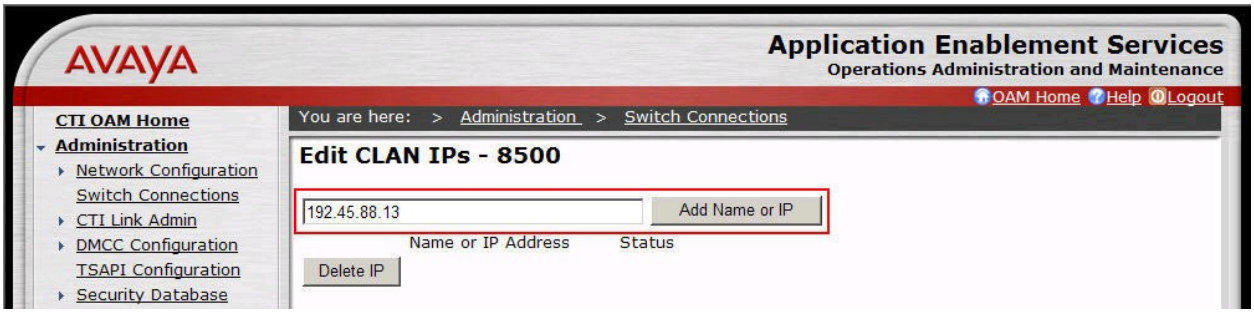


OAM adds the switch connection and returns to the "Switch Connections" page.

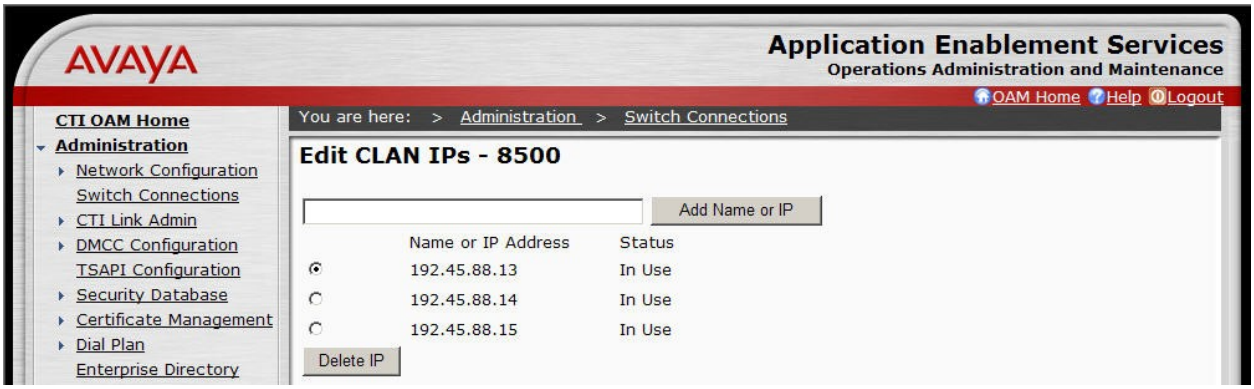
3. From the "Switch Connections" page, select the newly added switch connection, and click **Edit CLAN IPs**.



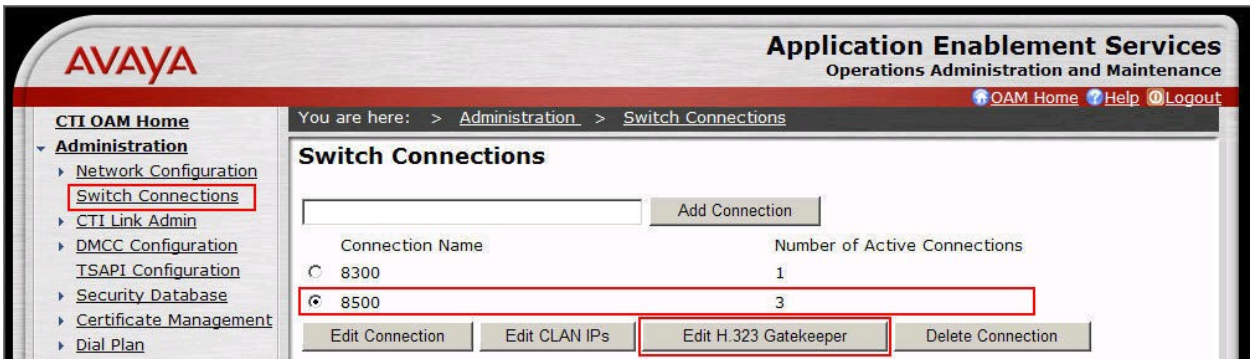
4. In the **Add Name or IP** field, type the **<Host Name>** or the **<IP Address>** of the CLAN, and click **Add Name or IP** (use the Host Name or IP address of the CLAN that was administered for Application Enablement Services connectivity in **Section 4.2**).



Repeat this step for each CLAN. The screen below shows the CLANs that were used during compliance testing.

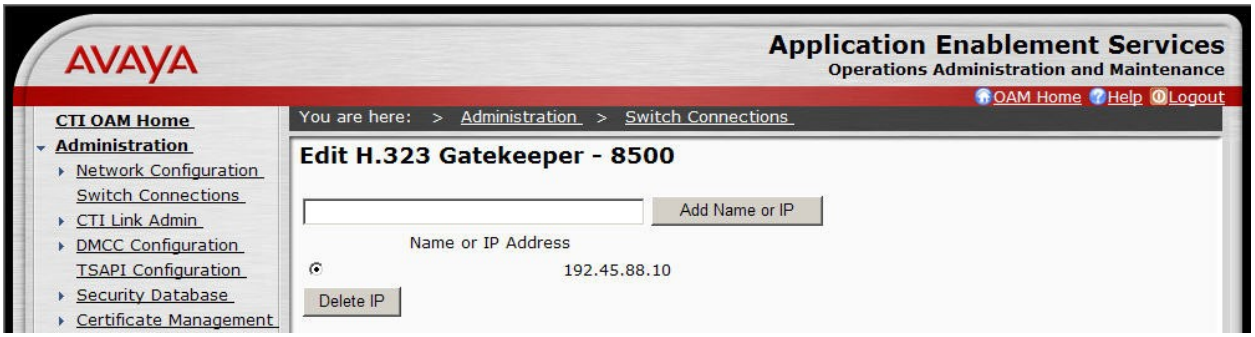


5. Navigate back to **Administration > Switch Connections**. Select the switch connection, and click **Edit H.323 Gatekeeper**.



6. In the **Add Name or IP** field, type the **<Host Name>** or **<IP address>** of the CLAN to be used for registering endpoints. Click **Add Name or IP**.

