

Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Trio Enterprise R5.0 from Enghouse Interactive AB with Avaya Aura® Presence Services 6.2.5 – Issue 1.0

Abstract

These Application Notes describe how to configure an Avaya Aura® Presence Services to interface with Trio Enterprise R5.0. Trio Enterprise display presence status of each monitored phone.

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.

1. Introduction

These Application Notes describes how to configure an Avaya Aura® Presence Services to interface with Trio Enterprise R5.0. Trio Enterprise display presence status of each monitored phone.

2. General Test Approach and Test Results

The general test approach was to configure Trio Enterprise server connects to Presence Services and display enterprise phones' status on Trio Enterprise Attendant window.

During tests, phones are setup to status such as on hook, off-hook. From the Attendant window, monitor presence status of a user. Change the presence status of the phones. Attendant window displays the new status. Avaya one-X Communicator and Avaya Flare for window were used during compliance test.

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.

2.1. Interoperability Compliance Testing

The compatibility tests included the following.

- Set phone to busy, off-hook.
- Set the phone to available, on hook.

2.2. Test Results

Tests were performed to confirm interoperability between the Trio Enterprise and Presence Service. All the test cases passed successfully.

2.3. Support

For technical support on Trio 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: <u>infosweden@enghouse.com</u>

3. Reference Configuration

Figure 1 shows the network topology during compliance testing. Trio Enterprise is connected to Presence Services via LAN network. The Presence Services is configured as a SIP Endpoint on Session Manager. System Manager is used to configure user with Presence Services option enabled.

In compliance test, Trio Enterprise monitored subscriber shown in the table below

Device Type	Extension		
Avaya one-X Communicator	52167		
Avaya Flare Experience	52173		

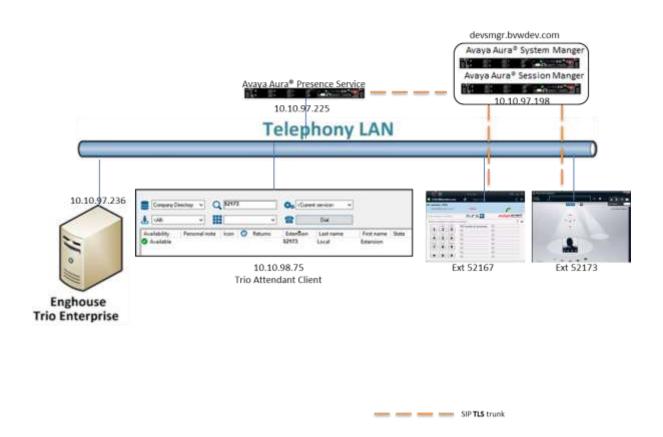


Figure 1: Configuration for Avaya Presence Services and Trio Enterprise R5.0

4. Equipment and Software Validated

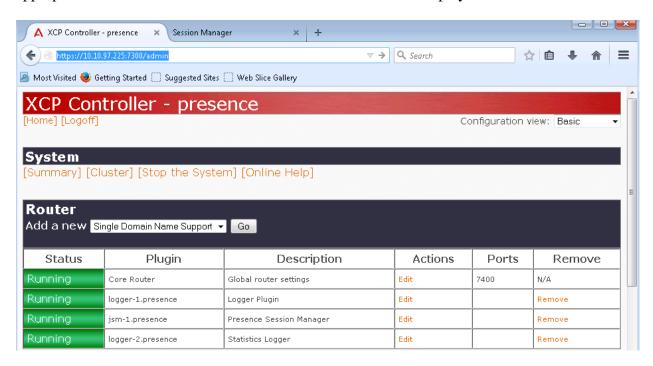
The following equipment and software were used for the sample configuration provided:

Equipment/Software	Release/Version		
Avaya Aura® Presence Services	6.2.5		
Avaya Aura® System Manager	System Manager 6.3 – FP4		
Avaya Aura® Session Manager	System Manager 6.3 – FP4		
Avaya one-X Communicator	6.2.4.07 FP4		
Avaya Flare Experience	1.0.1		
Trio Enterprise Running on a Windows 2008 R2 64-bit server.	Version 5.0		

5. Configure Avaya Aura® Presence Services

This section deals with the configuration of Presence Services. It is assumed that Presence Services server is installed. Presence Services interacts with several external entities like presence sources or user management services in order to gather and provide presence information. During compliance test, Presence Services is connected to System Manger and Session Manager is configured, the steps below will show to verify that the configuration in place is correct.

The configuration management is performed through the **XCP Controller** web-based GUI. Initialize the XCP Controller web interface by browsing to **https://<ip-address>:7300/admin**, where <ip-address> is the IP address of the Presence Services server and log in with the appropriate credentials. The XCP controller web-based GUI is displayed as shown below.

