

#### Avaya Solution & Interoperability Test Lab

Application Notes for British Telecom Trading Platform 9.5 with Avaya Aura® Session Manager 8.1.3 and Avaya Aura® Communication Manager 8.1.3 - Issue 1.0

#### **Abstract**

These Application Notes describe the configuration steps required to integrate British Telecom Trading Platform 9.5 with Avaya Aura® Session Manager 8.1.3 and Avaya Aura® Communication Manager 8.1.3. British Telecom Trading Platform is a SIP endpoint management solution that registers with Avaya Aura® Session Manager as SIP endpoints.

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 describe the configuration steps required to successfully integrate British Telecom (BT) Trading Platform 9.5 with Avaya Aura® Session Manager 8.1.3 and Avaya Aura® Communication Manager 8.1.3. The BT Trading Platform is a SIP endpoint management solution that uses Avaya Aura® Session Manager to route calls between Avaya Aura® Communication Manager and BT Trading Turrets.

British Telecom (BT) Trading Platform consists of a set of BT Trading Turrets, a Turret Support Server (TSS), and a Turret Proxy to Open Line Dealing Server (TPO). The BT Trading Turrets register as SIP endpoints with Avaya Aura® Session Manager.

- **TSS server**: It provides security extensions, end user profiles management, hunt group, and bridge to middle-office applications.
- **BT Trading Turret**: The BT Trading Turret is SIP-based VoIP trading phone.
- Turret Proxy to Open Line Dealing Server (TPO): The TPO server serves as a proxy phone between a remote place extension and the local IP Trade end-users (turrets). When the local IP Trade end-users dial to the TPO proxy number of a remote place, the users can speak publicly or privately to that remote place. In these Application Notes, the TPO server registers one SIP endpoint as the proxy phone with Avaya Aura® Session Manager.

## 2. General Test Approach and Test Results

The general test approach was to configure the BT Trading Turrets to communicate with the Session Manager as third-party SIP endpoints.

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 these DevConnect Application Notes 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 these Application Notes, the interface between Avaya systems and the BT Trading Platform did not include use of any specific encryption features as requested by British Telecom.

This test was conducted in a lab environment simulating a basic customer enterprise network environment. The testing focused on the standards-based interface between the Avaya solution and the third party solution. The results of testing are therefore considered to be applicable to either a premise-based deployment or to a hosted or cloud deployment where some elements of the third party solution may reside beyond the boundaries of the enterprise network, or at a different physical location from the Avaya components.

Readers should be aware that network behaviors (e.g. jitter, packet loss, delay, speed, etc.) can vary significantly from one location to another and may affect the reliability or performance of the overall solution. Different network elements (e.g. session border controllers, soft switches, firewalls, NAT appliances, etc.) can also affect how the solution performs.

If a customer is considering implementation of this solution in a cloud environment, the customer should evaluate and discuss the network characteristics with their cloud service provider and network organizations and evaluate if the solution is viable to be deployed in the cloud.

The network characteristics required to support this solution are outside the scope of these Application Notes. Readers should consult the appropriate Avaya and third party documentation for the product network requirements. Avaya makes no guarantee that this solution will work in all potential deployment configurations.

#### 2.1. Interoperability Compliance Testing

The interoperability compliance test included both feature functionality and serviceability testing. The feature functionality testing focused on carrying out different call scenarios with good quality audio. The tests included:

- Successful registration of BT Trading Turret with Session Manager using TCP connection.
- Calls between BT Trading Turret and Avaya SIP, H.323, and digital telephones.
- G.711A, G.711U codecs support and negotiation, with and without media shuffling.
- DTMF and exercising telephony features, such as Transfer and Call Forward using feature access codes.
- Basic features including audio call, answer, hang up, music on hold, DTMF transmission, and feature access code dialing.
- Call features including Hold, Transfers and Conference.
- Basic video between Avaya Workplace Client and BT Trading Turrets.
- Proper system recovery after removal and reconnection of LAN cable.

#### 2.2. Test Results

The testing was successful. All the test cases passed.

## 2.3. Support

For technical support on BT Trading Platform, contact:

Email: Unified.Trading.interop.team@bt.com

## 3. Reference Configuration

The configuration shown in **Figure 1** was used during the compliance test of BT Trading Platform with Session Manager and Communication Manager. BT Trading Platform manages BT Trading Turrets by registering with Avaya Session Manager and allowing communication with Avaya deskphones.

TLS is enabled on the SIP trunk between Communication Manager and Session Manager. TLS was also enabled on all Avaya endpoints.

BT Trading Platform interoperate with Session Manager using TCP connection.

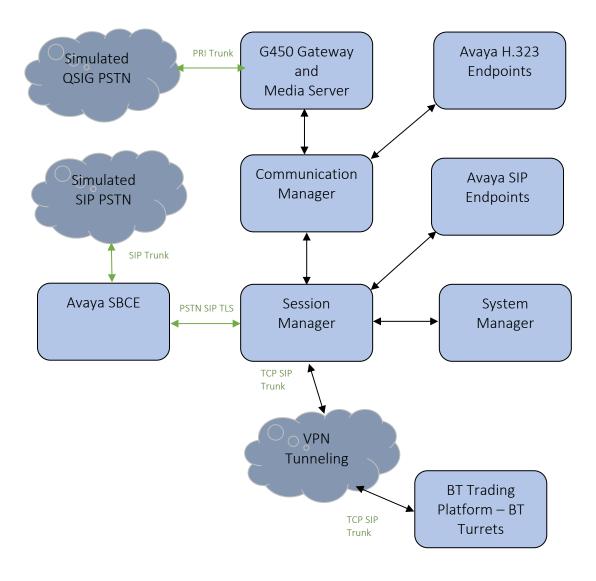


Figure 1: Connection of BT Trading Platform with Avaya Aura® Session Manager and Avaya Aura® Communication Manager

## 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 in Virtual Environment	8.1.3
Avaya Aura® Session Manager in Virtual Environment	8.1.3
Avaya Aura® Communication Manager in Virtual Environment	8.1.3
Avaya G450 Media Gateway  • MGP	41.16.30
Avaya Aura® Media Server in Virtual Environment	8.0 SP2
Avaya Session Border Controller for Enterprise in Virtual Environment	8.1.0.0-14-18490
9641G IP Deskphone (H.323)	6.8
Avaya Workplace Client for Windows	3.8.4.10.2
Avaya 9641 IP Deskphone (SIP)	7.1.9
Avaya J159 IP Deskphone (SIP)	4.0.7.1
BT Trading Platform Turret Support Server Firmware	R9.5.3.54476

BT Trading Platform Turret Support Server Bootstrap	R9.5_3.54458
BT TPO Firmware	R9.5_3.54480
BT TPO Bootstrap	R9.5_3.54423
BT TouchPro Firmware	R9.5_3.54482
BT TouchPro Bootstrap	R9.5_3.54421
BT Flex Pro Version	R9.5_3.54482
BT TPO Redundancy Mode	Session Persistency

## 5. Configure Avaya Aura® Communication Manager

This section describes the steps required to allow Communication Manager to communicate with the BT Trading Platform. Is it assumed that Communication Manager is installed and configured before implementing the configuration steps. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 11**. The configuration illustrated in this section was performed using Communication Manager System Administration Terminal (SAT).

Configuration steps include:

- Verify Off PBX Station Licensing.
- SIP Trunk Administration (to Session Manager).
- Adding Route Pattern.

#### 5.1. Verify Licensing

Using the *display system-parameters customer-options* command go to **Page 1** and check that the system is sufficiently licensed for **Off-PBX Telephones -OPS**.

```
Page 1 of 12
                          OPTIONAL FEATURES
G3 Version: ?
                                           Software Package: Enterprise
 Location: 2
                                           System ID (SID): 1
 Platform: 28
                                           Module ID (MID): 1
                                                       USED
                          Platform Maximum Ports: 6400 546
                               Maximum Stations: 2400 13
                        Maximum XMOBILE Stations: 2400
              Maximum Off-PBX Telephones - EC500: 9600
              Maximum Off-PBX Telephones - OPS: 9600 10
              Maximum Off-PBX Telephones - PBFMC: 9600 0
              Maximum Off-PBX Telephones - PVFMC: 9600 0
              Maximum Off-PBX Telephones - SCCAN: 2400 0
                   Maximum Survivable Processors: 313
   (NOTE: You must logoff & login to effect the permission changes.)
```

## 5.2. Adding a SIP Trunk to Session Manager

Use the *change node-names ip* command to associate an IP address with Session Manager.

```
Change node-names ip

IP NODE NAMES

Name
IP Address
default
0.0.0.0
procr
10.30.5.93
procr6
ams94
10.30.5.94
smsip92
10.30.5.92
```

