

Avaya Solution & Interoperability Test Lab

Application Notes for Trio Enterprise 5.0 to interoperate with Avaya Aura® Communication Manager R6.3 and Avaya Aura® Application Enablement Services R6.3 - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Trio Enterprise 5.0 to interoperate with Avaya Aura® Communication Manager R6.3 and Avaya Aura® Application Enablement Services R6.3.

Readers should pay attention to Section 2, in particular the scope of testing as outlined in Section 2.1 as well as the observations noted in Section 2.2, to ensure that their own use cases are adequately covered by this scope and results.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

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1. Introduction

These Application Notes outline the steps necessary to configure Trio Enterprise from Enghouse Interactive AB to interoperate with Avaya Aura® Communication Manager R6.3 and Avaya Aura® Application Enablement Services R6.3. Trio Enterprise is a client/server based application running on Microsoft Windows 2008 Server operating systems. Trio Enterprise provides users with an attendant answering position for Communication Manager, as well as a call referral function that provides spoken information about the status of the called extension. It also includes its own inbuilt voice mail called Trio VoiceMail. The Trio Enterprise Attendant client provides a view of contacts, schedules, and communication tasks and was installed on the same server as the Trio Server, but can be installed on a separate platform if required.
Trio Enterprise connects to Communication Manager using a SIP trunk. A TSAPI connection on Avaya Aura® Application Enablement Services (AES) enables the Trio Enterprise Absence integration. Trio Enterprise is supplied with all prerequisite software.

Note: The sample configuration used a direct SIP trunk between Trio Enterprise 5.0 and Avaya Aura® Communication Manager R6.3 without Avaya Aura® Session Manager. This configuration was approved as an exception for DevConnect compliance testing with Trio Enterprise 5.0. Please contact an authorized Avaya representative before deploying this configuration in customer environments.

2. General Test Approach and Test Results

The general test approach was to configure a simulated enterprise voice network using Communication Manager. The Trio Enterprise Server communicates with Communication Manager using a SIP trunk directly from Communication Manager. See **Figure 1** for a network diagram. A Dial Plan was configured on Communication Manager to route calls to Trio Enterprise. Calls placed to the Trio Enterprise Server automatically places a call to the telephone the Attendant is using for answering purposes. When the attendant answers the call, the Trio Enterprise Server bridges the two calls. When the attendant extends the call to another telephone, Trio Enterprise Server performs a SIP path replacement, and the caller and the called user are now directly connected.

It is possible to have multiple Trio attendant positions on a Communication Manager system. A variety of Avaya telephones were installed and configured on Communication Manager.

Note: During compliance testing, an Avaya H.323 9640G was used as the attendant's telephone.

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

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2.1. Interoperability Compliance Testing

The interoperability compliance testing included feature and serviceability testing. The serviceability testing introduced failure scenarios to see if Trio Enterprise could resume after a link failure with Communication Manager/AES. The testing included:

- Incoming internal and external calls
- Outgoing internal and external calls
- Supervised and unsupervised transfer with answer
- Directing calls to busy extensions
- Call queuing and retrieval
- Loop detection for busy and unanswered extensions

2.2. Test Results

Tests were performed to insure full interoperability between Trio Enterprise and Communication Manager. The tests were all functional in nature and performance testing was not included. All the test cases passed successfully.

2.3. Support

For technical support for Enghouse Interactive AB products, please use the following web link.
http://www.trio.com/web/Support.aspx

Enghouse Interactive AB can also be contacted as follows.
Phone: +46 (0)8 457 30 00
Fax: +46 (0)8 31 87 00
E-mail: triosupport@enghouse.com

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3. Reference Configuration

Figure 1 illustrates the network topology used during compliance testing. The Avaya solution consists of Communication Manager, which has a SIP trunk connection to the Trio Enterprise Server and Avaya Aura® Application Enablement Services (AES). A TSAPI link is configured on the Trio Enterprise Server which enables Trio Enterprise to control a telephone on Communication Manager to act as the Attendant telephone via AES. An Avaya H.323 telephone was used as the Trio Enterprise Attendant telephone during compliance testing. Digital and H.323 telephones were configured on Communication Manager to generate outbound/inbound calls to/from the PSTN. A QSIG trunk was configured to connect to the PSTN.

Note: The Trio Enterprise Attendant (client) was installed on the same server as the Trio Enterprise Server, but can be installed on a separate platform if required.

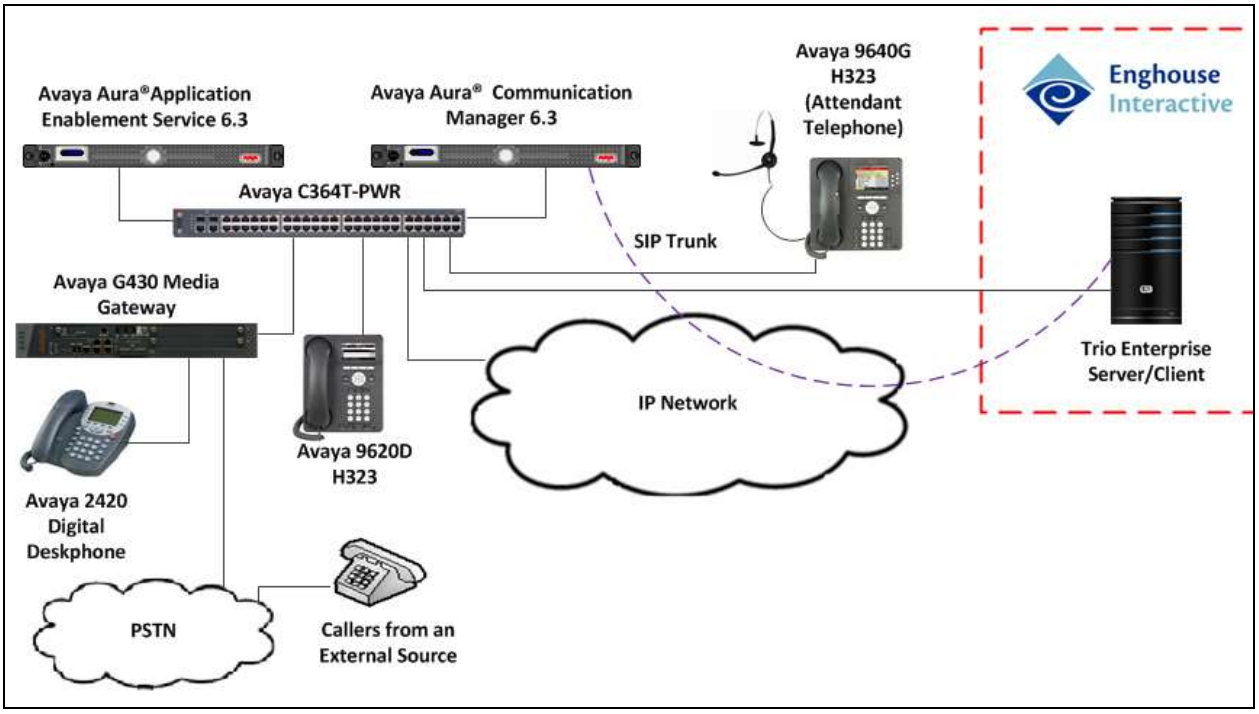


Figure 1: Avaya and Trio Enterprise Reference Configuration

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4. Equipment and Software Validated

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

Avaya Equipment	Software / Firmware Version
Avaya Aura® Communication Manager	R6.3 Build R016x.03.0.124.0
Avaya Aura® Application Enablement Services	R6.3 Build 6.3.0.0.212-0
Avaya G430 Media Gateway Module MM710 (DSP MP20)	Version 36.7.0/1 Version HW04 FW021
Avaya Media Gateway DSP module	MP20 FW 132
Avaya 96xx IP phones 9640G 9620D Avaya 2420 Digital phone	 3.1.05S 3.1.01S Rel 6.0, FWV 6
Trio Enterprise Equipment	**Software / Firmware Version**
Trio Enterprise running on Microsoft Windows 2008 R2 Server	Version 5.0 SP1

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5. Configure Avaya Aura® Communication Manager

Configuration and verification operations on Communication Manager illustrated in this section were all performed using Avaya Site Administrator Emulation Mode. The information provided in this section describes the configuration of Communication Manager for this solution. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 11**.

It is implied a working system is already in place. The configuration operations described in this section can be summarized as follows:

- Configure SIP trunk to Trio Enterprise
- Configure Station Call Transfer Recall Timer
- Configure Avaya Aura® Application Enablement Services Node
- Configure interface to Avaya Aura® Application Enablement Services
- Create a CTI Link to Aura® Application Enablement Services
- Configure Absence diversion
- Configure Dialplan Analysis

Note: during Compliance Testing all inputs not highlighted in Bold were left as Default.

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5.1. Configure SIP trunk to Trio Enterprise

For Communication Manager to communicate with Trio Enterprise, a SIP trunk is required. The following steps are needed to configure the SIP Trunk.

5.1.1. Configure Trio Enterprise Node

Use the **change node-names ip** command and enter the following:

- **Name** Enter an informative name (e.g., **Trio**).
- **IP Address** Enter the IP address of the Trio Enterprise Server.

Note: Make a note of the **procr** IP address as it is required in **Section 6.3**.

```
change node-names ip                                          Page   1 of   2
                                 IP NODE NAMES
    Name              IP Address
AES63RP             10.10.16.210
CM62                10.10.16.142
IPO                 10.10.60.30
SM63RPSIG           10.10.16.214
Trio                10.10.16.35
default             0.0.0.0
procr               10.10.16.211
procr6              ::



( 8 of 8   administered node-names were displayed )
Use 'list node-names' command to see all the administered node-names
Use 'change node-names ip xxx' to change a node-name 'xxx' or add a node-name
```


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5.1.2. Configure Signaling Group for Trio Enterprise

A signaling group is required before a trunk-group can be configured. Use the **add signaling-group** command followed by next available signaling-group number to configure the following:

- **Group Type:** Enter **sip**
- **Transport Method:** Enter **tcp**
- **Near-end Node Name:** Enter **procr**
- **Far-end Node Name:** Enter **Trio** (Trio enterprise Node Name as configured in **Section 5.1.1**).
- **Near-end Listen Port:** Enter **5060**
- **Far-end Listen Port:** Enter **5060**
- **Far-end Network Region:** Enter the appropriate Network region (i.e. 1).

```
add signaling-group 14                                        Page   1 of   2
                              SIGNALING GROUP

 Group Number: 14             Group Type: sip
  IMS Enabled? n        Transport Method: tcp
       Q-SIP? n
    IP Video? n                                  Enforce SIPS URI for SRTP? y
  Peer Detection Enabled? y  Peer Server: Others
 Prepend '+' to Outgoing Calling/Alerting/Diverting/Connected Public Numbers? n
Remove '+' from Incoming Called/Calling/Alerting/Diverting/Connected Numbers? y
Alert Incoming SIP Crisis Calls? n
   Near-end Node Name: procr                 Far-end Node Name: Trio
 Near-end Listen Port: 5060                Far-end Listen Port: 5060
                                        Far-end Network Region: 1

Far-end Domain:
                                           Bypass If IP Threshold Exceeded? n
Incoming Dialog Loopbacks: eliminate               RFC 3389 Comfort Noise? n
         DTMF over IP: rtp-payload          Direct IP-IP Audio Connections? y
Session Establishment Timer(min): 3                  IP Audio Hairpinning? n
         Enable Layer 3 Test? y                Initial IP-IP Direct Media? n
H.323 Station Outgoing Direct Media? n         Alternate Route Timer(sec): 6
```


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5.1.3. Configure Trunk Group for Trio Enterprise

This section describes the Trunk Group configuration used during compliance testing. Use the **add trunk-group** command followed by next available Group number and configure the following:

- **Group Type:** Enter **sip**
- **Group Name:** Enter an informative name for the trunk (i.e. **Trio Enterprise)**.
- **TAC** Enter a TAC number (i.e. **714)**.
- **Service Type:** Enter **tie**
- **Signaling Group:** Enter the Signaling Group number as configured in **Section 5.1.2**.
- **Number of Members:** Enter the number of channels required to connect to Trio Enterprise Server (during compliance testing 30 channels were used).

```
add trunk-group 14                                          Page   1 of  21
                              TRUNK GROUP

Group Number: 14                    Group Type: sip           CDR Reports: y
  Group Name: Trio Enterprise              COR: 1        TN: 1        TAC: 714
   Direction: two-way        Outgoing Display? n
 Dial Access? n                                  Night Service:
Queue Length: 0
Service Type: tie                    Auth Code? n
                                            Member Assignment Method: auto
                                                      Signaling Group: 14
                                                    Number of Members: 30
```