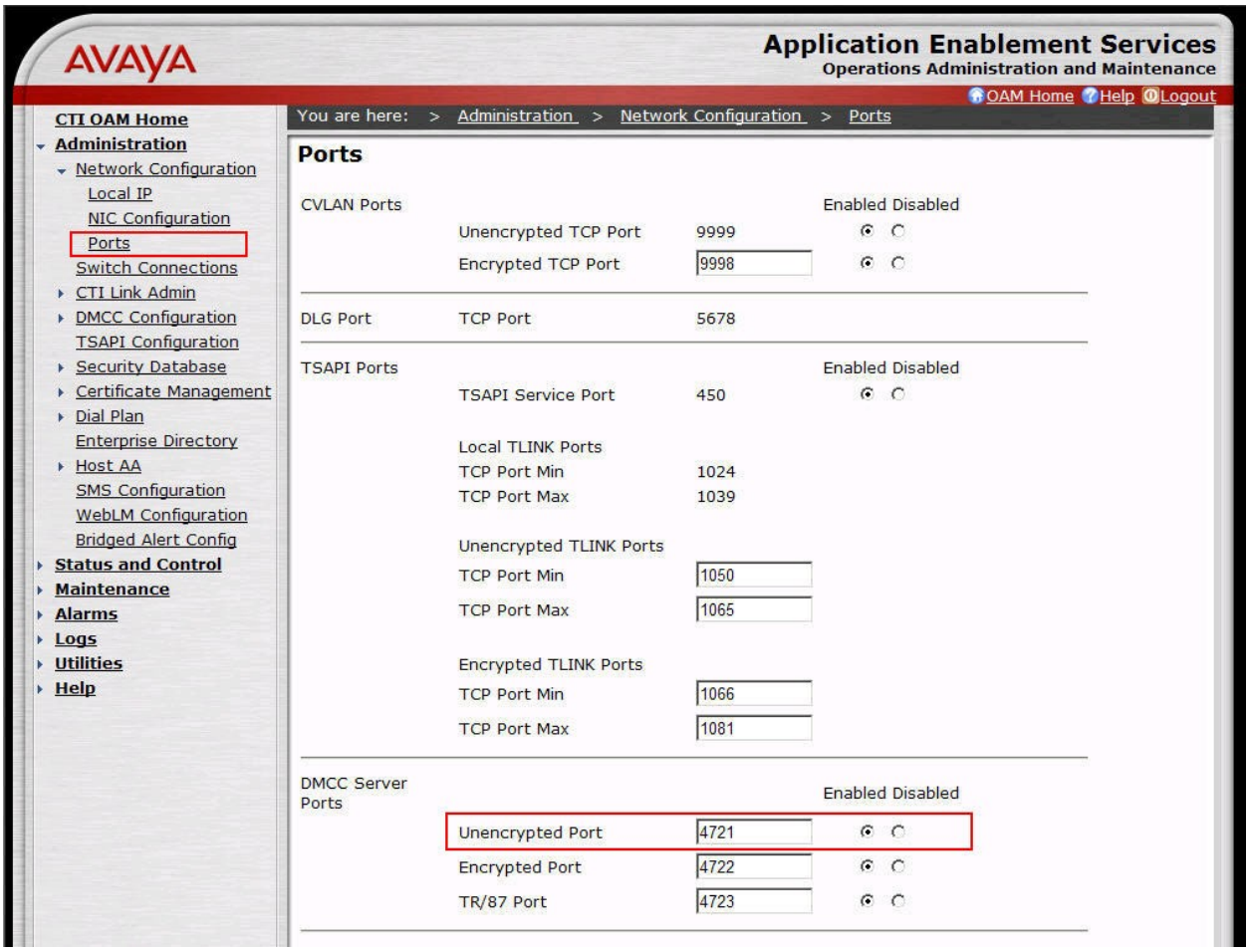
Repeat this step as necessary to add multiple H.323 Gatekeepers. The screen below shows the CLANs that were used during compliance testing.



5.2. Configure DMCC Server Ports

This section provides the steps required for configuring DMCC server ports.

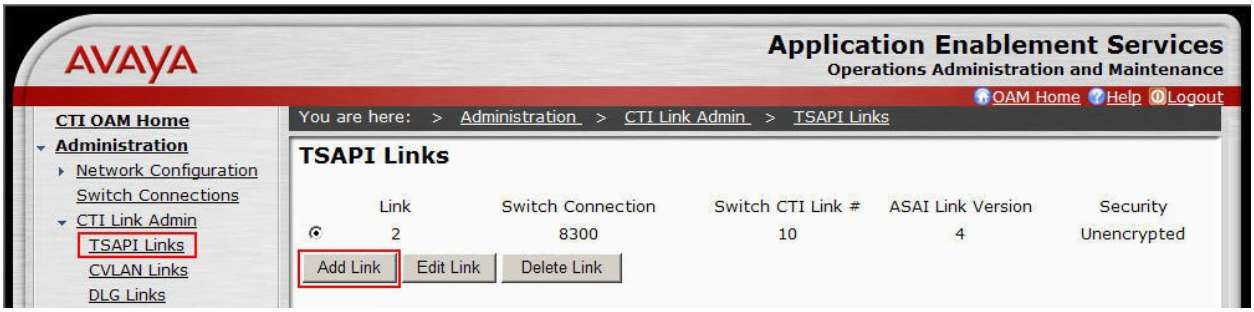
1. Navigate to the **CTI OAM Home > Administration > Ports** page. During compliance testing, the default port values shown in the screen below were utilized. Since the unencrypted port was utilized during the compliance test, set the **Unencrypted Port** field to **Enabled**. Click the **Apply Changes** button (not shown) at the bottom of the screen to complete the process.



5.3. Configure TSAPI Link

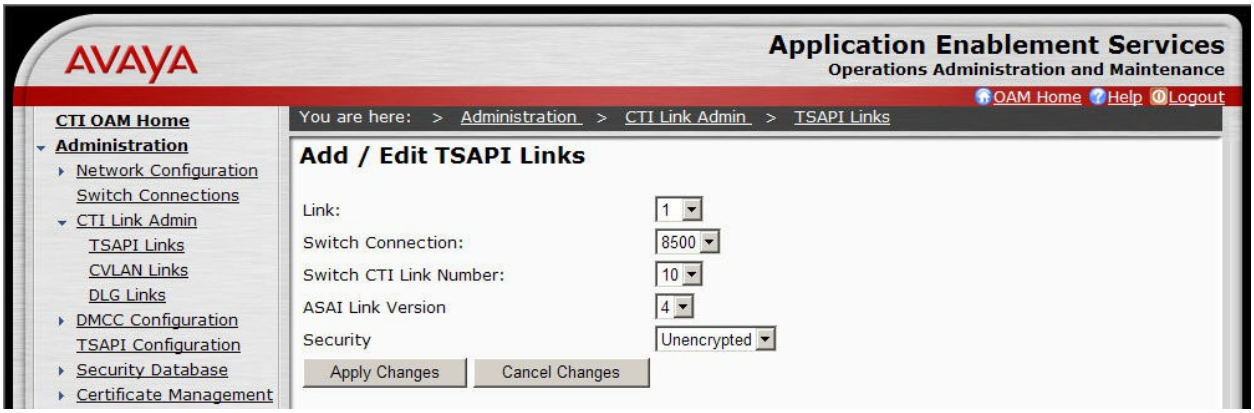
This section provides the steps required for configuring a TSAPI Link.

