Avaya Solution & Interoperability Test Lab

Application Notes for British Telecom Trading Platform 9.7 with Avaya Aura® Session Manager 10.1 and Avaya Aura® Communication Manager 10.1 - Issue 0.2

Abstract

These Application Notes describe the configuration steps required to integrate British Telecom Trading Platform 9.7 with Avaya Aura® Session Manager 10.1 and Avaya Aura® Communication Manager 10.1. 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.

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1. Introduction

These Application Notes describe the configuration steps required to successfully integrate British Telecom (BT) Trading Platform 9.7 with Avaya Aura® Session Manager 10.1 and Avaya Aura® Communication Manager 10.1. 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.

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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

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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 a 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.
- Basic features including making an 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

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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 phones.

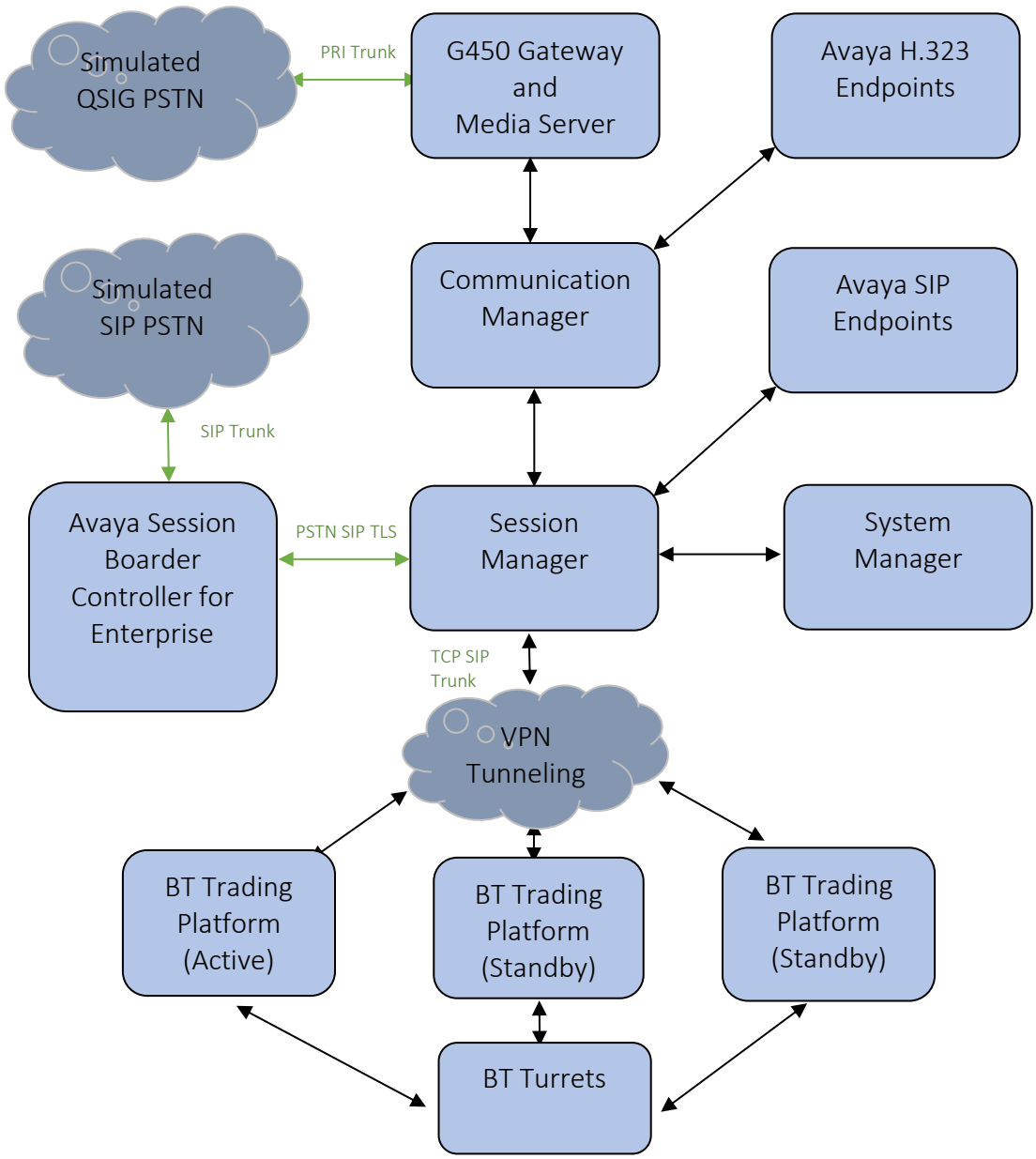

Figure 1: Connection of BT Trading Platform with Avaya Aura® Session Manager and Avaya Aura® Communication manager

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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	10.1.0.2
Avaya Aura® Session Manager in Virtual Environment	10.1.0.2
Avaya Aura® Communication Manager in Virtual Environment	10.1.0.2
Avaya G450 Media Gateway • MGP	41.16.30
Avaya Aura® Media Server in Virtual Environment	10.1.0.1
Avaya Session Border Controller for Enterprise in Virtual Environment	10.1.0.0
9641G and J159 IP Deskphone (H.323)	6.8.5
Avaya Workplace Client for Windows	3.29.0.54
Avaya J159 and J179 IP Deskphone (SIP)	4.0.21
BT Trading Platform Turret Support Server (TSS) • Firmware • Bootstrap	 R9.7.7.56402 R9.7.7.56384
BT TPO with Redundancy Mode Session Persistency • Firmware • Bootstrap	 R9.7.7.56377 R9.7.7.56385

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BT Trading Turrets BT TouchPro • Firmware • Bootstrap BT FlexPro Version	 R9.7.7.56382 R9.7.7.56372 R9.7.7.56382

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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 10**. The configuration illustrated in this section was performed using the Communication Manager System Administration Terminal (SAT).

Configuration steps include:

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

5.1. Checking 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**.

```
display system-parameters customer-options                      Page   1 of  12
                                OPTIONAL FEATURES

       G3 Version: V20                           Software Package: Enterprise
         Location: 2                              System ID (SID): 1
         Platform: 28                             Module ID (MID): 1

                                                          USED
                           Platform Maximum Ports:  48000   2047
                                 Maximum Stations:  36000     24
                         Maximum XMOBILE Stations:  36000      0
                Maximum Off-PBX Telephones - EC500:  41000      0
                Maximum Off-PBX Telephones -   OPS:  41000     19
                Maximum Off-PBX Telephones - PBFMC:  41000      0
                Maximum Off-PBX Telephones - PVFMC:  41000      0
                Maximum Off-PBX Telephones - SCCAN:      0      0
                Maximum Off-PBX Telephones -   EMX:  36000      0
                     Maximum Survivable Processors:  313        0



         (NOTE: You must logoff & login to effect the permission changes.)
```


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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                                          Page   1 of   2
                                IP NODE NAMES
    Name              IP Address
default             0.0.0.0
procr               10.30.5.121
procr6              :
ams122              10.30.5.122
smsip127            10.30.5.127
```

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

    Dialed   Total  Call     Dialed   Total  Call     Dialed   Total  Call
    String   Length Type     String   Length Type     String   Length Type
 02            11 udp
 09            10 udp
 7             5  ext
 38            7  udp
 *             3  fac
 #             3  dac
```


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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 the network region that will be used for the integration, in the compliance testing using network region **1**, **Direct IP-IP Audio Connections** to **y** and the **Initial IP-IP Direct Media** to **y.**

```
add signaling-group 2                                          Page   1 of   3
                                 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: smsip127
 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           Direct IP-IP Audio Connections? y
Session Establishment Timer(min): 3                    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                                          Page   1 of  5
                              TRUNK GROUP

Group Number: 2                    Group Type: sip           CDR Reports: y
  Group Name: Aura                          COR: 1        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
```


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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                                          Page   2 of  5
     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 P**age 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                                            Page   3 of  5
TRUNK FEATURES
          ACA Assignment? n            Measured: none
                                                        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
```


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5.3. Adding a 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 route-pattern. 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
    No          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:                                                                      n   user

     BCC VALUE  TSC CA-TSC    ITC BCIE Service/Feature PARM Sub  Numbering LAR
    0 1 2 M 4 W     Request                                Dgts Format
 1: y y y y y n  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: y y y y y n  n            rest                                          none
```

An Automatic Alternate Routing (AAR) entry must be made for dialing 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.**

```
change aar analysis 2                                           Page   1 of   2
                              AAR DIGIT ANALYSIS TABLE
                                  Location: all            Percent Full: 2

          Dialed           Total     Route    Call   Node  ANI
          String          Min  Max  Pattern   Type   Num   Reqd
     7                    5    5     2        lev0         n
```


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5.4. Configure IP Codec Set

Enter the change ***ip-codec-set x*** command where x is the number codec set associated with the network region used by the sip signaling group used for the integration, 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               dancy                       Size(ms)
    FAX                  relay              0
    Modem                off                0
    TDD/TTY              US                 3
    H.323 Clear-channel  n                  0
    SIP 64K Data         n                  0                           20