Go to **Page 3** and enter **private** for **Numbering Format**.

```
add trunk-group 14                                          Page   3 of  21
TRUNK FEATURES
          ACA Assignment? n            Measured: none
                                                       Maintenance Tests? y



                    Numbering Format: private
                                                UUI Treatment: service-provider

                                                 Replace Restricted Numbers? n
                                                Replace Unavailable Numbers? n


                                Modify Tandem Calling Number: no



 Show ANSWERED BY on Display? y
```


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5.2. Configure Station Call Transfer Recall Timer

During compliance testing, Trio Enterprise suggested that the Station Call Transfer Recall Timer be set to 20 seconds. Use the **change system-parameters features** command to change the **Station Call Transfer Recall Timer** to **20** on **Page 6**.

```
change system-parameters features                              Page   6 of  20
                     FEATURE-RELATED SYSTEM PARAMETERS
         Public Network Trunks on Conference Call: 5              Auto Start? n
    Conference Parties with Public Network Trunks: 6               Auto Hold? n
 Conference Parties without Public Network Trunks: 6          Attendant Tone? y
         Night Service Disconnect Timer (seconds): 180         Bridging Tone? n
                  Short Interdigit Timer (seconds): 3         Conference Tone? n
               Unanswered DID Call Timer (seconds):            Intrusion Tone? n
               Line Intercept Tone Timer (seconds): 30    Mode Code Interface? n
                  Long Hold Recall Timer (seconds): 0
                       Reset Shift Timer (seconds): 0
     Station Call Transfer Recall Timer (seconds): 20        Recall from VDN? n
           Trunk Alerting Tone Interval (seconds): 15
                                DID Busy Treatment: tone
               Allow AAR/ARS Access from DID/DIOD? n
                 Allow ANI Restriction on AAR/ARS? n
Use Trunk COR for Outgoing Trunk Disconnect/Alert? n
                  7405ND Numeric Terminal Display? n                  7434ND? n



    DTMF Tone Feedback Signal to VRU - Connection:          Disconnection:
```

5.3. Configure Avaya Aura® Application Enablement Services Node

A Node Name needs to be created to associate Communication Manager with AES. Use the **change node-names ip** command and enter an informative name (i.e. **aes63rp**) and the IP address of the **AES** (10.10.16.210).

Make a note of the **procr** IP address as it is required in **Section 6.3**.

```
change node-names ip                                           Page   1 of   2
                                  IP NODE NAMES
    Name                 IP Address
aes63rp                10.10.16.210
CM62                   10.10.16.142
IPO                    10.10.60.30
SM63RPSIG              10.10.16.214
Trio                   10.10.16.35
default                0.0.0.0
procr                  10.10.16.211
procr6                 ::



( 8 of 8   administered node-names were displayed )
Use 'list node-names' command to see all the administered node-names
```


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5.4. Configure interface to Avaya Aura® Application Enablement Services

To configure the AES link, use the **change ip-services** command and enter the following:

- **Type** Enter **AESVCS**
- **Enabled** Enter **y**
- **Local Node** Enter **procr**
- **Port** Enter **8765**

```
change ip-services                                          Page   1 of   4

                                  IP SERVICES
 Service      Enabled     Local      Local       Remote      Remote
  Type                    Node       Port        Node        Port
AESVCS         y       procr        8765
CDR1                   procr        0       IP_Buffer       9000
CDR2                   procr        0       RDTT            9000
```

Navigate to **Page 4** and enter the following:

- **Server ID** Enter **1**
- **AE Services** Enter **aes63rp** (The node created in **section 5.3**).
- **Password** Enter a password. This password will be used in **Section 6.3** to enable the AES to communicate with Communication Manager.
- **Enabled** Enter **y**

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

   Server ID    AE Services       Password          Enabled    Status
                   Server
      1:       aes63rp           Avayapassword123      y        in use
      2:
```

5.5. Create a CTI Link to Aura® Application Enablement Services

A CTI Link needs to be created to enable Communication Manager to interoperate with AES. Use the **add cti-link next** command and enter the following:

- **Extension** Enter any unused **Extension** (i.e. 1999).
- **Type** Enter **ADJ-IP**
- **Name** Enter the AES node name (**aes63rp** as created in **Section 5.3**).

Note: during compliance testing, CTI Link 1 was added.

```
add cti-link 1                                          Page   1 of   3
                                  CTI LINK
 CTI Link: 1
Extension: 1999
     Type: ADJ-IP
                                                                 COR: 1
     Name: aes63rp
```


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5.6. Configure Absence diversion

A VDN extension followed by a reason code can be dialled by users to initiate a diversion for specific reasons. An absence diversion can be cancelled by dialing the VDN extension followed by #. The following steps are needed to configure Absence diversions:

- Configure VDN 1
- Configure Vector 1
- Configure VDN 2
- Configure Vector 2

5.6.1. Configure VDN 1

During compliance testing, VDN 423 was used. Use the **add vdn x** command, (where **x** is the VDN) and configure the following:

- **Name*:** Enter an informative name (i.e. Phone diversion).
- **Destination:** Enter **Vector Number 123**

```
add vdn 423                                              Page   1 of   3
                          VECTOR DIRECTORY NUMBER

                            Extension: 423
                                Name*: Phone diversion
                          Destination: Vector Number        123
                  Attendant Vectoring? n
                Meet-me Conferencing? n
                  Allow VDN Override? n
                                COR: 1
                                TN*: 1
                           Measured: none


        VDN of Origin Annc. Extension*:
                            1st Skill*:
                            2nd Skill*:
                            3rd Skill*:



* Follows VDN Override Rules
```


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5.6.2. Configure Vector 1

Configure the Vector that was used as the **Vector Number** in **Section 5.6.1** Use the **add vector 123** command, and configure the following:

- **Name** Enter an informative name (i.e. Phone diversion).
- **Line 01** Enter **wait-time 1 secs hearing silence**
- **Line 02** Enter **collect 9 digits after announcement none for none**
- **Line 03** Enter **route-to number 1055 with cov n if unconditionally**

```
add vector 123                                          Page   1 of   6
                                CALL VECTOR

    Number: 123              Name: Phone diversion
Multimedia? n      Attendant Vectoring? n    Meet-me Conf? n           Lock? n
     Basic? y   EAS? y   G3V4 Enhanced? y   ANI/II-Digits? y   ASAI Routing? y
 Prompting? y   LAI? y  G3V4 Adv Route? y   CINFO? y   BSR? y   Holidays? y
 Variables? y   3.0 Enhanced? y
01 wait-time    1   secs hearing silence
02 collect      9    digits after announcement none     for none
03 route-to     number 1055             with cov n if unconditionally
04
05
06
07
08
09
10
```

5.6.3. Configure VDN 2

Configure a VDN using the **route-to number** as used in **Section 5.6.2**. This VDN is used for activating referrals from the phone set. Use the **add vdn 1055** command, and configure the following:

- **Extension:** Enter **1055**
- **Name*:** Enter an informative name (i.e. diversion).
- **Destination:** Enter **Vector Number 223**

```
add vdn 1055                                            Page   1 of   3
                          VECTOR DIRECTORY NUMBER

                            Extension: 1055
                                Name*: diversion
                           Destination: Vector Number        223
                  Attendant Vectoring? n
                Meet-me Conferencing? n
                  Allow VDN Override? n
                                 COR: 1
                                 TN*: 1
                            Measured: none


        VDN of Origin Annc. Extension*:
                            1st Skill*:
                            2nd Skill*:
                            3rd Skill*:
```


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5.6.4. Configure Vector 2

Configure the Vector that was used as the **Vector Number** in **Section 5.6.3** Use the **add vector 223** command, and configure the following:

- **Name:** Enter an informative name (i.e. Phone diversion).
- **Line 01** Enter **wait-time 100 secs hearing ringback**
- **Line 02** Enter **stop**

```
add vector 223                                           Page   1 of   6
                                CALL VECTOR

    Number: 223              Name: Phone diversion
Multimedia? n      Attendant Vectoring? n    Meet-me Conf? n           Lock? n
     Basic? y   EAS? y   G3V4 Enhanced? y   ANI/II-Digits? y   ASAI Routing? y
 Prompting? y   LAI? y  G3V4 Adv Route? y   CINFO? y   BSR? y   Holidays? y
 Variables? y   3.0 Enhanced? y
01 wait-time    100 secs hearing ringback
02 stop
03
04
05
06
07
08
09
10
11
12
```


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5.7. Configure Dial Plan Analysis

Use the **change dialplan analysis** command to configure a dial plan to route calls to VDN 423. Configure the following:

- **Dial String** Enter **423** (the VDN used for diversions, see **section 5.6.1**).
- **Total Length** Enter **3**
- **Call Type** Enter **ext**

- **Dial String** Enter **1** (the leading digit of local extensions).
- **Total Length** Enter **4** (the digit length of local extensions).
- **Call Type** Enter **ext**

- **Dial String** Enter **9** (the prefix for PSTN numbers).
- **Total Length** Enter **1**
- **Call Type** Enter **fac**

```
change dialplan analysis                                      Page   1 of  12
                          DIAL PLAN ANALYSIS TABLE
                               Location: all            Percent Full: 2