Use *change dialplan analysis* to add a **3** digit dial access code (**dac**) for use in the SIP trunk, a unform dial plan (**udp**) entry for calling out over the SIP trunk and check that there is an entry for feature access codes (**fac**).

change dialplan analysis	change dialplan analysis	Page 1 of 12
Page 1 of 12	DIAL PLAN ANALYSIS TABLE Location: all	Percent Full: 2
Dialed Total Call String Length Type  02 11 udp  09 10 udp  7 5 ext  38 7 udp  * 3 fac  # 3 dac		Dialed Total Call String Length Type

Use *add-signaling-group x* where x is the number of the group required. Set **Transport Method** to **tls**, **Near-end Node Name** to **procr** and **Far-end Node Name** to the Session Manager entry added in **node-names**. Set the **Far-end Network Region** to **1**, **Direct IP-IP Audio Connections?** to **y** and the **Initial IP-IP Direct Media?** to **y**.

```
add signaling-group 2
                                                           Page 1 of
                               change signaling-group 2
Page 1 of 3
                               SIGNALING GROUP
Group Number: 2
                            Group Type: sip
 IMS Enabled? n
                      Transport Method: tls
       Q-SIP? n
    IP Video? y
                         Priority Video? y
                                                 Enforce SIPS URI for SRTP? y
 Peer Detection Enabled? n Peer Server: SM
                                                  Clustered? n
 Prepend '+' to Outgoing Calling/Alerting/Diverting/Connected Public Numbers? y
Remove '+' from Incoming Called/Calling/Alerting/Diverting/Connected Numbers? n
Alert Incoming SIP Crisis Calls? n
  Near-end Node Name: procr
                                            Far-end Node Name: smsip92
Near-end Listen Port: 5061
                                          Far-end Listen Port: 5061
                                      Far-end Network Region: 1
Far-end Domain: hcm.com
                                            Bypass If IP Threshold Exceeded? n
Incoming Dialog Loopbacks: eliminate
                                            RFC 3389 Comfort Noise? n
DTMF over IP: rtp-payload
Session Establishment Timer(min): 3
Enable Layer 3 Test? y
                                            Direct IP-IP Audio Connections? y
                                                     IP Audio Hairpinning? y
       Enable Layer 3 Test? y
                                                Initial IP-IP Direct Media? y
H.323 Station Outgoing Direct Media? y
                                                Alternate Route Timer(sec): 6
```

Use *add trunk-group x*, where x is the number administered for the signaling group. On **Page 1**, set the **Group Type** to **sip**. Set the **TAC** to suitable entry based on the dial plan **dac** administered above. Set the **Service Type** to **tie**, **Signaling Group** to the one administered above and **Number of Members** to a number satisfactory for call routing required (255 shown is the max for this type of trunk group).

```
add trunk-group 2
                                                              1 of 5
                           TRUNK GROUP
                                Group Type: sip
COR: 1
                                                 CDR Reports: y
Group Number: 2
 Group Name: Aura
                                                  TN: 1 TAC: #02
  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: 2
                                                 Number of Members: 255
```

On **Page 2** set the **Preferred Minimum Session refresh Interval (sec): to 1800** as this is a time greater than the BT Trading Platform refresh interval.

```
add trunk-group 2
Group Type: sip

TRUNK PARAMETERS

Unicode Name: auto

Redirect On OPTIM Failure: 5000

SCCAN? n
Digital Loss Group: 18
Preferred Minimum Session Refresh Interval(sec): 1800

Disconnect Supervision - In? y Out? y

XOIP Treatment: auto Delay Call Setup When Accessed Via IGAR? n

Caller ID for Service Link Call to H.323 1xC: station-extension
```

On Page 3 set the Numbering Format. For this test the **private** numbering table were used to set the calling party number format.

```
add trunk-group 2
                                                                  3 of 5
                                                           Page
TRUNK FEATURES
                                    Measured: none
         ACA Assignment? n
                                                         Maintenance Tests? y
  Suppress # Outpulsing? n Numbering Format: private
                                               UUI Treatment: shared
                                             Maximum Size of UUI Contents: 128
                                               Replace Restricted Numbers? n
                                               Replace Unavailable Numbers? n
                                                 Hold/Unhold Notifications? y
                               Modify Tandem Calling Number: no
              Send UCID? y
Show ANSWERED BY on Display? y
DSN Term? N
```

#### 5.3. Add Route Pattern

A route pattern needs to be added so that call can be routed out of Communication Manager to Session Manager. use *change route-pattern x* where x is the number of the SIP trunk created. Enter the trunk group created above beside the first **Grp No** and **FRL** of **0**.

```
change route-pattern 2
                                                          Page
                                                                1 of
                                                                       4
              Pattern Number: 2 Pattern Name: Aura
   SCCAN? n
              Secure SIP? n Used for SIP stations? n
   Grp FRL NPA Pfx Hop Toll No. Inserted
                                                                 DCS/ IXC
        Mrk Lmt List Del Digits
                                                                 QSIG
                         Dgts
                                                                 Intw
1: 2 0
                                                                  n user
2:
                                                                  n user
3:
                                                                  n user
4:
                                                                  n
                                                                      user
5:
                                                                  n
                                                                      user
6:
                                                                      user
    BCC VALUE TSC CA-TSC
                           ITC BCIE Service/Feature PARM Sub Numbering LAR
   0 1 2 M 4 W Request
                                                       Dgts Format
1: yyyyyn n
                           rest
                                                            lev0-pvt none
2: y y y y y n n
                           rest
                                                                     none
3: y y y y y n n
                           rest
                                                                     none
4: y y y y y n n
                           rest
                                                                     none
5: y y y y y n n
                           rest
                                                                     none
6: yyyyyn n
                           rest
                                                                     none
```

An Automatic Alternate Routing (AAR) entry must be made for dialing the external numbers that are to be routed via the BT Trading Platform. Use *change aar analysis x* where x is the first number in the dialed string. Set **Dialed String** to x, **Total Min/Max** to the length of the number to be dialed, **Route Pattern** to the one administered above and **Call Type** to **lev0**.

```
2
change aar analysis 2
                                                     Page
                                                           1 of
                         AAR DIGIT ANALYSIS TABLE
                            Location: all
                                                  Percent Full: 2
        Dialed
                      Total
                             Route
                                     Call Node ANI
        String
                     Min Max Pattern Type Num Reqd
   7
                        5
                             2
                                     lev0
                                                 n
```

### 5.4. Configure IP Codec Set

Enter the change ip-codec-set 1 command, on Page 2 and set Allow Direct-IP Multimedia to y and update Maximum Call Rate for Direct-IP Multimedia and Maximum Call Rate for Priority Direct-IP Multimedia to 15360

```
change ip-codec-set 1
                                                            Page
                                                                  2 of
                                                                         2
                        IP MEDIA PARAMETERS
                           Allow Direct-IP Multimedia? y
            Maximum Call Rate for Direct-IP Multimedia: 15360:Kbits
    Maximum Call Rate for Priority Direct-IP Multimedia: 15360:Kbits
                                         Redun-
                                                                   Packet
                        Mode
                                                                   Size(ms)
                                         dancy
   FAX
                       relay
                                         0
                       off
                                         0
   Modem
                       US
   TDD/TTY
                                         3
   H.323 Clear-channel n
                                         0
   SIP 64K Data
                                          0
                                                                   20
Media Connection IP Address Type Preferences
1: IPv4
2:
```

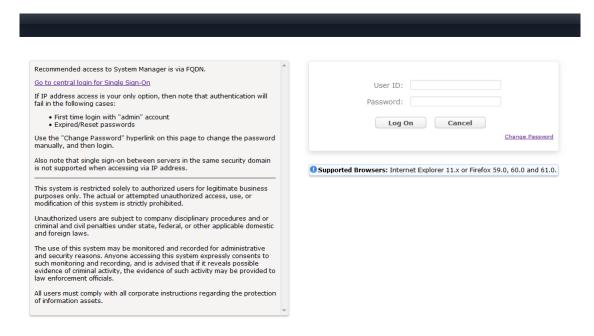
## 6. Configure Avaya Aura® Session Manager

In this section, the configuration steps required to connect BT Trading Platform to Session Manager as a SIP endpoint is described. It is assumed that an existing Session manager instance has already been installed and configured as this is out with the scope of this document. All Configuration steps were carried out using System Manager. Configuration steps will include:

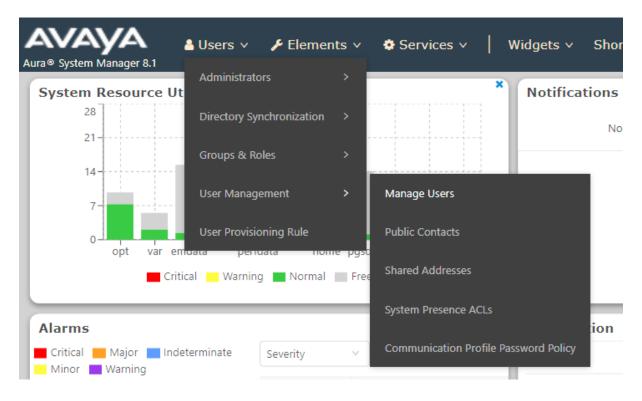
- Adding a BT Trading Turret as a **SIP User**.
- Adding BT Trading cluster TPO's to Local Host Name Resolution.
- Adding BT Trading cluster FQDN to SIP Entity with Type Endpoint Concentrator.

