Avaya Solution & Interoperability Test Lab

Application Notes for Trio Enterprise from Enghouse Interactive AB with Avaya Aura® Presence Services Snap-in running on Avaya Breeze® - Issue 1.0

Abstract

These Application Notes describe the steps required to integrate Trio Enterprise from Enghouse Interactive AB with Avaya Aura® Presence Services Snap-in running on Avaya Breeze™ Platform using a Java Application Program Interface (API) that connects to the Local Presence Server. Trio Enterprise displays 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 any observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

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

1. Introduction

These Application Notes describe the steps required to integrate Trio Enterprise from Enghouse Interactive AB with Avaya Aura® Presence Services Snap-in (Presence Services) running on Avaya Breeze® using a Java API that connects to the Local Presence Server (LPS). Trio Enterprise displays the presence status of each monitored phone. The assumption is made that the installation and configuration of the Avaya Breeze® server with Avaya Aura® Session Manager is already in place. For additional documentation, refer to **Section 11**.

2. General Test Approach and Test Results

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

During compliance testing, the presence of phones is set to be in a different status like available, busy, etc. From the Attendant window, monitor the presence status of the phone user. Change the presence status of the phones. The attendant window displays the new status. Also verify that the Attendant window shows when the user of a phone is on-hook or off-hook.

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

Avaya recommends our customers implement Avaya solutions using appropriate security and encryption capabilities enabled by our products. The testing referenced in this DevConnect Application Note included the enablement of supported encryption capabilities in the Avaya products. Readers should consult the appropriate Avaya product documentation for further information regarding security and encryption capabilities supported by those Avaya products.

Support for these security and encryption capabilities in any non-Avaya solution component is the responsibility of each individual vendor. Readers should consult the appropriate vendor-supplied product documentation for more information regarding those products.

For the testing associated with this Application Note, the interface between Avaya systems and the Trio Enterprise did not include use of any specific encryption features as requested by Enghouse Interactive AB.

2.1 Interoperability Compliance Testing

The compatibility tests included the following.

- Ensure the phone displays the correct status when set to Automatic, Available, Busy, Away, Do Not Disturb, Offline and Out of Office.
- Set the phone to on-hook and off-hook.

2.2 Test Results

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

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

3. Reference Configuration

Figure 1 illustrates a sample configuration with an Avaya network that includes the following Avaya products:

- Avaya Aura® Presence Services Snap-in running on Avaya Breeze®.
- Avaya Aura® System Manager used to configure Avaya Breeze®.
- Trio Enterprise used to display status of each monitored phone.

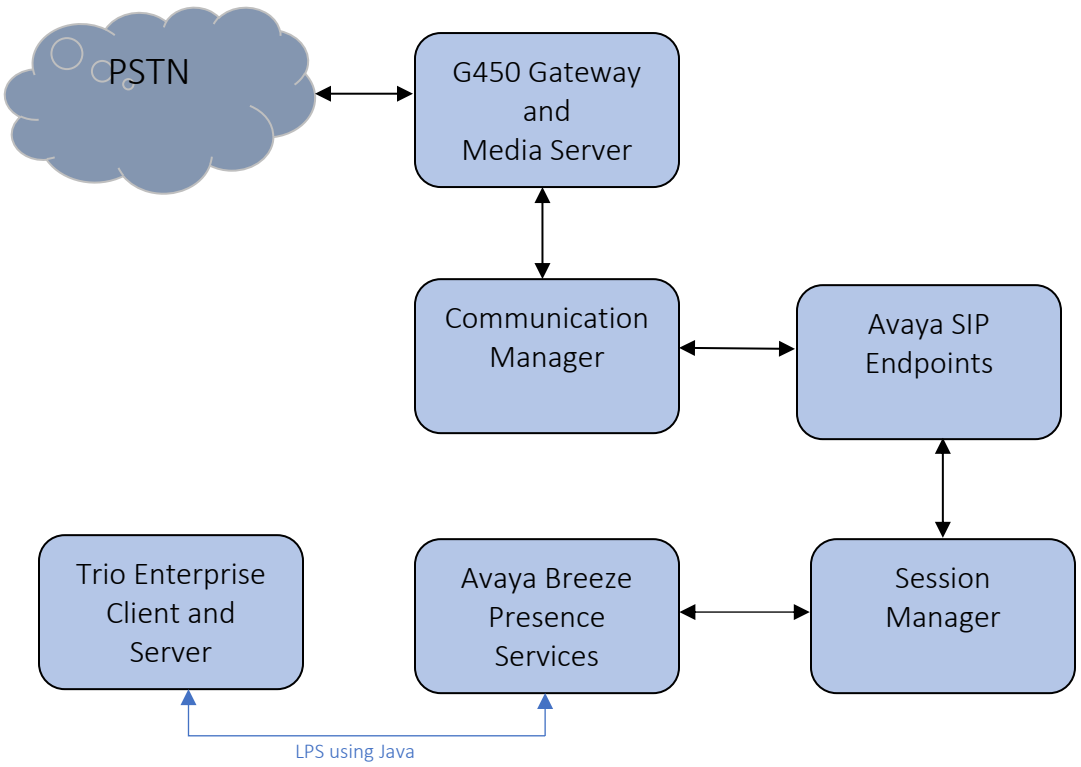


Figure 1: Configuration for Avaya Aura® Presence Services and Trio Enterprise

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® System Manager	8.1.0.0.733078
Avaya Aura® Session Manager	8.1.0.0.810007
Avaya Aura® Presence Services Snap-in	8.1.0.0.277
Avaya Aura® Media Server	8.0.2.61
Avaya G450 Media Gateway	41.9.0
Avaya Breeze®	3.6.0.2.360201
Avaya PresenceServices-LPS-SDK	8.0.0.0.149
Avaya one-X® Communicator	6.2.10
Avaya 96x1 Series IP Telephone • 9641GS (SIP)	 7.1.6
Trio Enterprise Server and Client running on Microsoft Windows 2012 R2 Server	8.0

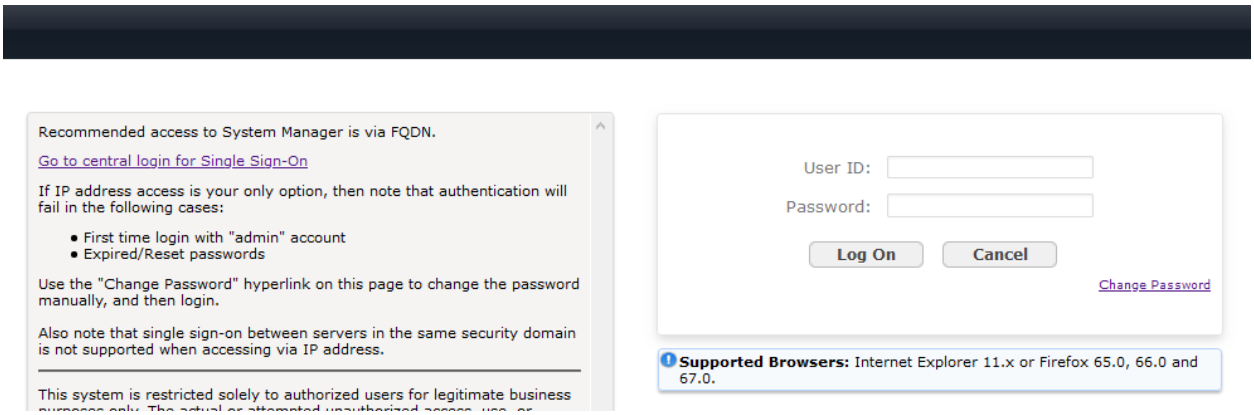
5. Configure Avaya Aura® Session Manager for Presence Services

This section provides the procedures for configuring Session Manager for Presence Services. The procedures include the following areas:

- Launch Avaya Aura® System Manager
- Administer Domain
- Administer locations
- Administer SIP entities

5.1 Launch Avaya Aura® System Manager

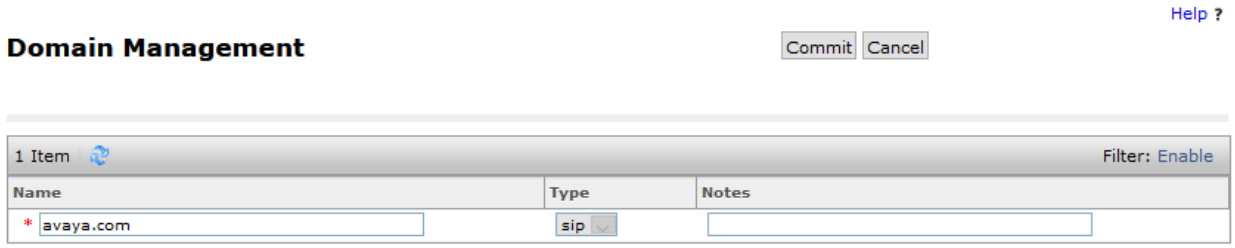
Access the System Manager web interface by using the URL “https://ip-address/SMGR” in an Internet browser window, where “ip-address” is the IP address of System Manager. Log in using the appropriate credentials.



5.2 Administer Domain

In the subsequent screen (not shown), select **Elements → Routing** to display the **Introduction to Network Routing Policy** (not shown). Select **Routing → Domains** from the left pane, and click **New** in the subsequent screen to add a new domain.

The **Domain Management** screen is displayed. In the **Name** field enter the domain name, select "sip" from the **Type** drop down menu and provide any optional **Notes**.

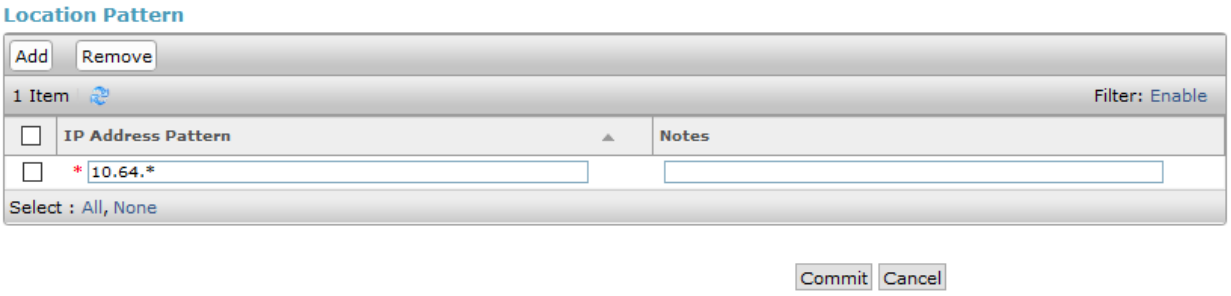


5.3 Administer Locations

Select **Routing → Locations** from the left pane and click **New** in the subsequent screen (not shown) to add a new location for Presence Services.