1. From the CTI OAM main menu select **Administration > CTI Link Admin > TSAPI Links**. Click **Add Link**.



2. Complete the "Add / Edit TSAPI Links" page as follows:

- In the **Link** field, select an available link number.
- In the **Switch Connection** field, select the switch connection configured in **Section 5.1**.
- In the **Switch CTI Link Number** field, select the CTI link number that was administered on Communication Manager in **Step 2** of **Section 4.3**.
- In the **ASAI Link Version** field, select the default value, **4**.
- In the **Security** field, select the appropriate encryption option for connectivity to the OnviSource OnviCord server.

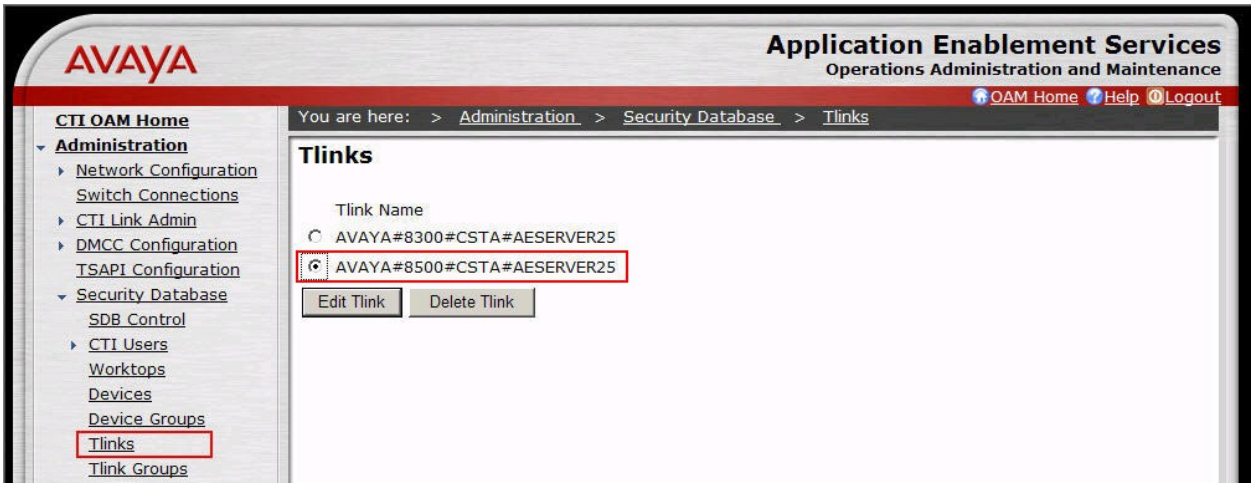


5.4. Display Tlink

This section provides the steps required to display Tlinks.

Tlinks are service identifiers (names) dynamically created by the TSAPI Service. Tlinks are created automatically once the TSAPI CTI links are created. The appropriate Tlink name will be needed during the configuration of the OnviSource OnviCord server. This section just illustrates how to obtain the Tlink name.

1. Navigate to **Administration > Security Database > CTI Users > Tlinks**.



To identify the correct Tlink, note that a Tlink has the following format:

AVAYA#switch_connection_name#service_type#AE_server_name

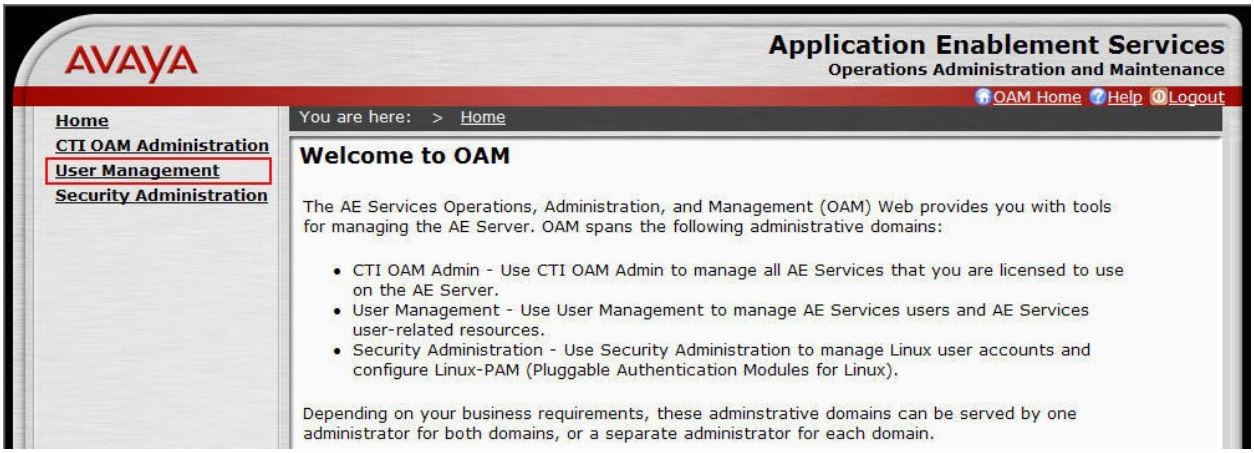
where:

- **AVAYA** is a fixed constant.
- **switch_connection_name** represents the Switch Connection name administered in **Section 5.1**.
- **service_type** refers to the CSTA service type. It can be either of the following:
  - **CSTA**, if the TSAPI Link was administered as unencrypted in **Section 5.3**.
  - **CSTA-S**, if the TSAPI Link was administered as encrypted in **Section 5.3**.
- **AE_server_name** represents the Application Enablement Services Server name.

5.5. Configure CTI Users

This section provides the steps required to configure a CTI user. If necessary, log in to the Application Enablement Services server again with the appropriate credentials for accessing the "User Management" pages.