### 6.1. Configure SIP User

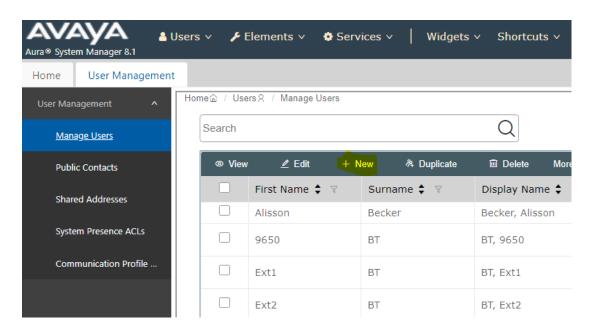
A SIP user must be added for each BT Trading Turret required. Navigate to the System Manager web interface, in this case <a href="https://cIP Address>/SMGR">https://cIP Address>/SMGR</a> and login with the relevant credentials.



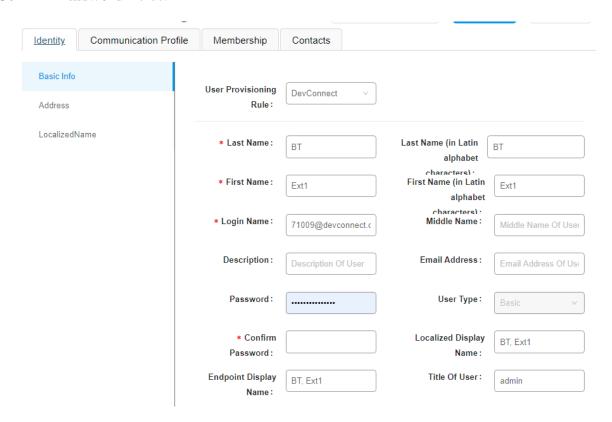
#### From the Dashboard, select Users → User Management → Manage Users.



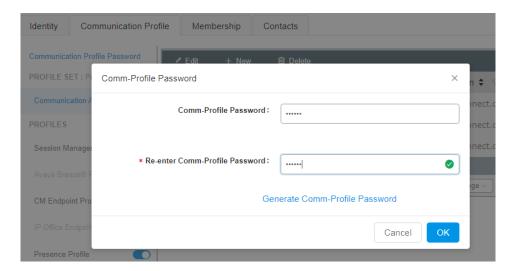
#### Select New.



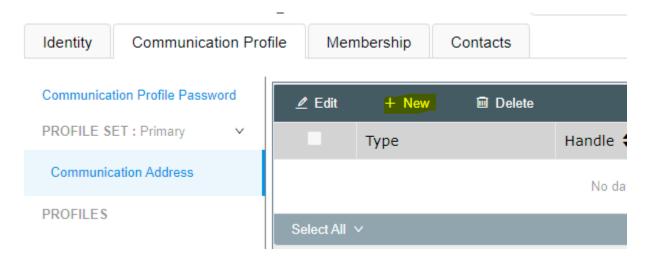
On the Identity tab, enter an identifying **Last Name** and **First Name**, enter an appropriate **Login Name**, set **Authentication Type** to **Basic** and administer a password in the **Password** and **Confirm Password** fields.



Click on the **Communication Profile** tab and enter and confirm a **Communication Profile Password**, this is used when logging in the SIP endpoint.



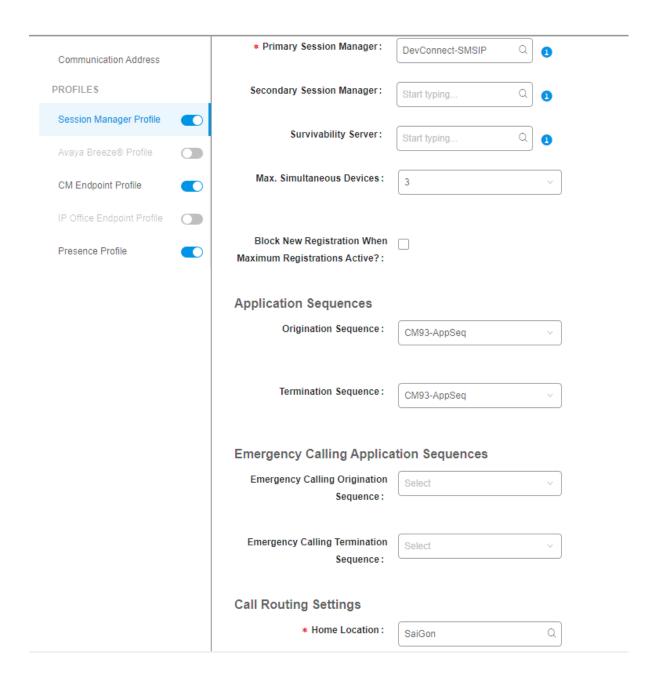
#### Click on the Communication Address, select New.



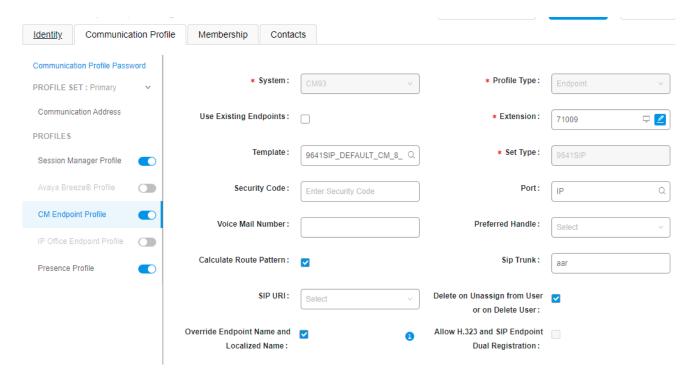
Select **Avaya SIP** from the **Type** drop down box and enter the **Fully Qualified Address** of the new SIP user. Click **Ok** when done.



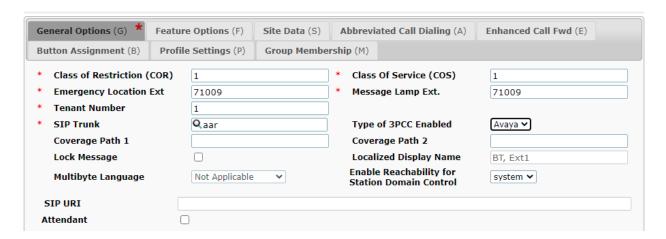
Continue to scroll down on the same page. Enable **Session Manager Profile** and enter the **Primary Session Manager, Origination Application Sequence, Termination Application Sequence** and **Home Location** relevant to the implementation.



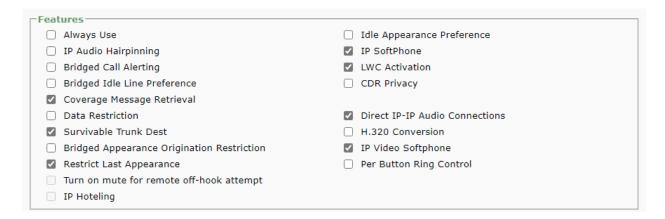
Scroll down the page and enable **CM Endpoint Profile** section. Select the Communication Manager system from the **System** drop down box, select **Endpoint** as the **Profile Type**, enter the **Extension** number you wish to use, select **9641SIP\_DEFAULT\_CM\_8\_1** as the **Template** and ensure **IP** is configured as the **Port**, click Commit & Continue (not shown) when finished.



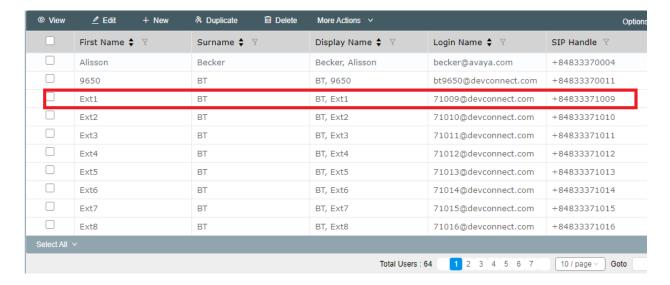
Click on **Endpoint Editor** in the **CM Endpoint Profile** and on the General options tab set **Type** of **3PCC Enabled** as **Avaya**.