The **Location Details** screen is displayed. In the **General** sub-section, enter a descriptive **Name** and optional **Notes**. Retain the default values in the remaining fields.

Scroll down to the **Location Pattern** sub-section, click **Add** and enter the IP address of all devices involved in the compliance testing in **IP Address Pattern**, as shown below. Retain the default values in the remaining fields.



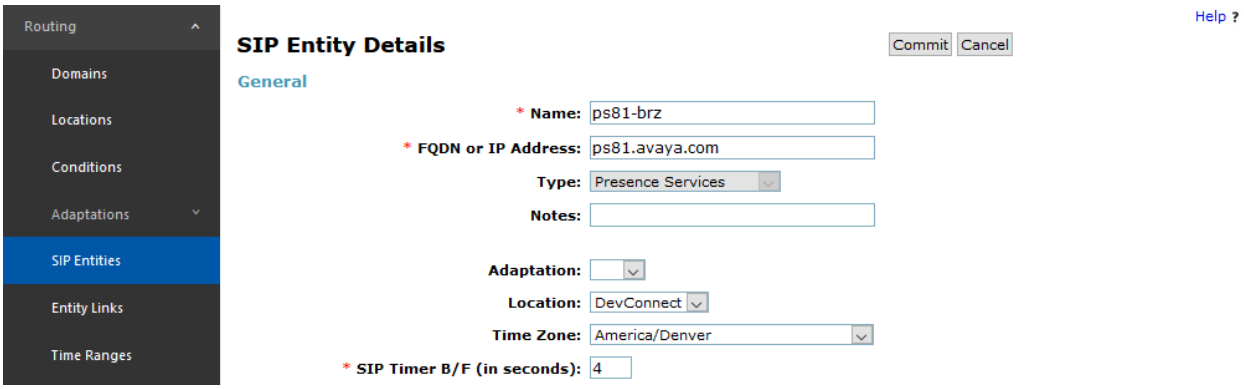
5.4 Administer SIP Entity

This section explains the adding of a SIP entity for the Presence Server.

Select **Routing → SIP Entities** from the left pane and click **New** in the subsequent screen (not shown) to add a new SIP entity for Trio Enterprise.

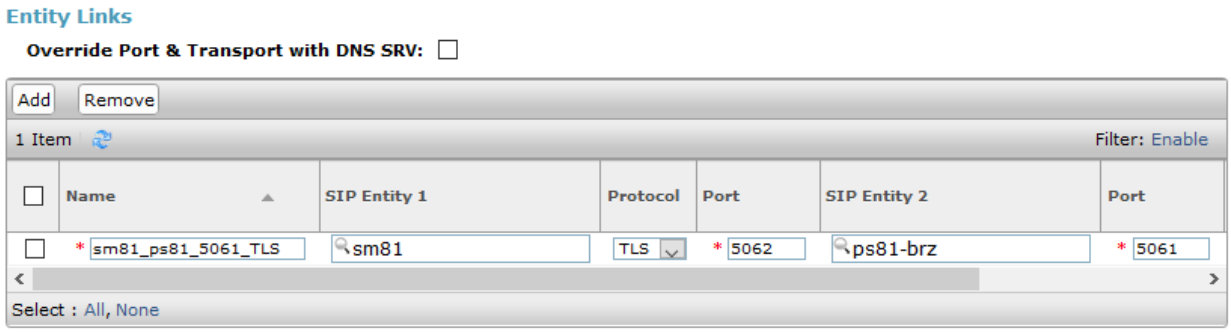
The **SIP Entity Details** screen is displayed. Enter the following values for the specified fields and retain the default values for the remaining fields.

- **Name:** A descriptive name.
- **FQDN or IP Address:** The FQDN of Presence Server.
- **Type:** Select "Presence Services" from the drop-down menu.
- **Notes:** Any desired notes.
- **Location:** Select the Trio Enterprise location name from **Section 5.3**.
- **Time Zone:** Select the applicable time zone.



Scroll down to the **Entity Links** sub-section and click **Add** to add an entity link. Enter the following values for the specified fields and retain the default values for the remaining fields.

- **Name:** A descriptive name.
- **SIP Entity 1:** The Session Manager entity name, in this case “sm81”.
- **Protocol:** Select “TLS” from the drop-down menu.
- **Port:** Enter “5062”.
- **SIP Entity 2:** The Presence Server entity name from this section.
- **Port:** Enter “5061”.
- **Connection Policy:** Select “trusted” from the drop-down menu.



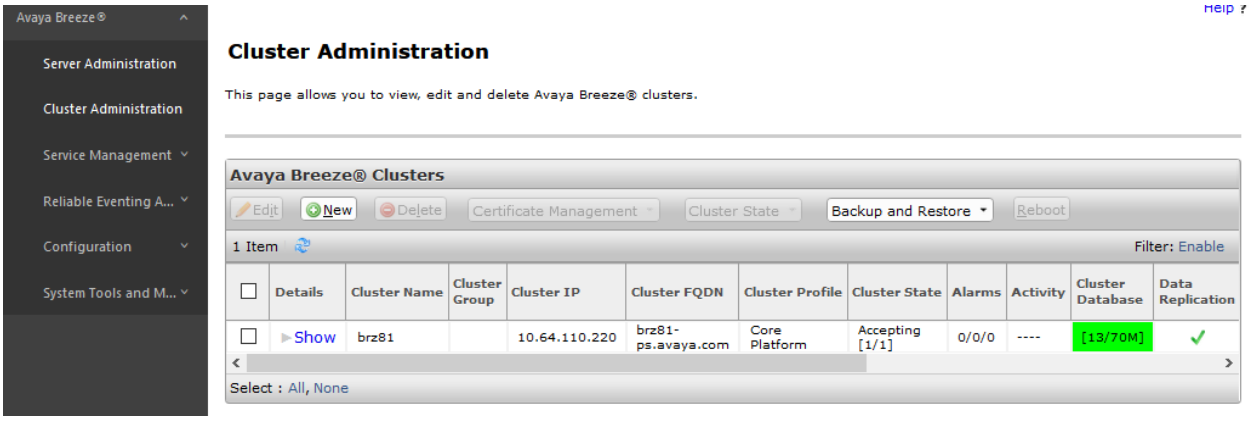
6. Configure Avaya Aura® Presence Services Snap-in and Presence for SIP Users

Configuration for Presence Services is performed via System Manager as well.

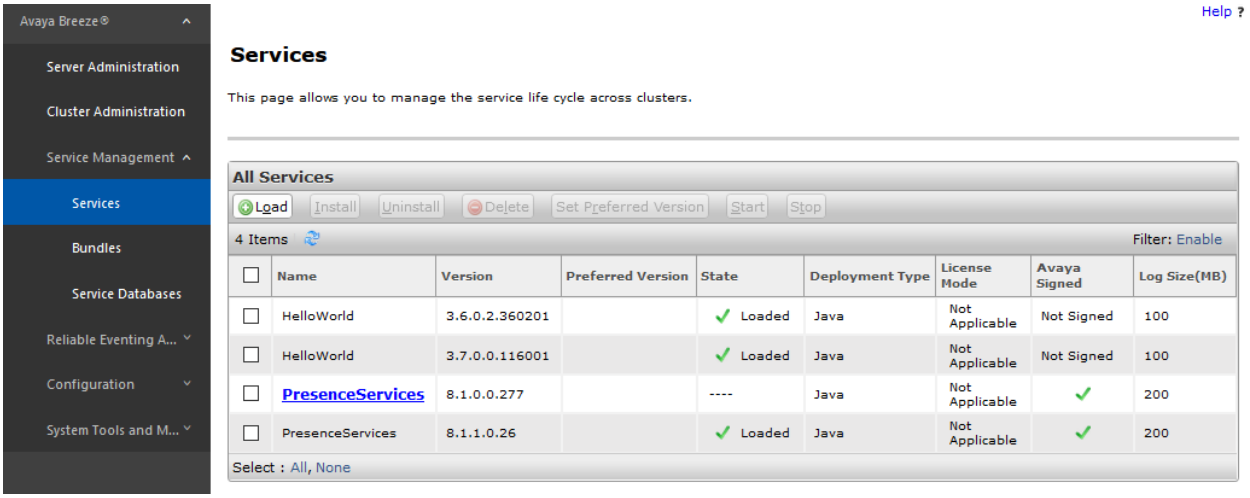
6.1 Install Avaya Aura® Presence Services Snap-in

It is assumed that the Avaya Breeze® Platform has already been installed and configured. For additional information see the documentation in the **References** section.

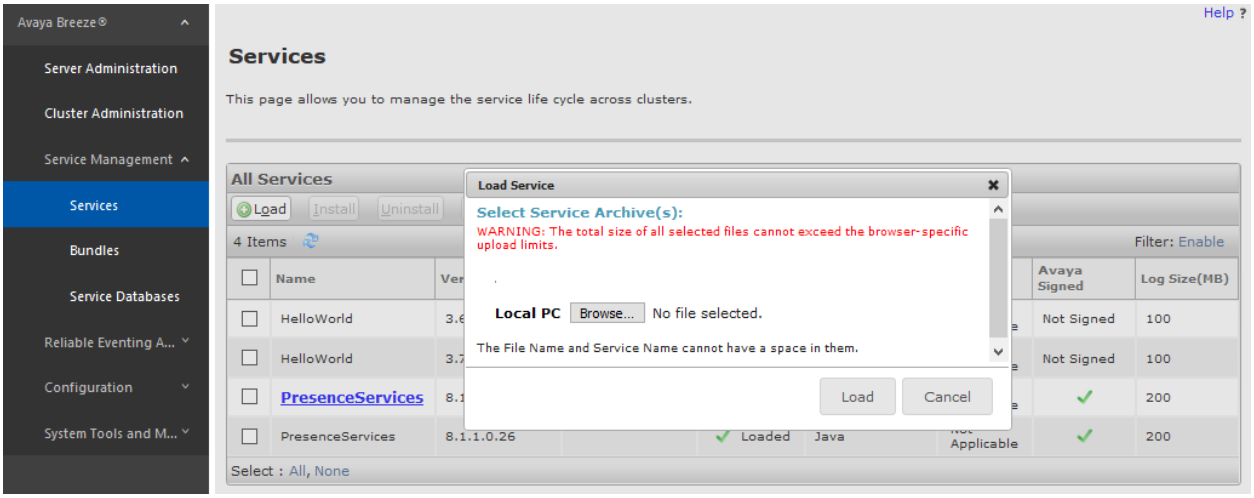
Navigate to **Home → Elements → Avaya Breeze®**.



To install the Presence Services Snap-in navigate to **Avaya Breeze® → Service Management → Services**.