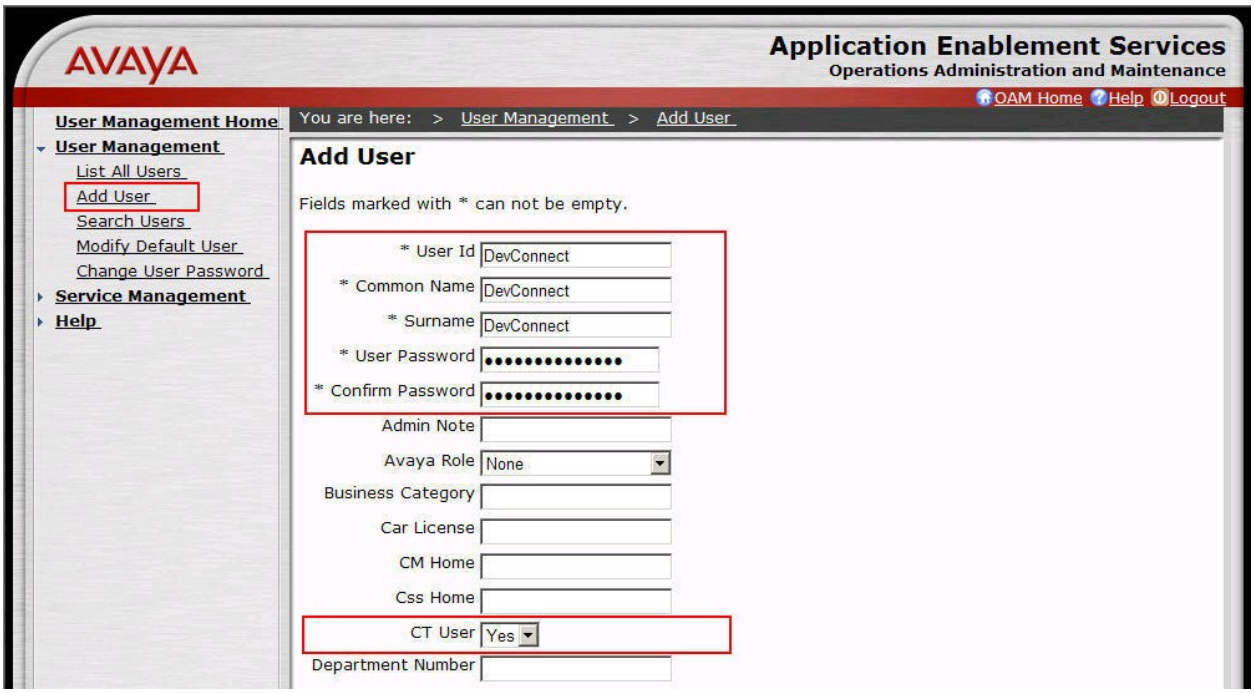
1. Navigate to the "OAM Home" page. Select **User Management** from the left pane menu.



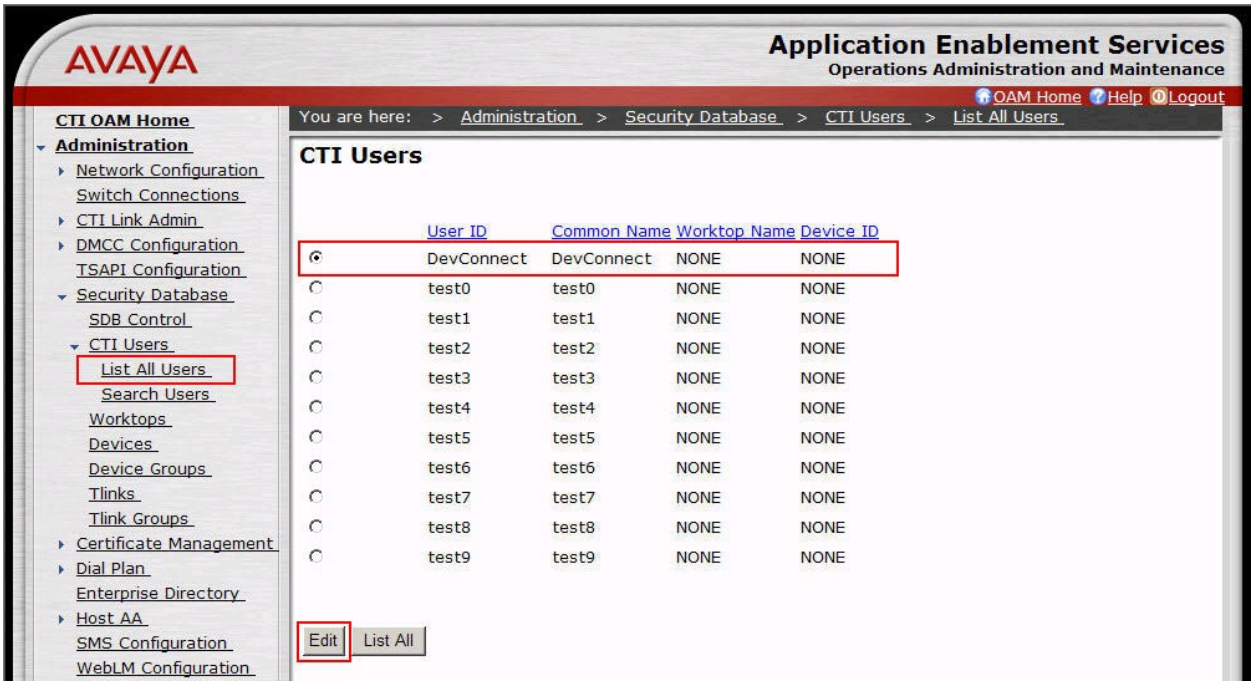
2. Navigate to the **User Management > Add User**. On the "Add User" page, provide the following information:

   - In the **User Id** field, type the user ID being assigned to the user.
   - In the **Common Name** field, enter the name the user prefers to use.
   - In the **Surname** field, type the surname**.**
   - In the **User Password** field, type the password being assigned to the user.
   - In the **Confirm Password** field, re-type the assigned password.
   - In the **CT User field,** select **Yes** to add the user as a member of the Security Database (SDB).

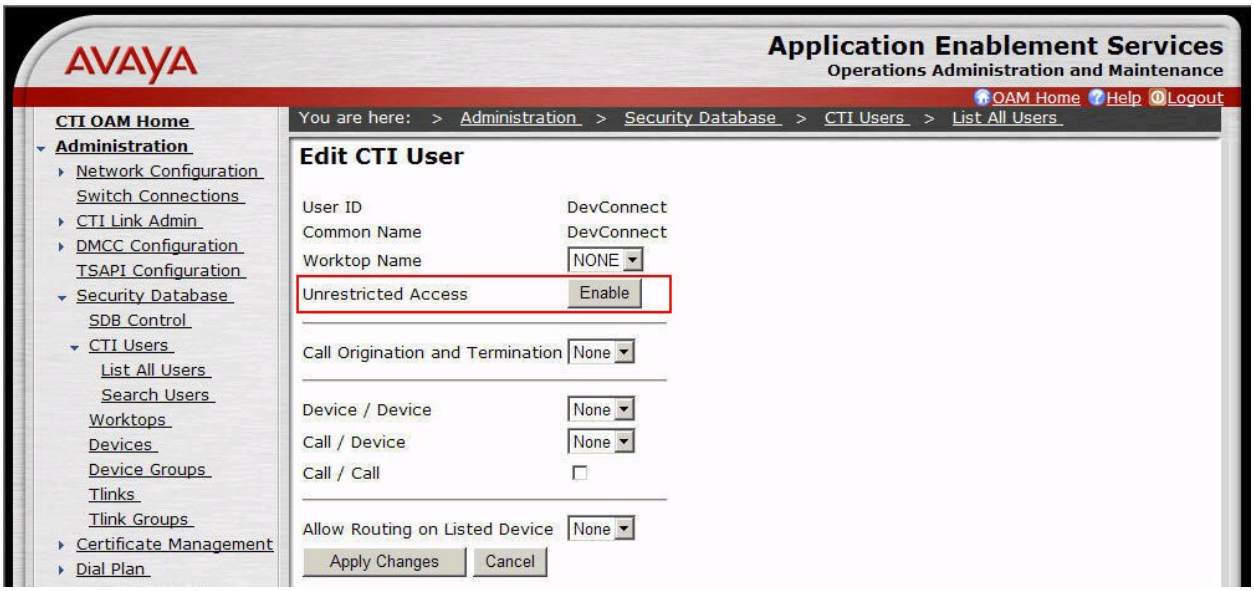
Click the **Apply** button (not shown) at the bottom of the screen.