Media Connection IP Address Type Preferences
 1: IPv4
 2:
```


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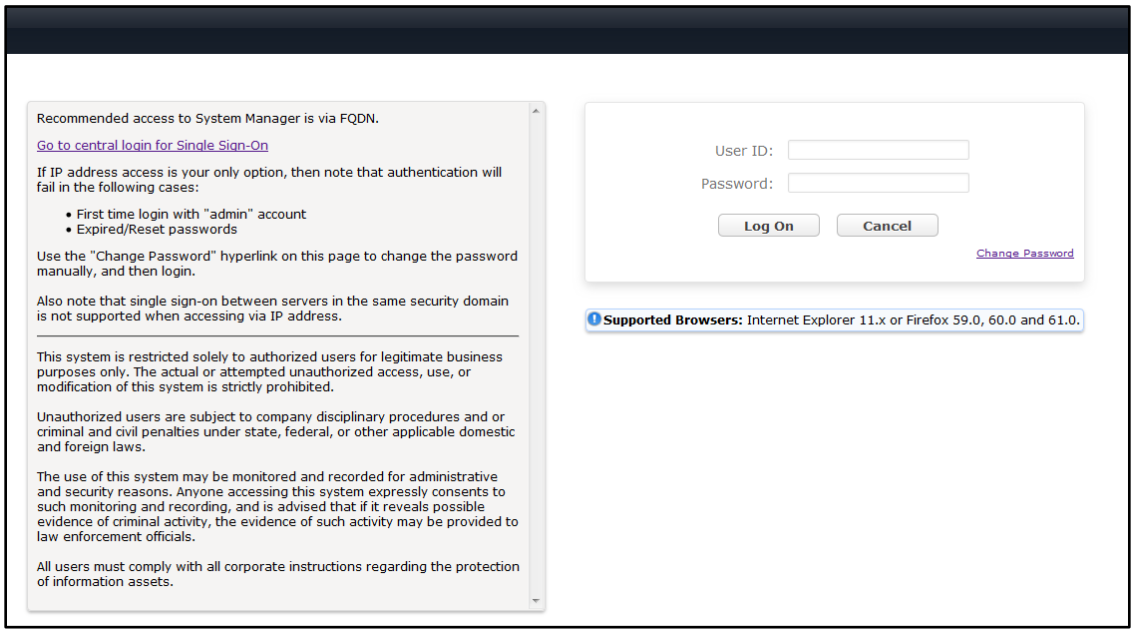
6. Configure Avaya Aura® Session Manager

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:

- Configure 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 **https://<IP Address>/SMGR** and login with the relevant credentials.



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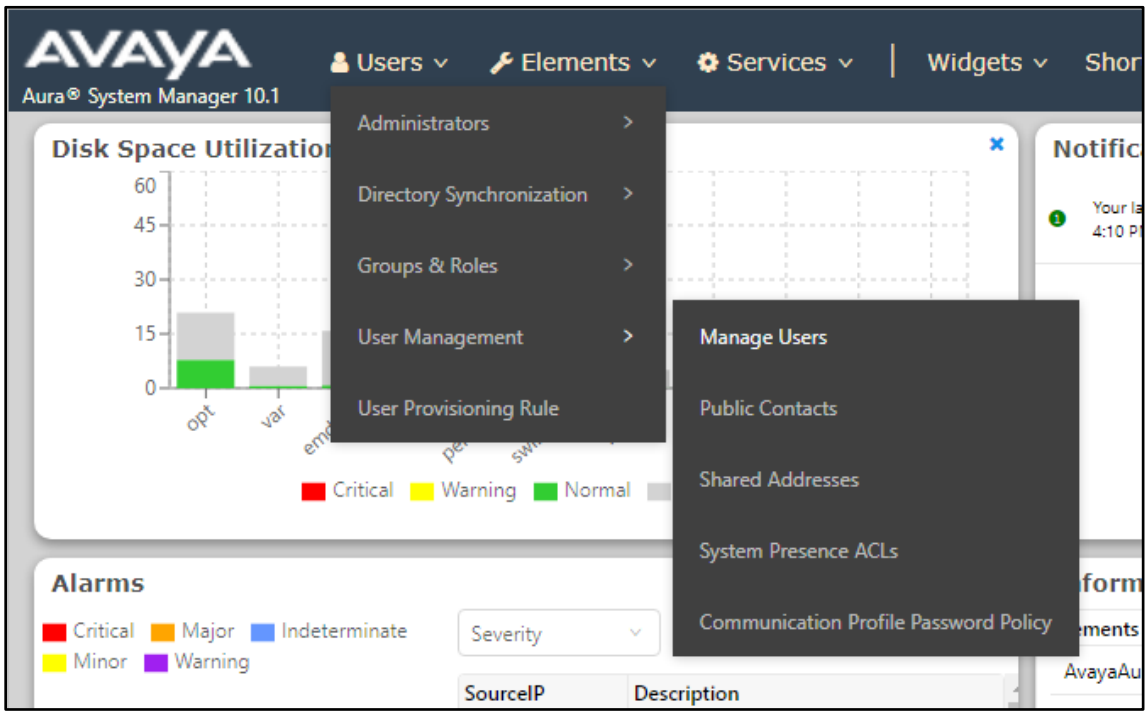
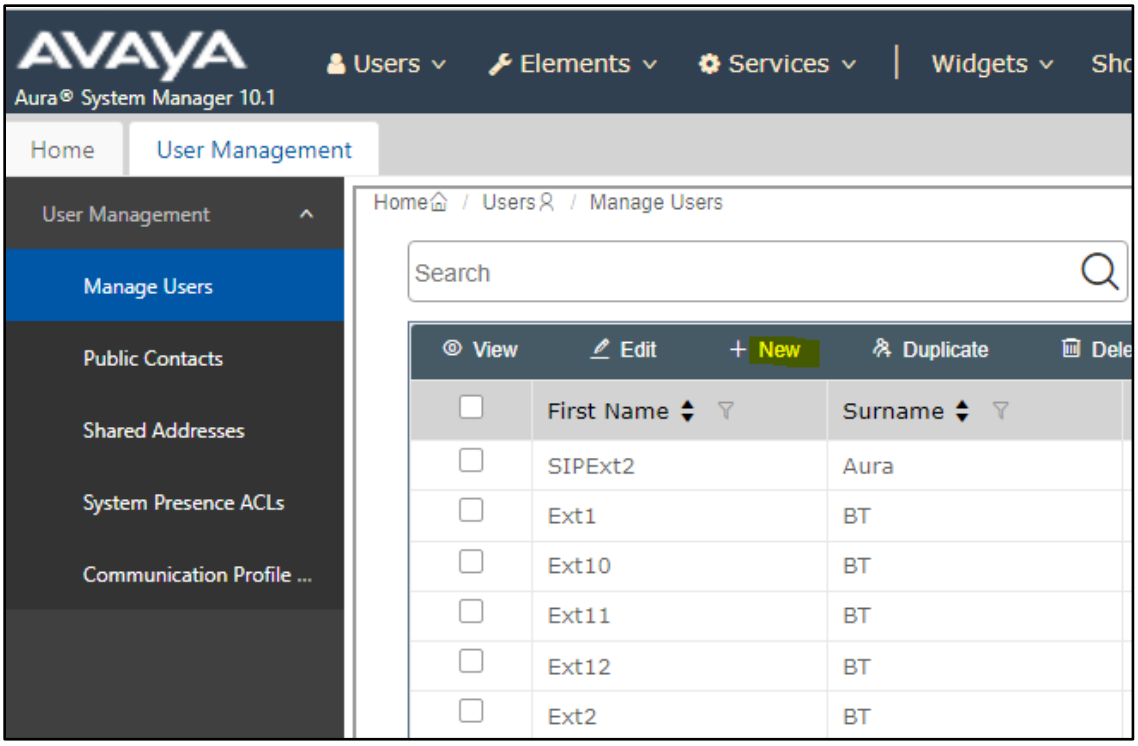
From the Dashboard, select **Users → User Management → Manage Users**.



Select **New**.



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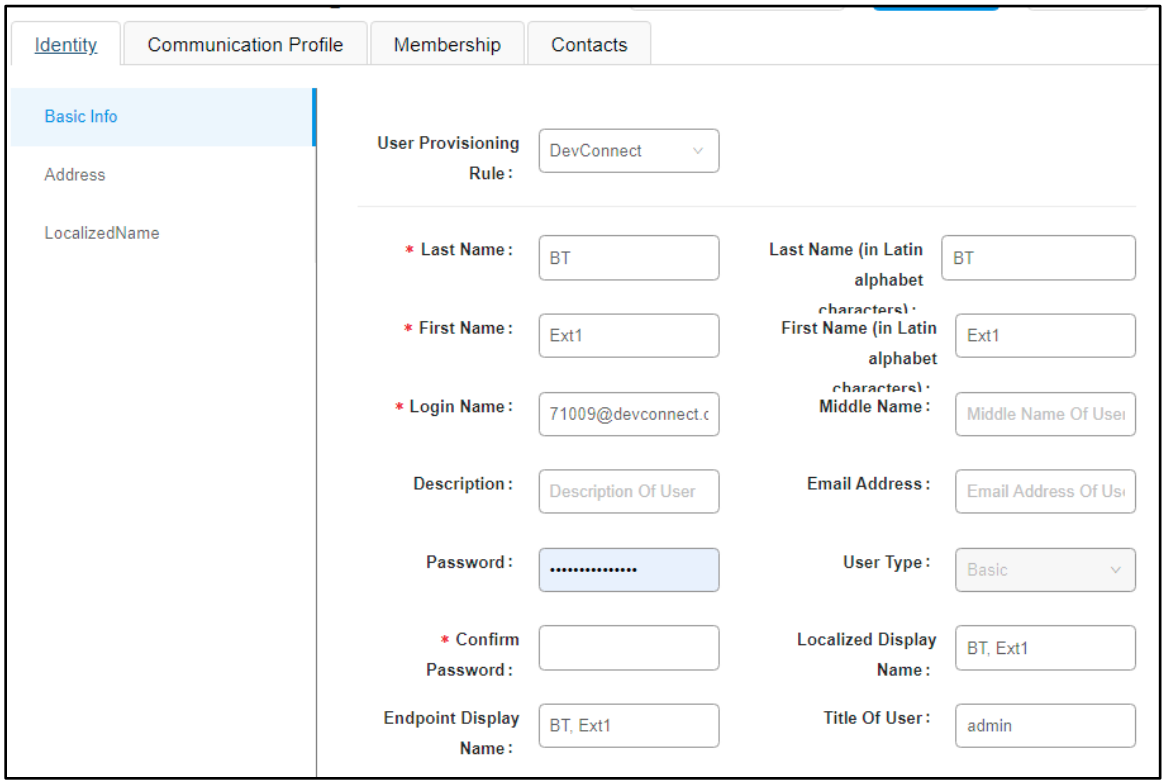
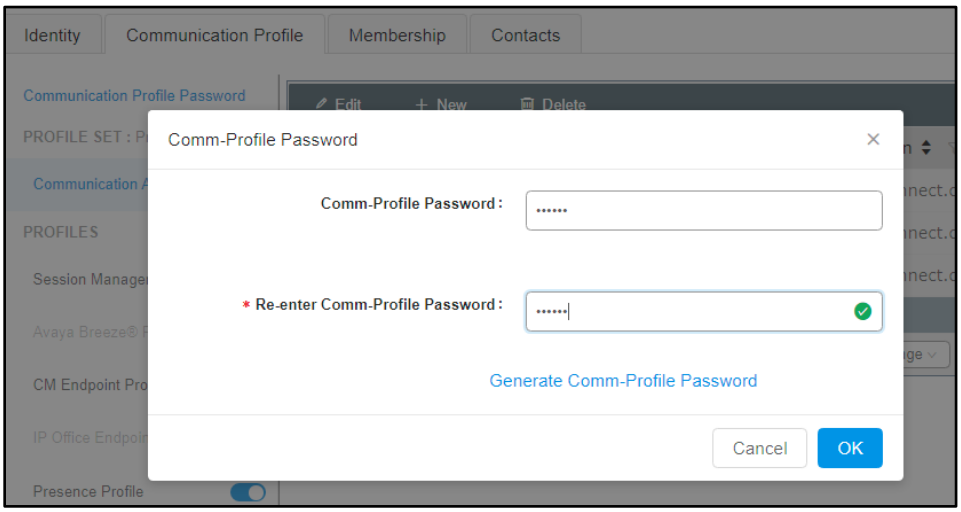
On the **Identity** tab, enter an identifying **Last Name** and **First Name**, enter an appropriate **Login Name**, and administer a password in the **Password** and **Confirm Password** fields.



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



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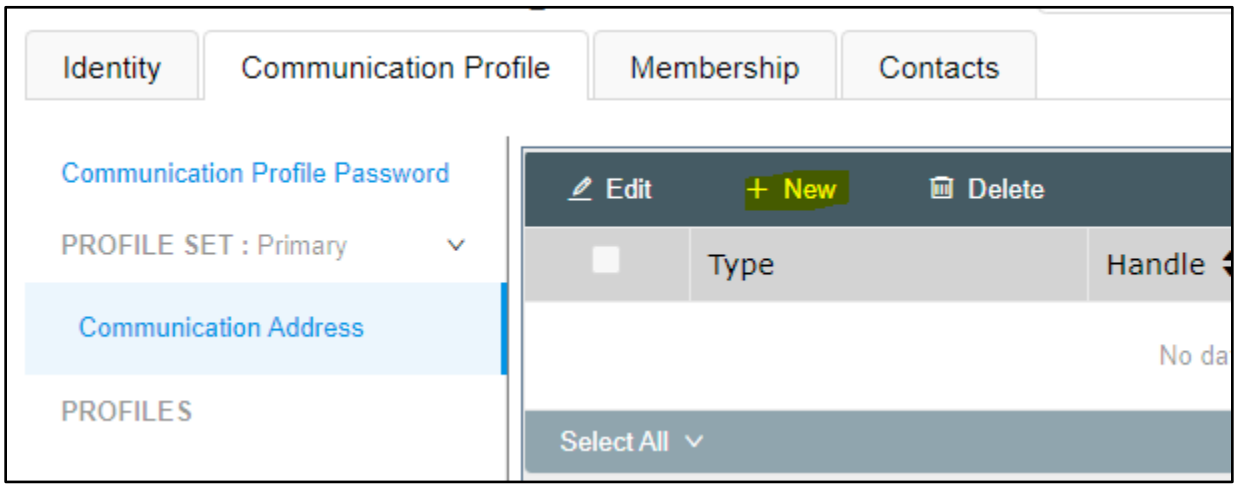
Click on the **Communication Address**, select **New**.



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

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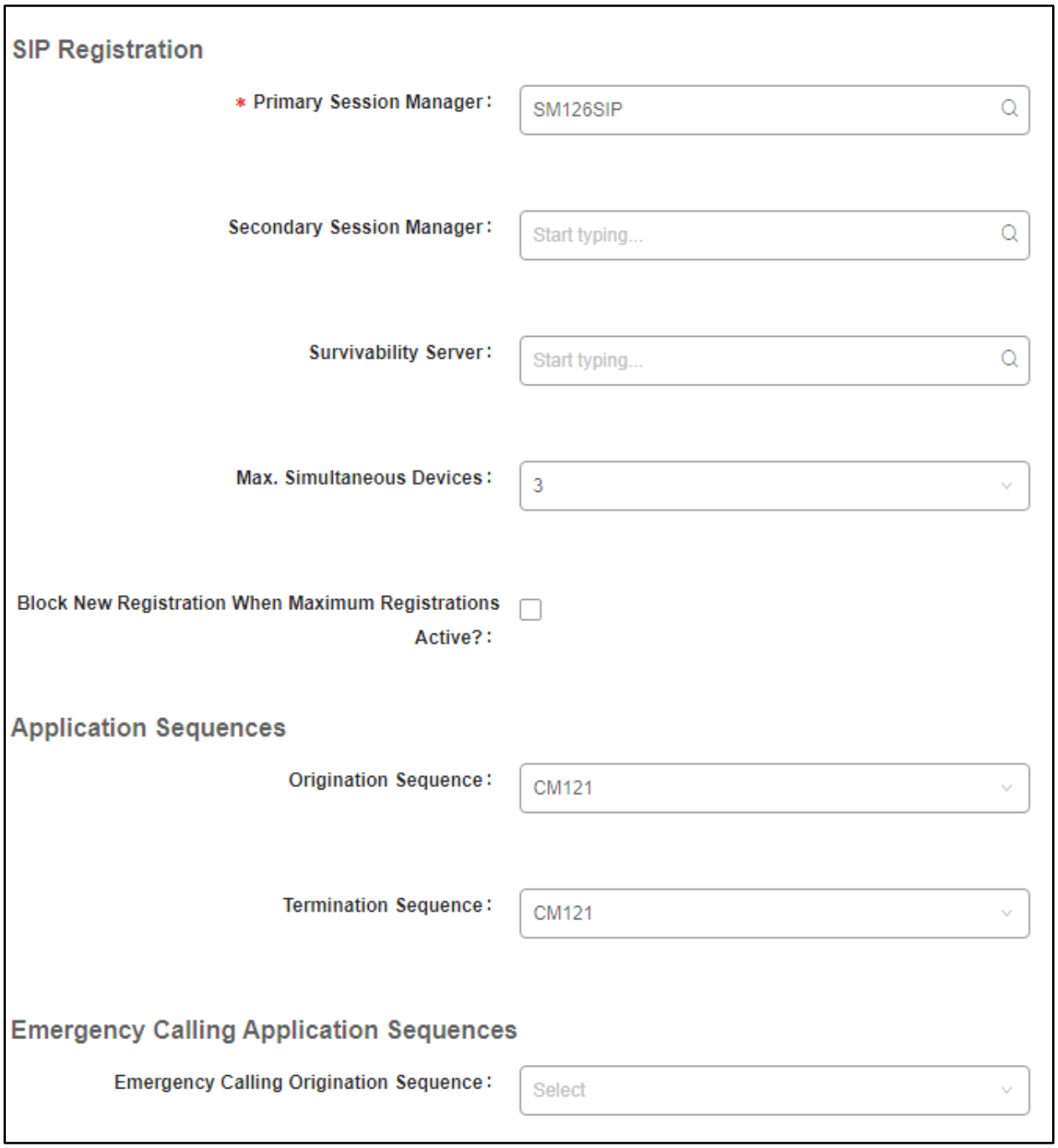
Continue to scroll down on the same page. Enable **Session Manager Profile** (not shown) and enter the **Primary Session Manager**, **Origination Sequence, Termination Sequence** and **Home Location** (not shown) relevant to the implementation.