Click on **Feature Options** (**F**) tab, scroll down and check **IP SoftPhone** and **IP Video Softphone.** Click on **Done** to save changes and go back to the User Communication Profile screen.



Click on **Commit** to save the user. The user is now listed. In this compliance testing, eight BT Users were created.

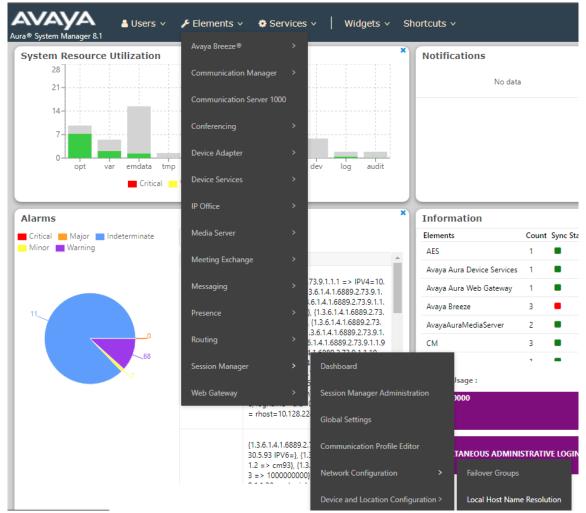


## 6.2. Adding BT Trading Platform TPO's to Session Manager Local Host Name Resolution

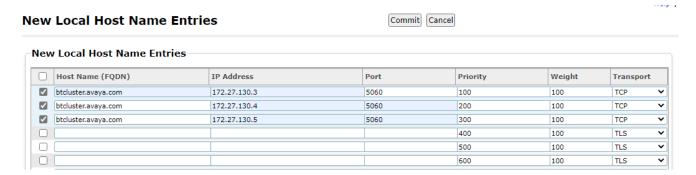
The Session Manager Local Host Names Resolution (LHNR) table is a DNS table used locally by Session Manager. When Session Manager looks at the SIP Entity IP/FQDN field it will attempt to resolve any DNS name in that field first in the LHNR table prior any attempt to resolve it with an external DNS server.

Add all three BT Platform Server IP addresses to the LHNR table giving them both the same Local Host Name. Give the third BT Platform Server IP address a priority of 300, Secondary BT Platform Server IP address a priority of 200 and the Primary BT Platform Server IP address a priority of 100. This will allow traffic to route to the primary BT Platform Server in the event of a WAN link failure between the primary BT Platform Server and two other servers. This will also allow the proper routing of traffic to the second/third BT Platform Server in the case of a primary BT Platform Server outage.

From SMGR Dashboard, go to **Elements** → **Session Manager** → **Network Configuration** → **Local Host Name Resolution.** 



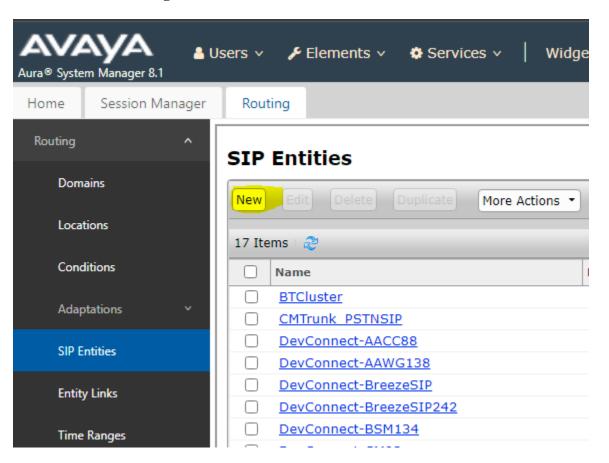
Click on **New** and enter all BT Servers as below.



Press **Commit** to save.

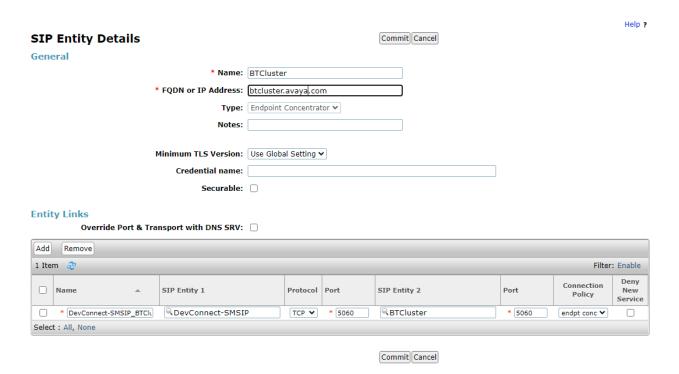
# 6.3. Adding BT Trading Platform Avaya TPO cluster FQDN name to SIP Entity with Type Endpoint Concentrator

Go to Elements  $\rightarrow$  Routing  $\rightarrow$  SIP Entities. Click New



In **SIP Entity Details,** Choose Type **Endpoint Concentrator**. Enter following information for BT System.

The **SIP Endpoint Concentrator Connection Policy** allows up to 1000 connections on a single IP address. This still requires authentication from REGISTER and INVITE requests but does not enforce the lower TCP connection limit.



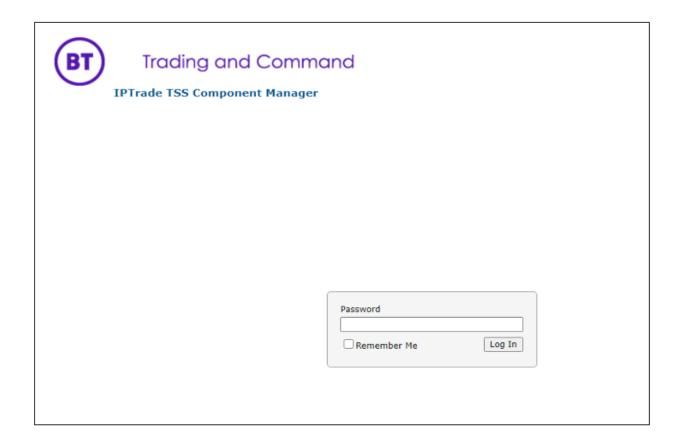
## 7. Configure the BT Trading System

This section addresses the administrative steps to be performed on the BT Trading Platform solution. The installation of the BT Trading Platform solution software, as well as the initial configuration of the turrets and servers, is beyond the scope of this document.

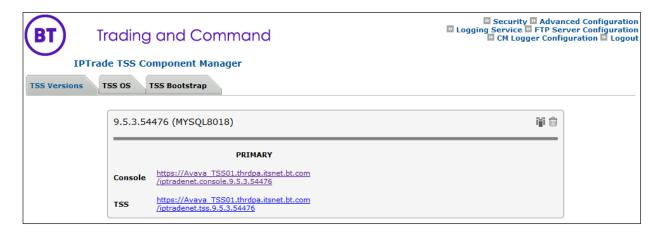
#### 7.1. Configure the BT Trading Turret Support Server

This section describes the procedure for configuring the BT Trading Platform Turret Support Server (TSS). This procedure assumes that the TSS has already been configured with an anonymous profile and that a TFTP server (typically co-resident with the TSS) is being used for downloading certain configuration parameters to the turrets.

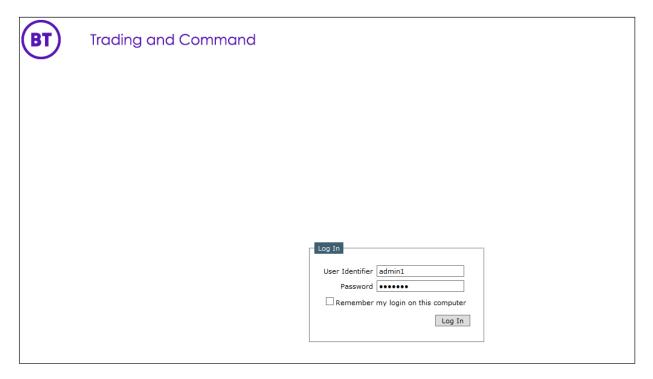
From a Web browser, navigate to the IP Address of the TSS. Enter the correct password and click on **Log In**.



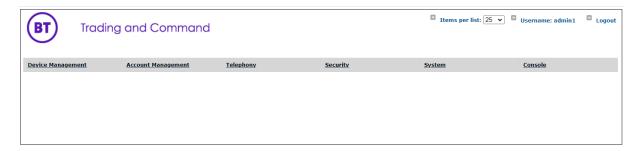
From the TSS Versions tab select the **Console** Link as shown below.



Enter the User Identifier and Password for the BT Trading system and select Log In.



Upon successful login, the following screen will be presented.