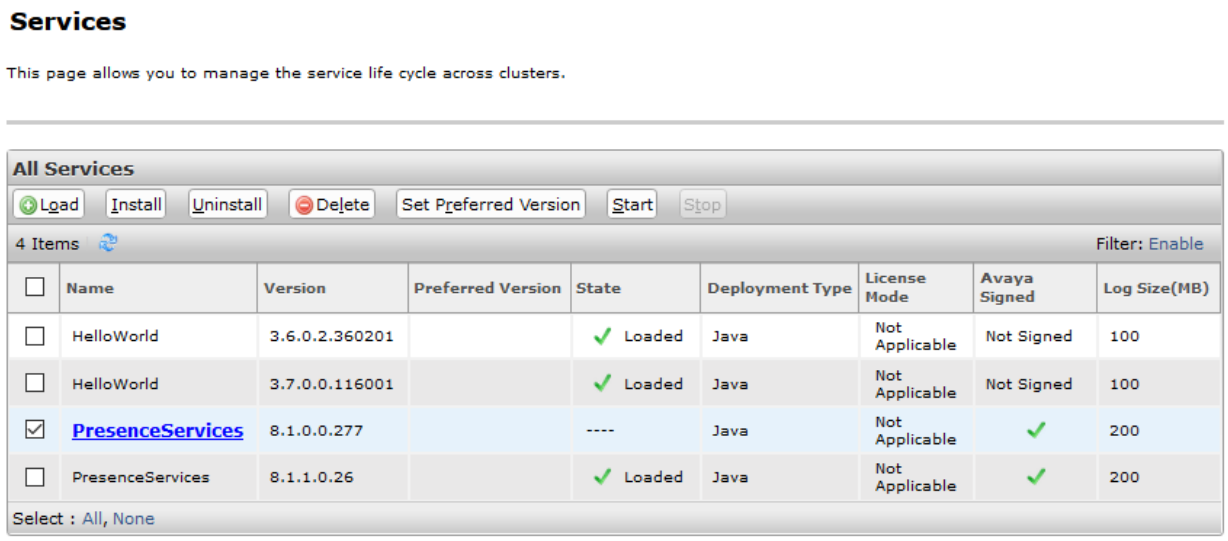


Select **Services** and then click on **Load** to upload the Presence Services Snap-in, click **Browse** and select the Presence Services Snap-in. Click **Load** to continue.



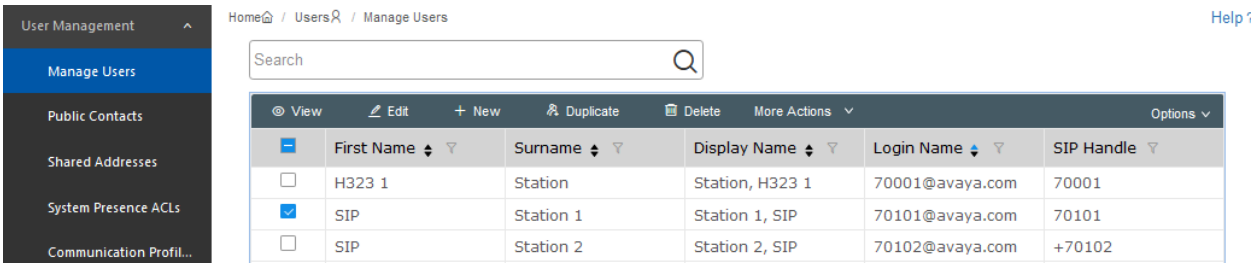
Follow the steps and ensure that the **PresenceServices** snap-in now has a state of **Loaded** (not shown).

To install the snap-in, check the box for PresenceServices and select Install. Follow the installation steps. Screen below shows the snap-in after the installation is complete.



6.2 Add Presence Users

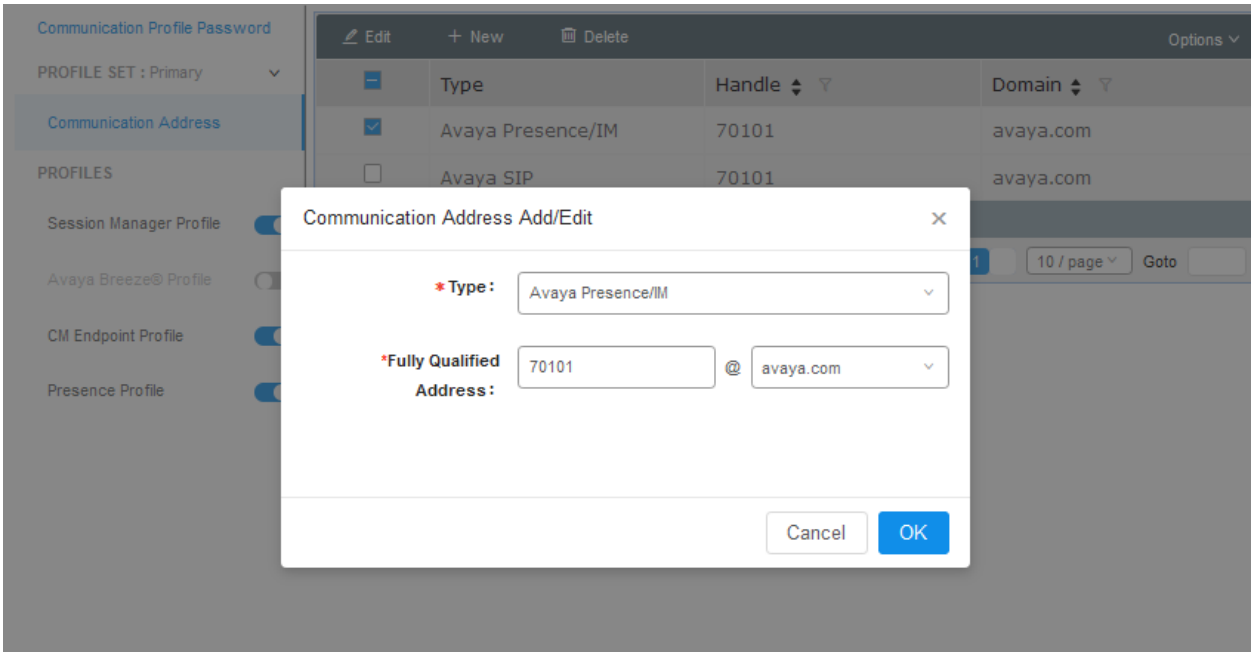
This section only shows the adding of Presence to an already configured SIP User**.** Navigate to **Users → User Management → Manager Users**. Select an already configured SIP user. The screen below shows user "70101" selected. Click on the **Edit** button.



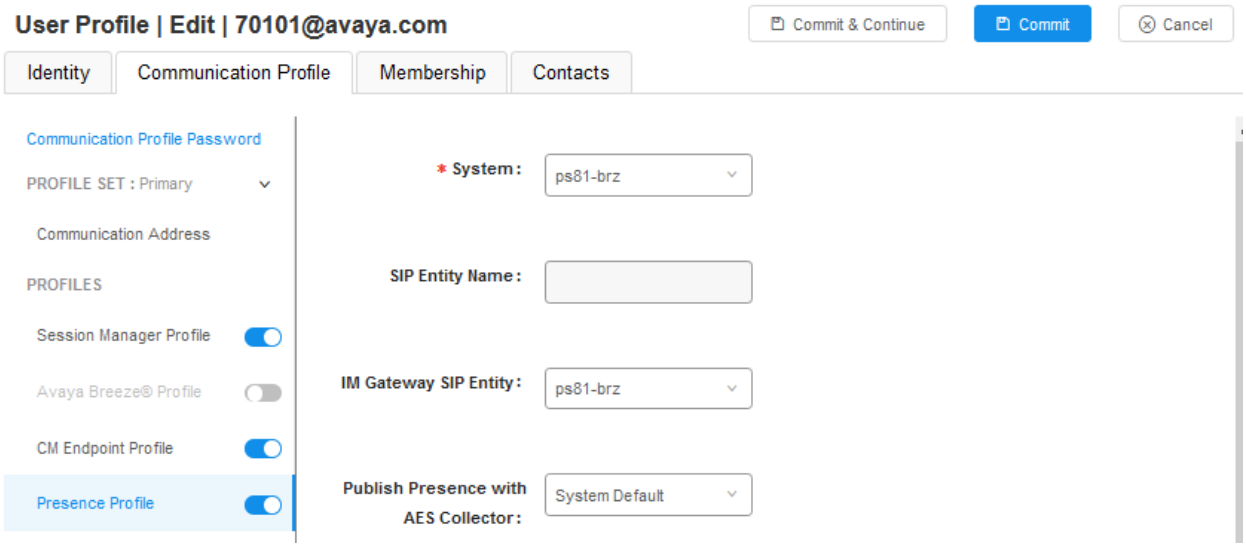
Under the **Communication Profile** tab, select **New** in the **Communication Address** section and in the screen that follows, configure the following.

- **Type:** Select "Avaya Presence/IM" from the drop-down menu.
- **Fully Qualified Address:** Enter the extension number that will be used by the SIP user to log in and in the domain space, select the domain created (**Section 5.2**) for the Presence Server from the drop-down menu.

Click on **OK** to complete the configuration.



Continuing from above, scroll down and enable **Presence Profile** on the left-hand menu. In the **System** and **IM Gateway SIP Entity** fields select the "ps81-brz" from the drop-down menu that was configured in **Section 5.4**. Click on **Commit** to complete the editing of the user.



7. Configure Local Presence Service Test Client

The Java-based Local Presence Service (LPS) test client application connects to Presence Services to subscribe and publish presence status information on behalf of one or many users. The LPS test client is an Avaya test tool that acts like a third-party client and shows the presence status of various users. Note that Java Runtime Environment (JRE) is required for this client and must be installed on the system where the client is going to be installed.