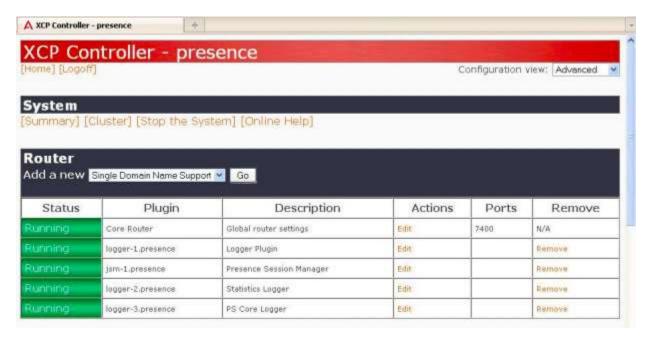


5.1. Verify Avaya Aura® Session Manager is Configured as Trusted Host on Presence Services

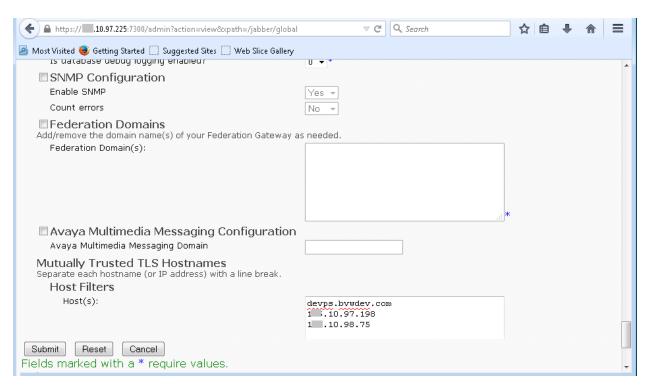
The steps below document how to configure Session Manager as a trusted host on Presence Services. In the **Configuration view**, select **Advanced** to change view.



After setting advanced configuration view, navigate to the **Router** section of the XCP Controller and click the **Edit** action for the **Core Router** - **Global router settings**.



On the **Global Settings Configuration** page that appears scroll down to display **Mutually Trusted TLS Hostnames**. Ensure that IP address of the virtual SM-100 interface on Session Manager is configured in the **Host Filters**, and if not add that IP address. In this case the IP address of the virtual SM-100 interface is **10.10.97.198** as shown below. Click **Submit** to save changes.



5.2. Configure Database Engine (Postgres DB) to Accept Connection from Trio Enterprise

Login Presence Services command window with appropriated credential. Add a connection to allow non-local connects (modify the example to fit the environment) by modify **pg_hba.conf**.

Using command vi **pg_hba.conf**, scroll to **IPv4 local connection** section modify **host all all 10.10.0.0/16 trust**. Type :wq to save changes and quit.

```
💋 cust@devps:/var/lib/pqsql/9.2/data
                                                                      - - X
 a SIGHUP signal. If you edit the file on a running system, you have
 to SIGHUP the postmaster for the changes to take effect. You can use
 "pg ctl reload" to do that.
 Put your actual configuration here
 If you want to allow non-local connections, you need to add more
 "host" records. In that case you will also need to make PostgreSQL listen
 on a non-local interface via the listen addresses configuration parameter,
 or via the -i or -h command line switches.
 TYPE DATABASE
                    USER
                                CIDR-ADDRESS
                                                      METHOD
 "local" is for Unix domain socket connections only
local
       all
                   all
                                                      ident map=sameorsuper
 IPv4 local connections:
                   all
                                127.0.0.1/32
                                                      trust
ost all all 🎞 .10.0.0/16 trust
```

Modify **postgresql.conf** to change **listen_addresses='*'** as shown below, type :wq to save changes and quit.

Restart Presence Services, enter /etc/init.d/postgresql restart.

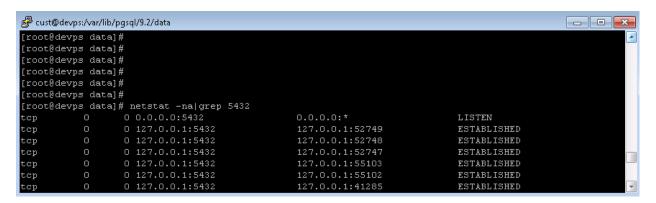
Verify that firewall is disables using command **service iptables status** (if service is on using command **service iptables stop** to disable firewall).

```
cust@devps:/var/lib/pgsql/9.2/data

[root@devps data]#
```

Verify that Presence Services have 5432 port open and listen on all: **netstat -na** |**grep 5432**

Output should include: tcp 0 0 0.0.0.0:5432 0.0.0.0:* LISTEN

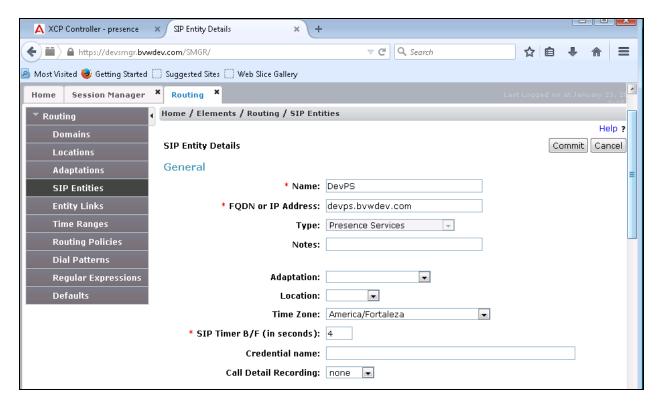


6. Configure Avaya Aura® Session Manager

6.1. Administer Presence Services SIP Entity

A SIP entity must be administered for each SIP-based telephony system that connects to Session Manager. To add a SIP Element, select **Routing** \rightarrow **SIP Elements** on the left panel menu and then click the **New** button (not shown). Enter the following values when administering Presence Services as a SIP Element:

- · Name: Enter descriptive name; in this case that is **DevPS**.
- **FQDN or IP Address:** Enter the IP address of the Presence Services server; in this case that is **devps.bvwdev.com**
- Type: Enter Presence Services for Presence Services
- **Time Zone:** Select appropriate time zone for the location
- SIP Link Monitoring: Select Use Session Manager Configuration from the drop down list, which is a default value. Click Commit to save changes.