## 7.1.1. Configure Avaya Zone:

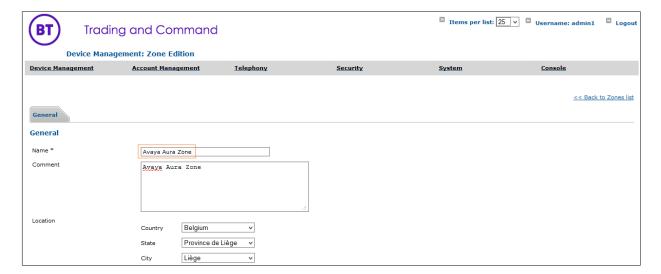
Select **Device Management** from the top menu bar and then **Zones** from the resulting drop-down box.



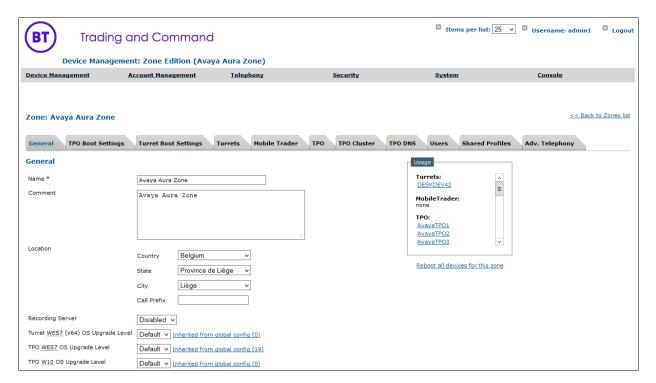
Select Add new from the Zone menu bar.



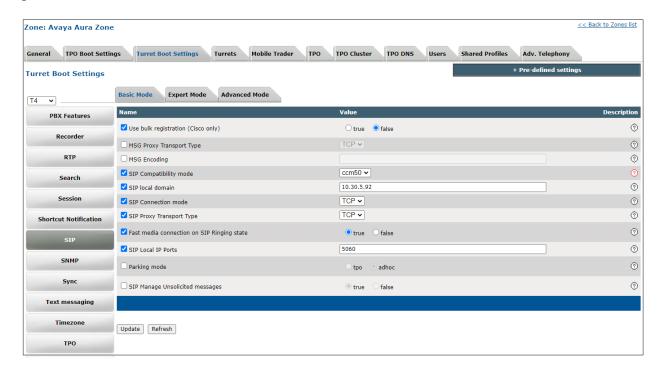
Enter the name of new Avaya Zone here its Avaya Aura Zone and Update.



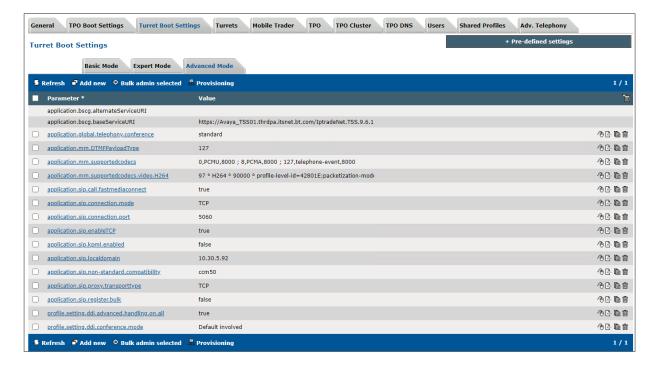
Once Avaya Aura Zone is created the additional tabs will be displayed.



Navigate to the **Turret Boot Settings** tab in Avaya Aura Zone, then select **SIP** option **Basic Mode** and update Avaya Session Manager IP address to 10.30.5.92 and other highlighted parameters below.



Navigate to the **Turret Boot Settings** tab and then select **the Advanced Mode** tab.



NOTE: If any of the above advanced parameters are already configured, edit them rather than add. This can be done by either clicking the advanced parameter or by selecting either of the two symbols as shown in the picture below.



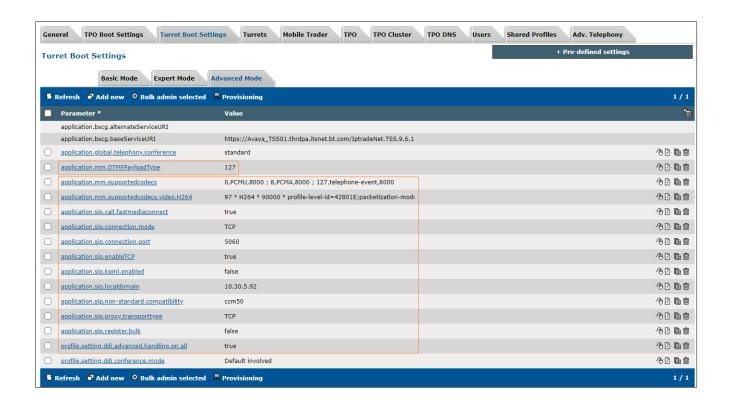
If the advanced parameter is not present, select **Add new**.



Now enter the following statement, the IP Address should mirror the Avaya Session Manager. In this example, the IP Address is 10.30.5.92 When complete, select **Update and Go Back.** 

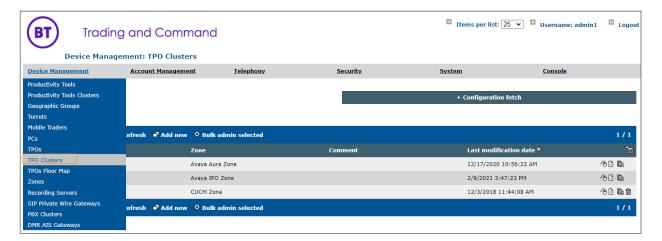


Finally, please ensure that all other advanced parameters are configured as shown below. Add any that are missing by using the same process as above or by using the individual menus.

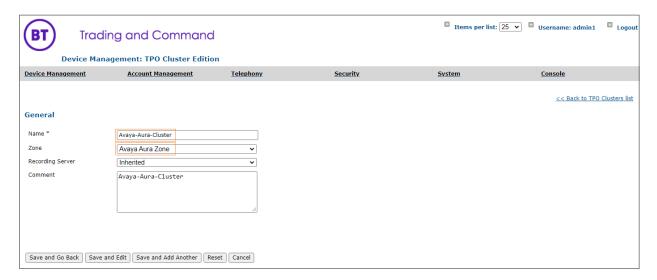


#### 7.1.2. Configure Avaya TPO cluster:

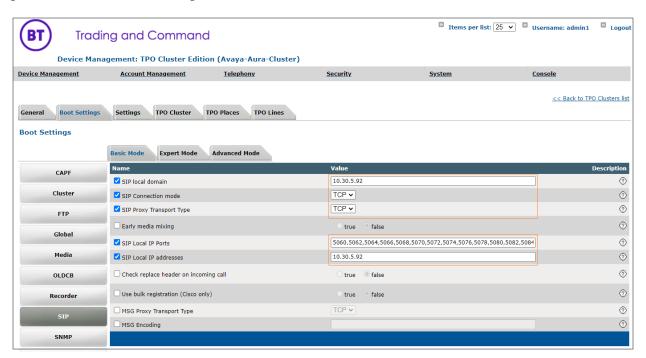
From the top menu, select **Device Management** and then **TPO Clusters**.



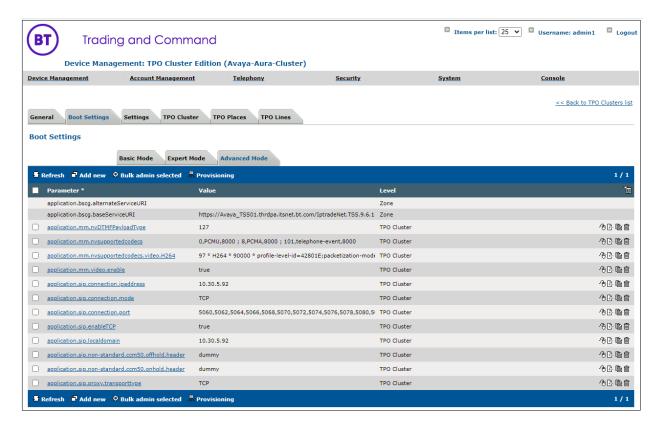
Select Add new TPO Cluster and assign name.



Navigate to **Avaya-Aura-Cluster** → **Boot Settings** and configure Session Manager IP and other parameters shown in below picture.



Select the **Boot Settings** tab and then **Advanced Mode**, ensure that the configuration matches with the picture below but with the Session Manager details.



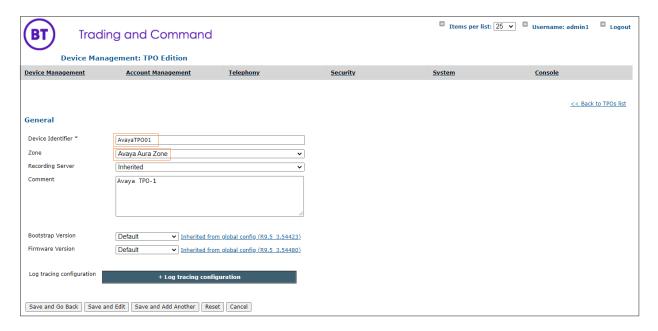
Select Device Management and navigate to TPOs.