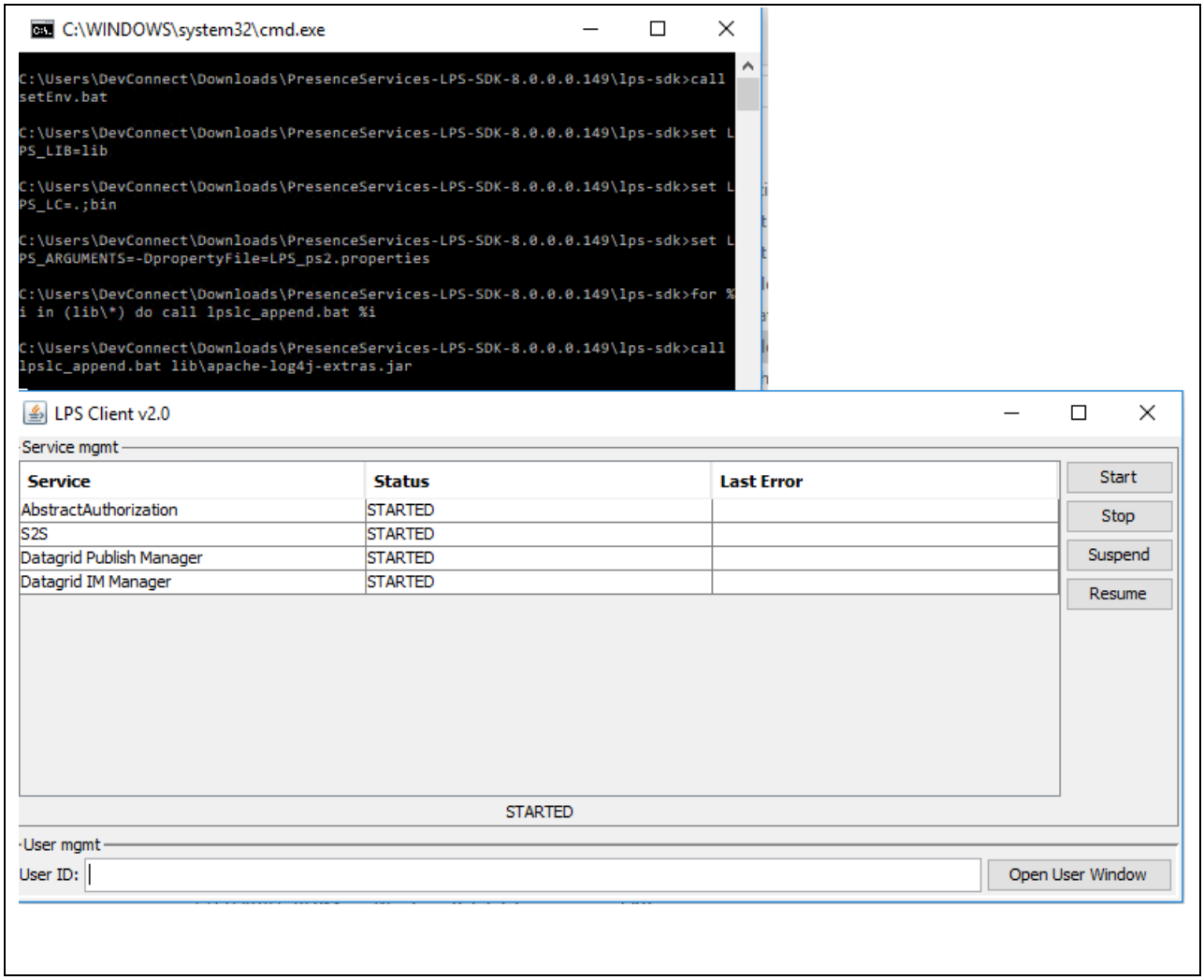
During compliance testing, this tool is installed on the same server running the Trio Enterprise application. The client tool is part of the Presence Services bundle. During compliance testing, the "PresenceServices-LPS-SDK-8.0.0.0149.zip" file was used. Unzip this file and from "lps-sdk" folder, open the "LPS_ps2.properties" file.

Enter the Management IP address of the Avaya Breeze® server in the **ps.datagrid.lus1.ip** field as shown in the screen below.

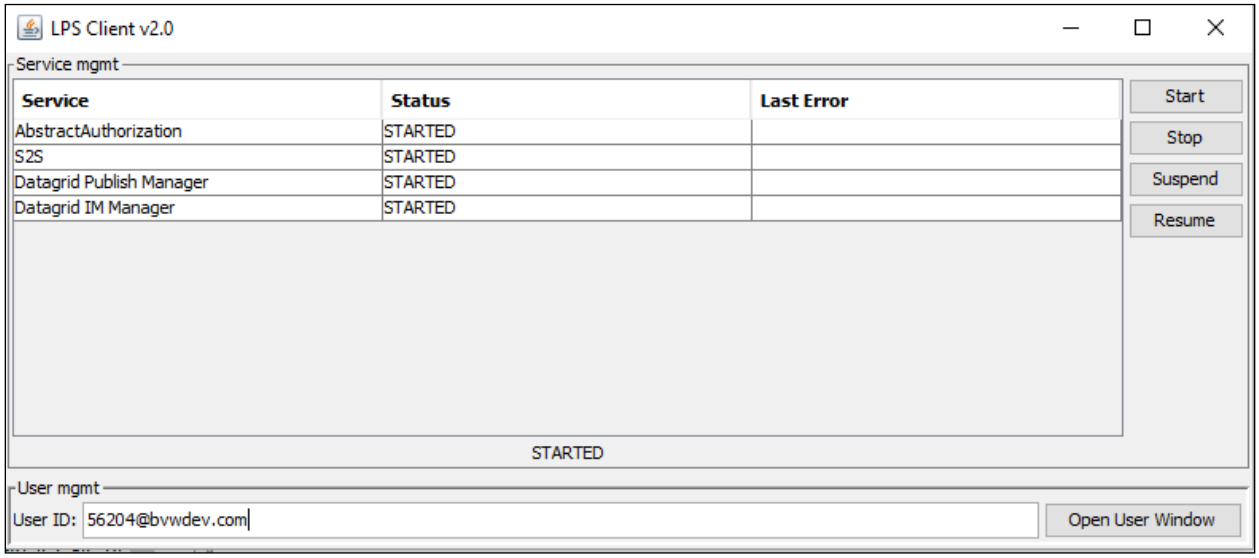
Retain default values for all other remaining fields.

```
## PS connection parameters
# PS datagrid LUS configuration, maximum two locators services. Leave lus2
configuration empty if only have one LUS server
ps.datagrid.lus1.ip=10.64.110.218
ps.datagrid.lus1.port=7000

# LUS2 configuration, optional
#ps.datagrid.lus2.ip=
#ps.datagrid.lus2.port=7000

#local port for datagrid event notification. This is only used if no system property
defined for "com.gs.transport_protocol.lrmi.bind-port"
ps.datagrid.lrmi.port=7000-7199

# whether or not PS is using secure datagrid. If yes, username/password are mandatory
ps.datagrid.secureAccessOn=false
ps.datagrid.userName=dcmuser
ps.datagrid.password=admin01
```

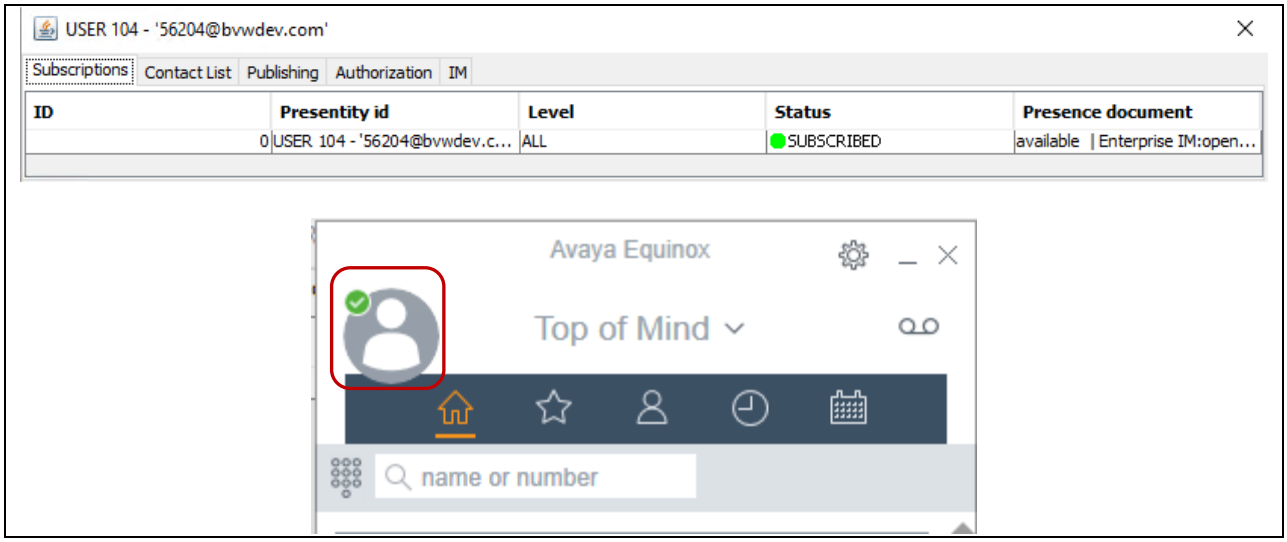
From the “lps-sdk” folder, double click on “runUI.bat” file to start the client. Screen below shows the client running. Ensure that **Status** is “STARTED” for all **Service**.



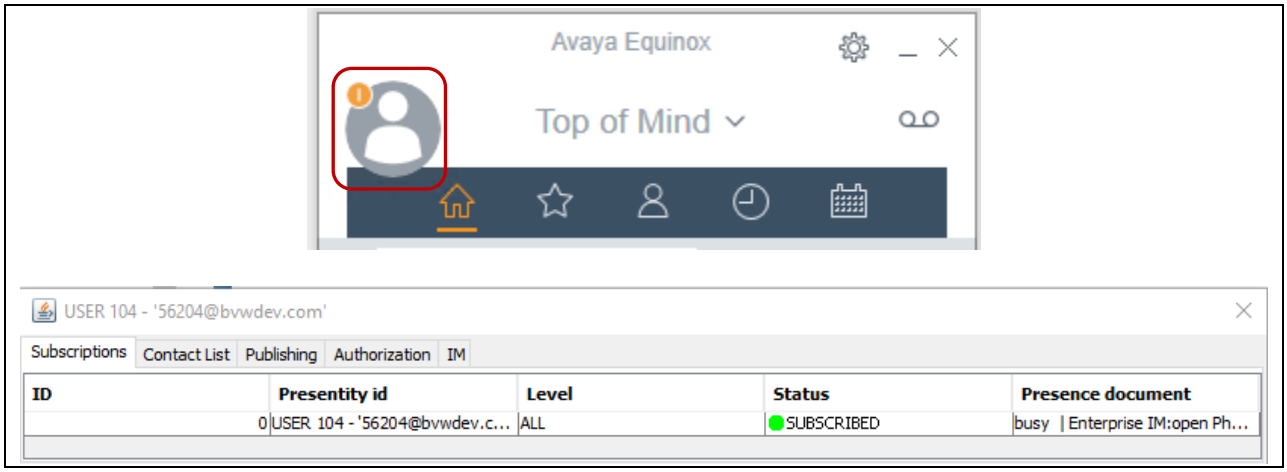
In the **User mgmt** section enter the **User ID** of a SIP user whose presence needs to be monitored. In the screen below, "56204@bvwdev.com" was entered. Next, click on the **Open User Window** button.