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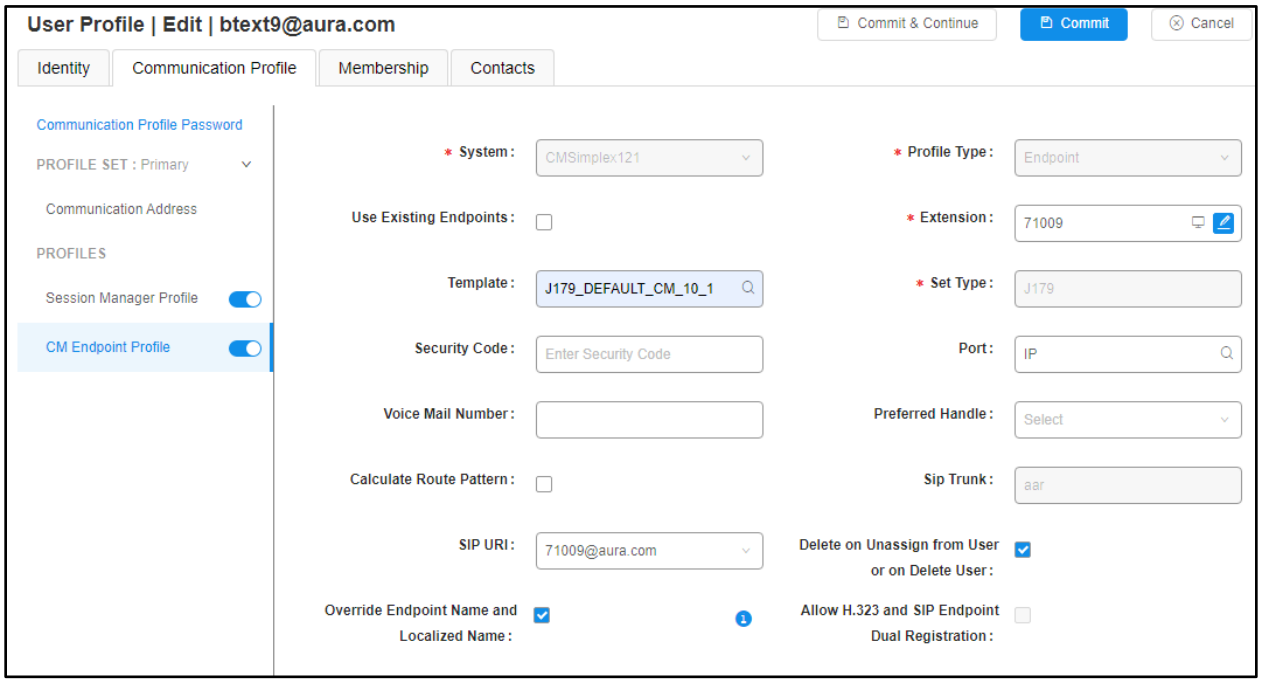
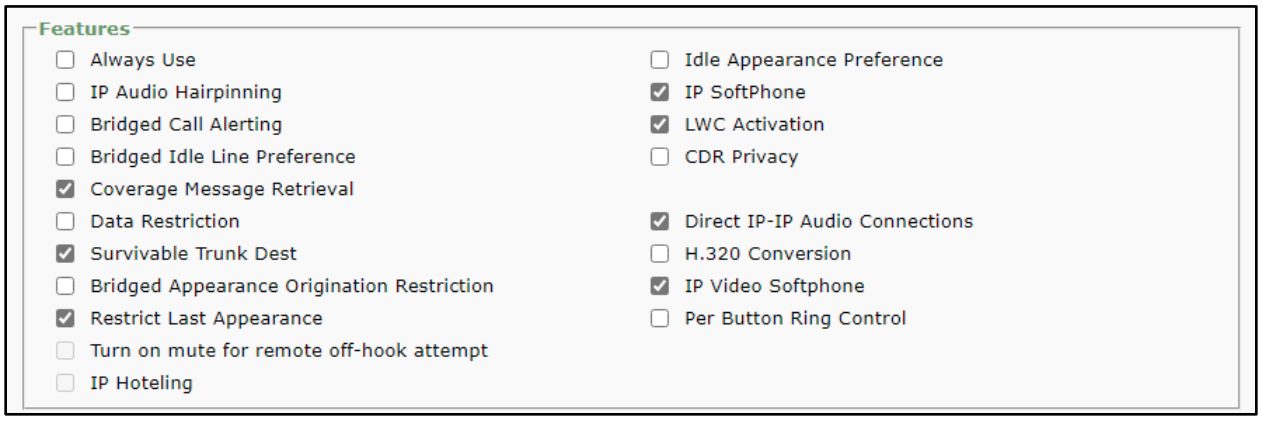
Scroll down the page and enable **CM Endpoint Profile** section. Select the Communication Manager system from the **System** drop down box, select **Endpoint** as the **Profile Type**, enter the **Extension** number that used as part of the **Fully Qualified Address** of the new SIP user above, select **J179_DEFAULT_CM_10_1** as the **Template** and ensure **IP** is configured as the **Port**, click **Commit & Continue** when finished.



Click on **Endpoint Editor** in the **CM Endpoint Profile**, click on **Feature Options (F)** tab (not shown), scroll down and check **IP Softphones** and **IP Video Softphone**. Click on **Done** (not shown) to save changes and go back to the User Communication Profile screen.



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

View | Edit | + New | Duplicate | Delete | More Actions | Options

First Name	Surname	Display Name	Login Name	SIP Handle
Ext1	BT	BT, Ext1	btext1@aura.com	+848300071001
Ext2	BT	BT, Ext2	btext2@aura.com	+848300071002
Ext3	BT	BT, Ext3	btext3@aura.com	+848300071003
Ext4	BT	BT, Ext4	btext4@aura.com	+848300071004
Ext5	BT	BT, Ext5	btext5@aura.com	+848300071005
Ext6	BT	BT, Ext6	btext6@aura.com	+848300071006
Ext7	BT	BT, Ext7	btext7@aura.com	+848300071007
Ext8	BT	BT, Ext8	btext8@aura.com	+848300071008

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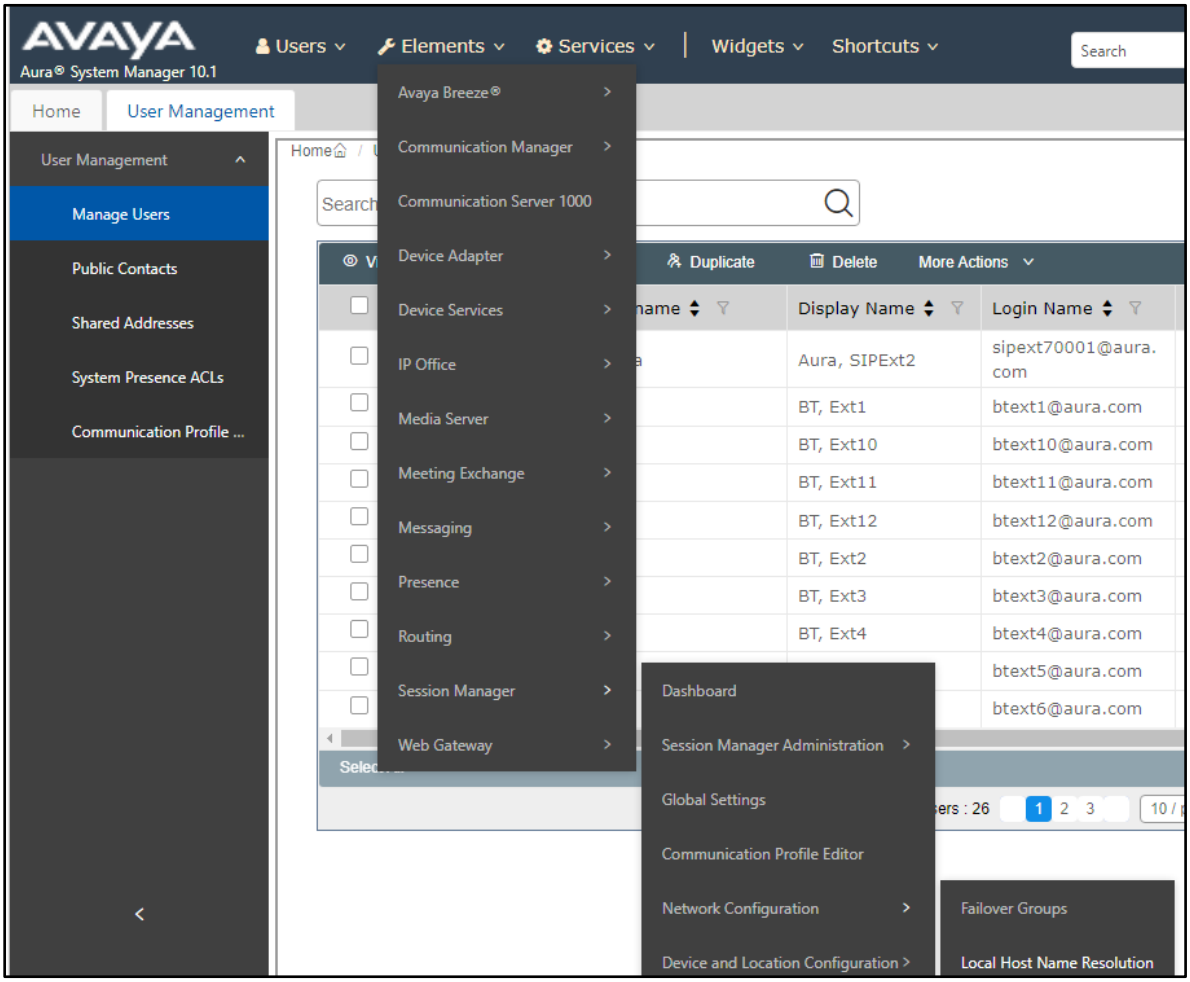
6.2. Adding BT Trading Platform TPO's to Session Manager Local Host Name Resolution