3. Select **OAM Home** in upper right and navigate to the **CTI OAM Administration → Security Database → CTI Users → List All Users** page. Select the **User ID** created in **Step 2**, and click the **Edit** button to set the permissions of the user.



4. Provide the user with unrestricted access privileges by clicking the **Enable** button on the **Unrestricted Access** field. A Warning screen will be displayed (not shown). Click **Apply**.



6. Configure OnviSource OnviCord

This section describes the configuration required for the OnviSource OnviCord server to interface with Application Enablement Services and Communication Manager.

6.1. Configure IMA Manager to run as a Plugin

The Integra Media Adapter (IMA) Manager provides access to data related to IMA service. The IMA Manger runs as a plug-in to OnViews. To configure OnViews to run the IMA Manager, the Plugins.xml file must be modified. The file can be located by browsing to: C:\Program Files\OnviSource\OnviCenter on the OnviSource server. The section bolded and highlighted in yellow below must be added.

```
<Plugins>
  <WebPlugins>
    <Item>
      <Name>OnviCord Web</Name>
      <Description>Review and manage recording information, manage system
configuration</Description>
      <Version>6.1.3.0</Version>
      <Help>OnviCord Web.chm</Help>
      <Link>http://localhost/login.asp</Link>
      <Image>OnviCordWeb.png</Image>
    </Item>
  </WebPlugins>

  <ExePlugins>
    <Item>
      <Name>OnviCord Monitor</Name>
      <Description>Live monitor recordings</Description>
      <Version>6.1.3.0</Version>
      <Help>OnviCordMonitor.chm</Help>
      <Exe>OnviCordMonitor.exe</Exe>
      <Image>OnviCordMonitor.png</Image>
    </Item>
  </ExePlugins>

  <DllPlugins>
    <Item>
      <Name>Manager</Name>
      <Help>Manager.chm</Help>
      <AllowMultiple>false</AllowMultiple>
    </Item>
    <Item>
      <Name>IMA_Manager</Name>
      <Help></Help>
      <AllowMultiple>false</AllowMultiple>
    </Item>
    <Item>
      <Name>Message Server</Name>
      <Help>MessageServer.chm</Help>
```

```
      <AllowMultiple>true</AllowMultiple>
    </Item>
  </DllPlugins>
</Plugins>
```

6.2. Configure Link to AES and Communication Manger

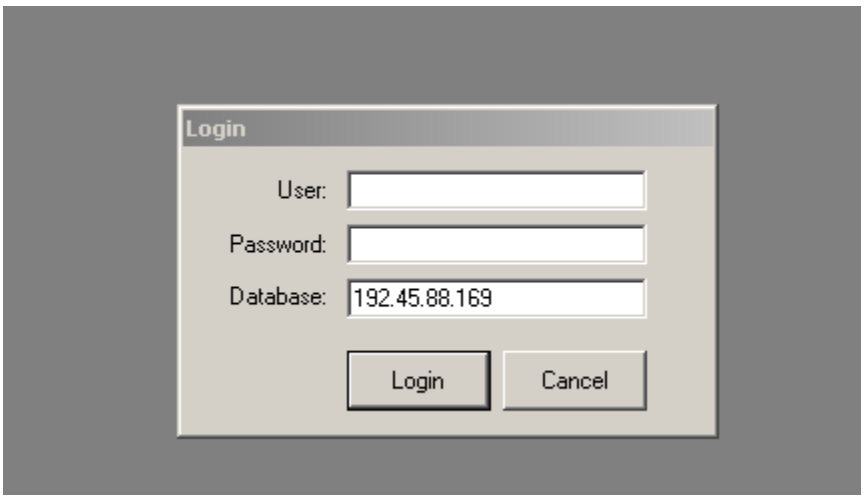
To configure the IMA Service for use with Application Enablement Services and Communication Manager, open the App.config file located in the directory where the IMA service was installed. Edit the file to provide the following information:

- Database Settings
  - **DatabaseName**: The name of your OnviSource Database. The default is OnviCenter.
  - **DbPassword**: The encrypted password for the Database. This will be provided by OnviSource.
- AES Configuration
  - **AvayaSessionUserName**: Enter the **User ID** administered in **Section 5.5**.
  - **AvayaUserPassword**: Enter the **Password** administered in **Section 5.5**.
  - **AvayaServiceProviderIP**: Enter the IP address of the Application Enablement Services server.
  - **DataServerIP**: Enter the IP address of the OnviSource DB. During compliance testing, the OnviSource DB was located on the OnviSource Server.
  - **MediaIP**: Enter the Recording Server IP address for Communication Manager to send RTP traffic. During compliance testing, the OnviSource DB was located on the OnviSource Server.
  - **DefaultAvayaSwitchName**: Enter the switch **Connection Name** administered in **Section 5.1**.
  - **GroupName**: This field is used when assigning groups to extensions in a multisite environment.
  - **CaptureMode**: Enter **2**. The following options are available:
    - 1=Display Only
    - 2= Display and Media
    - 3=Media Only
    - 4=Call Control Only
  - **CtiLinkName**: Enter the **Connection Name** administered in **Section 5.1**.