The screen below shows the user **Status** as "SUBSCRIBED" and the **Presence document** shows that the user presence is "available" and the phone is "open". More details of this subscription are obtained by right-clicking on the user shown and selecting **Details** (not shown). Also, for comparison, a screen showing the Avaya Equinox for user "56204" is shown below with a status of Available.



In the screen below change the status for “56204” to “Busy” on the Avaya Equinox, the **Presence document** on the client is also changes to “busy”.



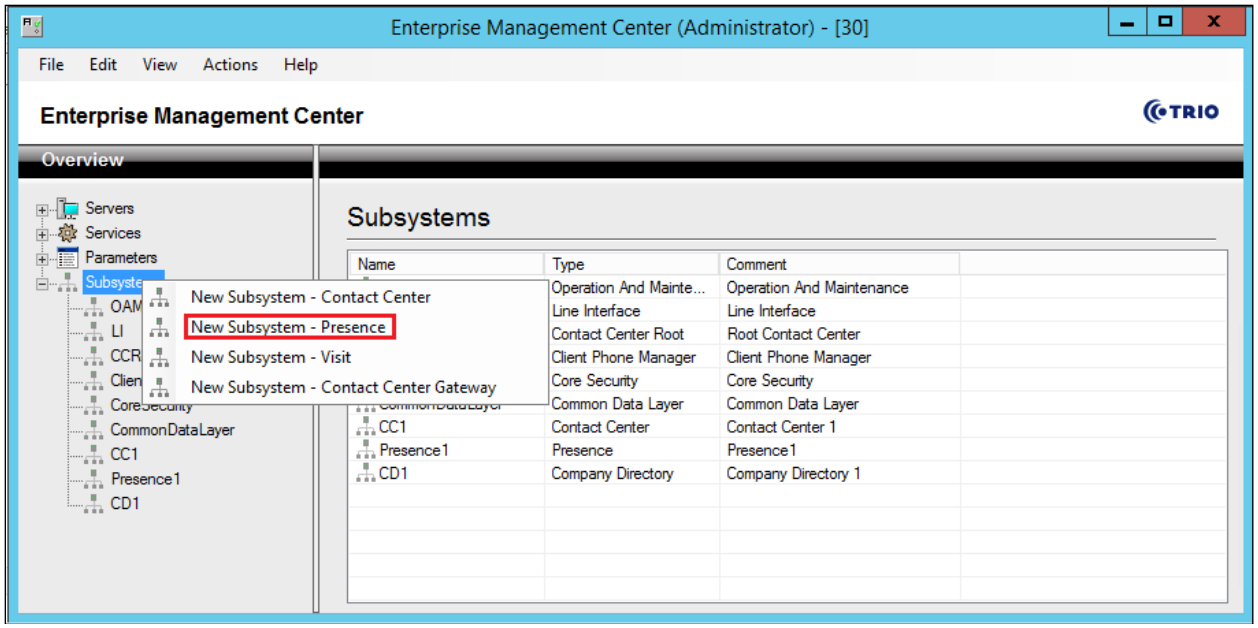
8. Configure Trio Enterprise from Enghouse Interactive CB for Avaya Aura® Presence Services

The presence connectivity between Trio Enterprise and the Presence Server is dependent on Java. Java runtime is required to be installed on the Trio Enterprise server.
This section shows how to configure Trio Enterprise to successfully connect to the Presence Server. It is assumed that the installation of the Trio Enterprise software is complete, and the Trio services are up and running. The steps to configure a Trio Enterprise for presence are as follows.

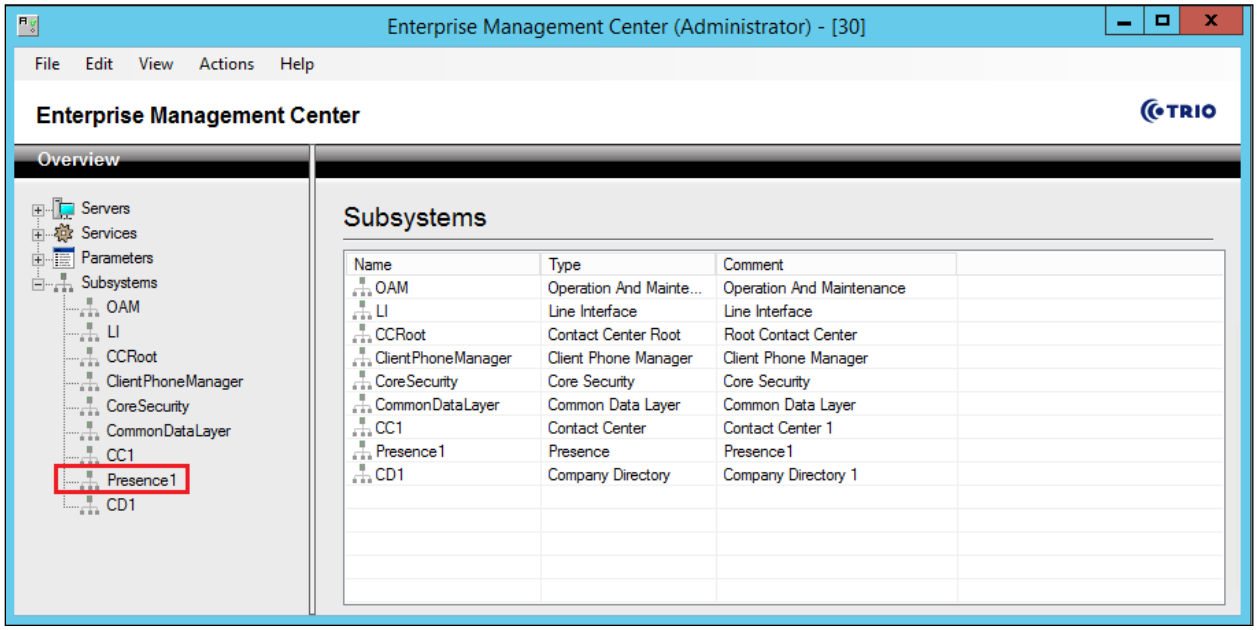
8.1 Add Presence Subsystem

To launch the Enterprise Management Center window as shown in the screen below, launch the 'Enterprise Management Center' icon as shown here.

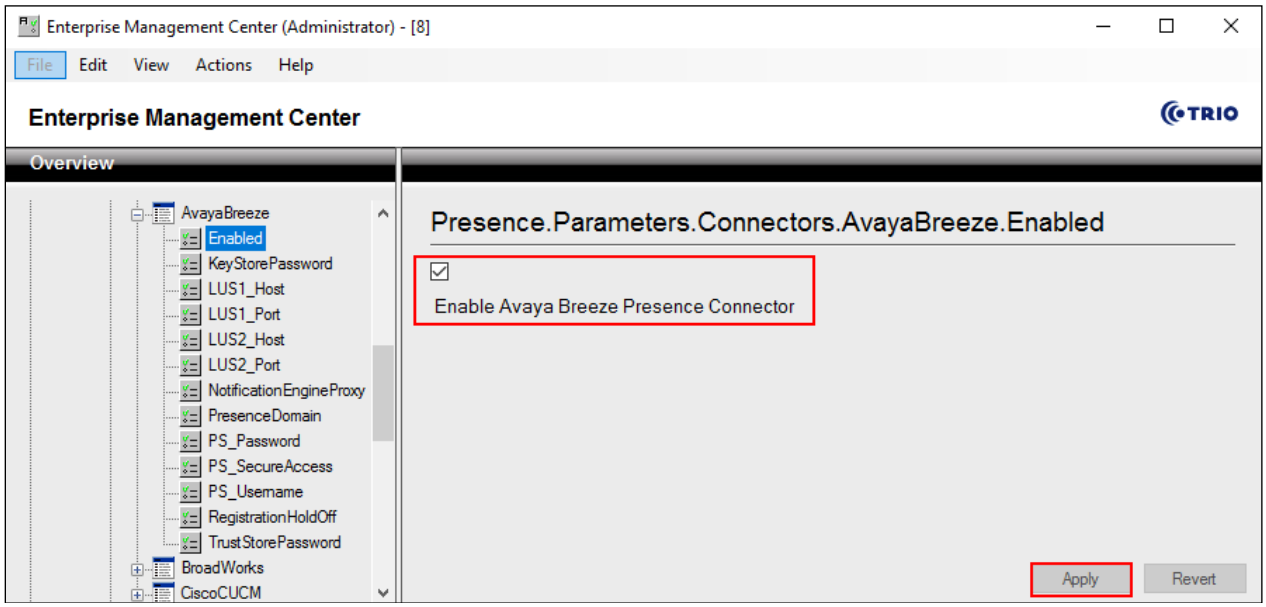
Right-click on **Subsystem** and add Presence by selecting **New Subsystem – Presence** as shown below.



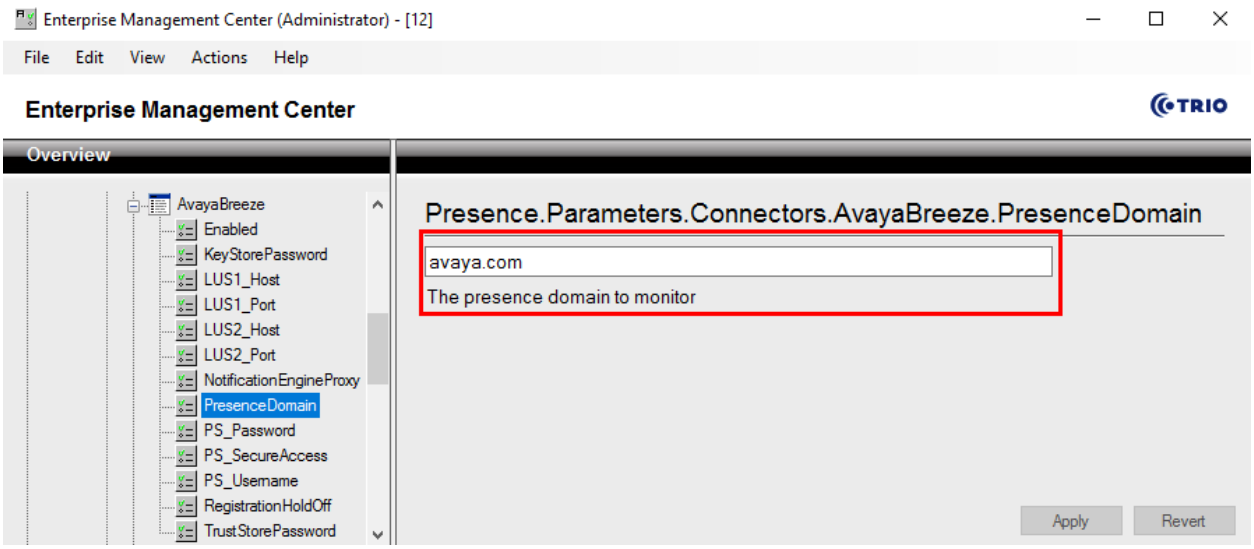
The screen belows shows the window after **Presence1** is added.