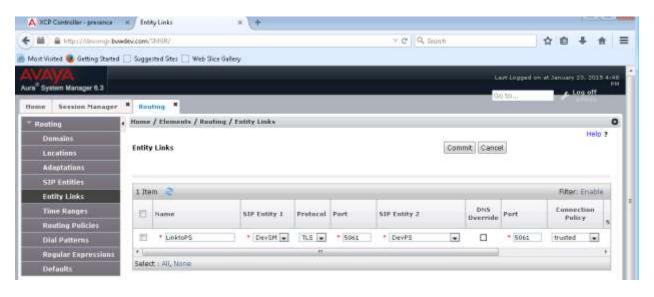


6.2. Administer Element Links

To create an Element Link, select **Routing** → **Element Links** on the left panel menu and then click the **New** button (not shown). In the new **Element Links** page that appears, enter the following values when creating the link between Presence Services and Session Manager:

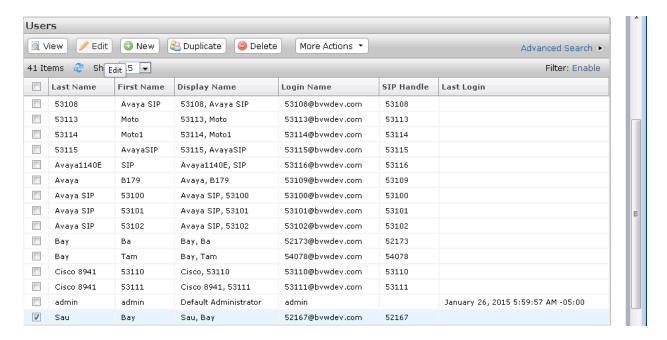
- Name: Enter a descriptive name; in this case that is **LinktoPS**.
- **SIP Entity 1:** Select the Session Manager SIP Element from the drop down list configured in this case that is **DevSM**.
- **Protocol:** Enter the transport protocol to be used for SIP requests; in this case that is **TLS**.
- **Port:** Enter port number to which the Presence Services SIP Element sends its SIP requests; in this case that is **5061**.
- SIP Entity 2: Enter Presence Services SIP Element created in Section 6.1; in this case
- that is **DevPS**.
- **Port:** Enter the port number on which the Presence Services SIP Element expects to receive SIP requests; in this case that is **5061**.
- **Trusted:** Check the checkbox in order to trust the other system.
- Notes: Optional.

Click **Commit** to save changes.



6.3. Configure Presence Services for User

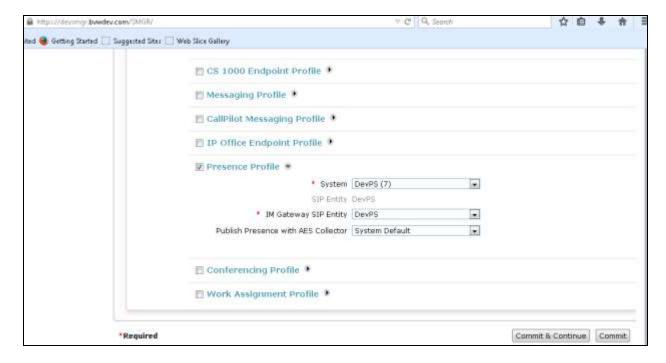
To add Presence Service to user, select Users → User Management → Manage Users, select user that need to be modified, in this case user 52167 is selected and click Edit button to open user detail page.



In **User Profile Edit** page, scroll down to **Communication Address** section, verify there is an **Avaya Presence/IM** item added as shown below for **52167**.



Scroll to **Presence Profile**; verify that Presence system is selected for user as show below. Click **Commit** to save changes.



7. Configure TRIO Enterprise for Avaya Aura® Presence Services

This section describes how to integrate Trio Enterprise Presence Services. The installation of the Trio Enterprise software is assumed to be completed and the Trio services are up and running.

7.1. Install Java Runtime

Presence connectivity between TE and Avaya is dependent on Java. Java runtime is required on TE server

Download and start the installation of Java runtime environment from www.java.com



Select **Install**, and unselect installation of ad-ware. Follow instruction on the screen to completed installation process. Select Close when process is completed.