    Dialed   Total  Call     Dialed   Total  Call     Dialed   Total  Call
    String   Length Type     String   Length Type     String   Length Type
   1           4   ext
   11          5   ext
   2           4   ext
   3           4   ext
   35          4   udp
   4           4   udp
   423         3   ext
   5           4   ext
   6           4   udp
   7           3   dac
   8           4   udp
   9           1   fac
   *           3   fac
   #           3   fac
```


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6. Configuration of Avaya Aura® Application Enablement Services

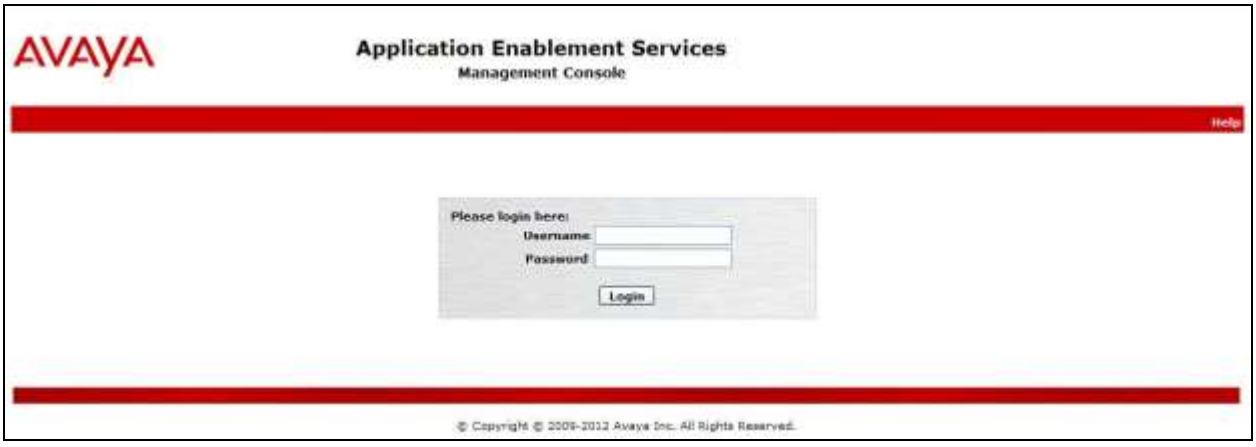
This section provides the procedures for configuring Avaya Aura® Application Enablement Services. It is implied a working AES system is already in place and the Security Database (SDB) is configured. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 11**. The configuration operations described in this section can be summarized as follows:

- Logging into Avaya Aura® Application Enablement Services
- Verify Avaya Aura® Application Enablement Services License
- Create a Avaya Aura® Communication Manager Switch Connection
- Create a TSAPI Link
- Create CTI User
- Configure Security Database
- Restart TSAPI Service

Note: during Compliance Testing, all inputs not highlighted with a red box were left as Default.

6.1. Logging into Avaya Aura® Application Enablement Services

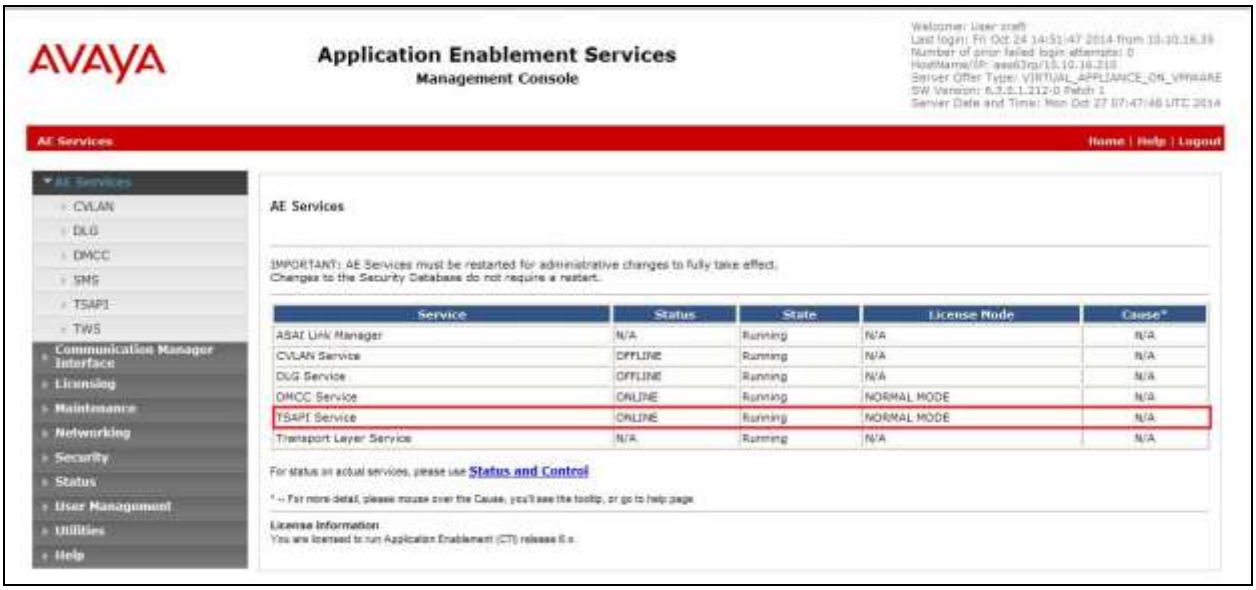
To access the OAM web-based interface of the Application Enablement Services Server, use the URL **http://x.x.x.x,** where **x. x. x. x** is the selected IP address of the AES. The **Management console** is displayed. Log in using the appropriate credentials.



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6.2. Verify Avaya Aura® Application Enablement Services License

Select **AE Services** on the left pane and verify that the **TSAPI Service** is licensed by ensuring that the **TSAPI Service** is in the list of services and that the **License Mode** is showing **NORMAL MODE**. If this is not the case, please contact an Avaya representative regarding licensing.



6.3. Create a Avaya Aura® Communication Manager Switch Connection

A Communication Manager Switch Connection needs to be created to enable AES to communicate with Communication Manager. Navigate to **Communication Manager Interface → Switch Connections**.

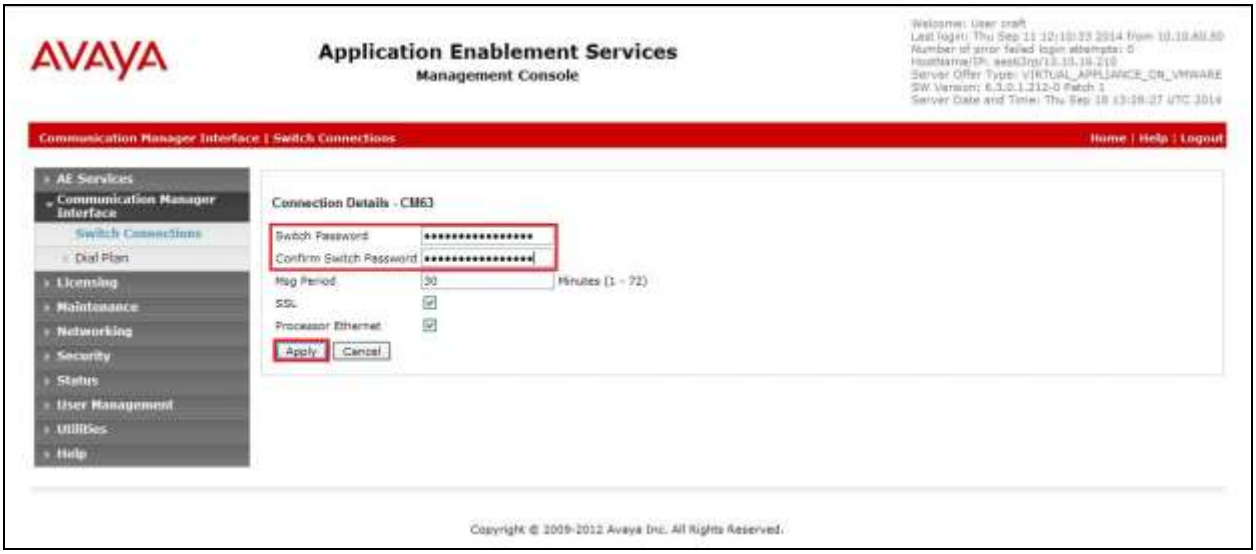


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When the **Switch Connections** page opens, enter an informative name for Communication Manager (i.e. CM63). Click on the **Add Connection** button.



Once the **Connection Details** window opens, enter the **Switch Password** as was configured in **Section 5.4**. Re–enter password in **Confirm Switch Password** field. Click on the **Apply** button.