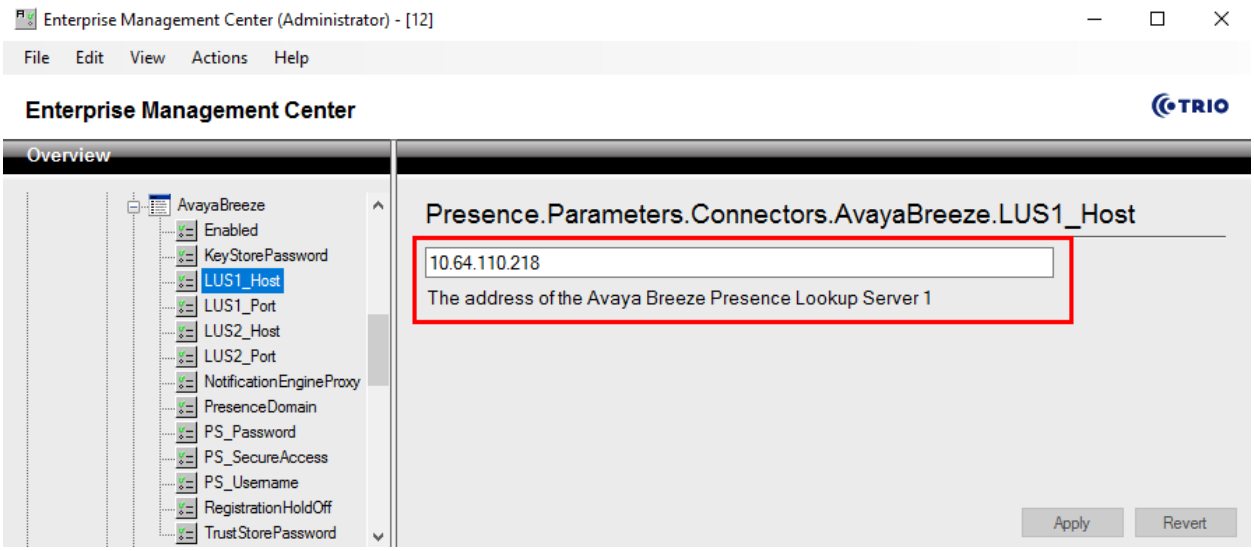
Navigate to **Presence (Presence1) → Parameters → Connections → AvayaBreeze → Enabled** and check the box for **Enable Avaya Breeze Presence Connector** as shown in the screen below. Click on the **Apply** button.



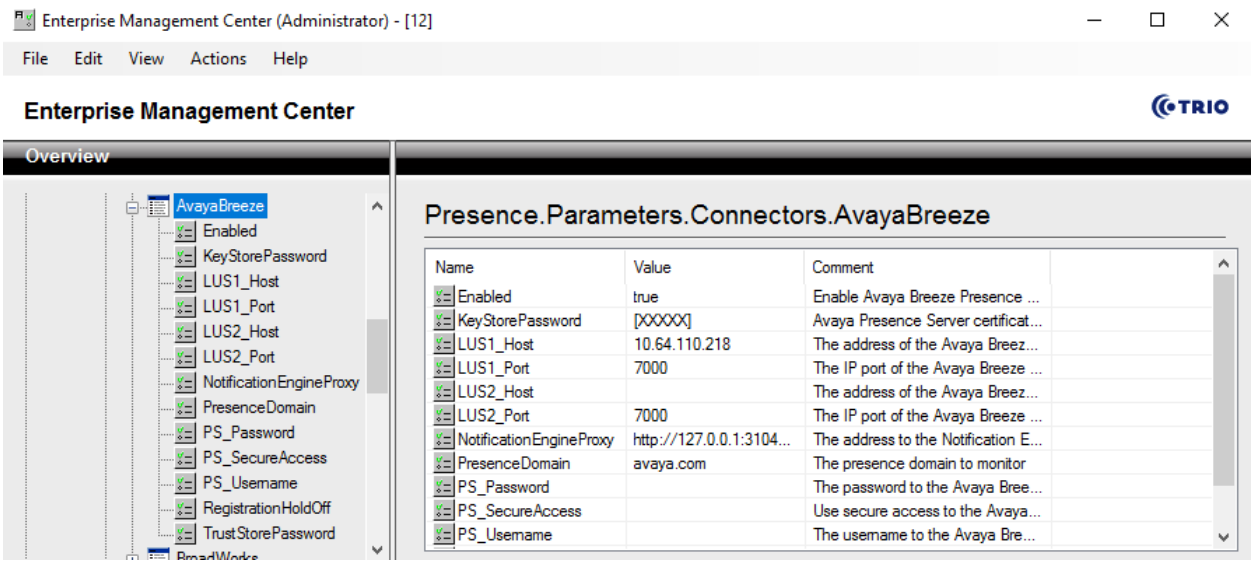
Navigate to **Presence (Presence1) → Parameters → Connections → AvayaBreeze → PresenceDomain**. During compliance testing, "bvwdev.com" was the presence domain to monitor as shown in the screen below. Click on the **Apply** button.



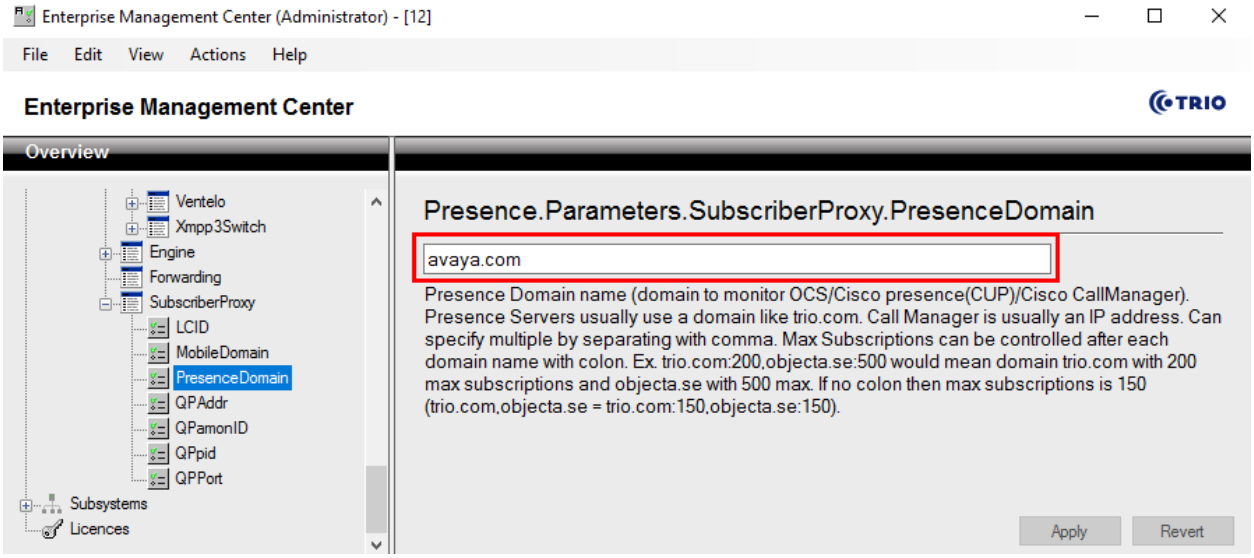
Navigate to **Presence (Presence1) → Parameters → Connections → AvayaBreeze → LUS1_Host**. During compliance testing "10.10.4.2" was the IP address of Avaya Breeze™ Management IP as shown in the screen below. Click on the **Apply** button.



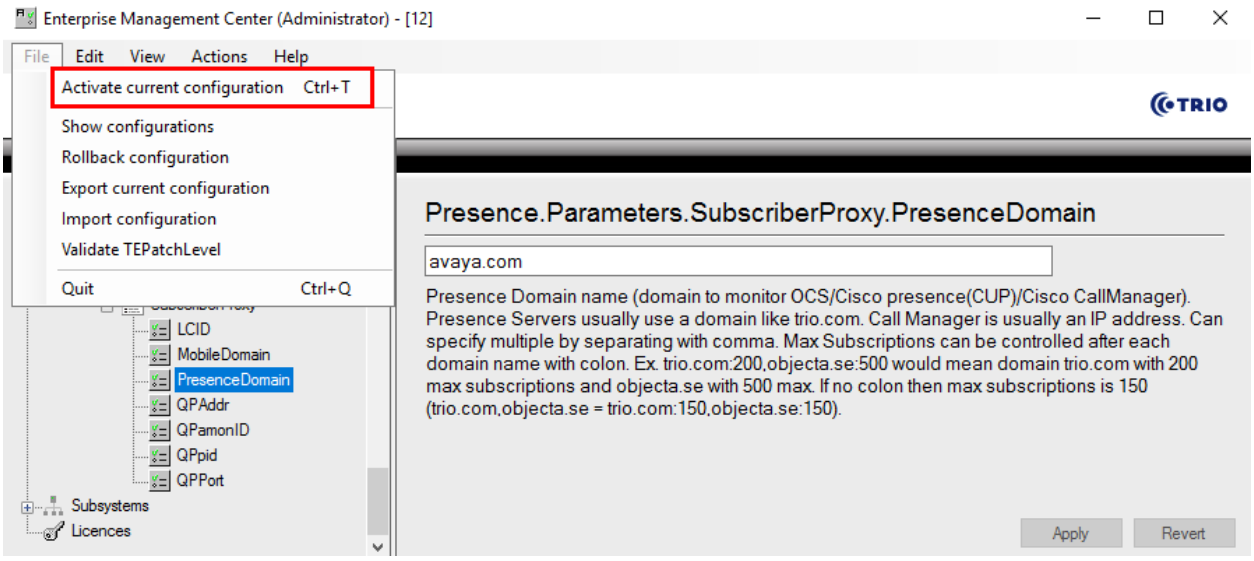
The completed configuration screen for **Presence (Presence1) → Parameters → Connections → AvayaBreeze** is shown below.



Navigate to **Presence (Presence1) → Parameters → SubscriberProxy → PresenceDomain**. During compliance testing "bvwdev.com" was the presence domain used as shown in the screen below. Click on the **Apply** button.