Select Add new from the menu bar.

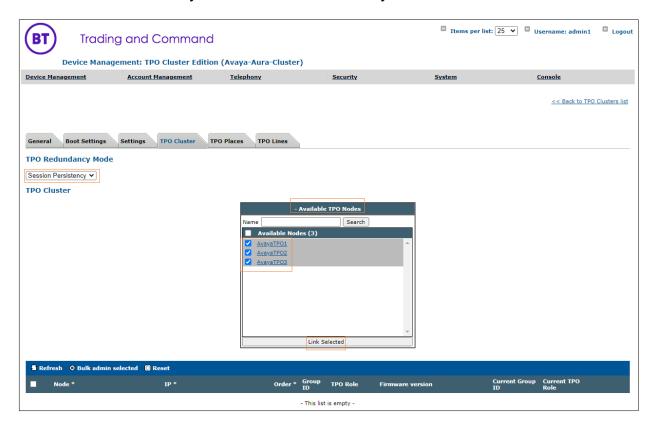


Enter new TPO **Device Identifier** and select the **Avaya Aura Zone** created in previous steps. Repeat the same step again to add more TPO's.



Link newly added TPO's to Avaya-Aura-Cluster TPO cluster. Navigate to **Device Management** → **TPO Clusters** → **Avaya-Aura-Cluster** → **Settings** → **TPO Cluster** → Select AvayaTPO1, AvayaTPO2 and AvayaTPO3, which are added in the previous step, and click on **Link Selected** to link TPO's to Cluster.

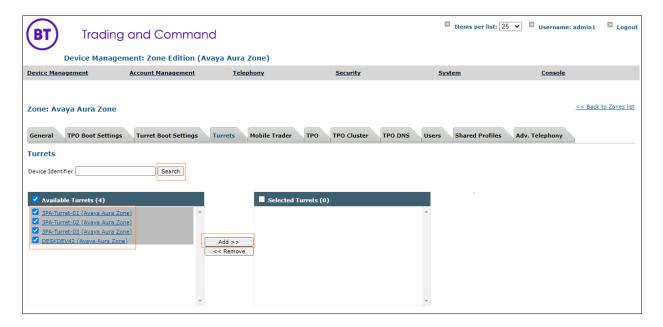
Select the TPO Redundancy mode to 'Session Persistency'



## 7.1.3. Assign Turrets to the Avaya Zone

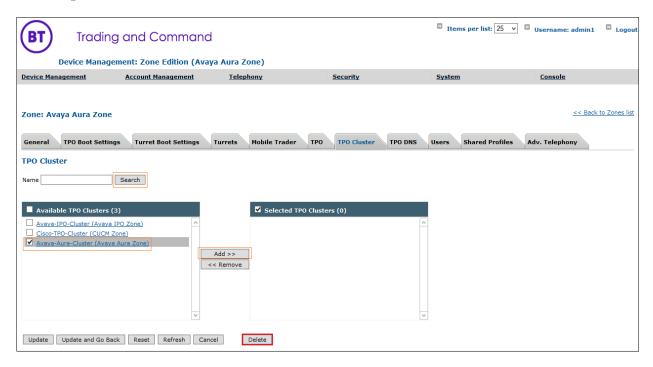
Select **Device Management** → **Zones**: **Avaya Aura Zone**, select the **Turrets** tab. Click **Search** as shown in the picture below and look for the turrets needing to be added into the Avaya Zone.

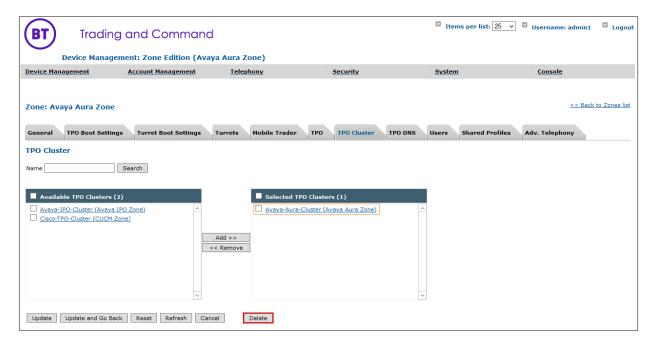
Select the Turrets from the left-hand window and select **Add** to move the Turrets into the Zone. Select **Update**.



Select the **TPO Clusters** tab and select **Search**, select the TPO Cluster created from the left-hand window and select the **Add** button.

#### Select Update and Go Back.





# Select **Device Management** and the **TPO Clusters** $\rightarrow$ **Avaya Aura Cluster** and configure TPO lines by selecting the **TPO Lines** tab and select **Add new**



Enter the data as below.

Extension: The Avaya Number defined in Section 6.1

Register: Select the Yes radio button.

SIP Display Name: Define the Avaya Number again.

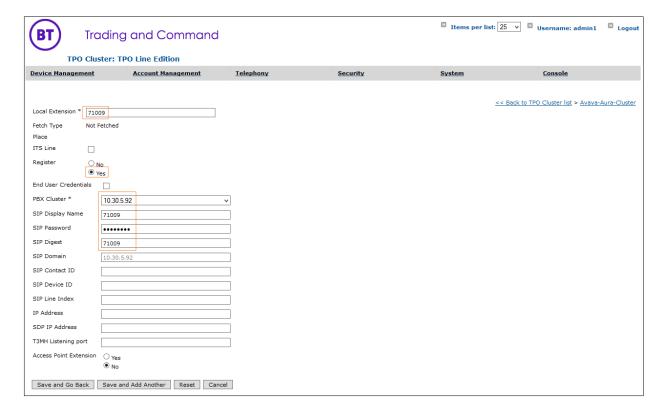
SIP Password: The Communication Profile Password that you set on the Avaya Session

Manager.

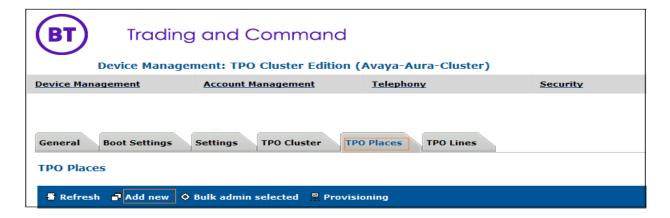
**SIP Digest**: Define the Avaya Number again.

**SIP Domain**: Define the IP Address of the Avaya Session Manager.

**Access Point Extension**: Set the radio button to No.

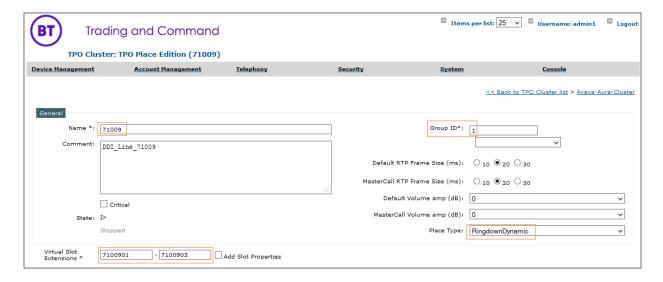


Once complete, select **Save and Go Back**(not shown). Select **TPO Places** and **Add new** 

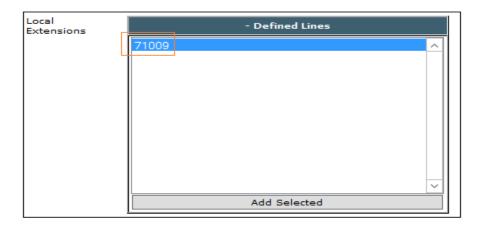


In the first instance, create a **Name**. Select the **Group ID** used. Ensure **RingdownDynamic** is selected as the **Place Type**.

In the VirtualSlot Extensions, 7100901 to 7100903 are specified. This will create three appearances for the 71009 DDI line which are associated with Avaya, 7100901 is Slot 1, 7100902 is Slot 2 and 7100903 and Link the Line to the TPO Place by selecting the grey **Defined Lines** box.



Select Add Selected to add the local Extensions.



Ensure that the extension has linked correctly by looking at the linked extensions below.

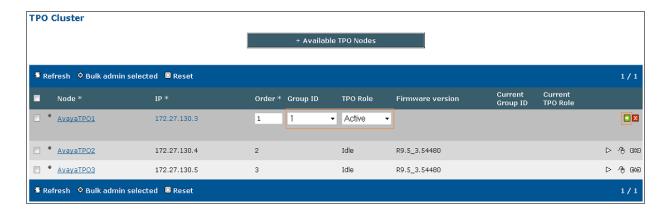


Next, navigate to the **TPO Cluster** Tab.