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**.



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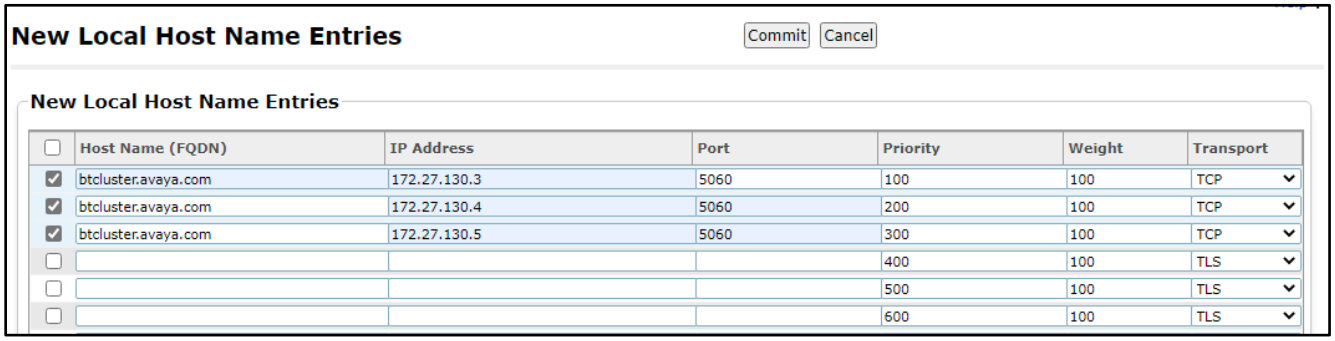
Click on **New** and enter all BT Servers as below.

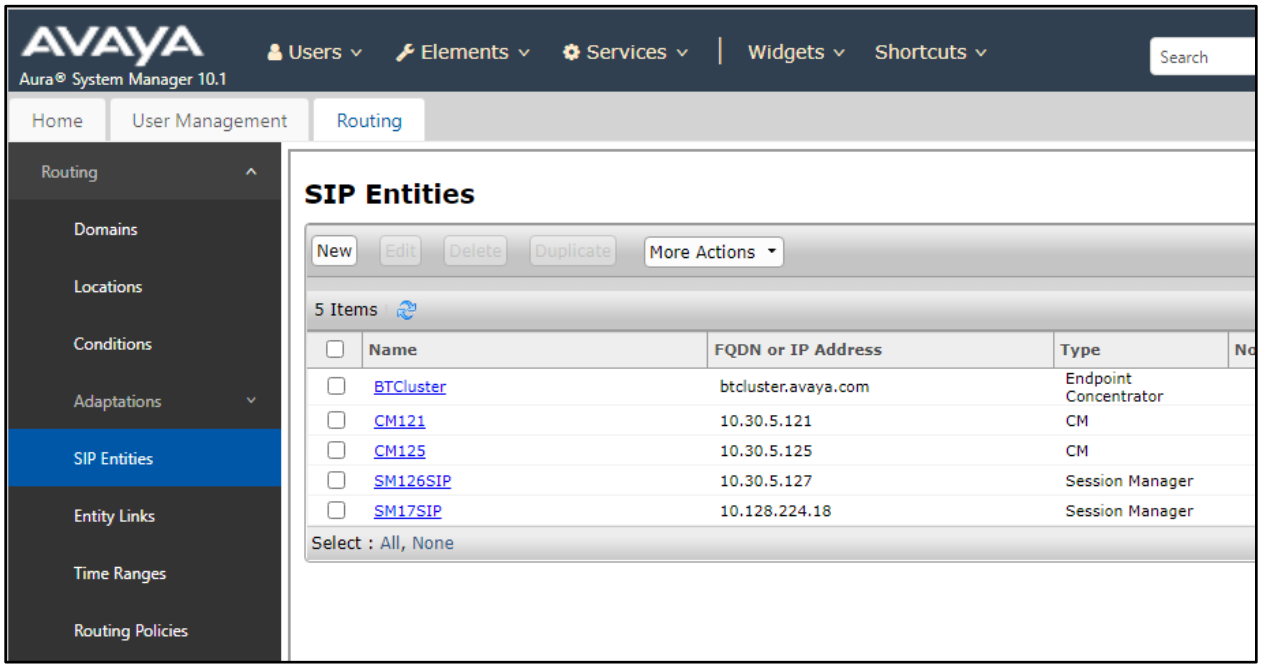


Host Name (FQDN)	IP Address	Port	Priority	Weight	Transport
btcluster.avaya.com	172.27.130.3	5060	100	100	TCP
btcluster.avaya.com	172.27.130.4	5060	200	100	TCP
btcluster.avaya.com	172.27.130.5	5060	300	100	TCP
			400	100	TLS
			500	100	TLS
			600	100	TLS

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 → Routing → SIP Entities**. Click **New**.



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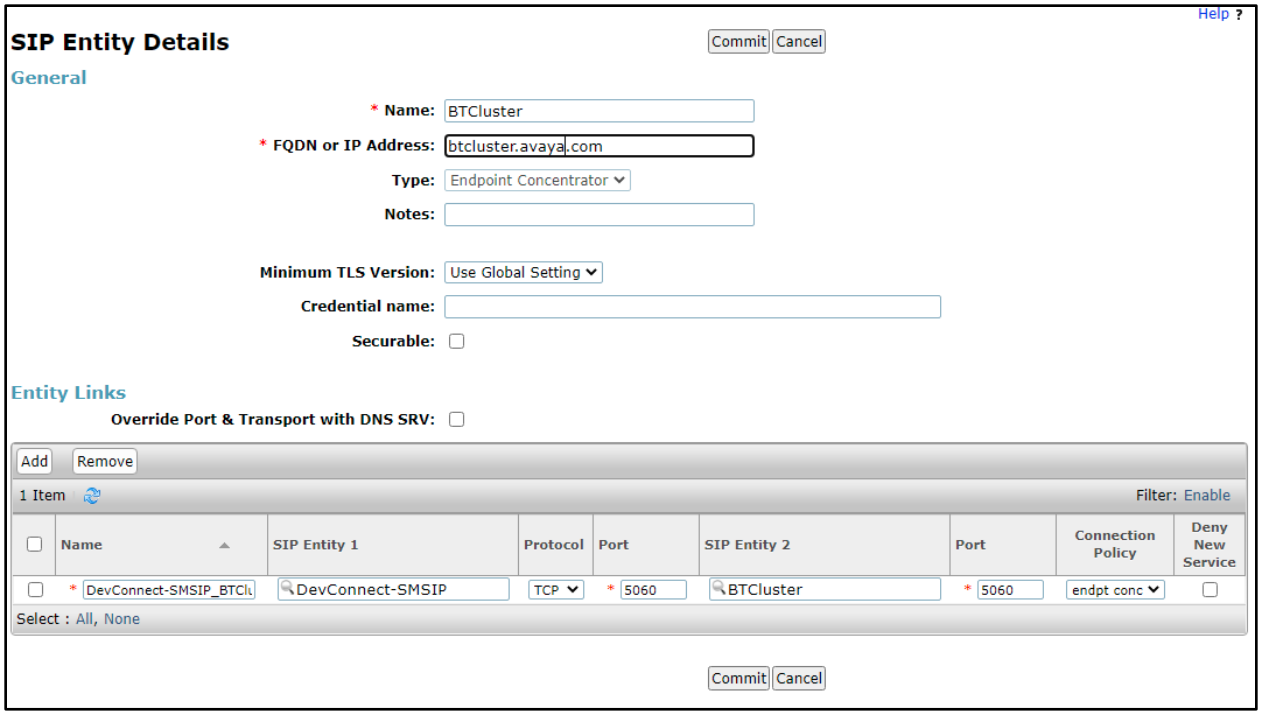
In **SIP Entity Details,** Choose Type **Endpoint Concentrator**. Enter following information for BT System:

Name: Enter an identifying Name for BT Platform Cluster.

FQDN or IP Address: Enter BT Trading Host Name configured in **Section 6.2**

Entity Links: Add an **Entity link** with **TCP** protocol and **Port 5060** with Session Manager

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.



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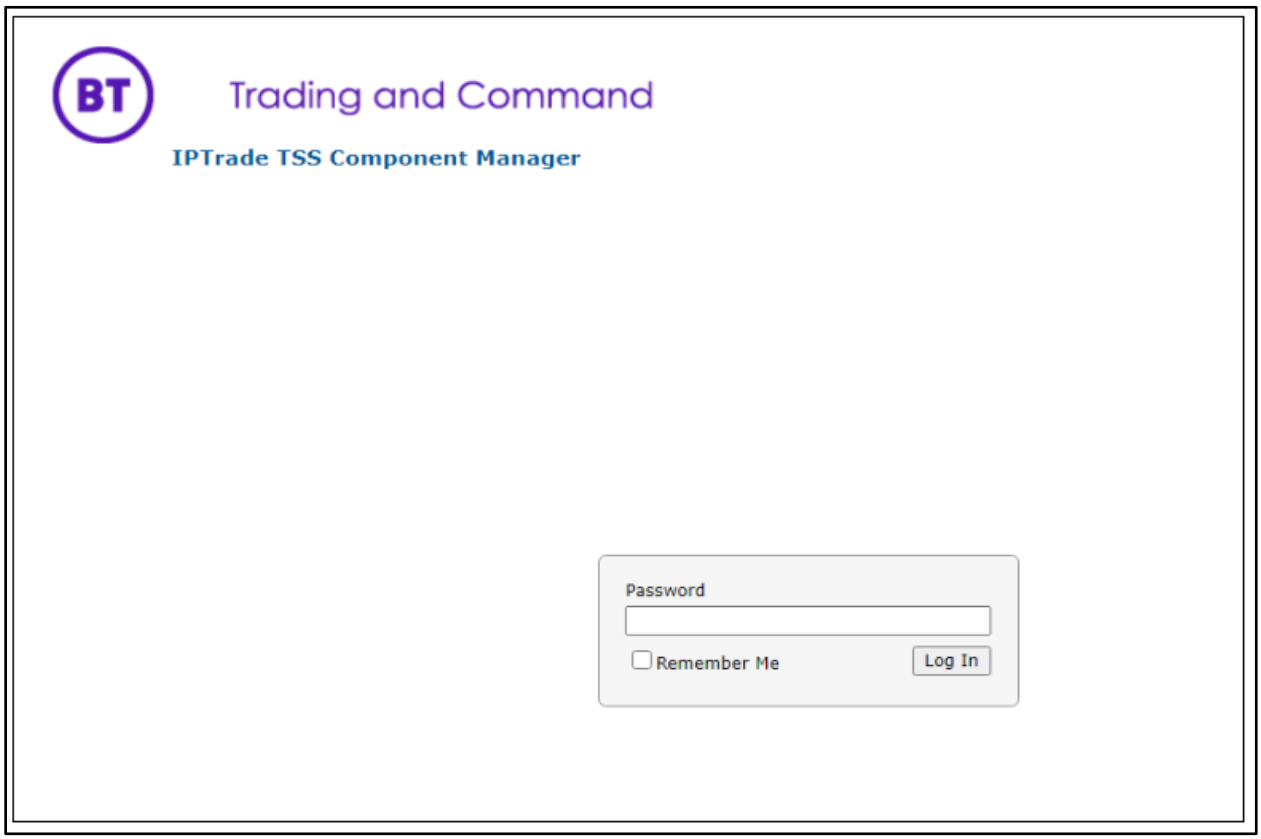
7. Configure the BT Trading System

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**.



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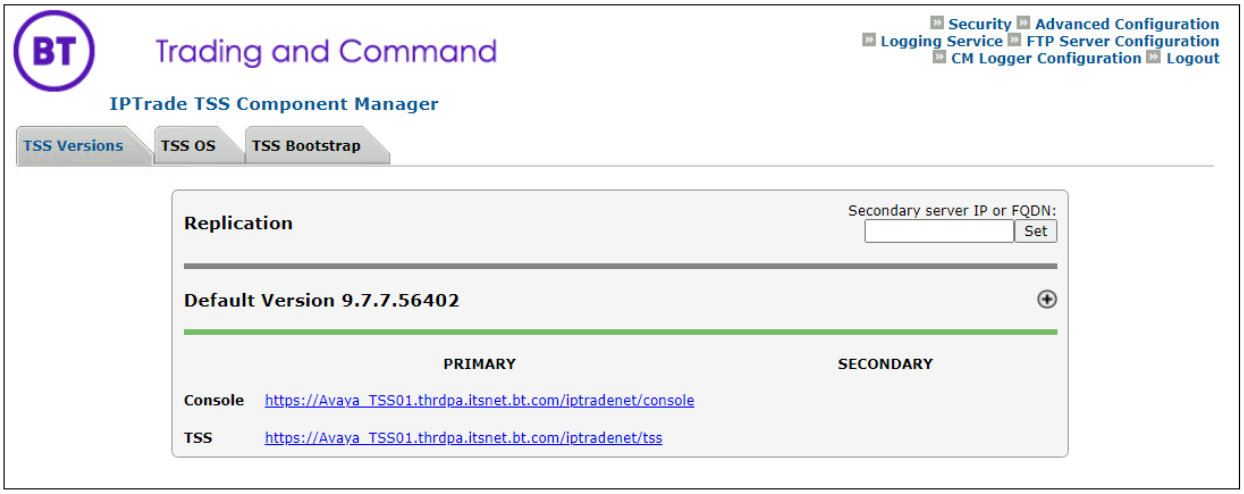
From the **TSS Versions** tab select the **Console** link as shown below.



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

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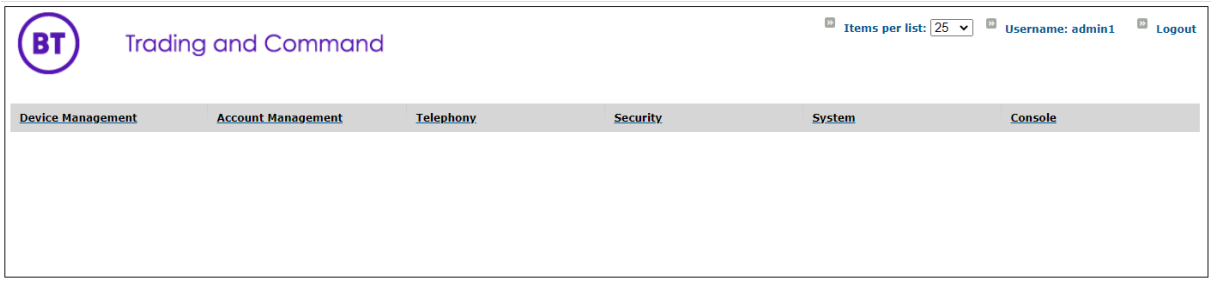