Click the **Edit PE/CLAN IPs** button, (not shown). Enter the IP address of the Processor Ethernet interface (procr IP address, see **Section 5.3**) that Application Enablement Services will use for communication with Communication Manager, and click the **Add/Edit Name or IP** button.



Click the **Edit H.323 Gatekeeper** button, (not shown). Enter the IP address of the Processor Ethernet interface (procr IP address, see **Section 5.3**). Click the **Add Name or IP** button.



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6.4. Create a TSAPI Link

A TSAPI Link needs to be created to interoperate with Trio Enterprise. Navigate to **AE Services → TSAPI → TSAPI Links** and click on the **Add Link** button.



Once the **Add TSAPI Links** window opens, enter the following:

- **Link** Select the next available Link from the dropdown box.
- **Switch Connection** Select **CM63** from the dropdown box. (The Switch connection as created in **Section 6.3**).
- **Switch CTI Link Number** Select **1** from the dropdown box. (The CTI link as created in **Section 5.5**).
- **Security** Select **Unencrypted** from the dropdown box.

Click on the **Apply Changes** button.



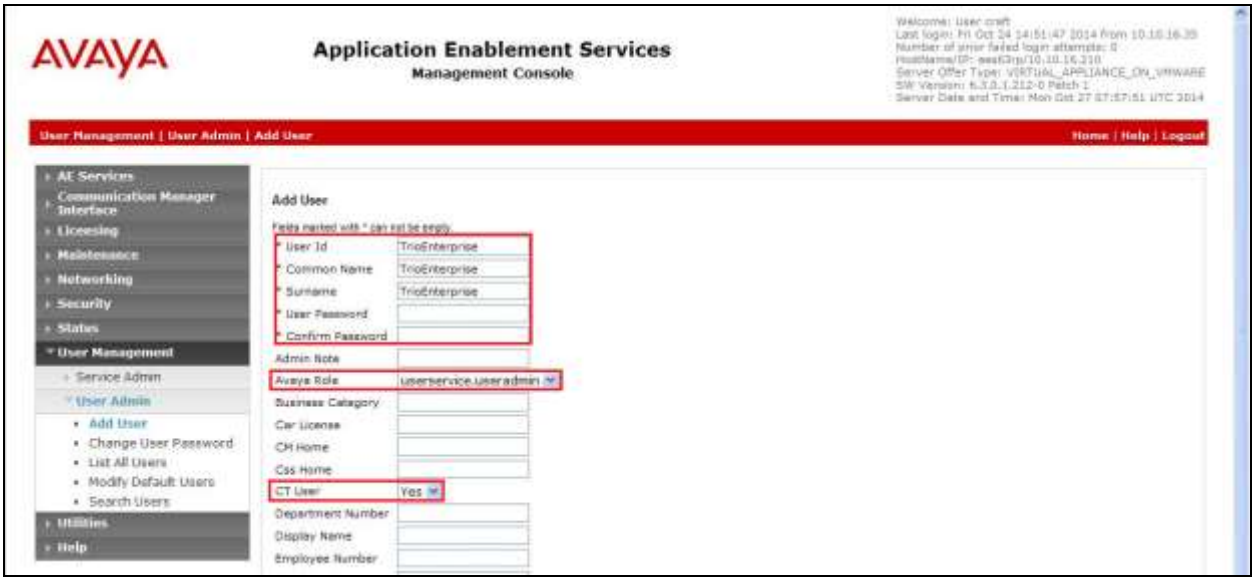
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6.5. Create CTI User

Navigate to **User Manager → User Admin**, and select **Add User**. On the **Add User** screen, enter the following:

- **User Id**: Enter an informative name (i.e. **TrioEnterprise**). This ID is required for the Trio Enterprise installation.
- **Common Name**: Enter a Common Name (i.e. **TrioEnterprise**).
- **Surname**: Enter a Surname (i.e. **TrioEnterprise**).
- **User Password** Enter a password. This password is required for the Trio Enterprise Installation.
- **Confirm Password** Confirm the password.
- **Avaya Role** Select **userservice.useradmin** from the dropdown box.
- **CT User** Select **Yes** from the dropdown box.

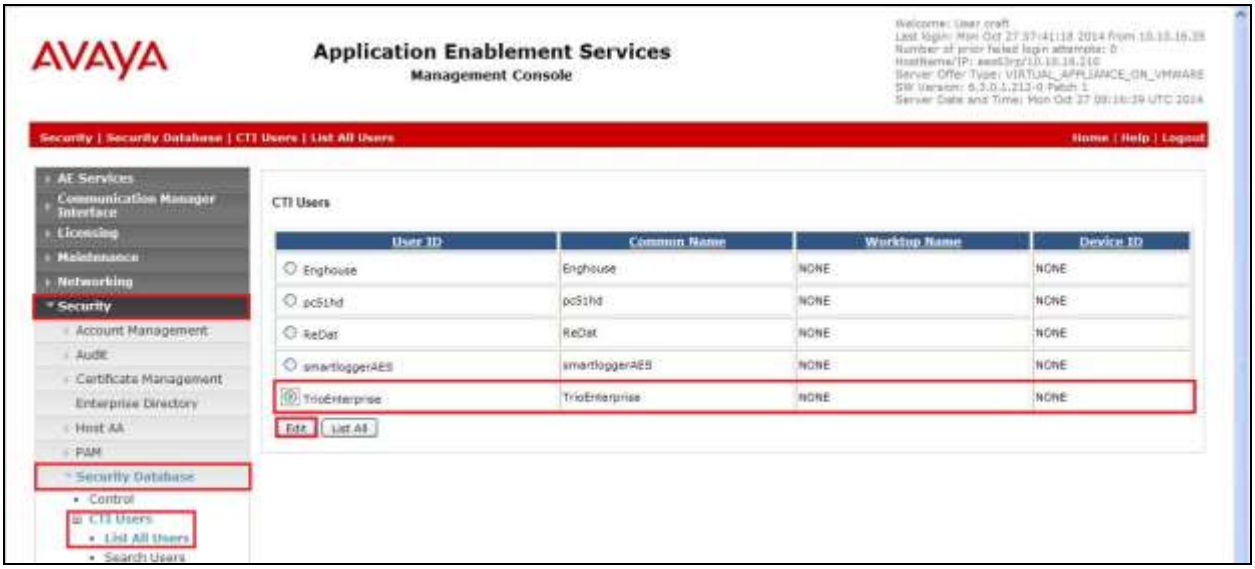
Click the **Apply button** at the bottom of the screen (not shown).



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6.6. Configure Security Database

Navigate to the users screen by selecting **Security → Security Database → CTI Users → List All Users.** In the **CTI Users** window, select the Radio button relating to the CTI user created in **Section 6.5** (**TrioEnterprise**) and click on the **Edit** button.



Once the **Edit CTI User** page appears, tick the **Unrestricted Access** check box and **Apply Changes** at the bottom of the screen.



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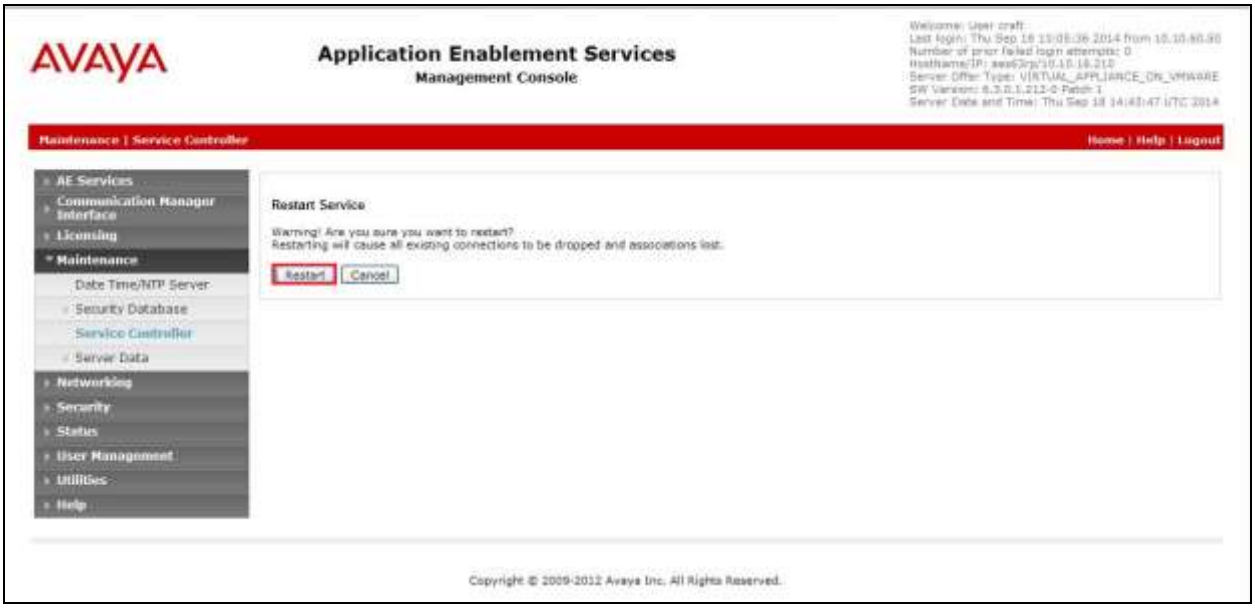
6.7. Restart TSAPI Service