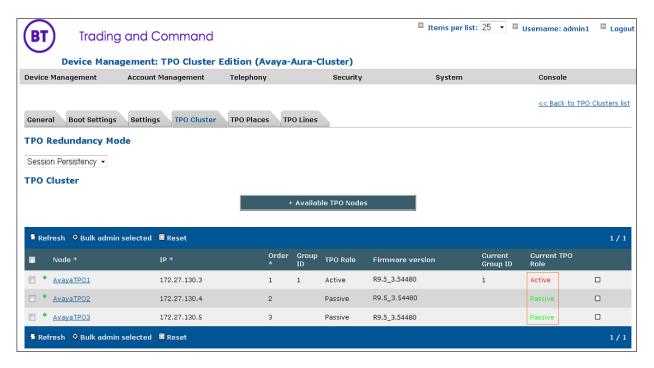
Add the **TPO Group ID** in a format which has a dot in it, in this example 'btcluster.avaya.com' is used as TPO DNS Name. This name is registered on the DNS. Again, select the green arrow to commit the changes.



Add the **Order** of preference (if more than two TPO's are in a TPO Cluster). The **Group ID** that Lines were added to. Select **Active** from the **TPO Role** drop down. Select the green arrow to the right to save the changes. Follow the same step and select the TPO Role to passive to configure passive TPO's in the cluster.



After a couple of seconds, the TPO current role will become active, passive and passive.



Now select the **TPO Places** tab and select the Play button and wait for the line to register.



Once the line registers, it will display a status Alive **started**.



#### 7.1.4. Add Users:

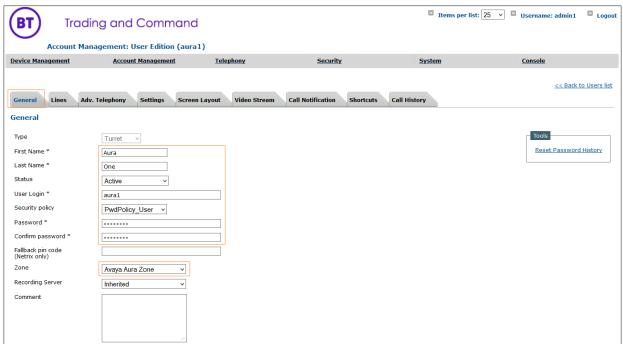
The next task is to add a user, use the top menu and select User Management, and then Users.



#### Select Add new.



Enter the information regarding the user below. For this example, the username of aura1 was created.



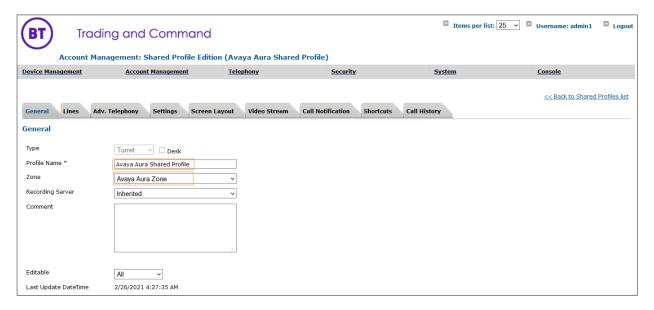
Now create a shared profile, select Account Management and then Shared Profiles.



#### Select Add new.



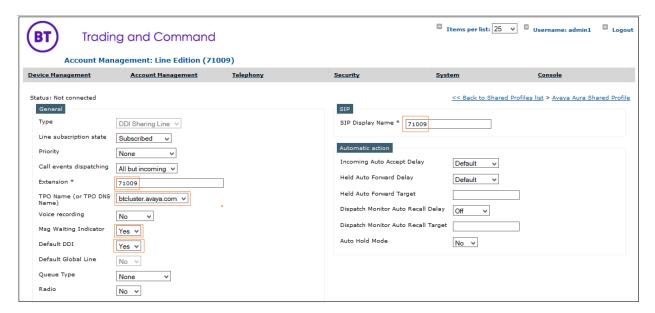
Configure the shared Profile. Select **Update** (not shown).



Select the Lines tab, then select Add new.

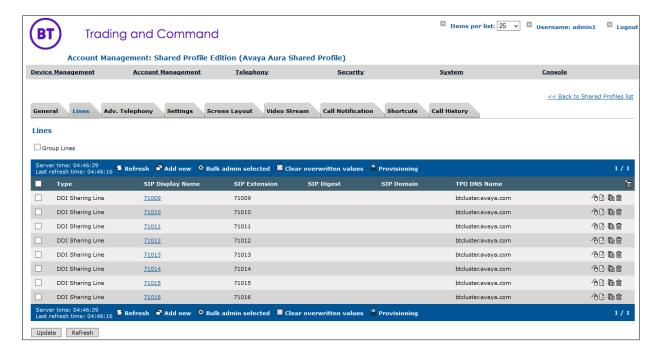


Enter all the Lines associated with the Avaya profile by entering the following information. In this example the shared line 71009 is added.



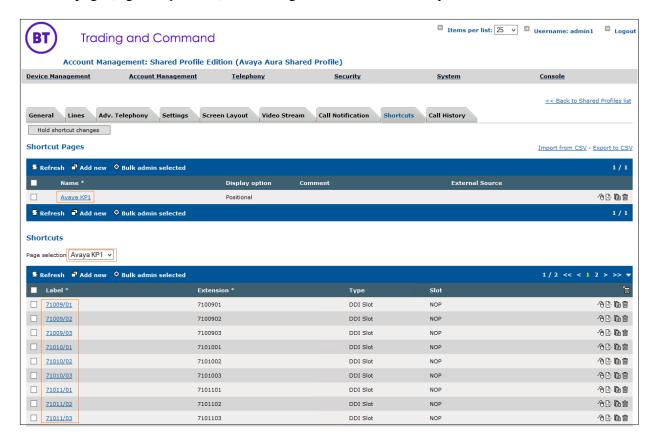
Select Update and Go Back when completed.

Ensure all the Lines are present via the shared profile by selecting the **Lines** tab.



Now that the lines are added, they need to be inserted onto a Keypage. Navigate **to Account Management** and then **Shared Profiles** (not shown).

Select the Shared Profile and select the Shortcuts tab from the Menu bar select Add New Shortcut page (e.g. Avaya KP1) and configure shortcuts for Avaya DDI Lines.

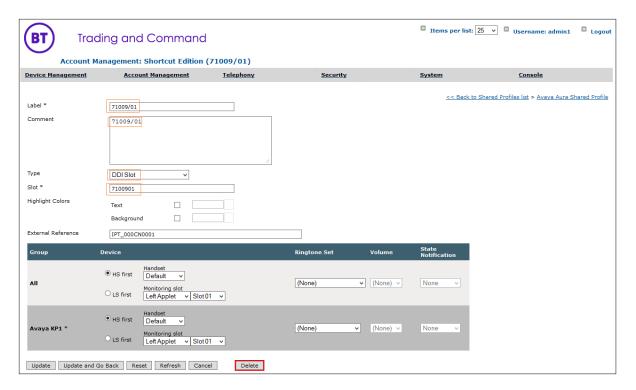


Configure the example shown below. In this example, the first slot (71009/1) is configured for Shared Appearance 71009.

**Label**: The Shared Appearance followed by the slot number.

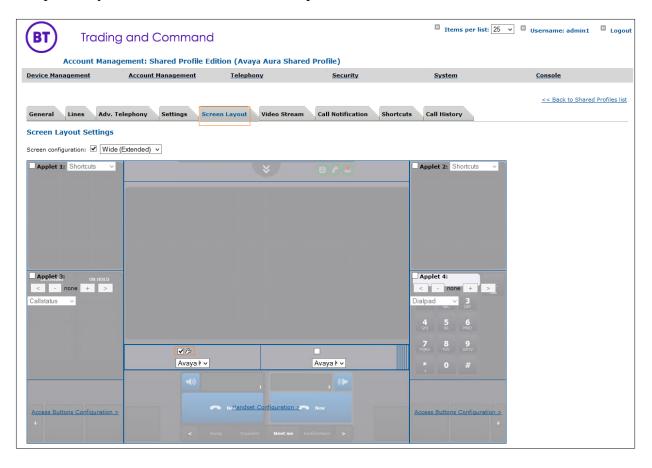
Type: Select DDI Slot.