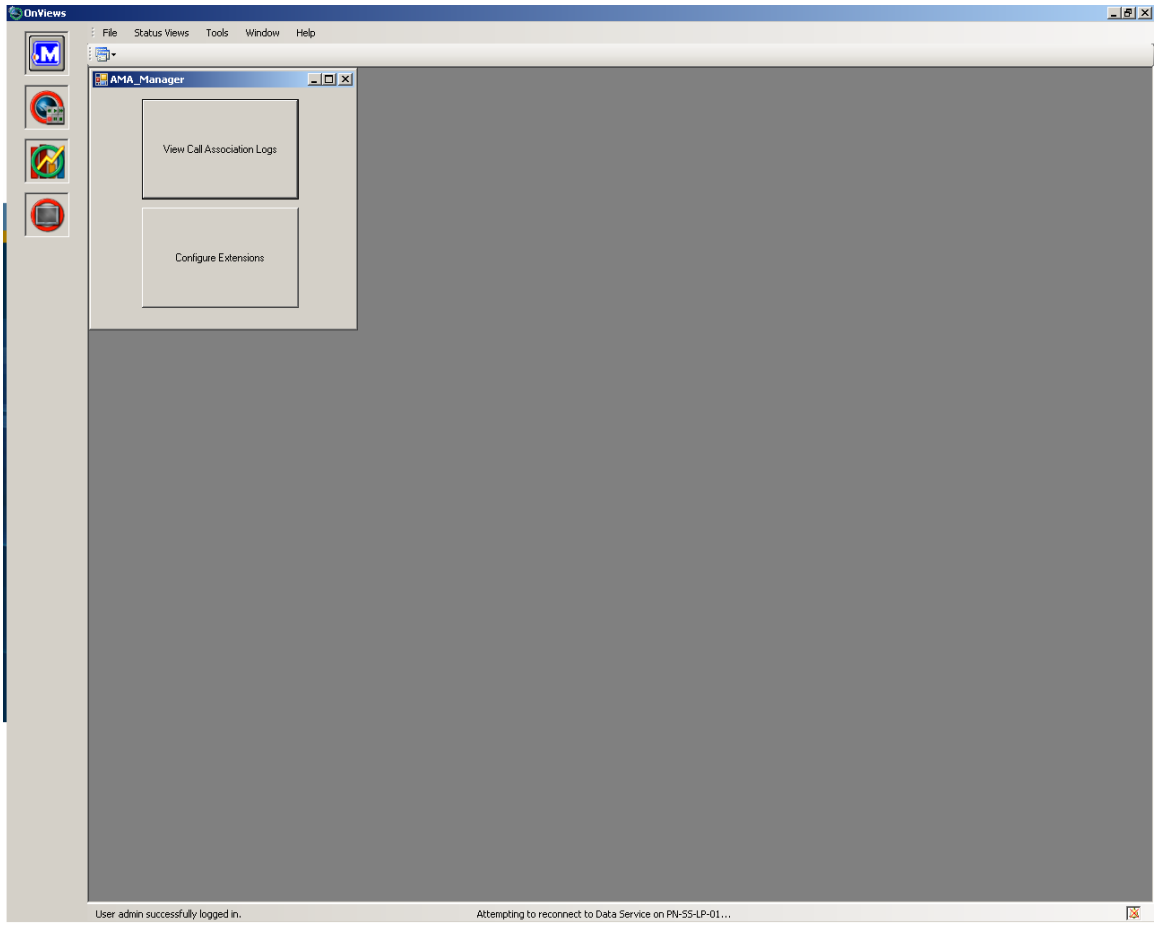
```
<!-- ================== Database Settings ================-->
      <add key="DatabaseName"      value="OnviCenter"/> <!-- OnviCenter
      <add key="DbPassword"        value="kAQFlLcodGvNINP1RNB2li05LBIRFHJe"/>


      <!-- AvayaServiceProviderIP"      value="192.45.88.25"
      <add key ="AvayaSessionUserName"       value="DevConnect"/>
      <add key ="AvayaUserPassword"          value="DevConnect123."/>
      <add key ="AvayaServiceProviderIP"     value="192.45.88.25"/>
      <add key ="DataServerIP"               value="192.45.88.169"/>
      <add key ="MediaIP"                    value="192.45.88.169"/>
      <add key ="DataServerIP"               value="localhost"/>
      <add key ="MediaIP"                    value="localhost"/>
      <add key ="DefaultAvayaSwitchName"     value="8500"/>
      <add key ="GroupName"                  value="AMALAB"/>
      <add key ="CaptureMode"                value="2"/>
      <add key ="CtiLinkName"                value="8500"/>
      -->
```

6.3. Accessing the IMA manager

The IMA manager can be accessed through the OnViews management console on the OnviSource Server.
Launch the OnViews management console by clicking the desktop icon. Log in by providing the appropriate **User** and **Password** credentials and entering the IP address of the OnviCenter DB in the **Database** field. Click **Login.**

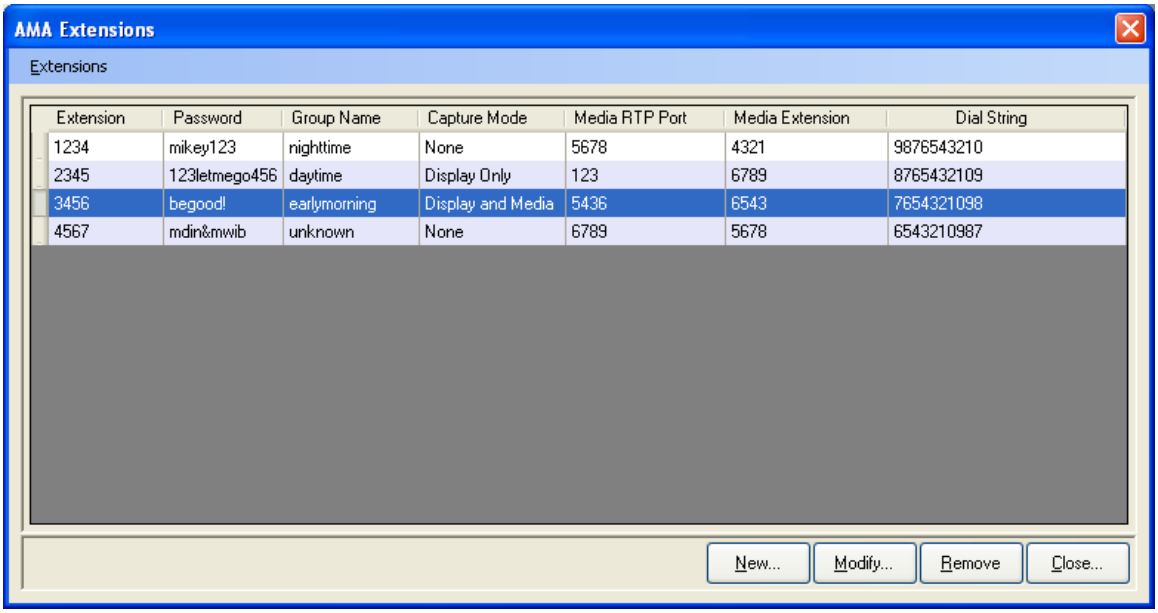


The IMA manager application can be launched by clicking the appropriate icon on the left menu bar.



6.4. Administer Devices for Recording

To configure the IMA/IMA service, press the **Configure Extensions** button on the main screen. A new dialog, similar to the one below appears.