7.2. Install Local Presence Service Client

The Java-based Local Presence Service (LPS) client application connects to Presence Services display subscribe and publish presence status information on behalf of one or many users. It is recommended to install LPS client to make sure communication between Avaya systems areworking. Unzip file LPS-6.2.4.0-SDK-1.0-SNAPSHOT-39.zip (this file can be obtained on devconnectprogram.com). Open the file lps.properties to modify as below:

```
## SMGR parameters

# Defines presence config service URL. Used for domain conversion
# No conversion is performed if this parameter is empty
# Use host name rather than IP address, especially if it is included in SSL certificate

smgr.host=devsmgr.bvwdev.com

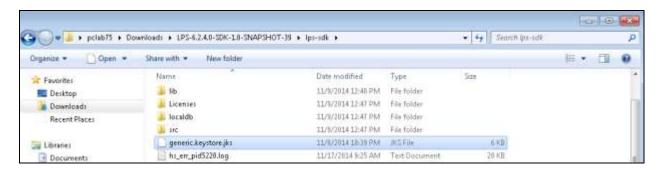
# SMGR naming port. Default value is 1399
#smgr.naming.port=1399

# security parameters. The same values are used for all SMGR services
smgr.username=admin
smgr.password=abc@123

## PS connection parameters
# PS host (required)
# Use host name rather than IP address, especially if it is included in SSL certificate
ps.host=10.10.97.225
```

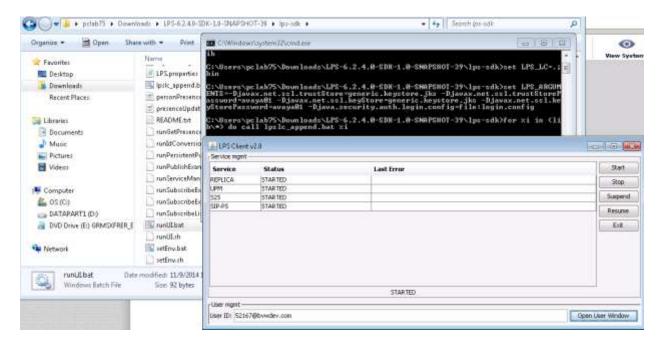
Leave other sections as default. Save file and close.

Copy the SSL/TLS certificate file ./opt/Avaya/presence/jabber/xcp/cert/generic.keystore.jks from Presence Services Server and place it in the folder of client application.

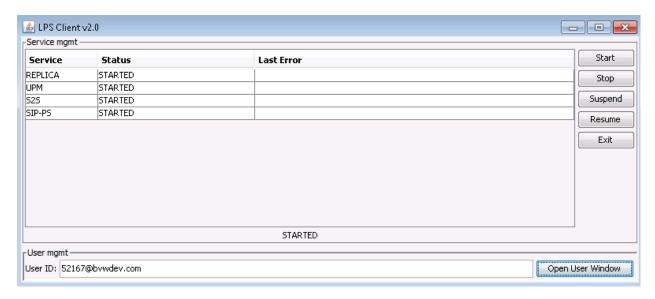


7.3. Running Local Presence Service Client

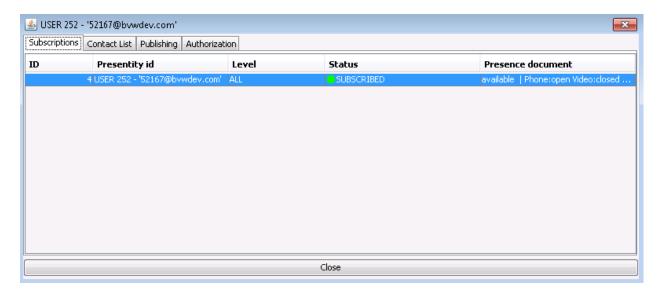
Double click on **runUI.bat** file. Wait for the LPS Client window to appear, verify that all Services status indicators display as "**STARTED**".



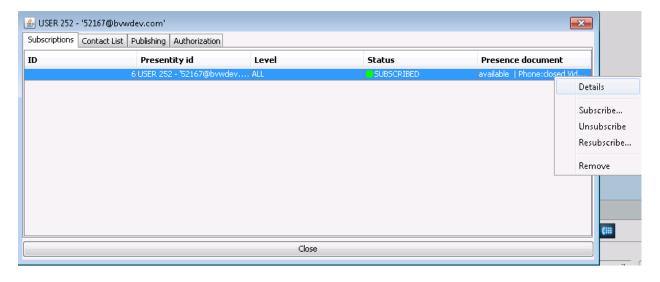
Enter User ID as configured in **Section 6.3** to view its presence status. Click **Open User Window** button to open user detail presence status.



In the Subscriptions tab of selected user, verify that the status is **SUBSCRIBED**, and that presence displays as "available |Phone:open".



Make an outbound call from the monitored user and verify that the phone status is "Closed", since the displayed is the aggregated status, right click on the status to view more detail.



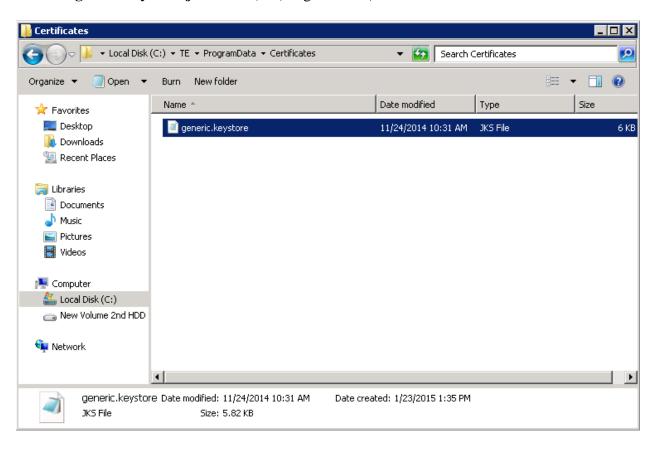
Below is detail show that user "on-the-phone".