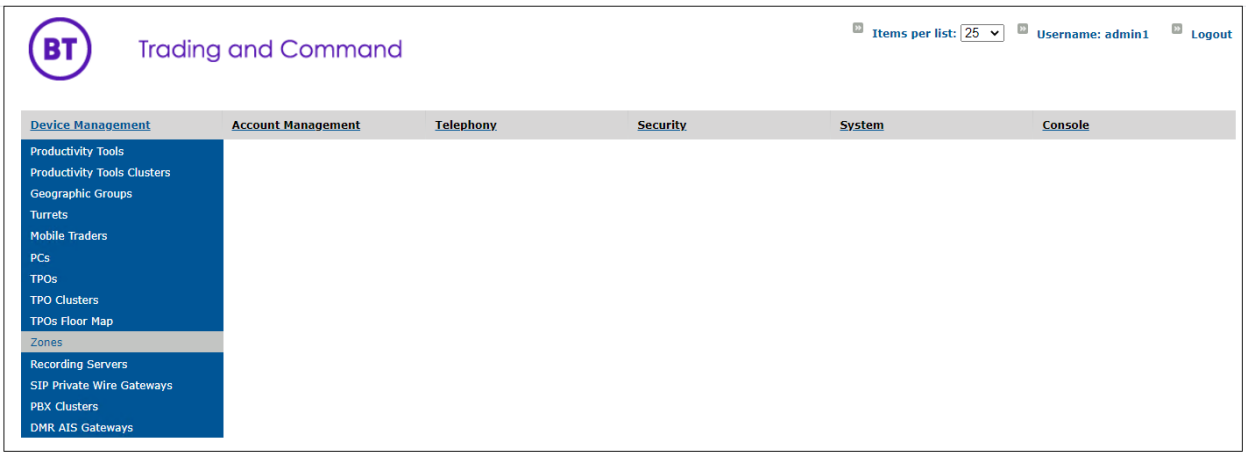
Upon successful login, the following screen will be presented.



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.

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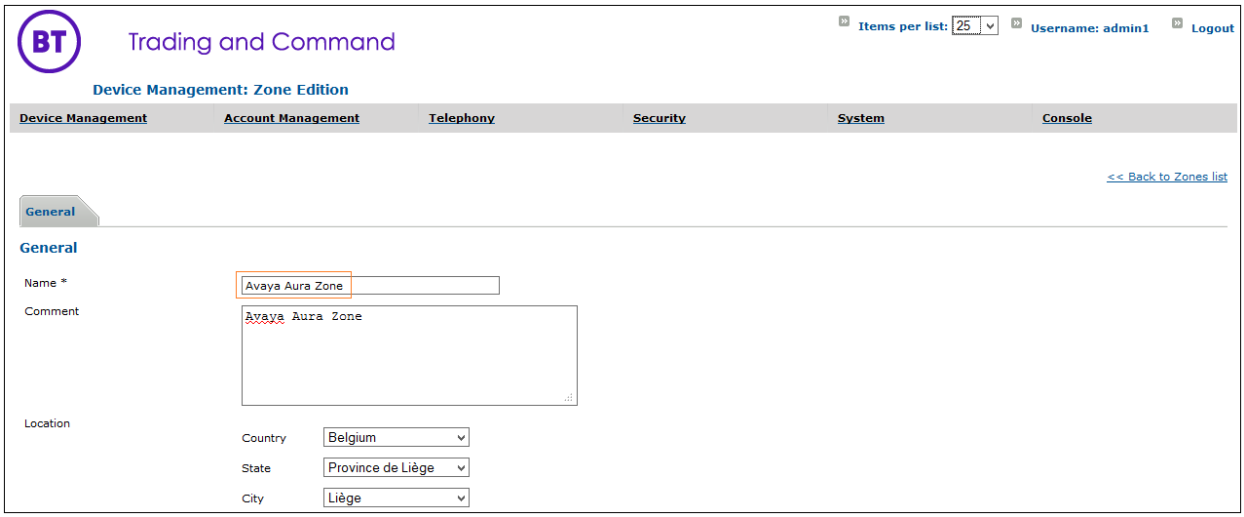
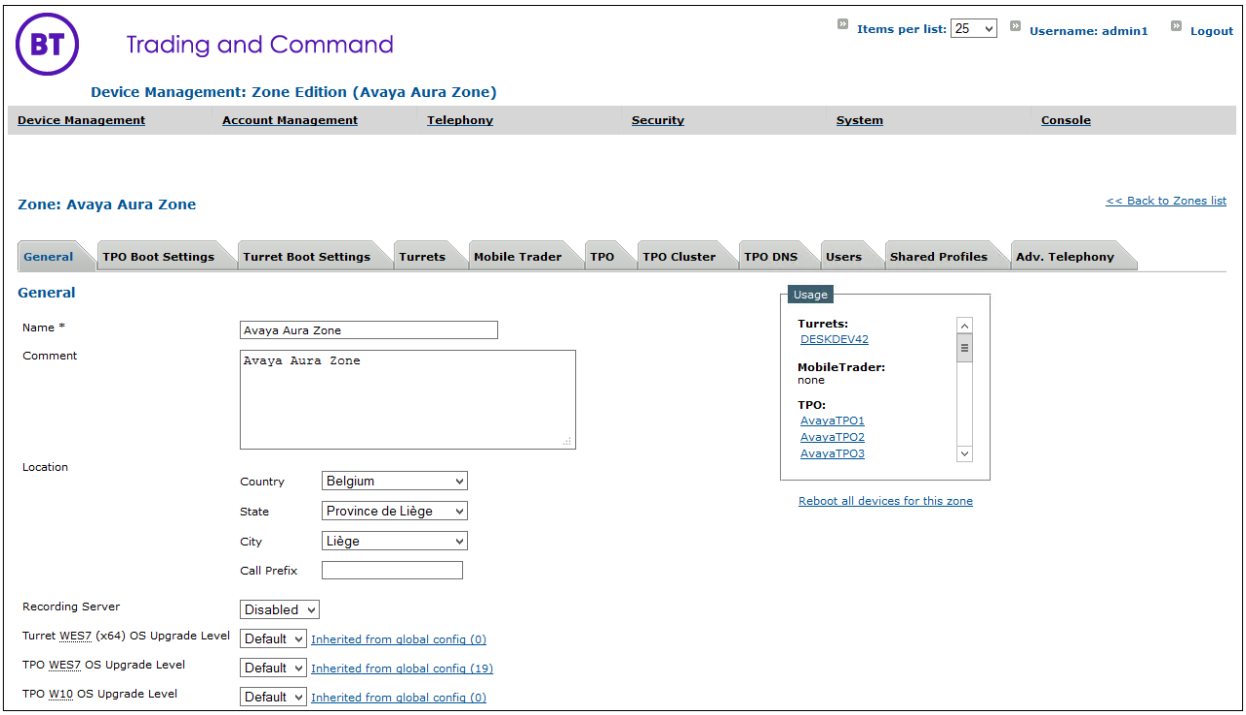
Enter a zone name for Avaya here it's **Avaya Aura Zone** and click **Update** (not shown).



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



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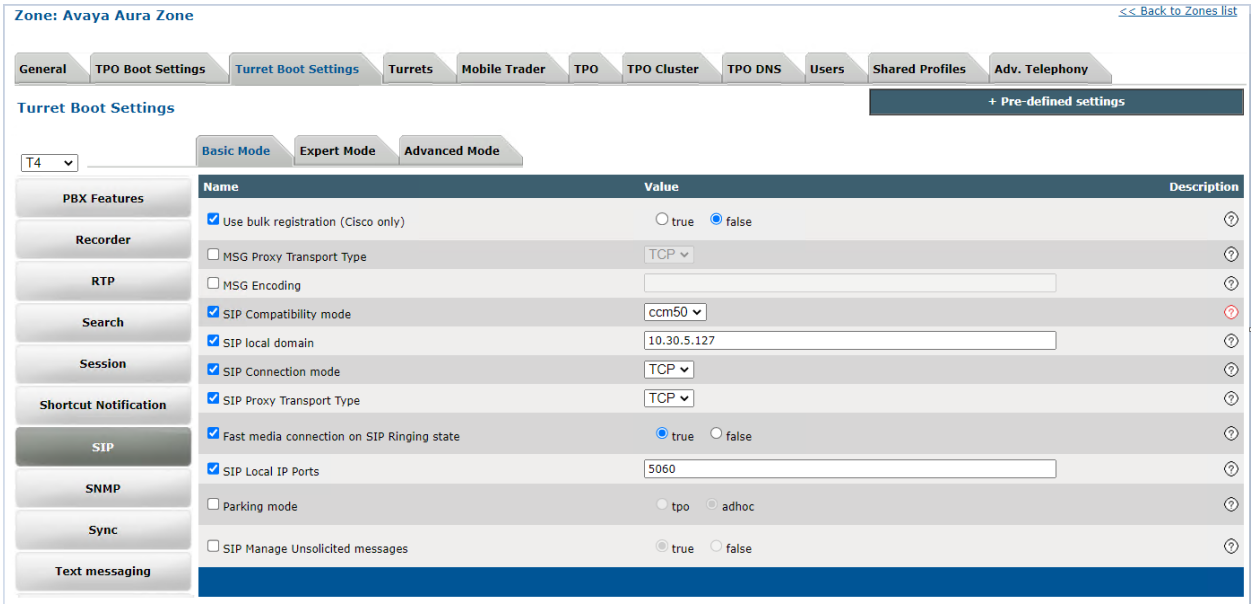
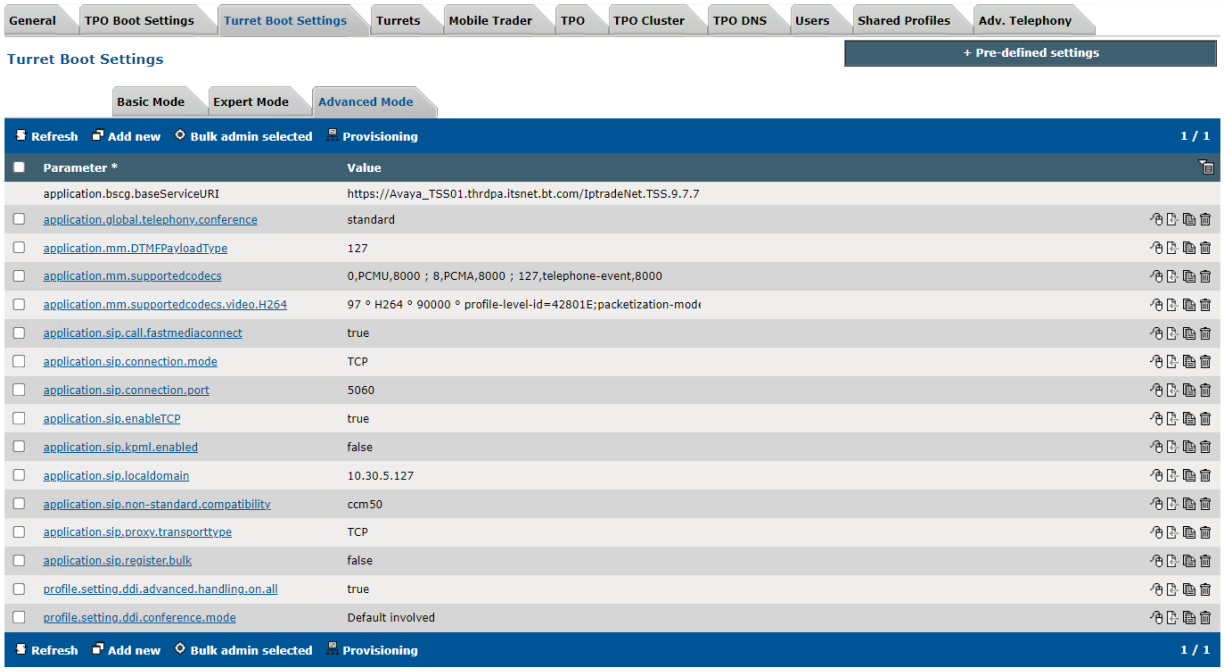
Navigate to the **Turret Boot Settings** tab in Avaya Aura Zone, then select **SIP** option **Basic Mode** and enter the Session Manager signalling IP address as **SIP local domain**. Enter other checked parameters as shown below.



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



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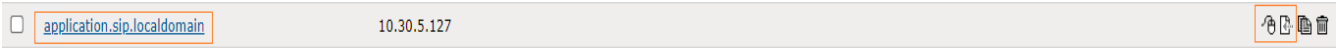
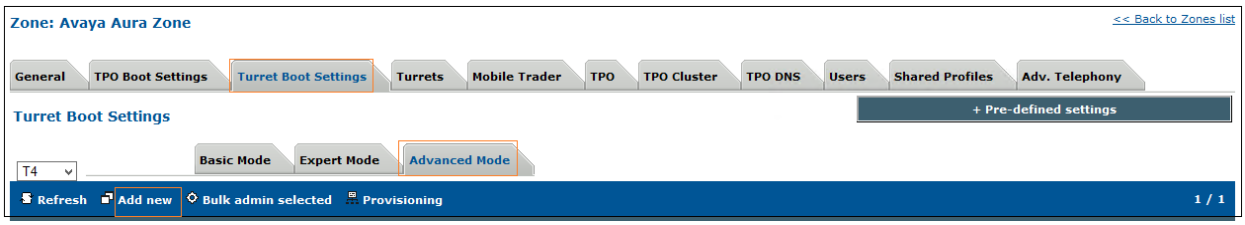
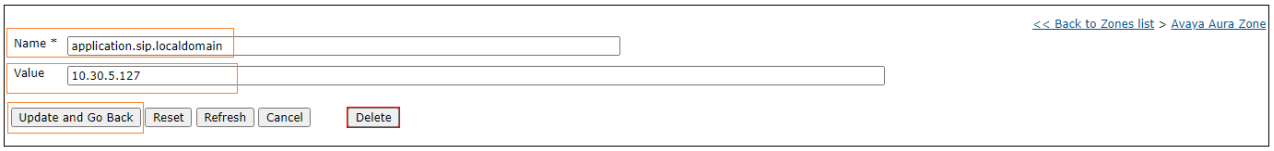
NOTE: If any of the above advanced parameters are already configured, edit them rather than add. This can be done by either clicking the advanced parameter or by selecting either of the two symbols as shown in the picture below.



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



Now enter the following statement, the IP Address should mirror the Session Manager. In this example, the IP Address is **10.30.5.127**. When complete, select **Update and Go Back**.