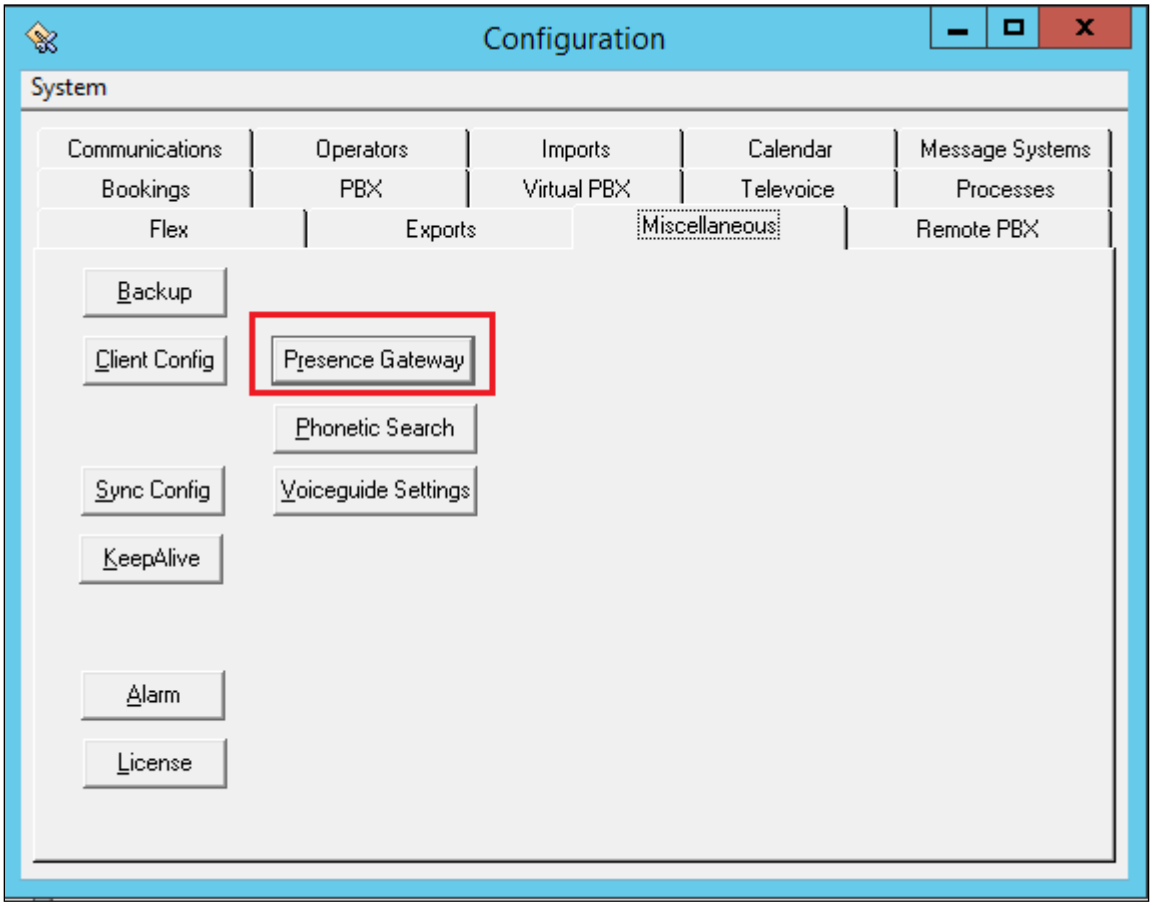
Navigate to **File → Activate current configuration** to activate the Enterprise Management Center configration as shown in the screen below.



8.2 Configure Trio Presence Gateway

To launch the Trio Configuration window to configure the Presence Gateway as shown in the screen below, launch the 'Trio Present Setup' icon as shown here.

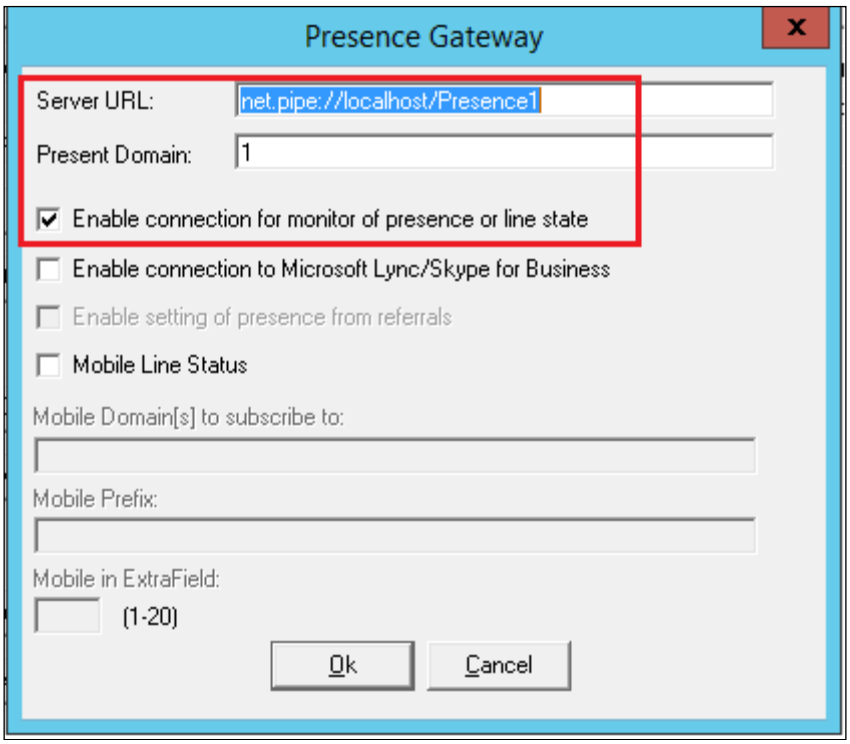
The **Presence Gateway** button can be found under the **Miscellaneous** tab. Click on this button.



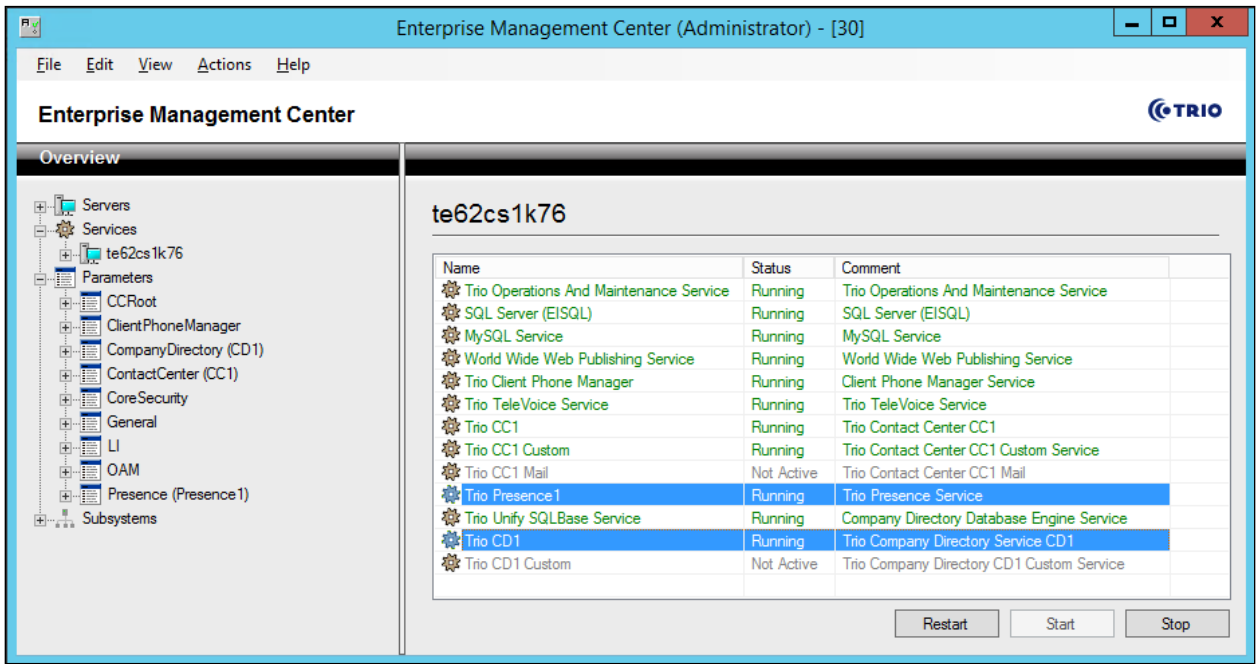
In the **Presence Gateway** window shown below, configure the following.

- **Server URL:** Enter "net.pipe://localhost/Presence1"
- **Present Domain:** Enter "1"
- Check the box for **Enable connection for monitor of presence or line state**

Retain default values for all other fields and click on the **Ok** button.



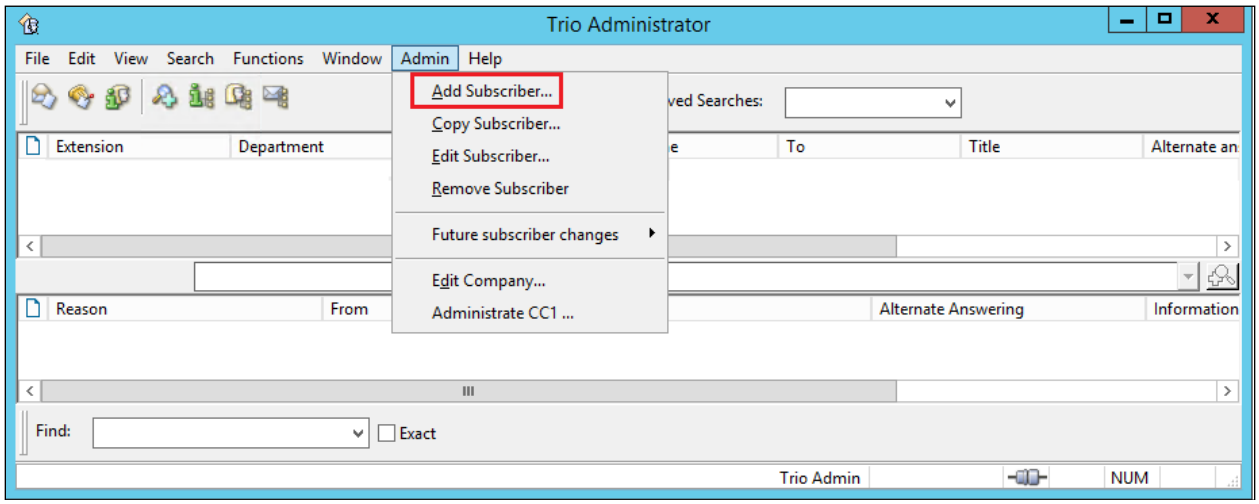
From the **Enterprise Management Center** window as shown in **Section 8.1**, navigate to **Services → te62cs1k76** and restart the **Trio Presence1** and **Trio CD1** services as shown in the screen below.