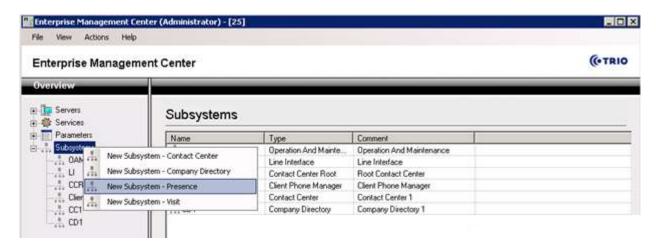
Hang up the call and verify that the status changes back.

7.4. Configuring Enterprise Management Center

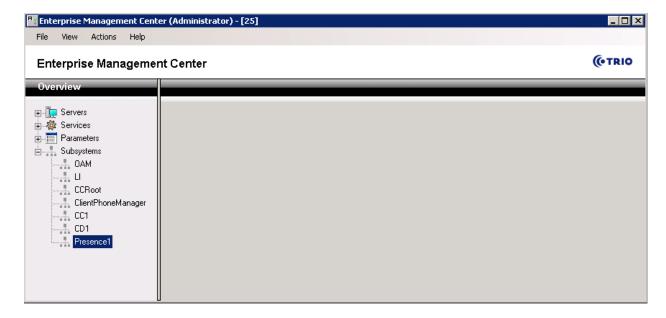
Add the **generickeystore.jks** file in \TE\ProgramData\Certificates.



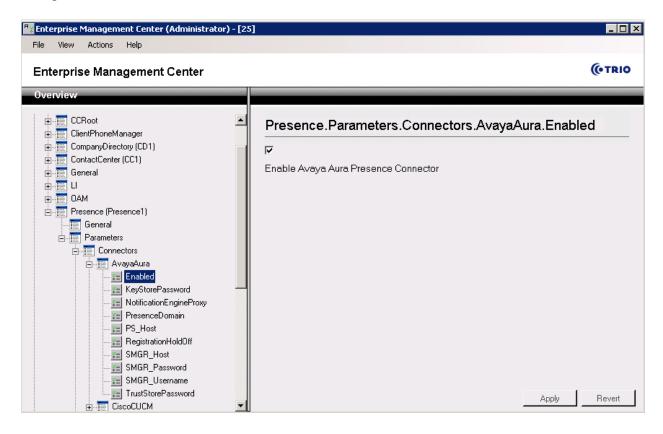
Launch Enterprise Management and add a Presence subsystem.



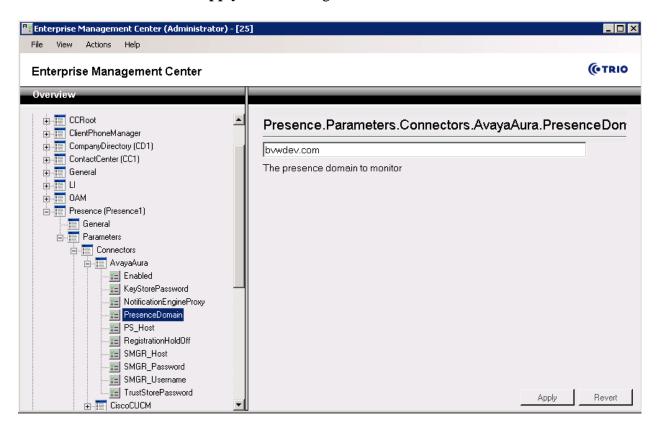
Verify that **Presence1** is added.



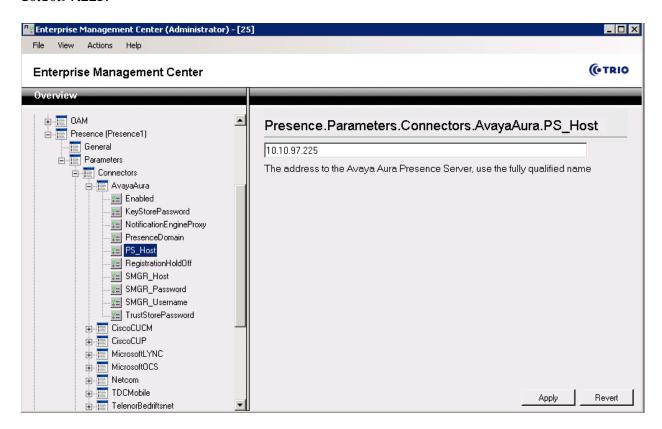
Browse to Presence (Presence1) → Parameters → Connectors → AvayaAura → Enabled, verify that Enable Avaya Aura Presence Services checkbox is checked. Click Apply to save change.



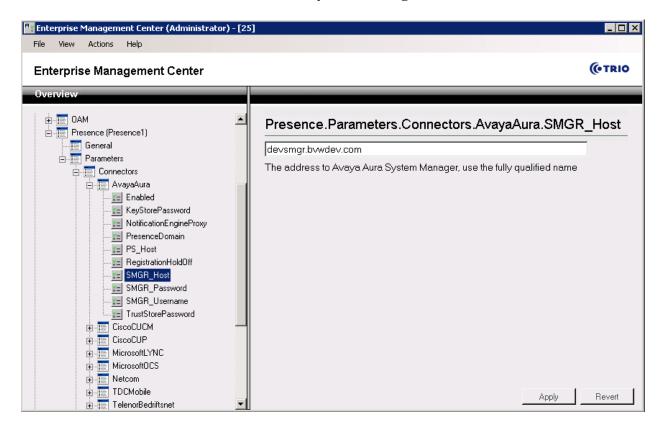
Browse to **PresenceDomain** to enter domain name to monitor, during compliance test **bwwdev.com** is used. Click **Apply** to save change.