**Slot**: The full Shared Appearance. 7100901.

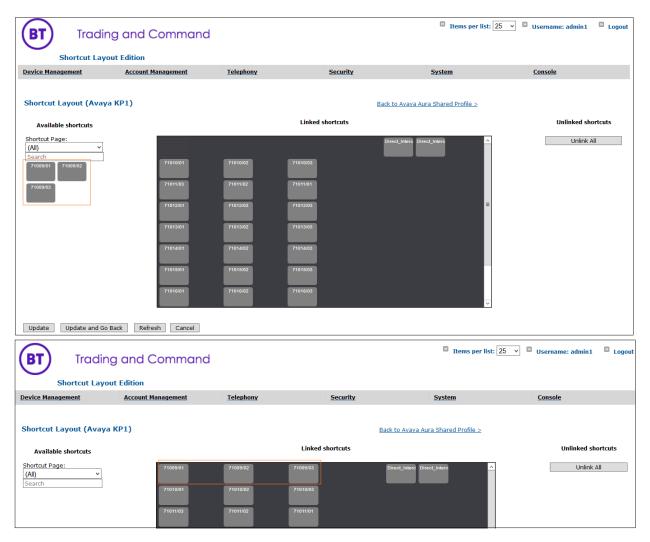


Once complete, select **Update and Go Back**. Next, select the Screen Layout tab from the top menu bar.

Select the Key page to place the shared appearances by checking the tick box and then selecting the spanner symbol next to it as shown in the picture below.

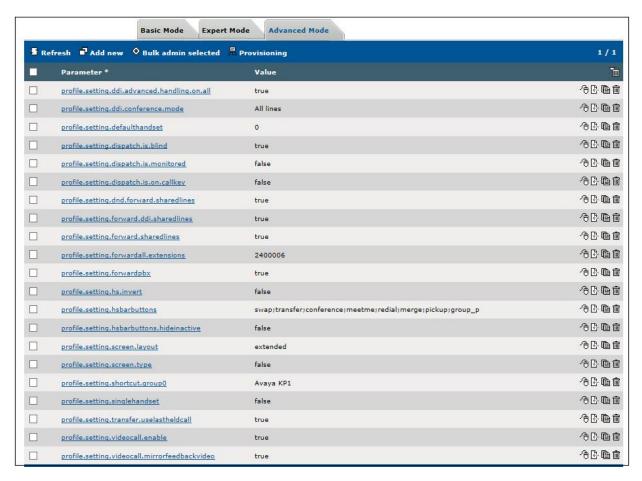


The shortcuts you have just created as Available Shortcuts on the left hand side of the screen. Click each shortcut which will automatically place the shortcut into the Unlinked shortcuts window. Click and drag the shortcut into the Linked shortcuts window.



#### Select **Update and Go Back** after linking the shortcuts.

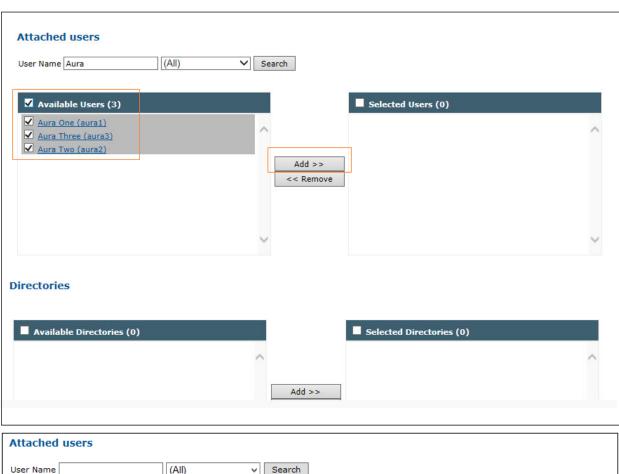
Navigate to Shared Profile Setting tab, ensure that all the advanced settings are present as per the picture below. Please refer to earlier in this document for adding new parameters.

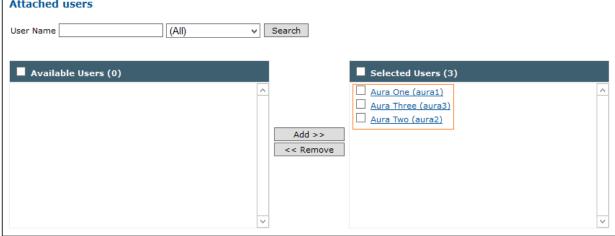


Assign Avaya Aura shared profile to the Users.

Select the **General** Tab (not shown) and halfway down the page there is a search box as shown in the picture below. Select **Search**.

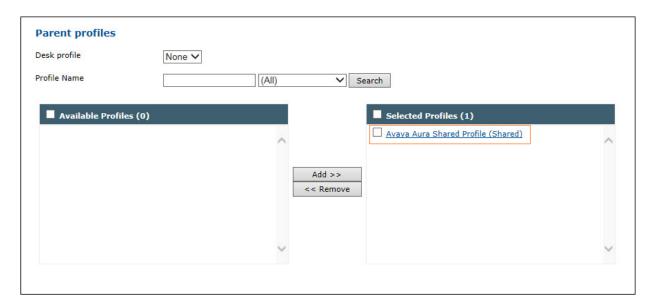
All Users configured on the system will appear, select the ones you want to add into this Shared Profile and select **Add**.





The users have been added into the right-hand window. Select Update and Go Back.

To confirm, select the User and check if the user is showing as added into the Shared Profile.



# 8. Verification Steps

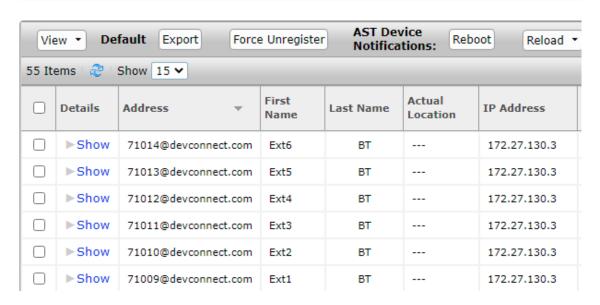
This section describes the checks that can be carried out to verify the connection between BT Trading Platform with Avaya Aura® Session Manager and Avaya Aura® Communication Manager.

### 8.1. Avaya Aura® Session Manager Verification

From the main System Manager dashboard select Session Manager from the Elements section (not shown). Select **System Status**  $\rightarrow$  **User Registrations** from the left-hand menu (not shown). The BT Trading Turret user is listed and will show a tick in the **Prim** box under **Registered**.

## **User Registrations**

Select rows to send notifications to devices. Click on Details column for complete registration status.

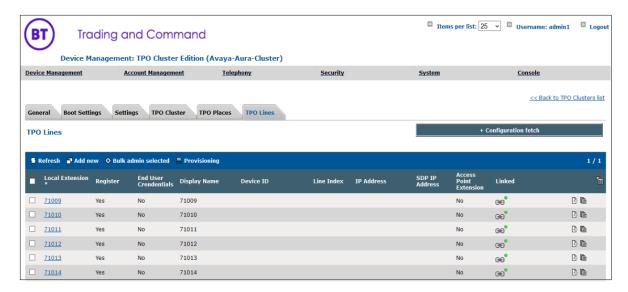


# 8.2. BT Trading Platform Verification

In Device Management -> TPOs, ensure that the TPO is reachable appear in the Green Status as shown below.



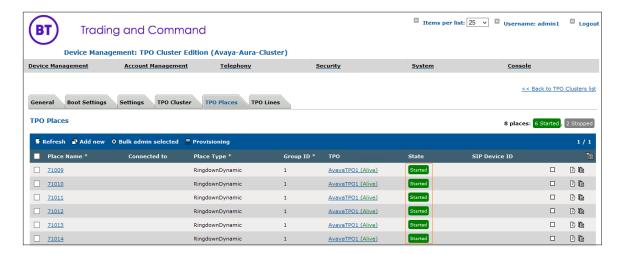
In Device Management -> TPO Clusters -> Avaya Aura TPO Cluster, navigate to the **TPO Clusters** and **Avaya-Aura-Cluster** -> **TPO Lines** tab. The Lines must be linked to the TPO place.



In the same area, on the TPO Cluster Tab, the TPO must show a green status and as Active.



Lastly select the TPO Places Tab (not shown). All lines show a status of Started, this indicates that the TPO has registered the line to the Avaya Session Manager.



## 9. Conclusion

These Application Notes describe the configuration steps required for BT Trading Platform to interoperate with Avaya Aura® Session Manager and Avaya Aura® Communication Manager. All feature functionality and serviceability test cases were completed successfully as outlined in **Section 2.2**.

#### 10. Additional References

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

Product documentation for Avaya products may be found at <a href="http://support.avaya.com">http://support.avaya.com</a>.

- i. Administering Avaya Aura® Communication Manager, Release 8, Issue 2.0, Nov 2018
- ii. Administering Avaya Aura® Session Manager, Release 8, Issue 2, August 2018
- iii. Administering Avaya Aura® System Manager, Release 8, Issue 4, September 2018

Information regarding Product documentation for BT Trading Platform can be obtained by contacting the Support email in **Section 2.3** 

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