After the AES configuration is completed, the TSAPI service needs to be restarted. To restart, navigate to **Maintenance → Service Controller**. Tick the **TSAPI Service** check box and click on the **Restart Service** button.



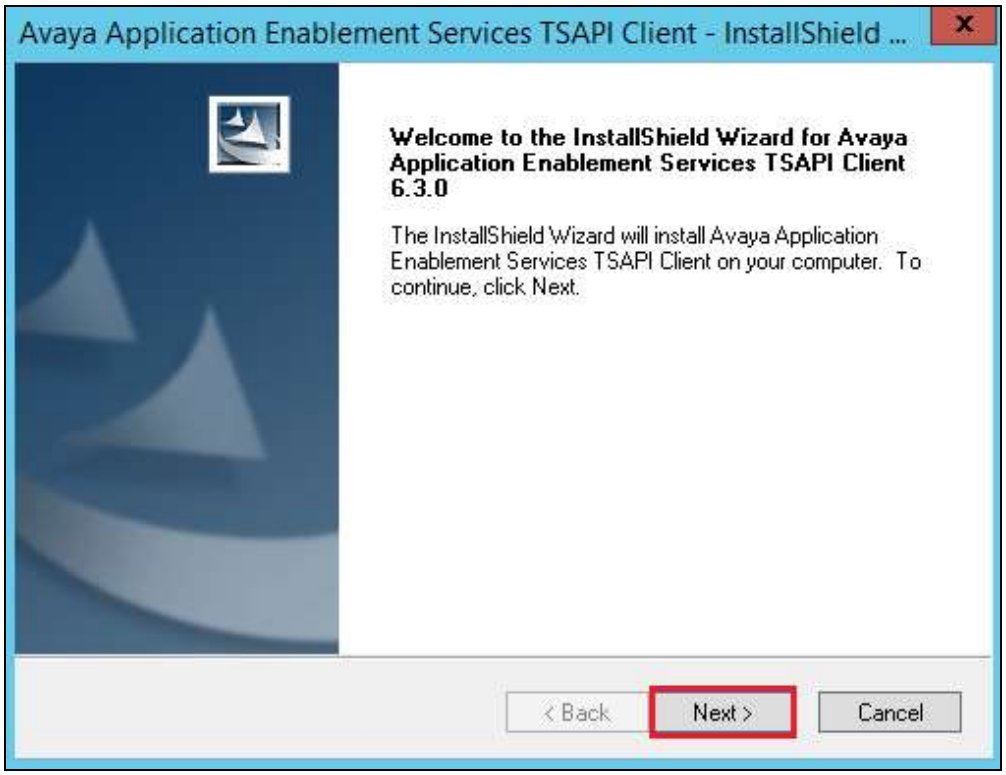
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When the **Restart Service** page opens, click on the **Restart button**.



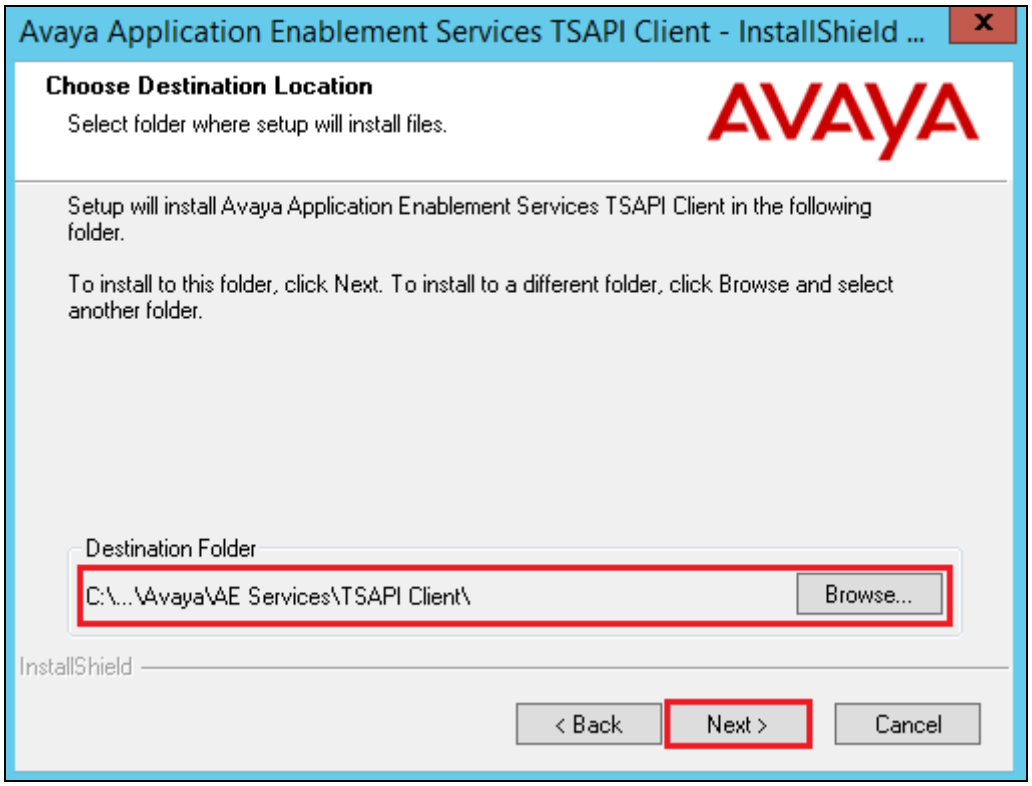
7. Install Avaya Aura® Application Enablement Services TSAPI Client

An InstallShield Wizard is used to install the Avaya Aura® Application Enablement Services TSAPI Client. Locate the **InstallShield Wizard** and once opened, click on **Next**.



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In the subsequent window, browse to the location where the TSAPI client will be installed. Click on the **Next** button to continue.

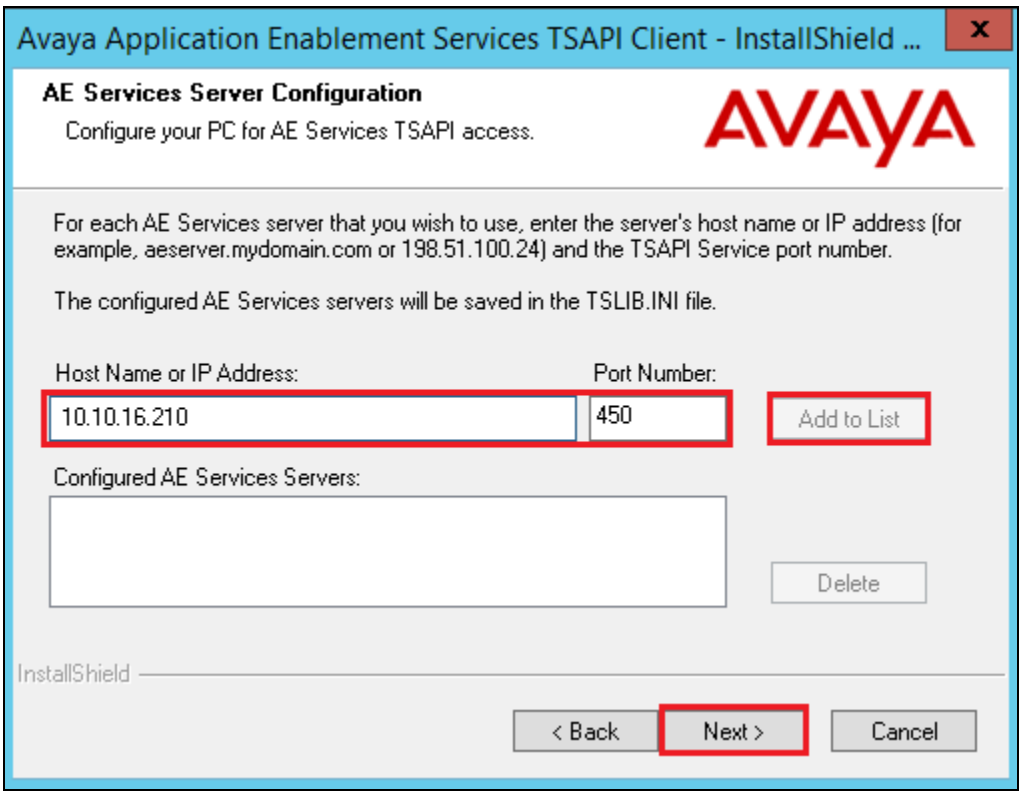


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In the subsequent window, enter the following:

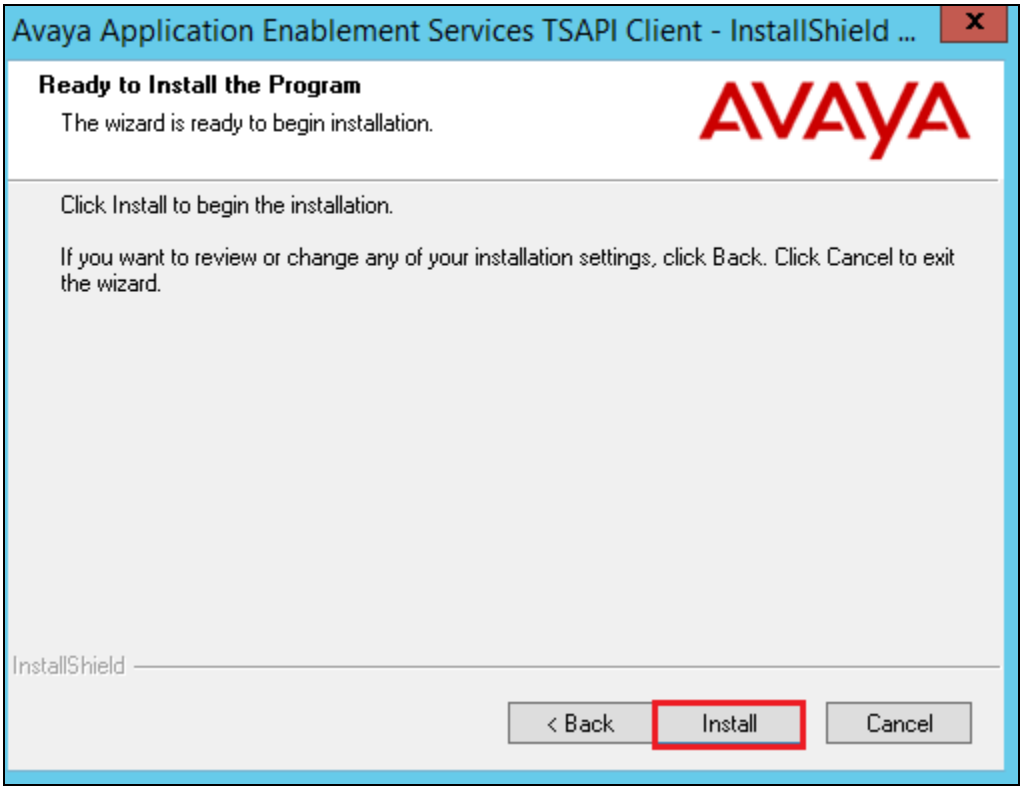
- **Host Name or IP Address:** Enter the IP address of the AES server.
- **Port Number:** Enter **450**

Click on the **Next** button to continue.

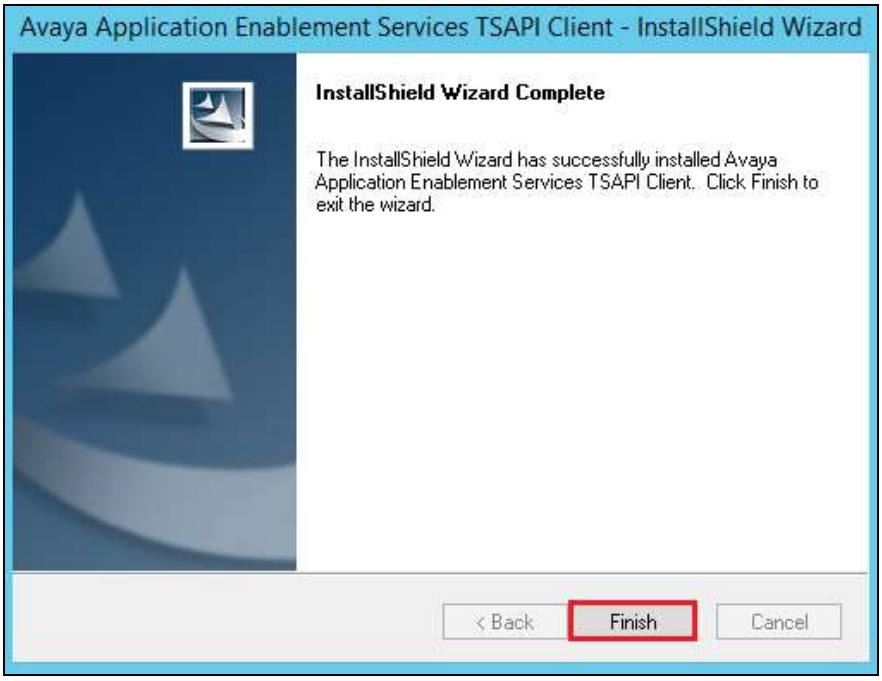


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In the subsequent window, click on the **Install** button.



When the **InstallShield Wizard Complete** window appears, click on the **Finish** button.



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8. Configure Trio Enterprise

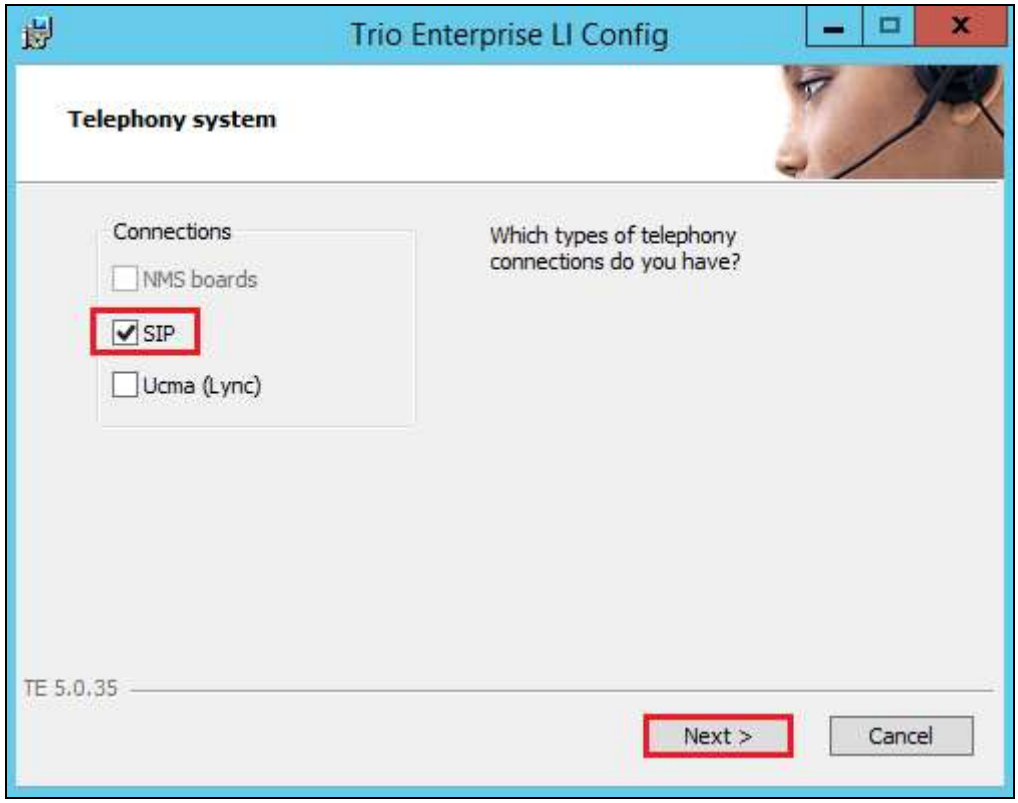
This section shows how to configure Trio Enterprise to successfully connect to Communication Manager and AES. The installation of the Trio Enterprise software is assumed to be completed and the Trio Enterprise services are up and running. The steps to configure SIP Trunks are as follows:

- Configure Trio Enterprise to use SIP trunks
- Special configuration for Avaya Aura® Communication Manager
- Configure Absence Connection and Trio Enterprise Attendant

8.1. Configure Trio Enterprise to use SIP Trunks

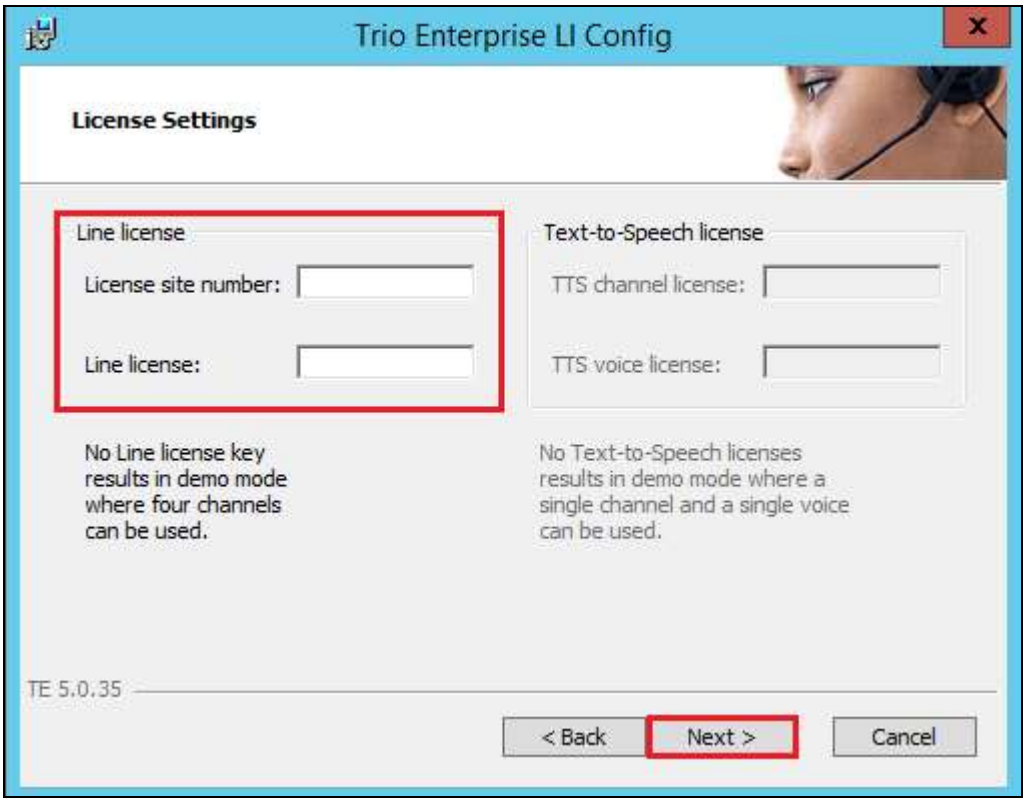
Access Windows services. Select **Start → Run**, then type **services.msc** into the command line and press return (not shown). When the services window opens, locate the **Trio Televoice** service, right click and select **stop** to stop the service (not shown).

Launch the Trio configuration application. Select **Start → Programs → Trio Enterprise → Line Interface** and click on the **Config** entry (not shown). The configuration of the application starts, and when the new window opens, check the **SIP** check box followed by the **Next** button.



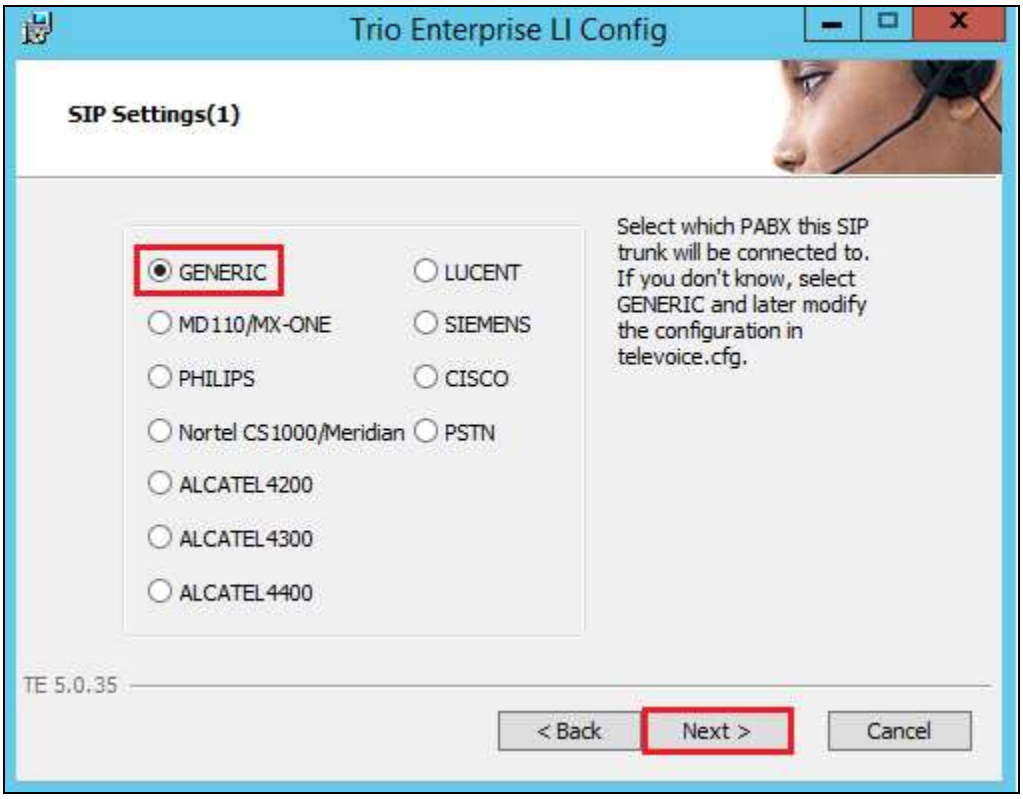