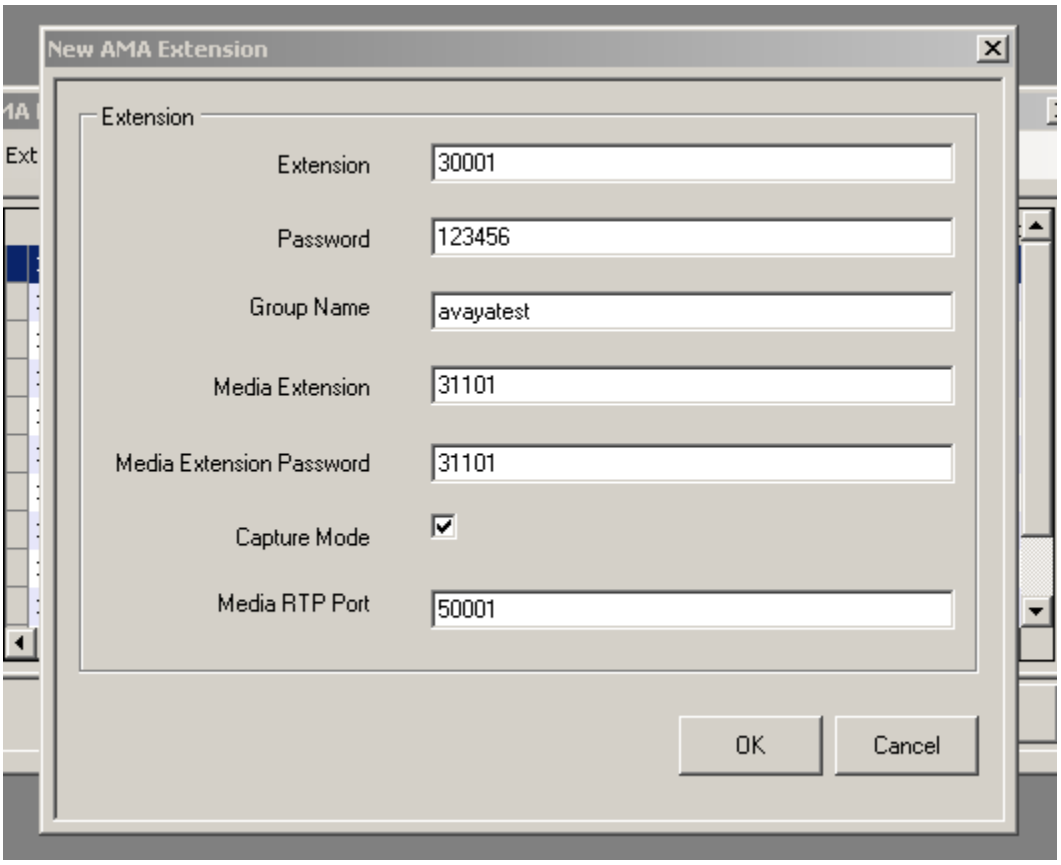


Each row in the table represents a single extension defined within the database that controls the behavior of the IMA/IMA service. To add a new extension, click the **New** button and provide the following information:

- **Extension**: Enter the extension to be monitored. Make sure that the specified value matches an extension provisioned within the switch (i.e., Communication Manager). There is no harm in specifying an extension that isn't provisioned, but for the extension to be monitored, it must be fully configured within the switch.
- **Password**: Enter the password associated with the station extension, as configured on Communication Manager.
- **Group Name**: This is an arbitrary descriptive label. It is used to associate the extension with a specific instance of the IMA/IMA service. Each instance of the IMA/IMA service has a unique group name (defined in its configuration file). A given instance of the service only monitors extensions having a group name equal to its own. This feature allows multiple instances of the service to run simultaneously without interfering with each other's extensions.
- **Media Extension**: Enter the extension number of the DMCC recording device, administered in **Section 4.4**, used to capture audio media for calls to the primary extension.
- **Capture Mode**: Determines specifically what will be captured for the extension. The options are: None, Display only, and Media and Display. This value should correspond to

the Capture mode as specified in the configuration file for the service responsible for the extension. Otherwise, nothing will be captured for the extension.

- **Media Extension Password**: Enter the password associated with the DMCC recording device, as configured on Communication Manager.
- **Media RTP Port**: Enter the IP port to which audio media for the extension will be sent. Although an odd port was used for this test in the lab, Avaya recommends the use of even ports for the Media RTP Port..
- **Dial string**: This field exists for backwards compatibility. It is not used for current versions of IMA/IMA.



Click **OK** to save changes.

7. General Test Approach and Test Results

The general test approach was to place calls and use basic telephony operations to verify that OnviSource OnviCord could properly record the calls, associate the calls with the correct stations and agents, and to confirm that quality recordings could be retrieved and played back. The test cases were broken down into three categories: feature testing, serviceability testing, and performance testing.

For feature testing, several types of calls were placed, including:

- Internal calls
- Inbound trunk calls
- Outbound trunk calls
- Transfer and Conference calls

The calls were placed to and from various endpoints, including: stations, agents, VDNs, and hunt groups.

For serviceability testing, failure conditions were introduced into the test configuration, such as network cable pulls, CTI link busyouts, and server resets to verify that OnviSource OnviCord could properly resume operation after failure recovery.

For performance testing, a sustained volume of calls were generated for an extended period of time to verify that OnviSource OnviCord could record all the calls during that time period.

All test cases were executed and passed.

8. Verification Steps

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

8.1. Verify Communication Manager

This section provides the steps required to verify the status of the link(s) to Application Enablement Services and the CTI link.

1. Enter the **status aesvcs link** command. Verify the **Remote IP** is the IP address of the Application Enablement Services server, the **Local Node** displays each CLAN used for connectivity to Application Enablement Services, and that there is appropriate message traffic over the links (**Msgs Sent** and **Msgs Rcvd**).

```
status aesvcs link

                          AE SERVICES LINK STATUS

Srvr/  AE Services     Remote IP        Remote  Local Node      Msgs    Msgs
Link   Server                          Port                    Sent    Rcvd

01/01  aeserver25      192. 45. 88. 25  56300   CLAN2           207     192
01/02  aeserver25      192. 45. 88. 25  56302   CLAN4           180     180
01/03  aeserver25      192. 45. 88. 25  56304   CLAN3           180     180
```

1. Enter the **status aesvcs cti-link** command. Verify the **Service State** is **established** for the CTI link number administered in **Section 4.3**.

```
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              no                     down          0        0
3              no                     down          0        0
4              no                     down          0        0
5              no                     down          0        0
6              no                     down          0        0
7              no                     down          0        0
8              no                     down          0        0
9              no                     down          0        0
10     4       no    aeserver25       established   15       15
```

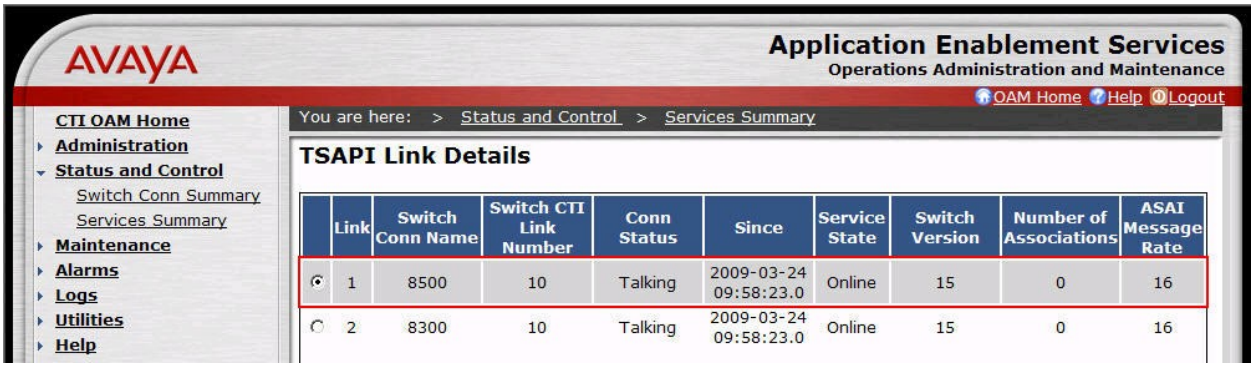
8.2. Verify Application Enablement Services

This section provides the steps required to verify the status of the TSAPI and DMCC services.