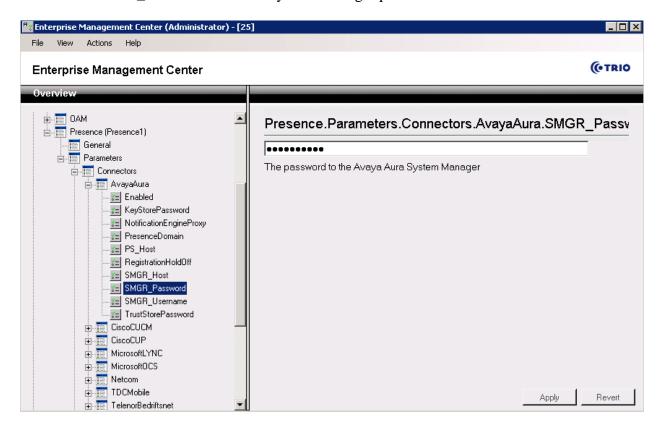
Browse to **PS_Host** to enter the IP address of Presence Services Server, in this case it is **10.10.97.225**.



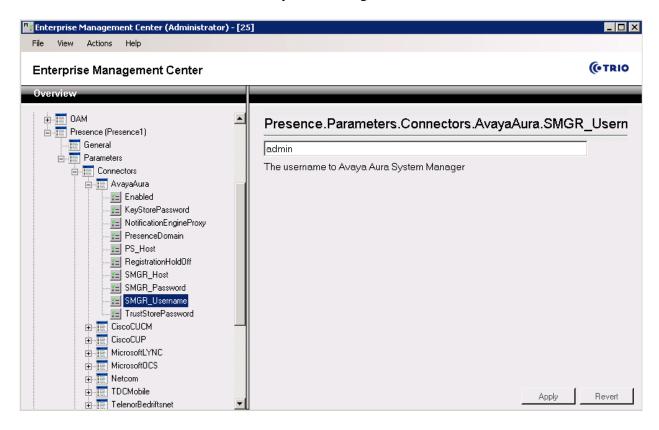
Browse to SMGR_Host to enter address of System Manager.



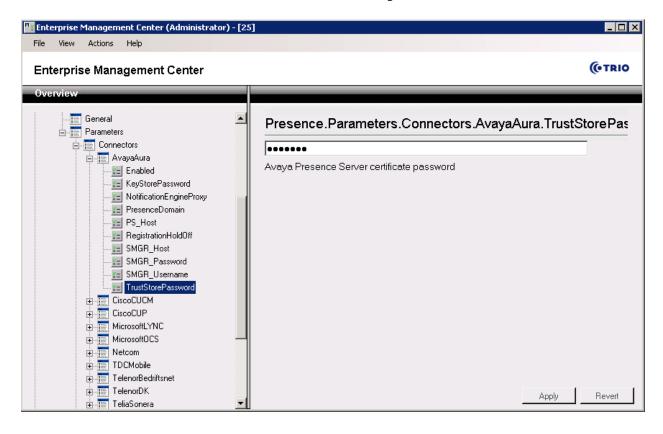
Browse to **SMGR_Password** to enter System Manager password.



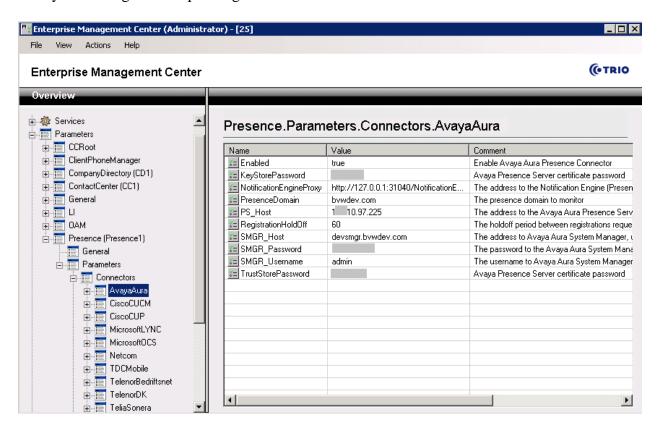
Browse to **SMGR_UserName** to enter System Manager username.



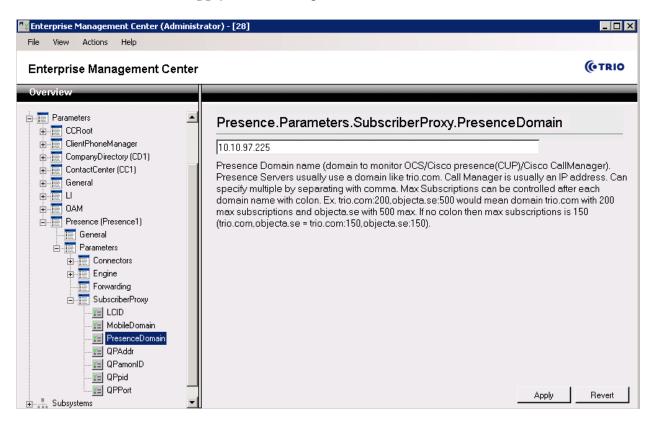
Browse to TrustStorePassword to enter the Certificate password.