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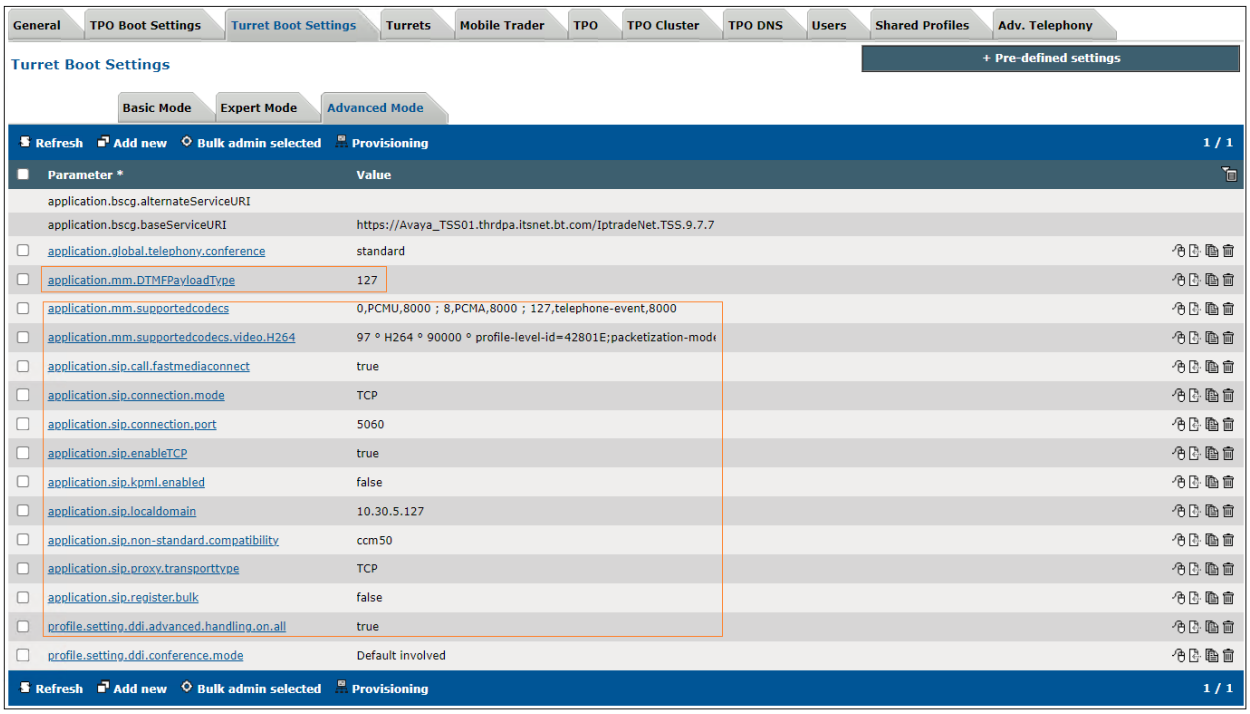
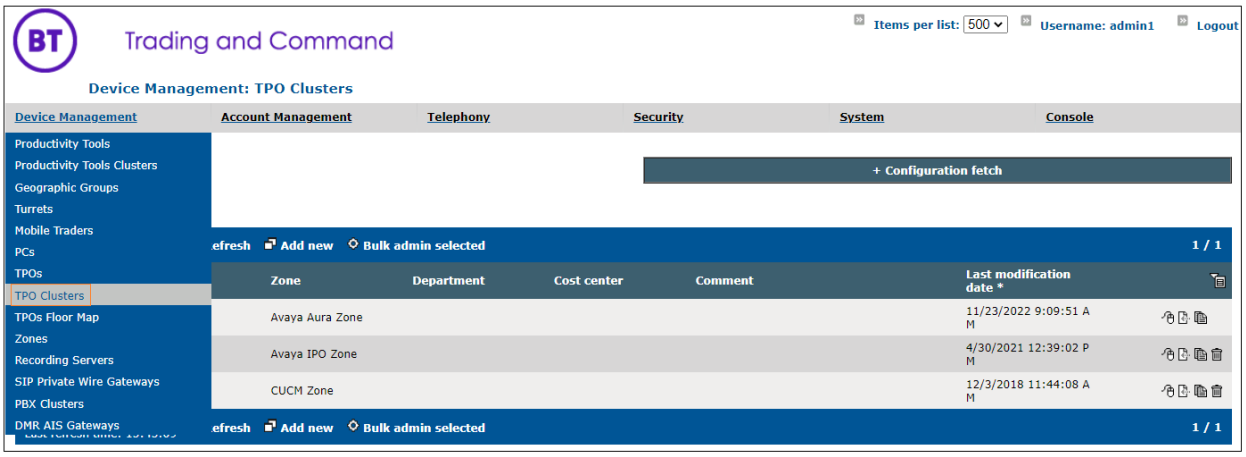
Finally, ensure that all other advanced parameters are configured as shown below. Add any that are missing by using the same process as above or by using the individual menus.



7.1.2. Configure Avaya TPO cluster:

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



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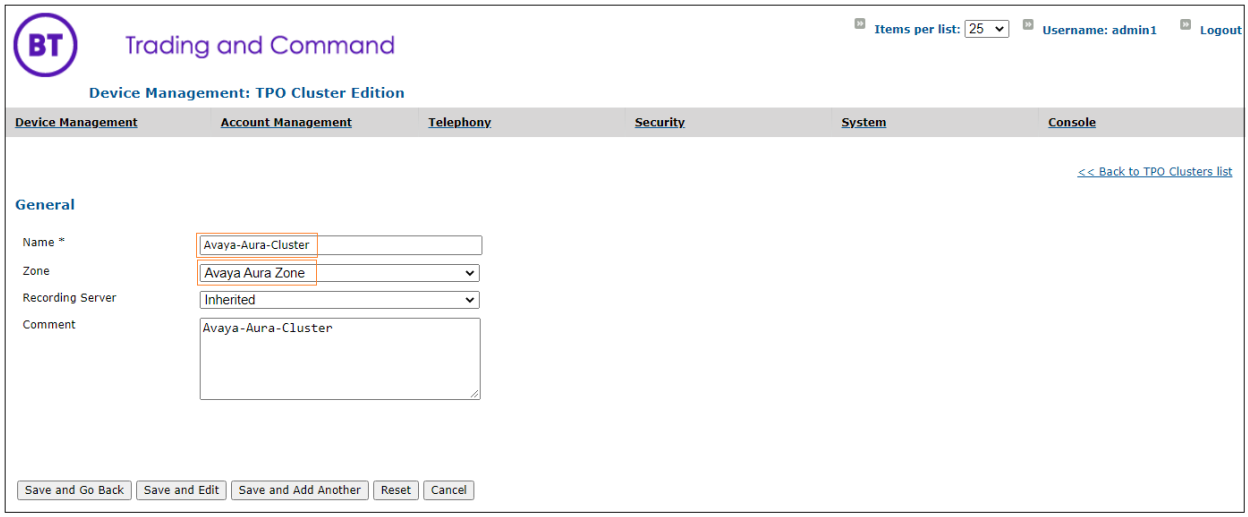
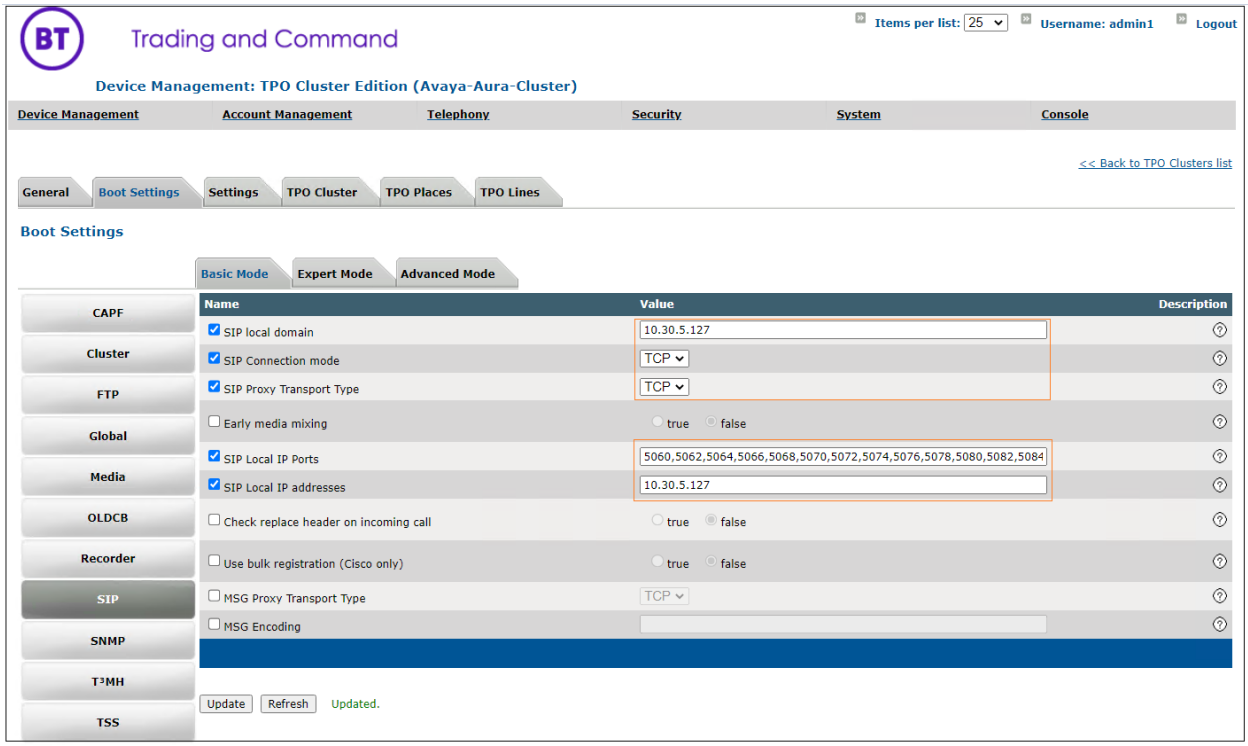
Select **Add new** from the bottom of screenshot above to create a TPO Cluster and assign name.



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



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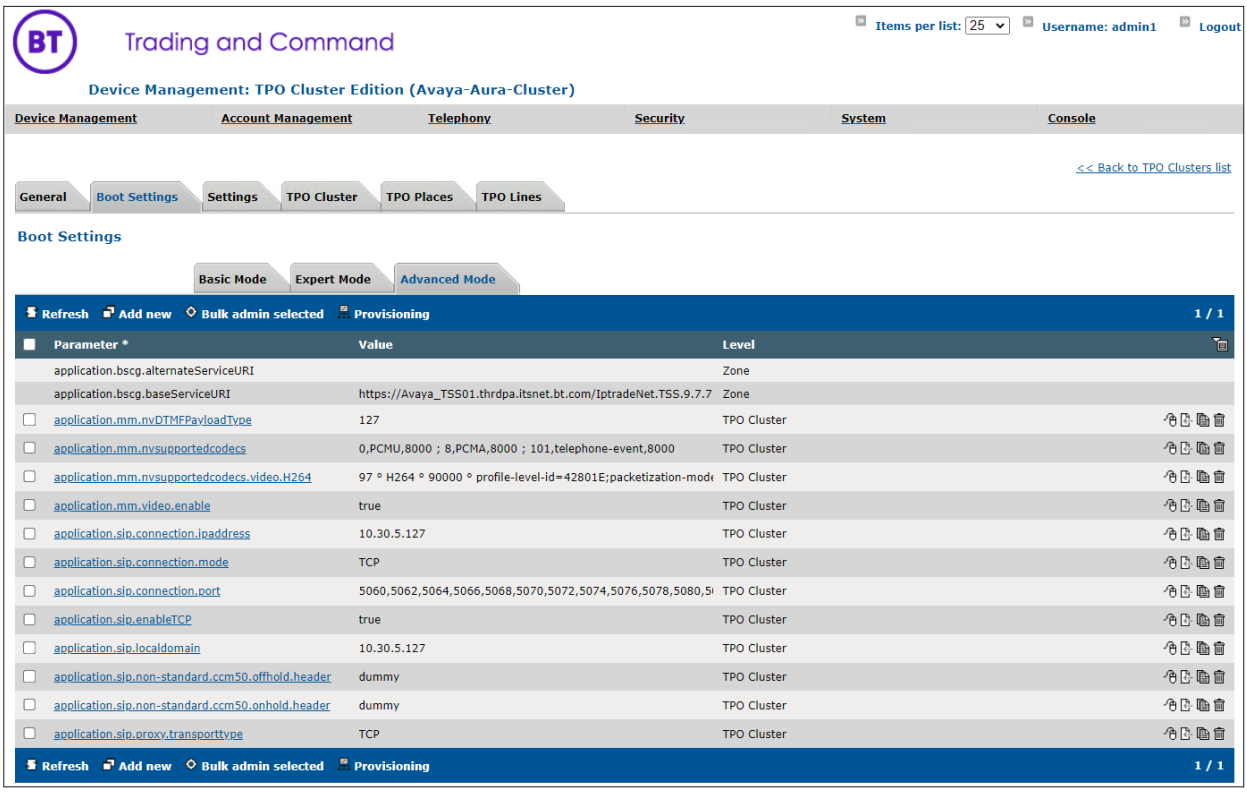
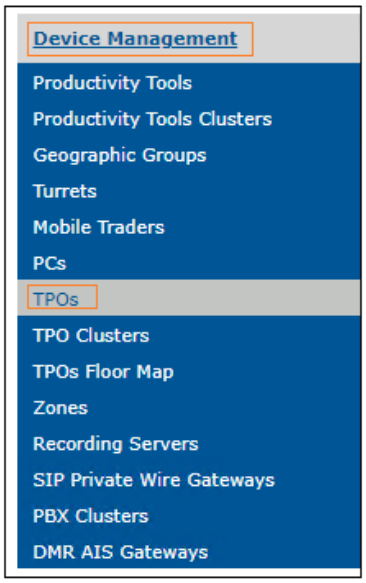
Select the **Boot Settings** tab and then **Advanced Mode**, ensure that the configuration matches with the picture below but with the Session Manager details.



Select **Device Management** and navigate to **TPOs**.



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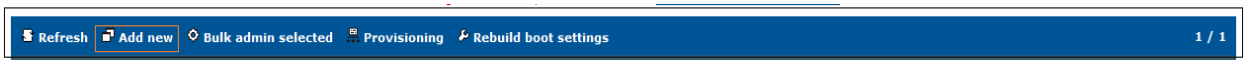
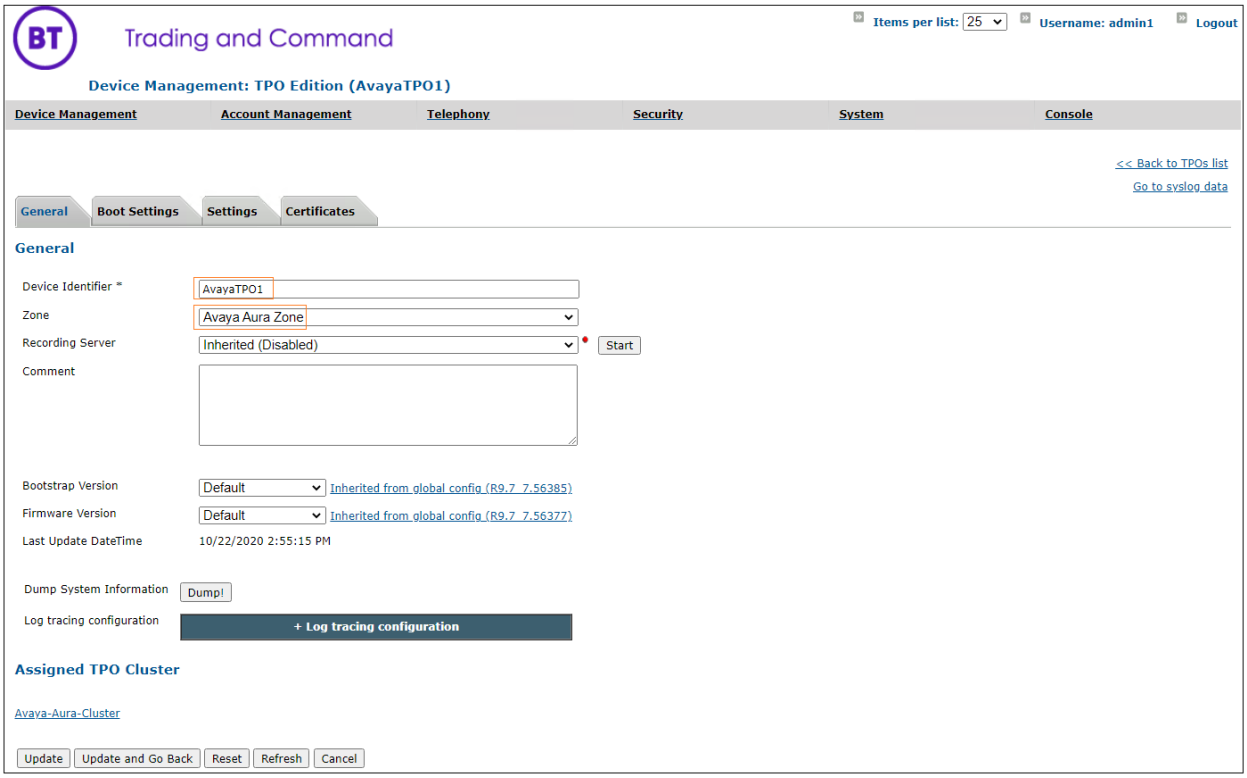
Select **Add new** from the menu bar.



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. There are 3 TPOs created in the compliance test: **AvayaTPO1**, **AvayaTPO2** and **AvayaTPO3.**



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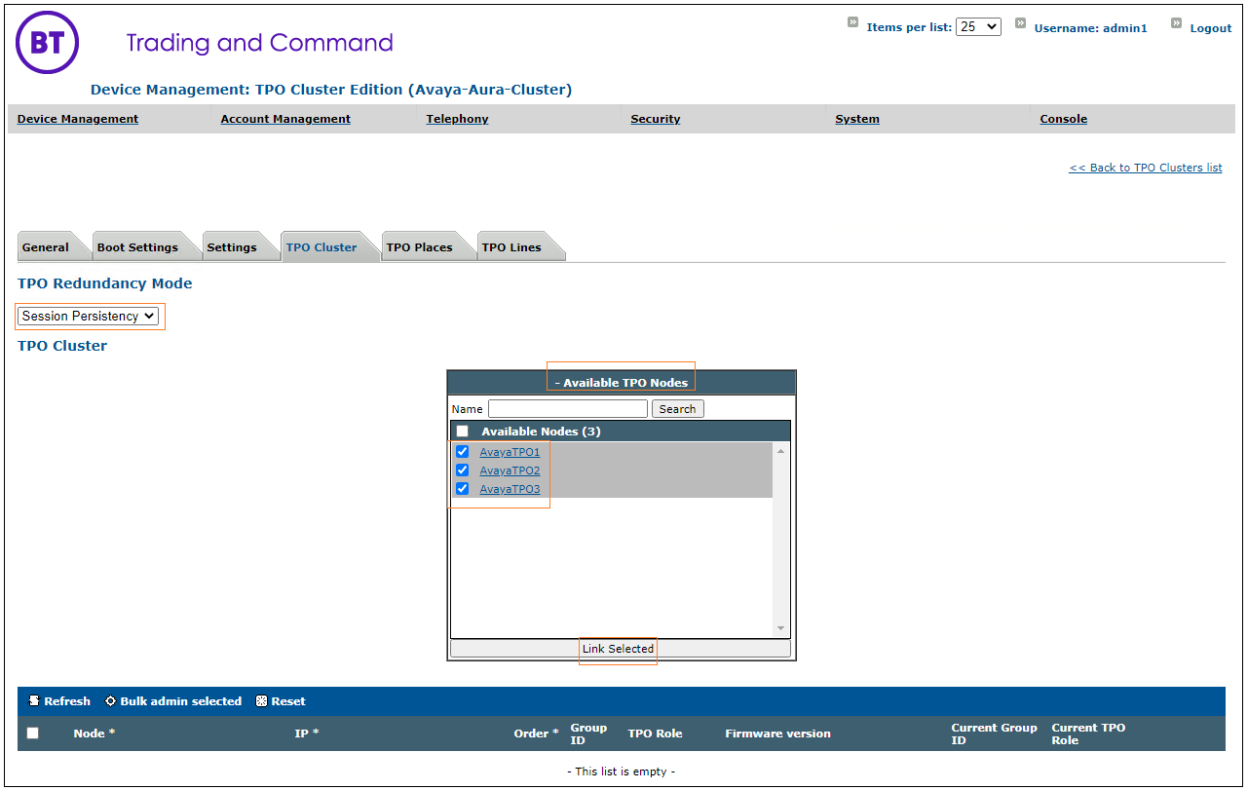