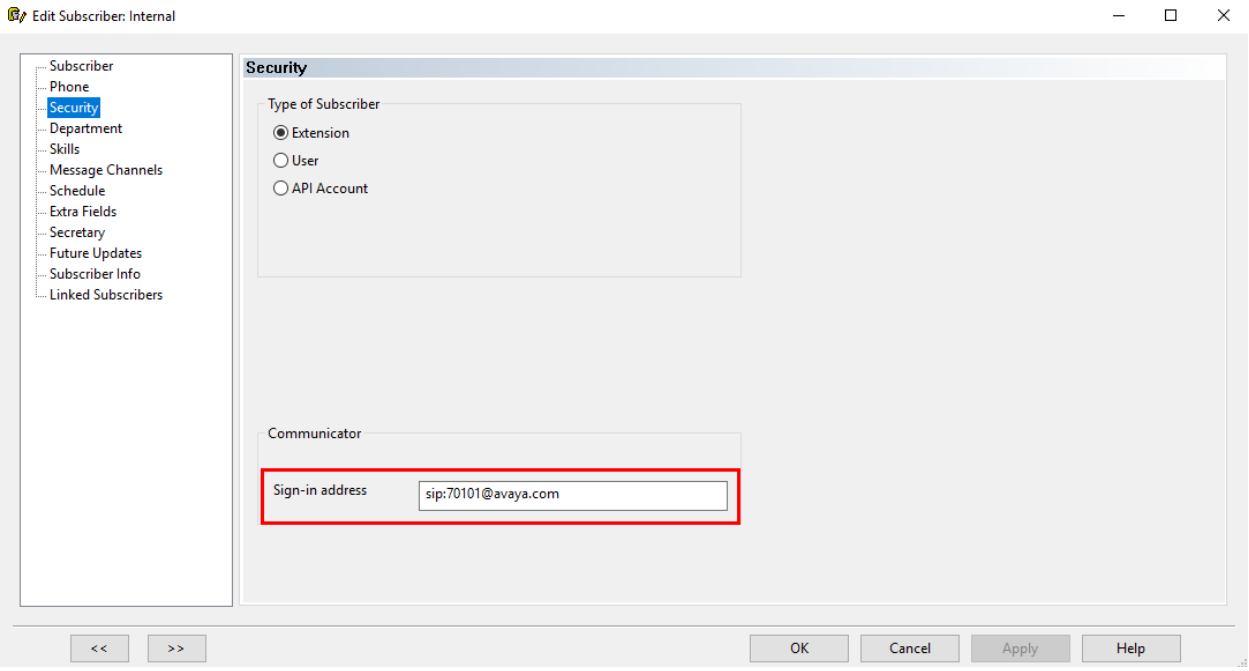
8.3 Administer Users

To launch the Trio Administrator window to configure users as shown in the screen below, launch the "Trio Administrator" icon as shown here.

From the **Trio Administrator** window, navigate to **Admin → Add Subscriber**.



In the **Add Subscriber** window as shown below, from the **Security** tab, select the **Extension** radio button and populate the **Sign-in address** field with the correct information of the user whose presence needs to be monitored. The example below shows the sign in address of user "70101", which is "sip:70101@avaya.com". Click on the **OK** button.

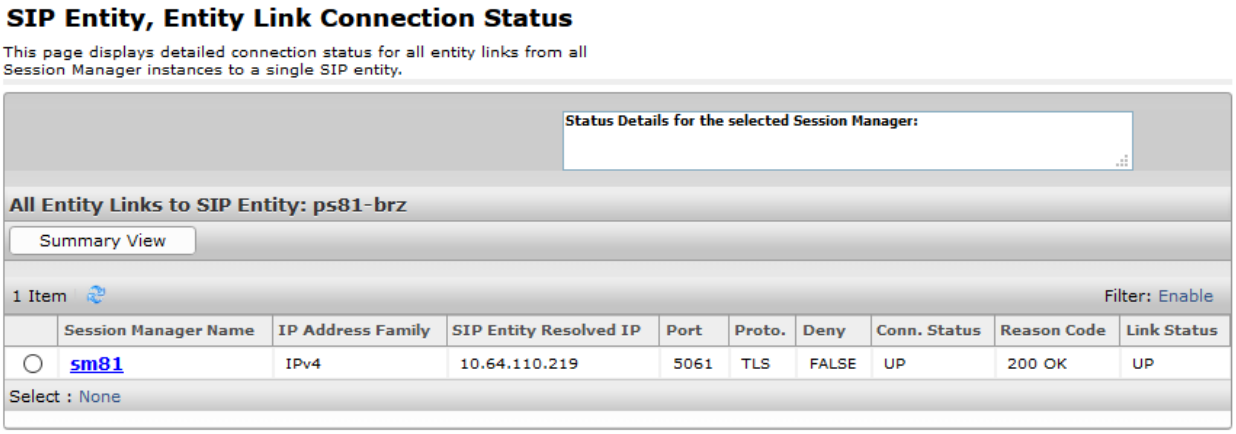


9. Verification Steps

This section provides the tests that can be performed to verify correct configuration of Avaya Aura® Presence Server with Trio Enterprise.

9.1 Verify Status of Avaya Aura® Presence Server Snap-in

Navigate to **Elements → Session Manager → System Status → SIP Entity Monitoring** and select the Presence Server SIP Entity. Verify the **Link Status** is **Up**.



SIP Entity, Entity Link Connection Status

This page displays detailed connection status for all entity links from all Session Manager instances to a single SIP entity.

Status Details for the selected Session Manager:

All Entity Links to SIP Entity: ps81-brz

Summary View

1 Item | Filter: Enable

	Session Manager Name	IP Address Family	SIP Entity Resolved IP	Port	Proto.	Deny	Conn. Status	Reason Code	Link Status
○	sm81	IPv4	10.64.110.219	5061	TLS	FALSE	UP	200 OK	UP

Select : None

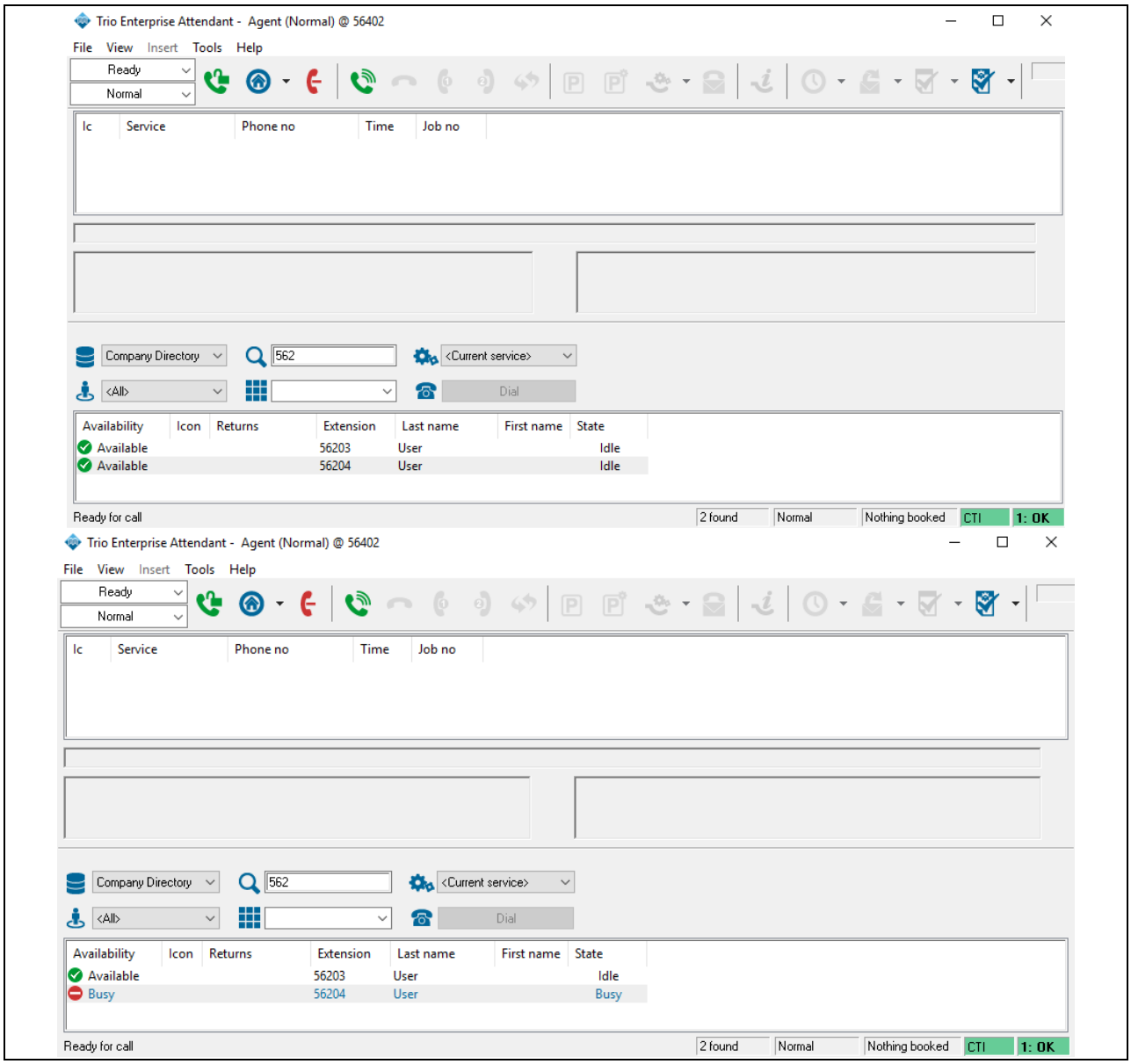
9.2 Verify Status of Users via Local Presence Server Client

Refer to **Section 7**, which explains the LPS test client verifying the presence status of a user.

9.3 Verify Status of Users via Trio Enterprise Attendant

To verify that Trio Enterprise shows the presence status of users, log in to the Trio Enterprise Attendant by launching the "Agent Client" icon as shown here.

Log in with the appropriate credentials. The **Trio Enterprise Attendant** window appears as shown below. The screen below shows the presence of user "56204" as "Available". Change the presence status of this user to "Busy" and the same is reflected on the Trio Enterprise screen as shown in the following screen.



10. Conclusion

These Application Notes have described the administration steps required to integrate Trio Enterprise with Avaya Aura® Presence Services Snap-in running on Avaya Breeze™ Platform using a Java API. All test cases passed with any observations noted in **Section 2.2**.

11. References

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

Product documentation for Avaya products may be found at http://support.avaya.com.

1. Administering Avaya Aura® Session Manager, Release 8.1.1, Issue 2, October 2019
2. Avaya Aura® Presence Services Snap-in Reference, Release 8.1.x, Issue 4, October 2019
3. Avaya Presence Services SDK Developers Guide, 127976, Release 8.0.2, Version 1.3, March 12, 2019.

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

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.