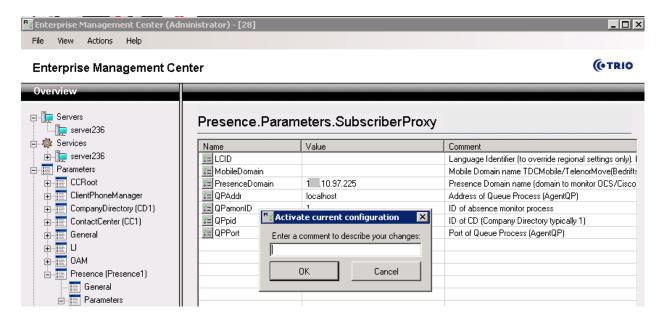
Verify the setting is corresponding to the screenshot below:



Browse to **Presence** → **Parameters** → **SubscriberProxy** → **PresenceDomain** to enter Presence Domain to monitor. Click **Apply** to save change.

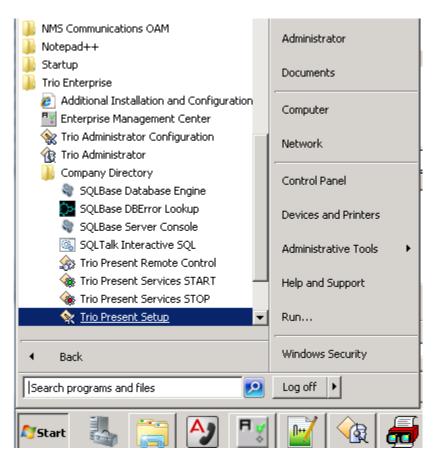


Click on menu File \rightarrow Activate current Configuration (not shown). Click **OK** to activate the configuration.

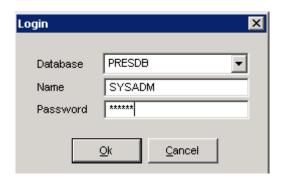


7.5. Configure Trio Presence Gateway

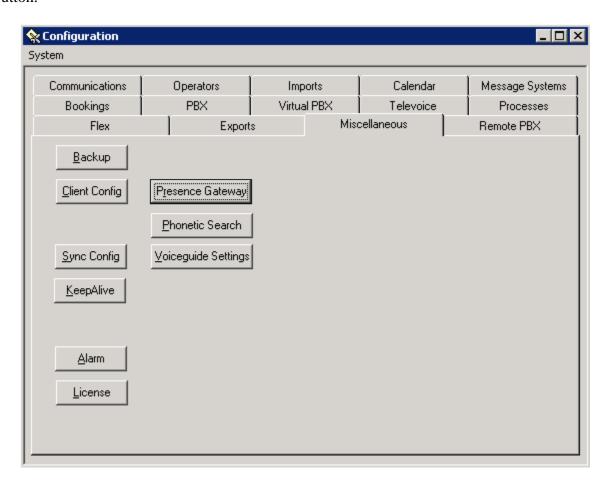
Configure Presence Gateway in Trio setup by click on Window Start button, browse to **Trio Enterprise** → **Company Directory** → **Trio Present Setup**.



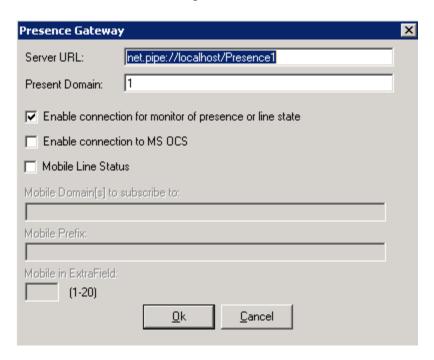
Enter appropriated credential to login.



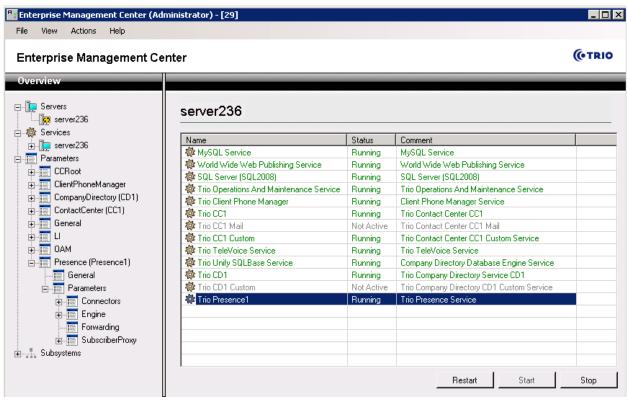
In the **Configuration** window, browse to **Miscellaneous** tab and click on **Presence Gateway** button.



In Presence Gateway window, set the server to net.pipe://localhost/Presence1, set Presence Domain to 1. Make sure the "Enable connection for monitor of presence or line state" checkbox is checked. Click **OK** to save changes.



Browse to Administrator window to restart **Trio Presence1** and **Trio CD1** services. Click on selected service and click **Restart** button.