Link newly added TPO's to Avaya-Aura-Cluster TPO cluster. Navigate to **Device Management → TPO Cluster → Avaya-Aura-Cluster → Settings → TPO Cluster**. Select **AvayaTPO1**, **AvayaTPO2** and **AvayaTPO3**, which are added in the previous step, and click on **Link Selected** to link TPO's to Cluster.

Set **TPO Redundancy Mode** to **Session Persistency**.



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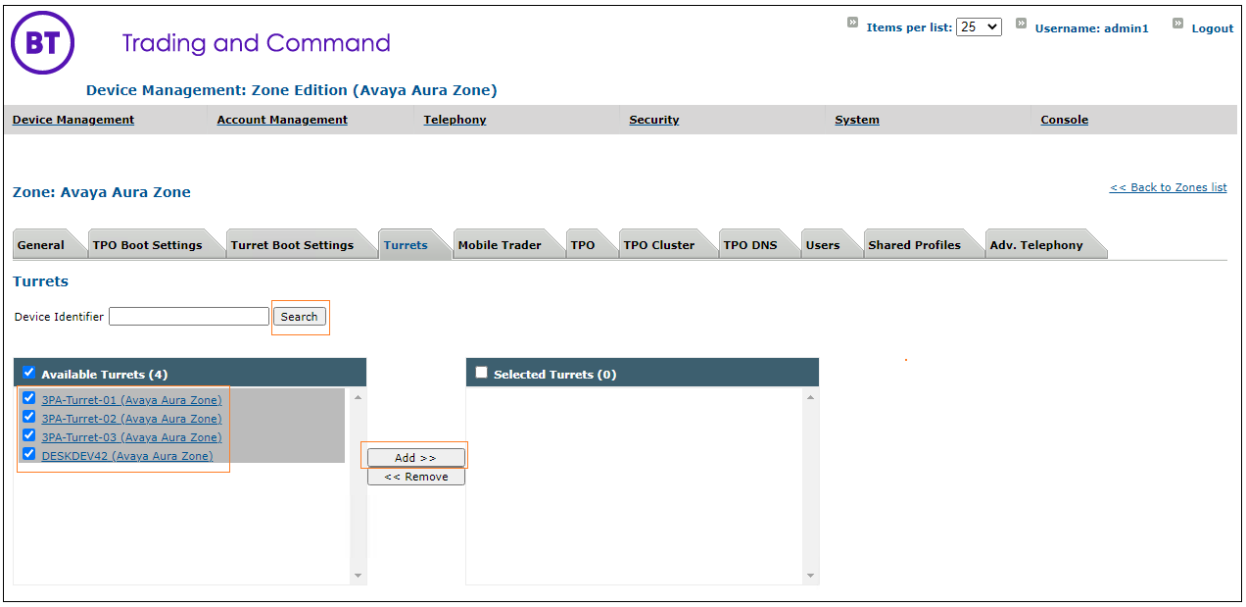
7.1.4. Assign Turrets to the Avaya Zone

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**.



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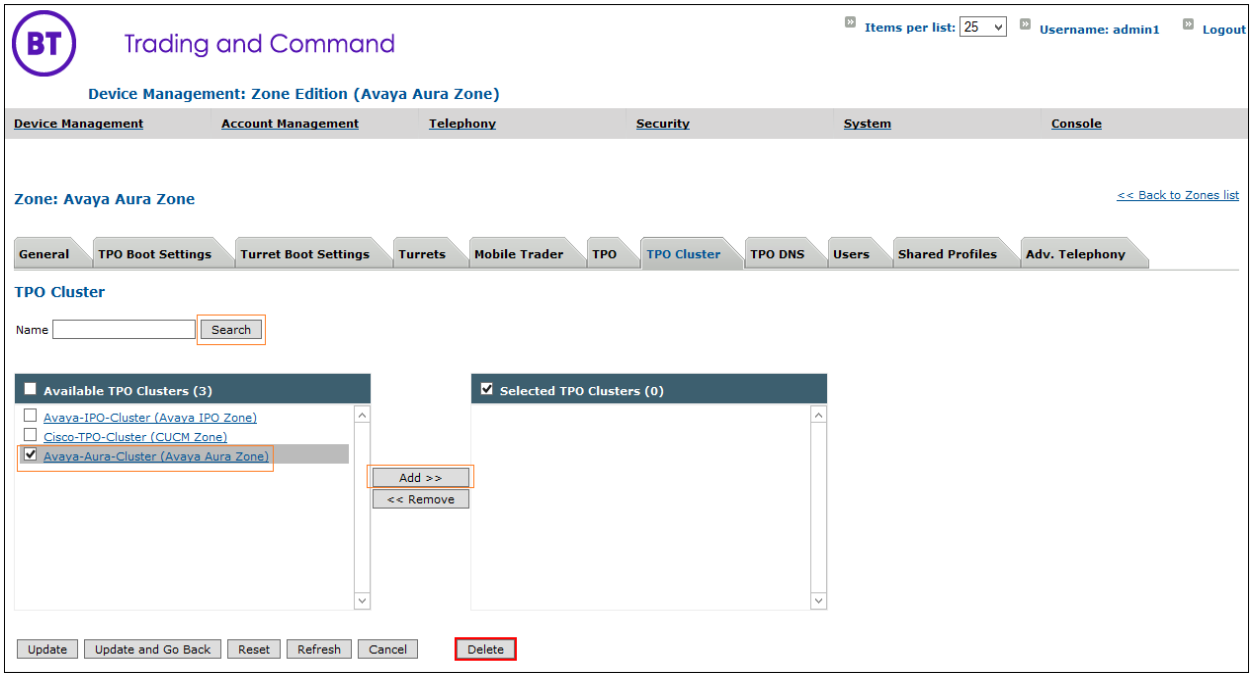
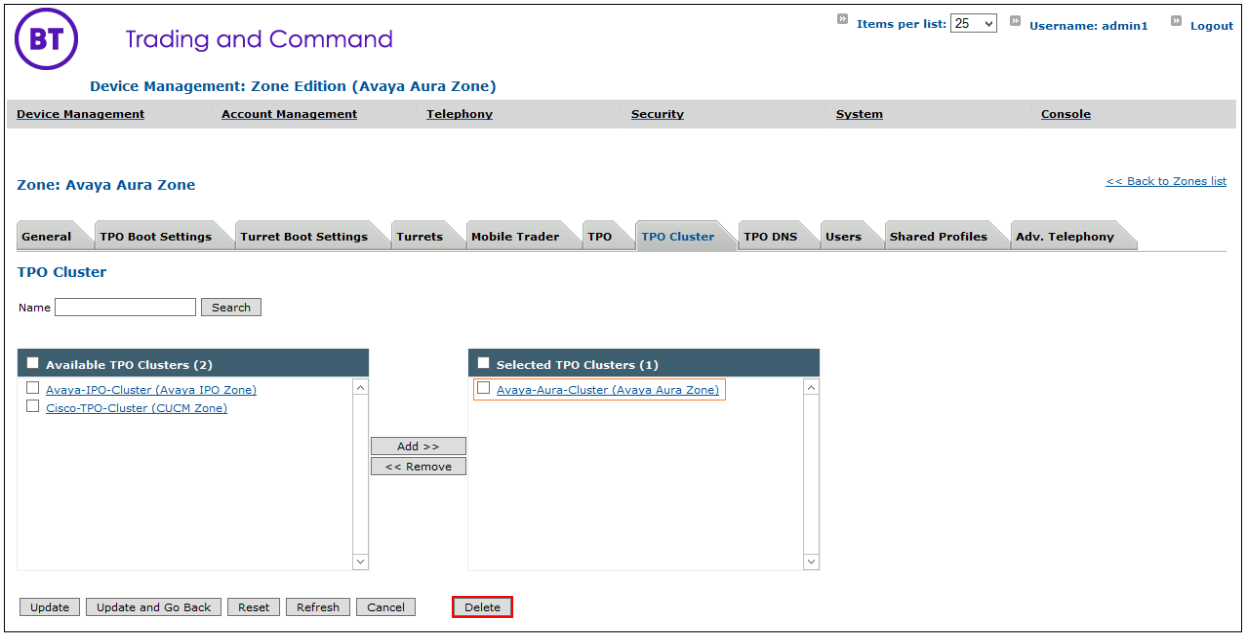
Select the **TPO Cluster** tab and select **Search**, select the TPO Cluster created from the left-hand window and select the **Add** button.

Select **Update and Go Back**.





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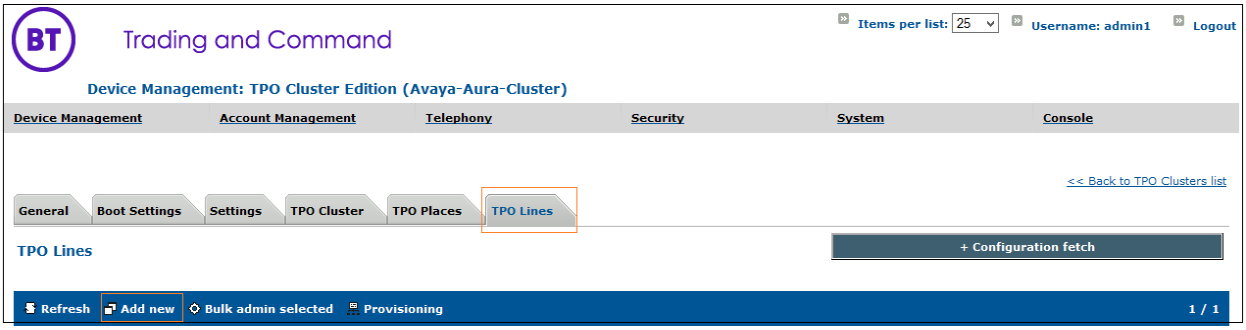
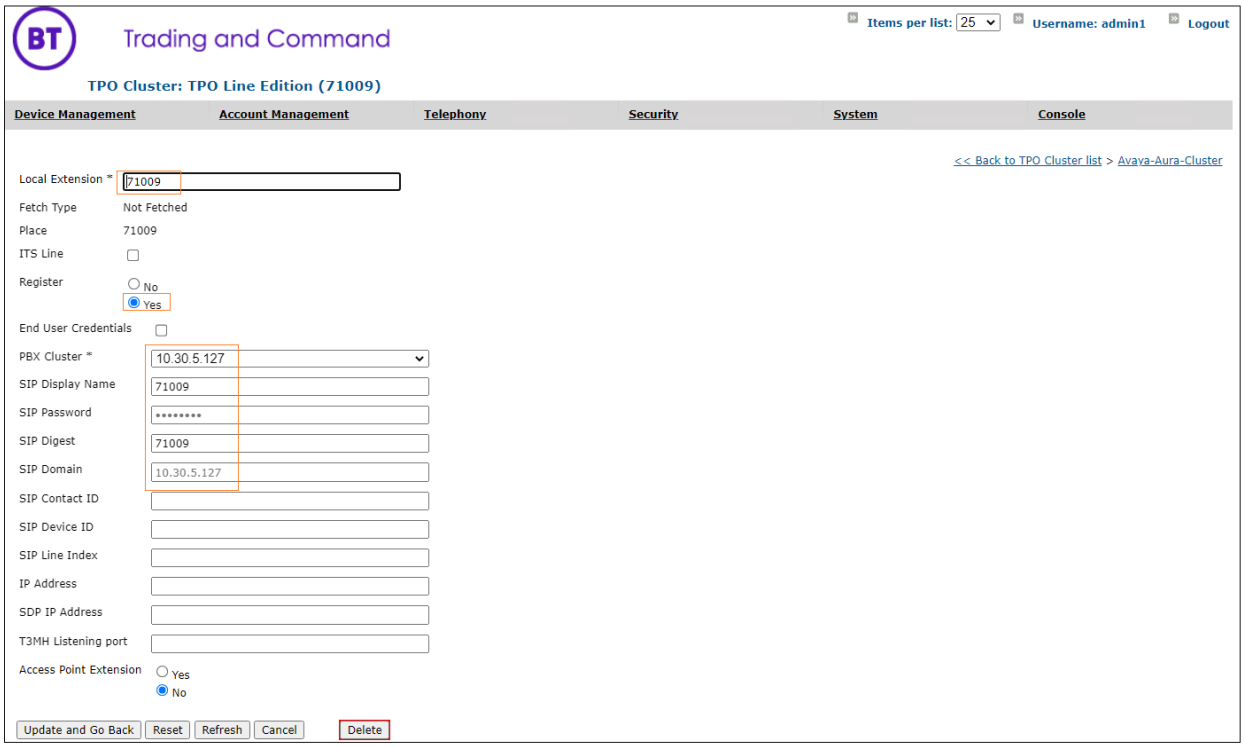
Select **Device Management** and the **TPO Cluster → Avaya-Aura-Cluster** and configure TPO lines by selecting the **TPO Lines** tab and select **Add new**.



Enter the data as below.

Local Extension: The SIP user extension defined in **Section 6.1**.
Register: Select the Yes radio button.
SIP Display Name: Define the SIP user extension again.
SIP Password: The SIP user Communication Profile Password on Session Manager.
SIP Digest: Define the SIP user extension again.
SIP Domain: Define the IP Address of the Session Manager signalling interface.
Access Point Extension: Set the radio button to No.



Once complete, select **Save and Go Back** (not shown).