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In the subsequent window, enter the **License site number:** and **Line licence:** as supplied directly by Enghouse Interactive AB or the Trio Enterprise reseller. Click on the **Next** button to continue.



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In the subsequent window, click on the **GENERIC** radio button follow by the **Next** button to continue.



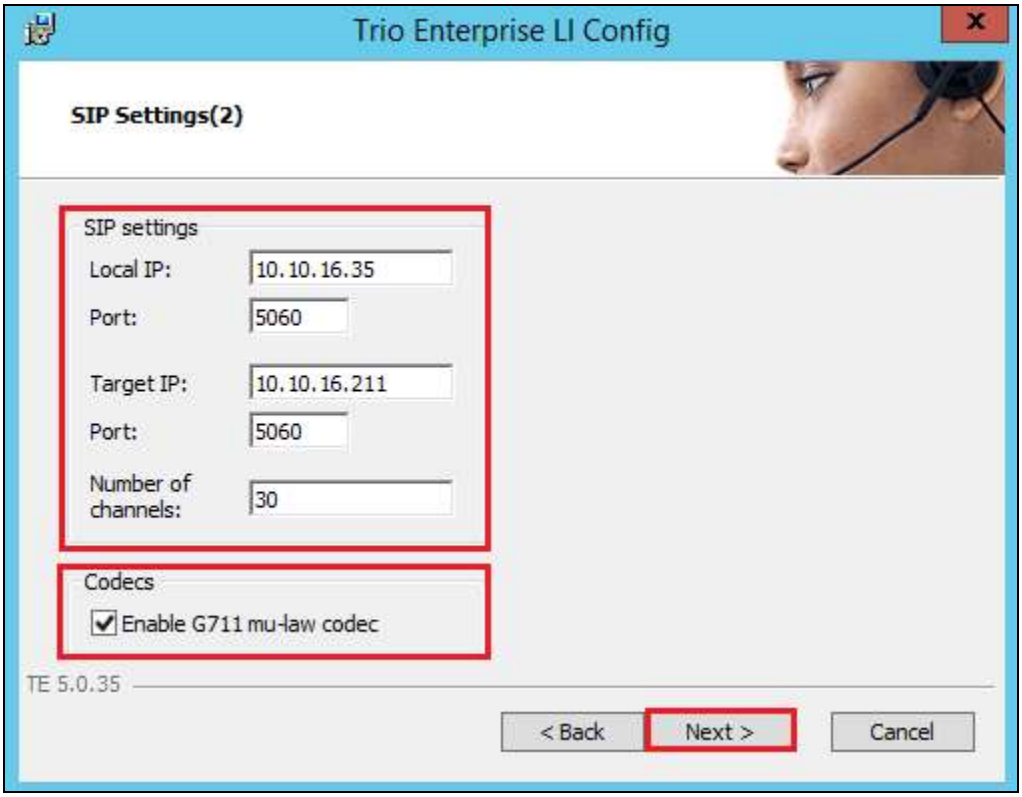
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In the subsequent window, enter the following settings:

- **Local IP** Enter the local IP address of the Trio Enterprise Server.
- **Port** Enter the SIP Port **5060**
- **Target IP** Enter the IP address of Communication Manager (procr IP address as seen in **Section 5.1.1**).
- **Port** Enter the SIP Port **5060**
- **Number of channels** Enter **30** as the number of channels (as configured in **Section 5.1.3**).
- **Enable G711 mu-law Codec** Click the check box.

Click on the **Next** button to continue.

Note: See **Appendix A** for the codec configuration of Communication Manager.

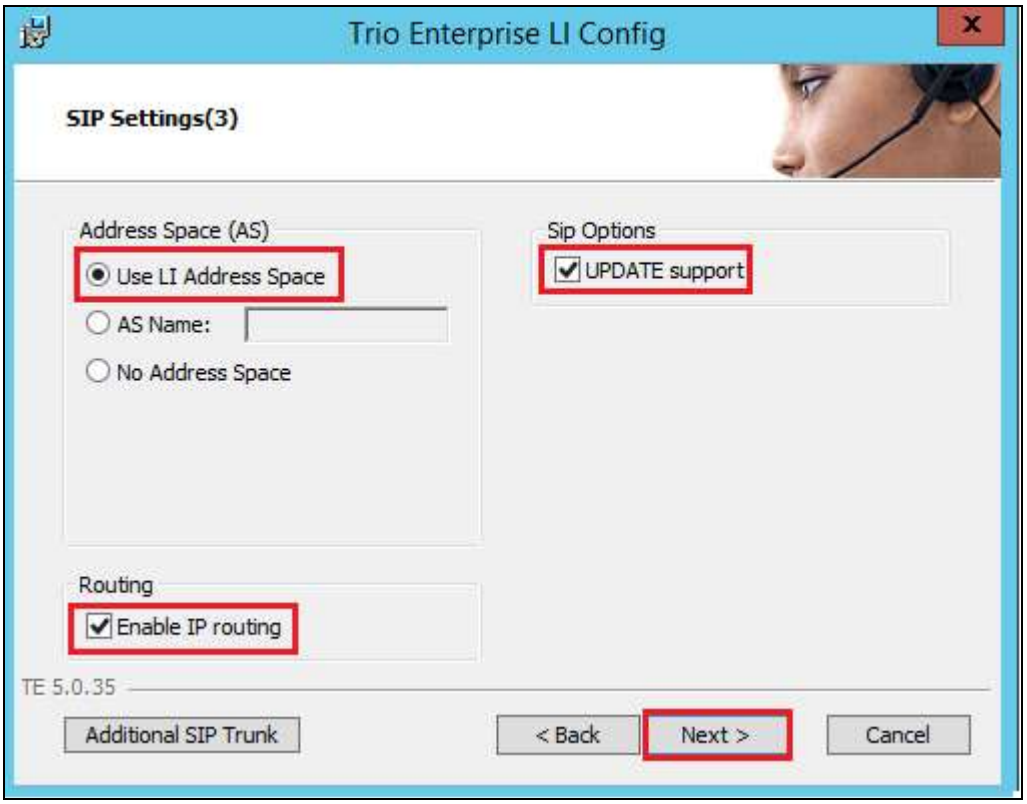


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In the subsequent window, enter the following settings:

- **Use LI Address Space** Click on the radio button.
- **Enable IP routing** Check the check box.
- **UPDATE support** Check the check box.

Click on the **Next** button to continue.

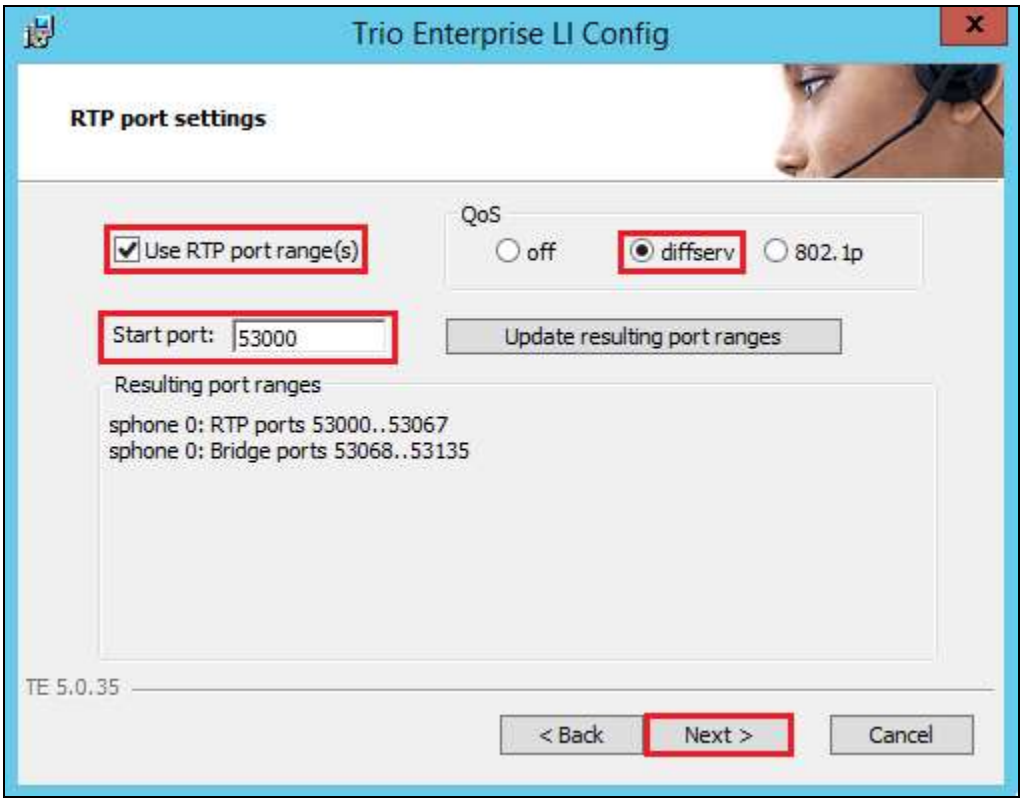


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In the subsequent window, enter the following settings:

- **Use RPT port range(s)** Check the check box.
- **diffserv** Click on the radio button.
- **Start port** Enter **53000**

Click on the **Next** button to continue.

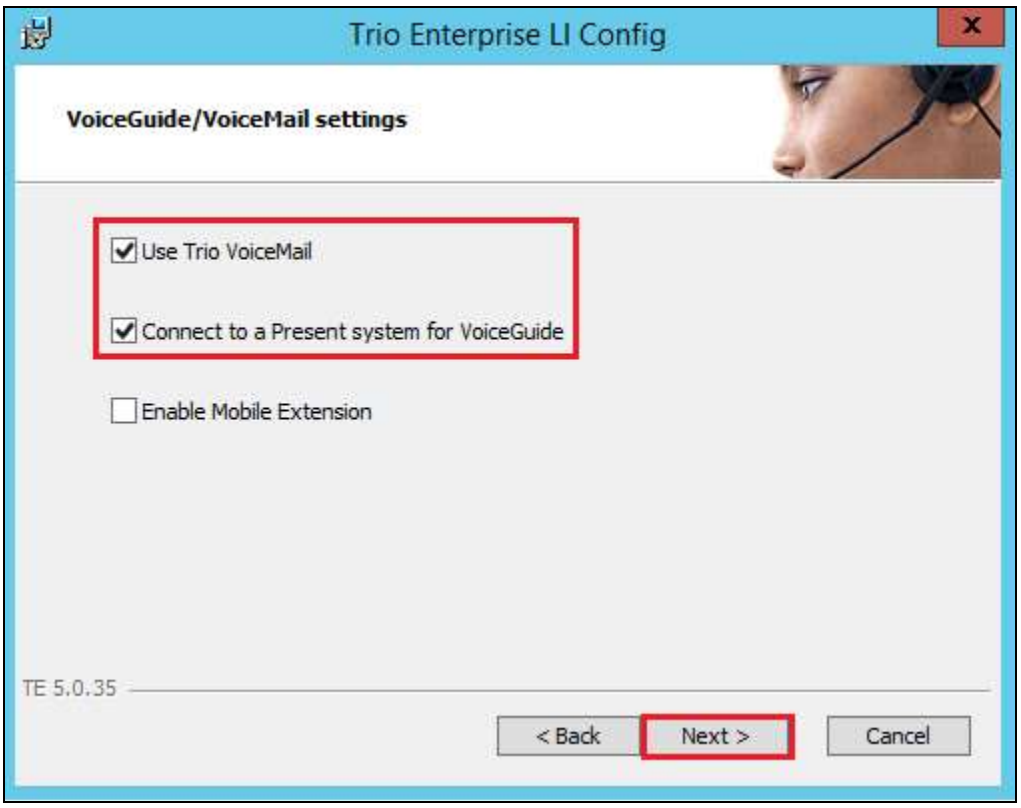


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In the subsequent window, enter the following settings:

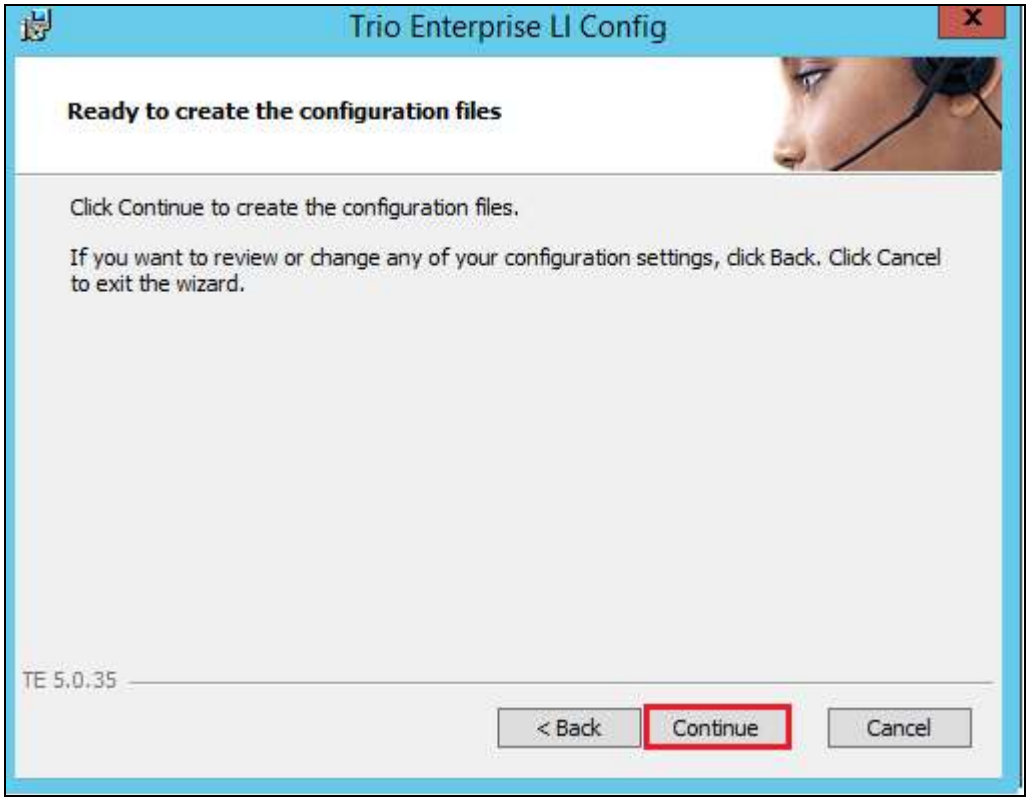
- **Use Trio VoiceMail** Check the check box.
- **Connect to a Present system for VoiceGuide** Check the check box.

Click on the **Next** button to continue.



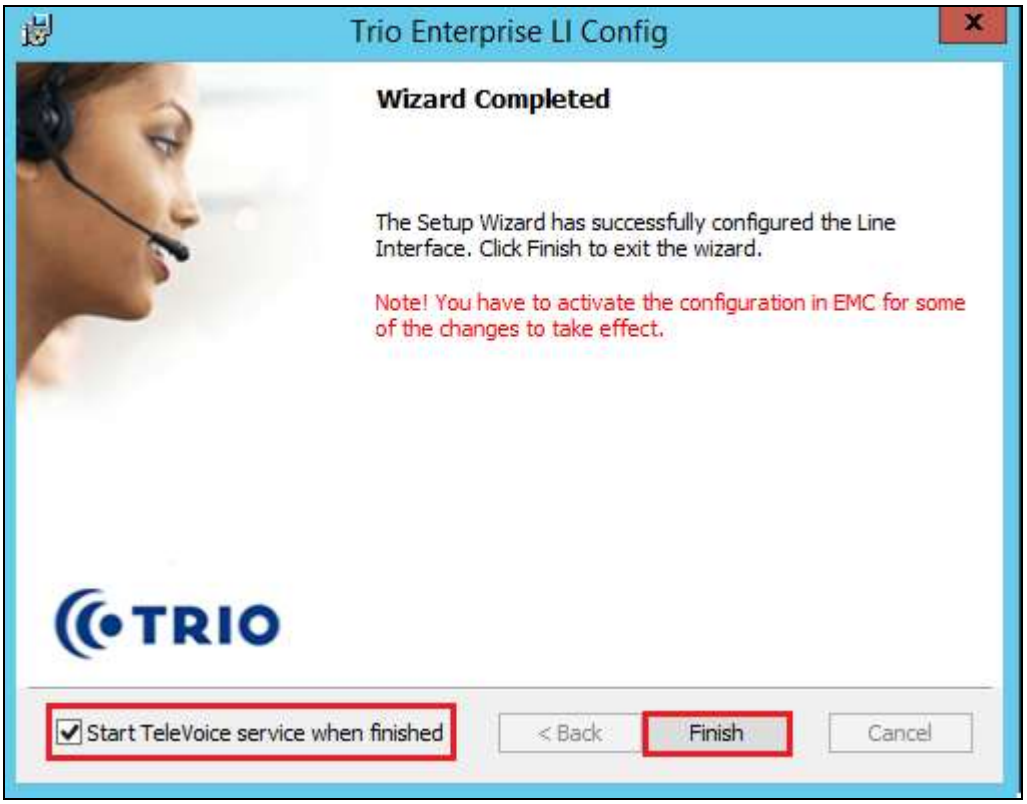
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In the subsequent window, click on **Continue** button.



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On the **Wizard Completed** page, check the **Start TeleVoice service when finished** check box, followed by the **Finish** button.



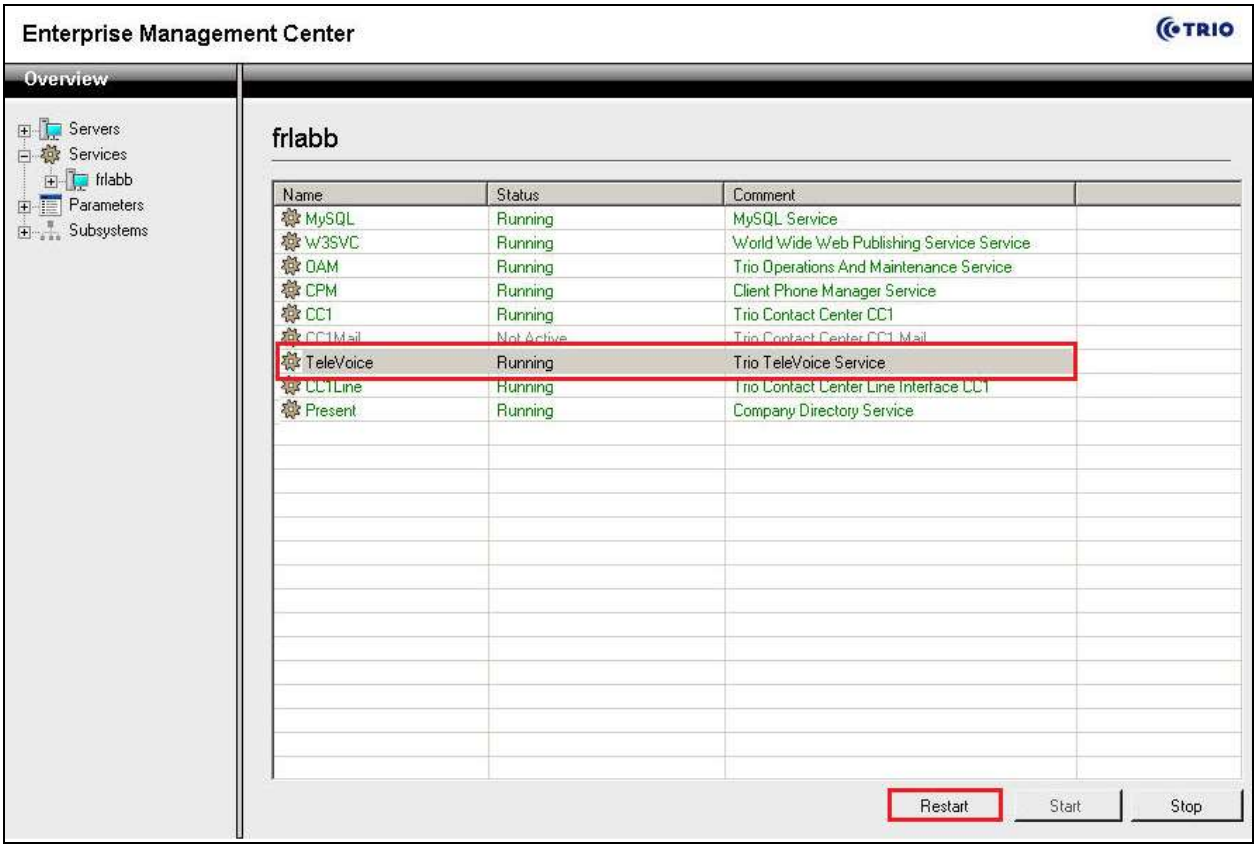
8.2. Special configuration for Avaya Aura® Communication Manager

There are some additional configuration steps required to integrate with Communication Manager. Locate and open the **televoice.cfg** file using notepad ,which is found in **X:\TE\ProgramData\LI\templates**. At **[sip_1]**, change **uriScheme=1** to **uriScheme=0** and add the line **usetcp = 1**.