PM; Reviewed: SPOC 4/15/2015

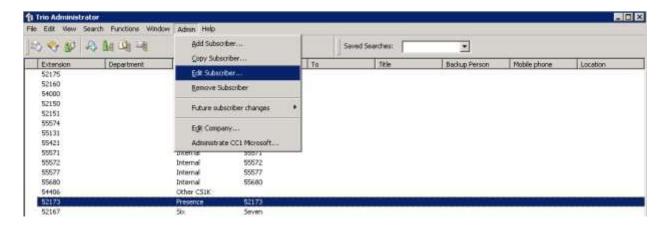
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7.6. Administer Users

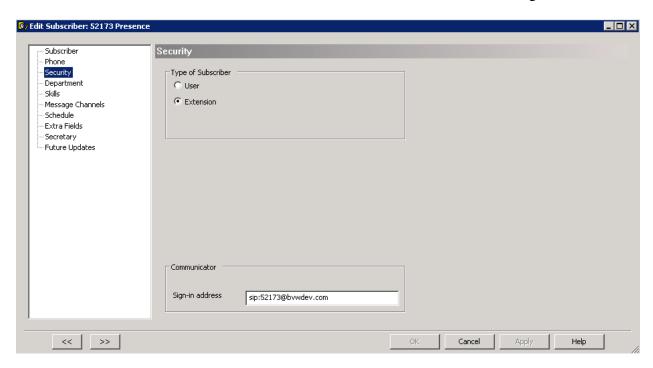
This is assumed that Trio system is already in place with list of current user created and operation. Click on Window Start menu, select **Trio Administrator**.



In **Trio Administrator** window, highlight selected user to edit, browse to menu **Admin** → **Edit Subscriber...**



In **Subscriber** window, add URI for the user to monitor. Click **OK** to save changes.



Open Agent client to verify user's presence status is updated. Click **Start** \rightarrow **Programs** \rightarrow **Trio Enterprise** \rightarrow **Contact Centre** \rightarrow **Agent Client**. Enter a valid **User ID** and **Password** (not shown). Attendant performs the search for user 52173@bvwdev.com. Verify the status for user is show as **Available** as below.



8. Verification Steps

This section provides the tests that can be performed to verify correct configuration of Presence Services and System Manager with TRIO Enterprise.

8.1. Verify Avaya Aura® System Manager

Verify that link status between Session Manager and Presence Services created in **Section 6.2** is "**UP**" as shown below.



8.2. Verify Avaya Aura® Presence Service

8.2.1. Verify Data Replication from Avaya Aura® System Manager to Avaya Aura® Presence Services

Users created in System Manager as described in **Section 6.3**, are replicated in the presence database of the Presence server. To verify that user data is successfully replicated to the Presence server run following command on the ssh connection to the Presence server:

psql -d presence -U postgres -c "select * from csuser"

Below is the screen with results showing that users with **loginname 52173@bvwdev.com** and **52167@bvwdev.com** are successfully replicated to Presence server.

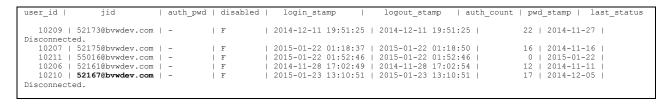
id updatedatetime v	ersion commpassword	encryptionkeyid	isdeleted	isenabled log:	inname			
tenantid contactlistdefaultaclid userdefaultaclid userstatusid defaultcommprofilesetid defaultcontactlistid								
108 2013-04-03 11:25:58	0 IMMa IllaCi aDmlr 7an 26d	laa-2dc1-4e05-b5b7-3fedd3	02/001 £	1 + 1501/	57@bvwdev.com			
50	0 MNCORCSIONNK /eased	86	108	t 5216 58	7ebvwdev.com			
110 2013-04-09 15:49:25.1	2 8rtrDlcT2SZcId8dff7	8c-70df-412d-afdd-de4839			73@bvwdev.com			
50		86	110	60				

8.2.2. Verify User's Presence Data is Obtainable

After a user publishes its presence for the first time, it gets added in the **xcp** Presence database. To verify this, login the user with extension **52173** on a SIP one-X® Communicator. Once user is successfully logged in, the user data is updated in the xcp database. To verify this update is successful run following command on the ssh connection to the Presence server:

psql -d xcp -U postgres -c "select * from users"

Below is the screen with results showing that user with 52173@bvwdev.com and 52167@bvwdev.com has successfully published its presence.



8.3. Verify Presence Status of Monitored User on Trio Enterprise

Confirm a status change is displayed on Attendant window by making an outbound call on monitored phone; verify subscriber's status is changed as shown below



9. Conclusion

These Application Notes describe the configuration steps required for Trio Enterprise R5.0 from Enghouse Interactive AB to successfully interoperate with Avaya Aura® Presence Services. Trio Enterprise passed all compliance testing successfully; please see **Section 2.2** of these Application Notes for results and observations.

10. Additional References

This section references documentation relevant to these Application Notes. The Avaya product documentation is available at http://support.avaya.com where the following documents can be obtained.

- 1. Installing Avaya Aura® Presence Services
- 2. Avaya Aura® Presence Services using VMware® in the Virtualized Environment Deployment Guide.
- 3. Application Notes for Configuring Avaya Aura® Presence Services 6.0 with Avaya Aura® Session Manager 6.0, and Avaya Aura® Communication Manager for one-X® Communicator clients as part of Avaya Unified Communication Mobile Worker Solution (PS6-1xC.pdf)

All information on the product installation and configuration TRIO Enterprise Server can be found at http://www.trio.com

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