1. From the Application Enablement Services "CTI OAM Admin" web pages, navigate to **Status and Control > Services Summary** in the left pane menu. Verify that the **State** of the **TSAPI Service** and the **DMCC Service** is **ONLINE**.

2. Select the radio button for **TSAPI Service**, and click **Details**.

3. Verify that the **Conn Status** is **Talking** for the TSAPI link administered in **Section 5.3**.



8.3. Verify Recordings

This section provides the steps required to verify calls are being properly recorded.

1. Place a few test calls to be recorded.

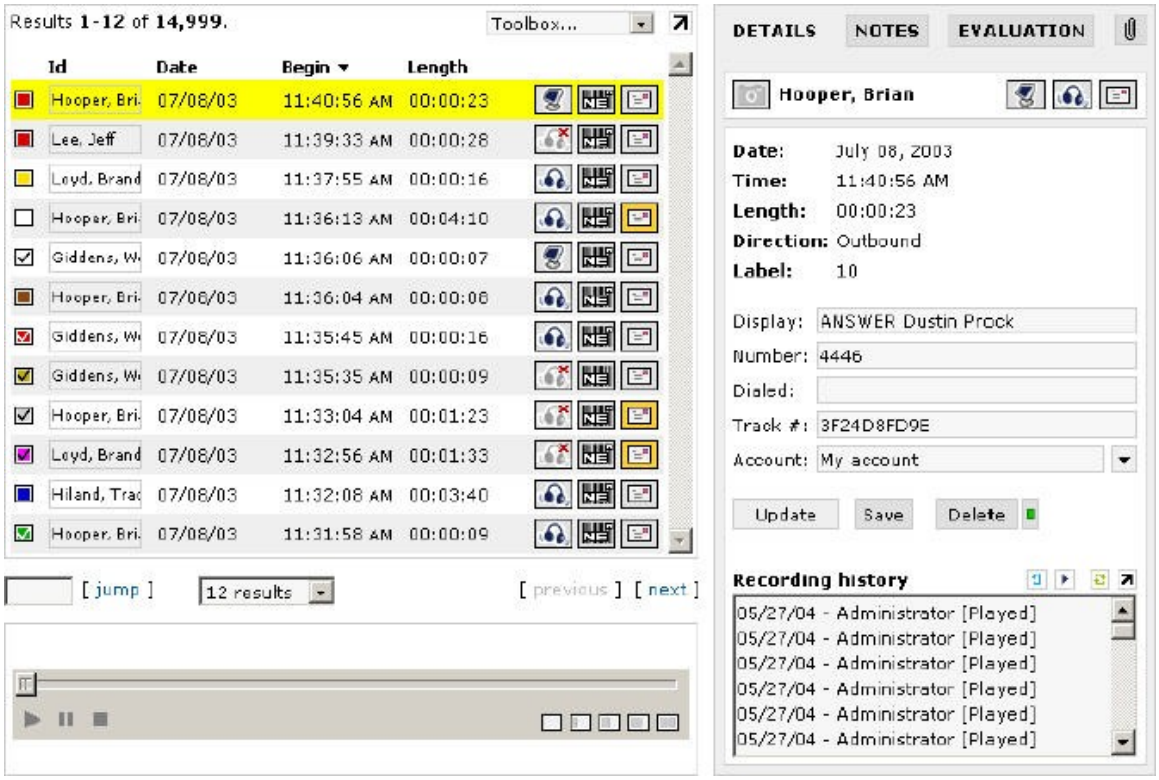
2. Log into "OnviCord Web". To log into "OnviCord Web" from the OnviCord Agent application residing on the OnviSource OnviCord Client PC, right-click on the square icon in your system tray, then select **OnviCord Web** from the popup menu. To log into "OnviCord Web" from OnViews, click the **OnviCord Web** icon in the Toolbar OR select **Tools-> OnviCord Web** from the menu bar.

   NOTE: Your OnviCord administrator determines which levels of "OnviCord Web" you may access. Depending on your privileges, you may not have access to all areas of "OnviCord Web".

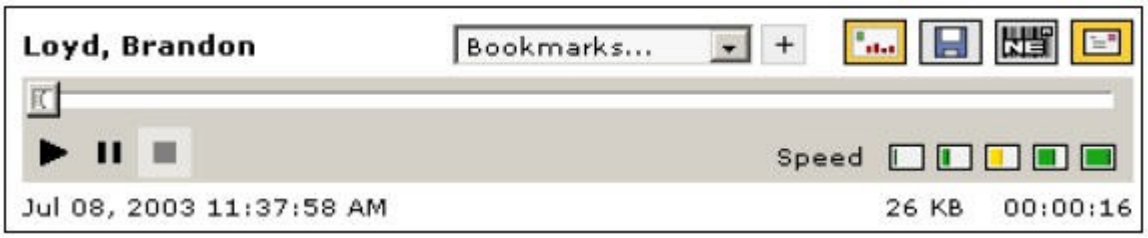
3. The "OnviCord Web" home window will be opened. Click **Recent Recordings** on the top of "OnviCord Web" screen to display a list of recent recordings.

4. Note, the first time you access **Recent Recordings**, you will be prompted to set preferences indicating what records to view and how they are displayed. In the **Recent Options** section, use the drop-down box to view recent recordings within a specific time frame (a range between five minutes and one week) OR a fixed number of recent recordings (a range between 10 recordings to an unlimited maximum).

5. The results page shows a list of recordings on the left. Details about the first call on the page (which is highlighted) are shown on the right. Verify the details of the test calls are correct.



6. Click the headphones (or computer monitor) next to a recording to play the recording. For each test call, verify the quality of the recording and that the entire call was recorded.



9. Conclusion

These Application Notes describe the configuration steps required for OnviSource OnviCord 6.1.3 to interoperate with Avaya Aura™ Communication Manager 5.2 and Avaya Aura™ Application Enablement Services 4.2. All feature, serviceability, and performance test cases were completed and passed.

10. Additional References

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

The following Avaya product documentation can be found at http://support.avaya.com:

[1] *Administering Avaya Aura™ Communication Manager,* Doc ID: 03-300509, Issue 5.0, Release 5.2, May 2009
[2] *Avaya MultiVantage Application Enablement Services Administration and Maintenance Guide*, Doc ID: 02-300357, Release 4.2, Issue 10, May 2008

OnviSource product documentation can be obtained by contacting OnviSource's customer support: http://www.onvisource.com/support/index.php.

11. Change History

Issue	Date	Reason
1.1	02/12/2010	Updated Section 6.4 to state Avaya recommends the use of even ports for the Media RTP Port.
1.0	10/26/2009	Initial issue

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at devconnect@avaya.com.