```
[sip_1]
signallingprotocol=sip
localHost=192.168.0.100
targetHost=192.168.0.155
uriScheme=0
transferPoint=afterAnswer
update=1
usetcp = 1
```


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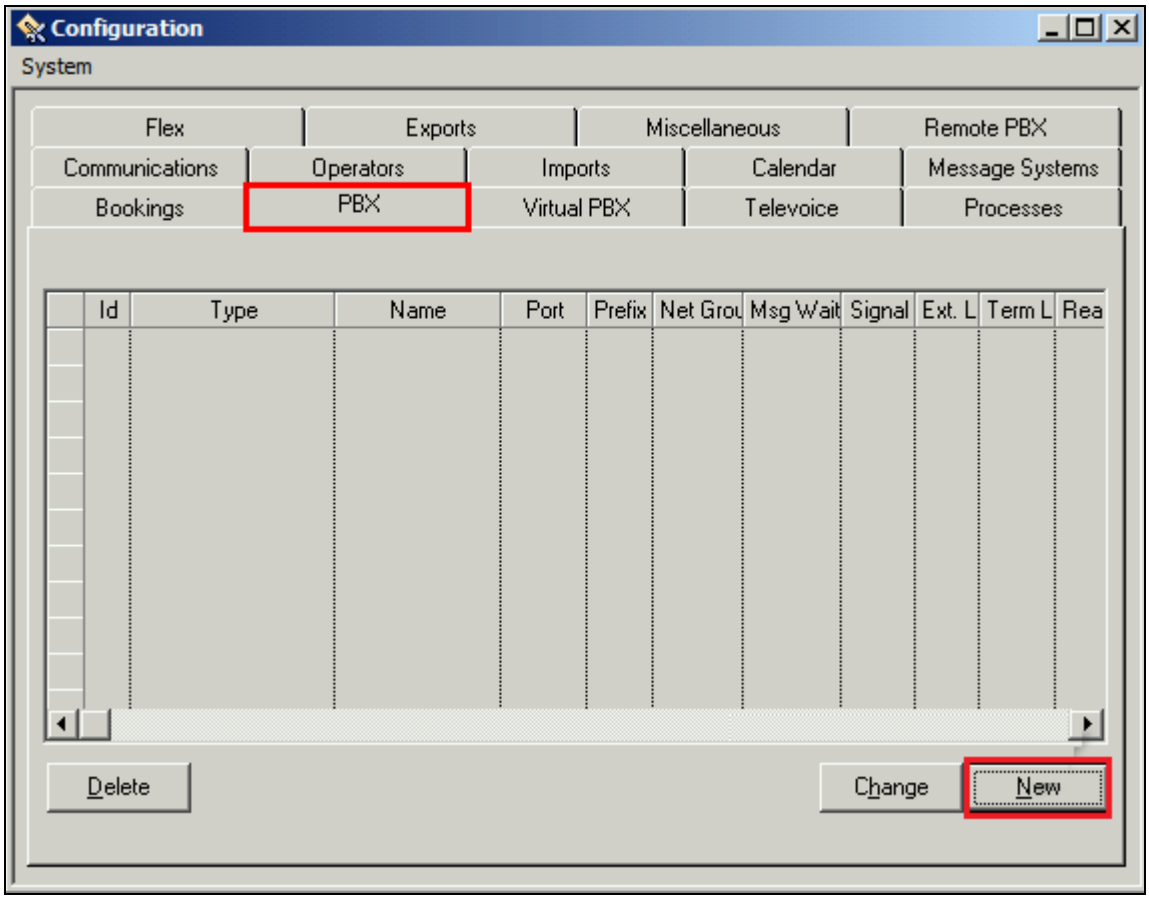
Once the changes are made, save the template file and restart the TeleVoice service. From the start menu on the Trio Enterprise Server, open **Programs → Trio Enterprise → Enterprise Management Center**. Select **TeleVoice** service and click on the **Restart** button to activate changes.



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8.3. Configure Absence Connection

To configure the Absence connection, launch **PSetup** (not shown)**,** when the **Configuration** window opens click on the **PBX** tab, followed by **New**.

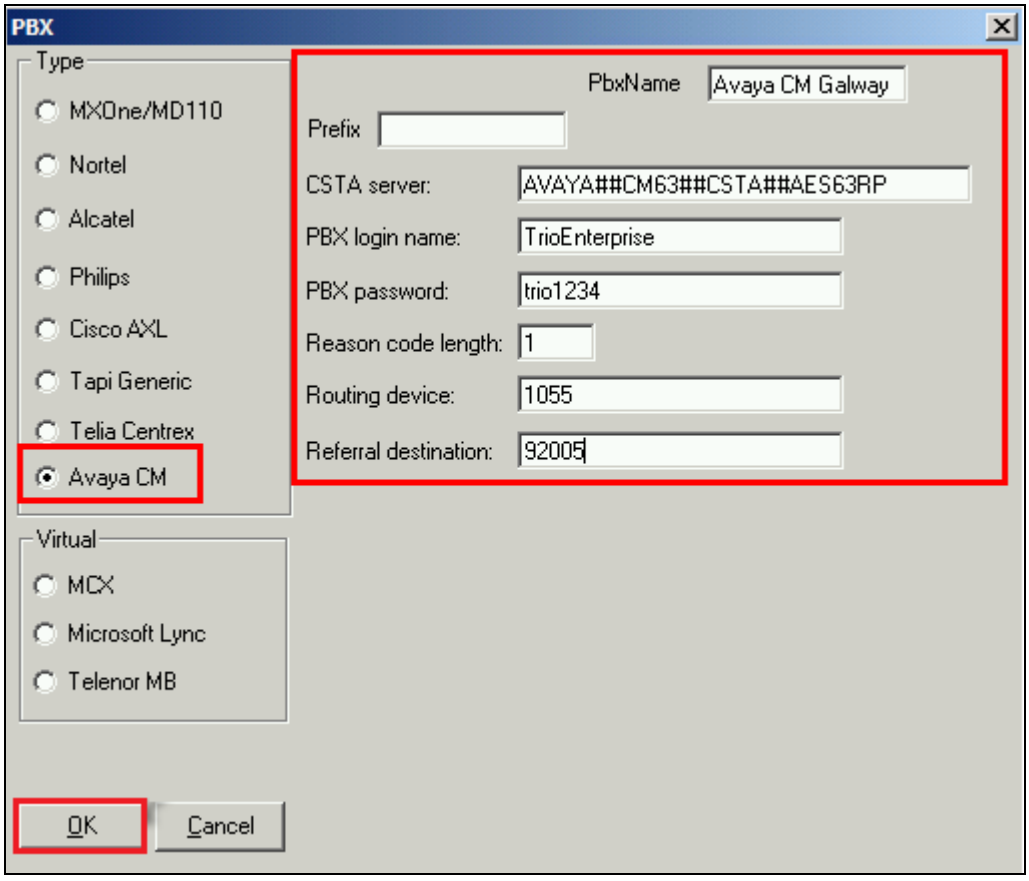


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When the **PBX** window opens, enter the following:

- **Type** Click on the **Avaya CM** radio button.
- **PbxName** Enter an informative name.
- **CSTA server** Enter the appropriate string containing four values separated with ##, in the format "**AVAYA**" (Fixed value)## "the name assigned to the Switch Connection"## "**CSTA**" (Fixed value)## "AES Server name"
- **PBX login name** Enter the **User ID** as configured in **Section 6.5**.
- **PBX password** Enter the User **Password** as configured in **Section 6.5**.
- **Reason code length** Enter **1**
- **Routing device** Enter the extension assigned to the diversion VDN used for activating referrals from the phone set in **Section 5.6.3**.
- **Referral destination** Enter the number that the extensions should be forwarded to when a referral is activated. This number is configured on the Trio Enterprise Server.

Click on the **OK** button.



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8.3.1. Configure Trio Enterprise Attendant

Trio Enterprise Attendant is a separate application from Trio Enterprise server and can run concurrently on the same platform. The attendant uses a regular Communication Manager telephone to make and receive calls, which are directed to the telephone by Trio Enterprise Server. The steps to configure Trio Attendant are to click on **Start → Programs → Trio Enterprise → Contact Centre → Agent Client** (not shown).

When the **Trio Agent** window opens, enter the following:

- **User ID** Enter a valid user ID
- **Password** Enter a valid Password

Note: this user ID and password is created during the installation of Trio Enterprise Server.

- **Extension** Select the Communication Manager telephone number that will be used as the agent's audio device (number 3032 in this example).
- **Server** Select the correct Trio Enterprise Server (default is the current Trio server).
- **Phone type** Select **Standard phone** from the dropdown menu.

Click on the **OK** button to continue with log in.



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9. Verification Steps

This section provides the tests that can be performed to verify correct configuration of the Avaya Aura® Communication Manager and Trio Enterprise solution.

9.1. Verify Avaya Aura® Communication Manager CTI Service State

The following steps can ensure that the communication between Communication Manager and the Application Enablement Services server is functioning correctly. Using SAT connect to Communication Manager and check the AESVCS link status with Application Enablement Services by using the command **status aesvcs cti-link**. The CTI Link is 1. Verify the **Service State** of the CTI link is **established**.

```
status aesvcs cti-link

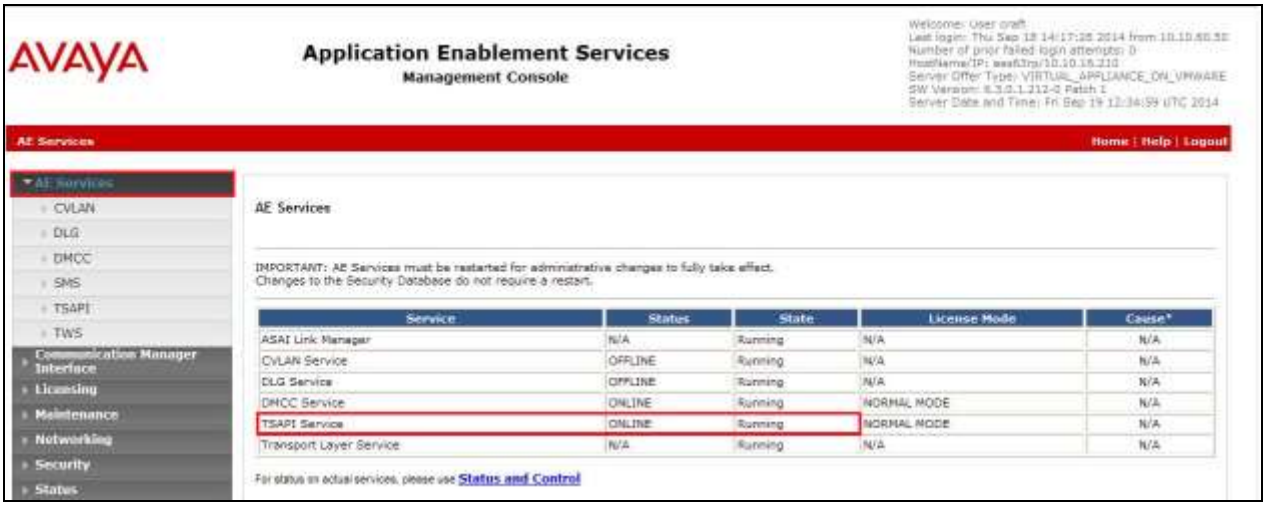
                        AE SERVICES CTI LINK STATUS

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

1      4        no     aes63rp          established    17       15
```

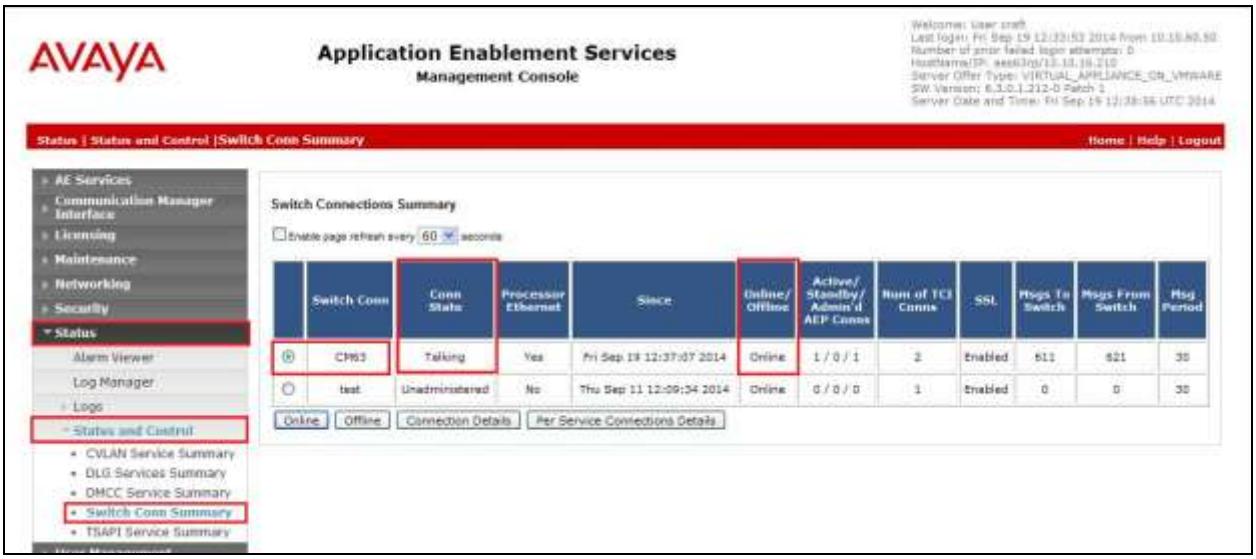
9.2. Verify Avaya Aura® Application Enablement Services status

Login to AES, and navigate to the **AE Services** screen. Verify that the **TSAPI Service** is **ONLINE**, and **Running**.



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Navigate to **Status → Status and Control -> Switch Conn Summary**. Verify that **Conn State** is **Talking** and **Online/Offline** is **Online**.



10. Conclusion

A full and comprehensive set of feature and functional test cases were performed during Compliance testing. Trio Enterprise from Enghouse Interactive AB is considered compliant with Avaya Aura® Communication Manager and Avaya Aura® Application Enablement Services. All test cases have passed and met the all objectives.

11. Additional References

These documents form part of the Avaya official technical reference documentation suite. Further information may be had from *http://support.avaya.com* or from the local Avaya representative.

[1] *Administering Avaya Aura® Communication Manager, Release 6.3, October 2013, Document Number 03-300509, Issue 9.0.*
[2] *Avaya Aura® Communication Manager Feature Description and Implementation, Release 6.3, May 2013, Document Number 555-245-205, Issue 10.0.*
[3] *Administering Avaya Aura® Session Manager, Release 6.3, Issue 3 October 2013*
[4] *Administering Avaya Aura® System Manager, Release 6.3, Issue 3, October, 2013*
[5] *Avaya Aura® Application Enablement Services Administration and Maintenance [1] Guide, Release 6.3, Issue 2 October 2013*

Product Documentation for Enghouse Interactive AB can be obtained in the installed software or at: http://enghouseinteractive.com

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Appendix A

```
display 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:
```


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