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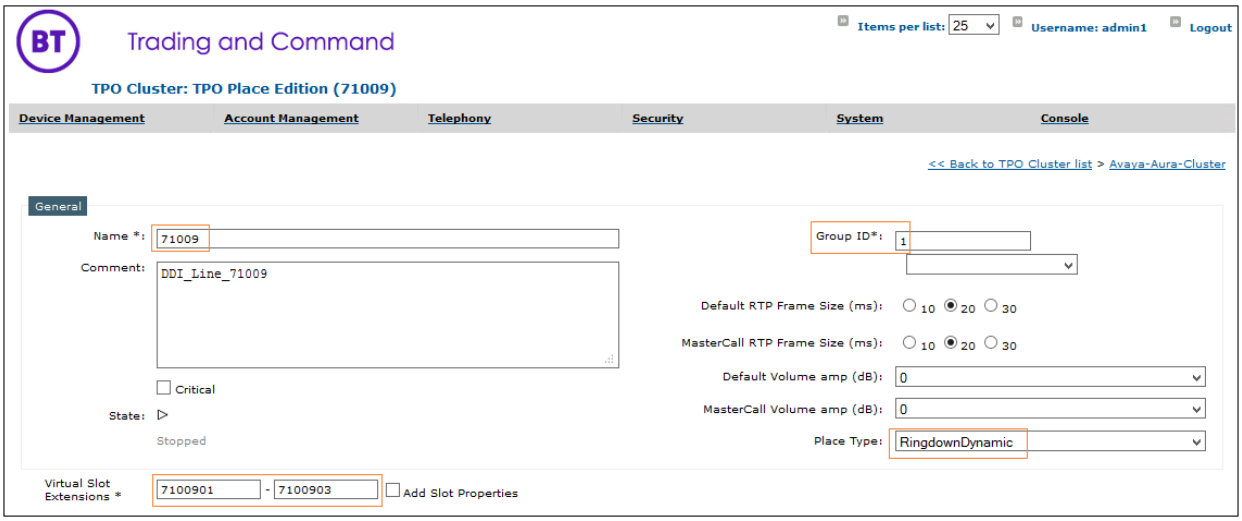
Select **TPO Places** and **Add new**.

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 the SIP user, 7100901 is Slot 1, 7100902 is Slot 2 and 7100903 is Slot 3.



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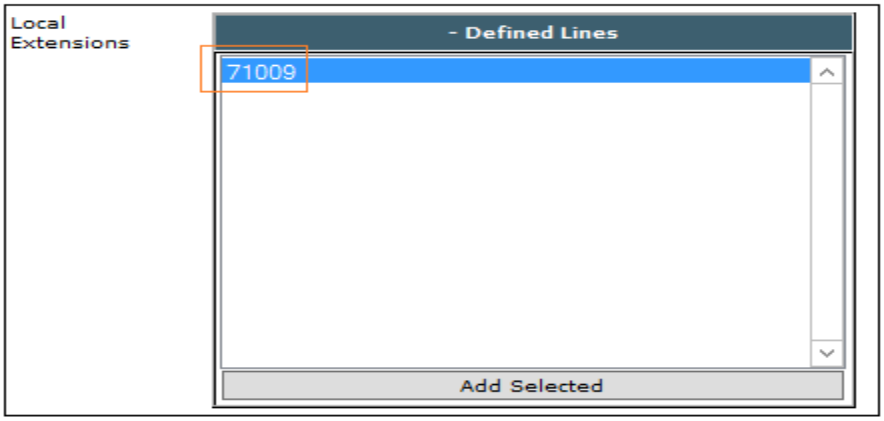
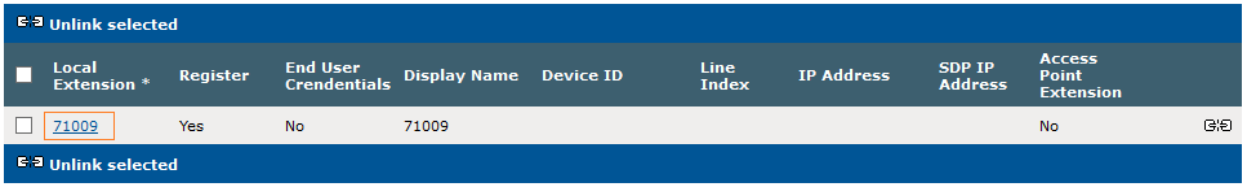
Link the Line to the TPO Place by selecting the grey **Defined Lines** box. Select **Add Selected** to add the local Extensions.

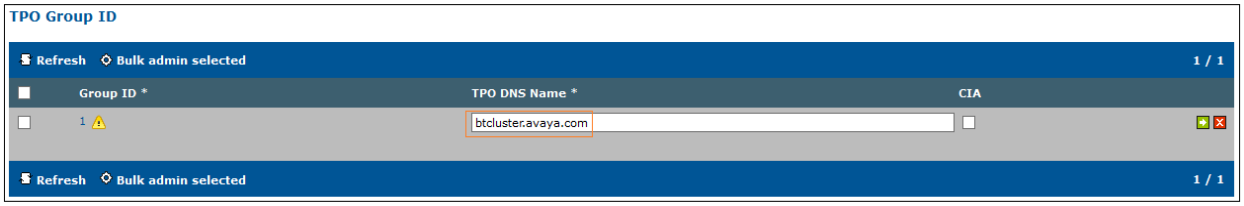


Ensure that the extension has linked correctly by looking at the linked extensions below.



Next, navigate to the **TPO Cluster** (not shown) 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.



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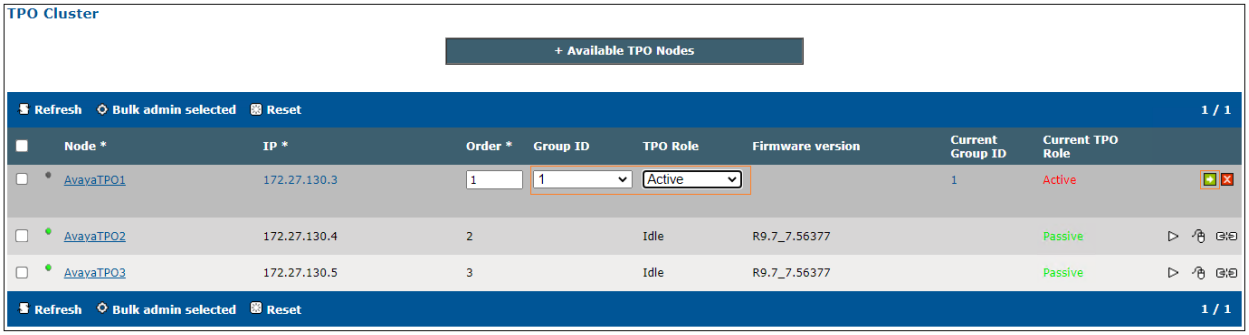
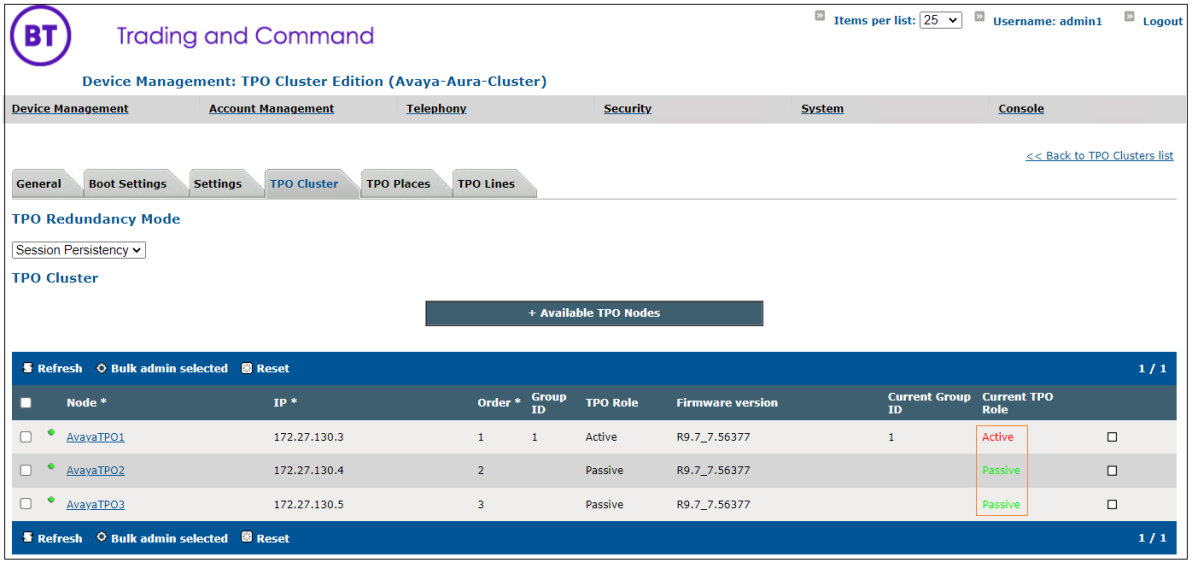
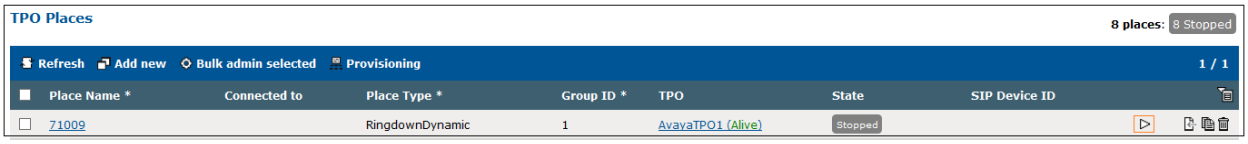
Add the **Order** of preference (if more than two TPO's are in a TPO Cluster). The **Group ID** that Lines were added to. Select **Active** from the **TPO Role** drop down. Select the green arrow to the right to save the changes. Follow the same step and select the **TPO Role** to **Passive** to configure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



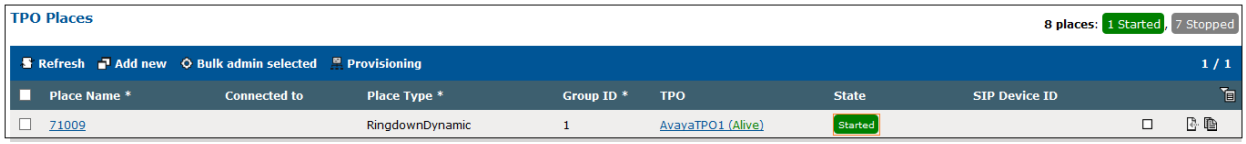
After a couple of seconds, the TPO current role will become **Active**, **Passive** and **Passive**.



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 of **Alive** and **Started**.



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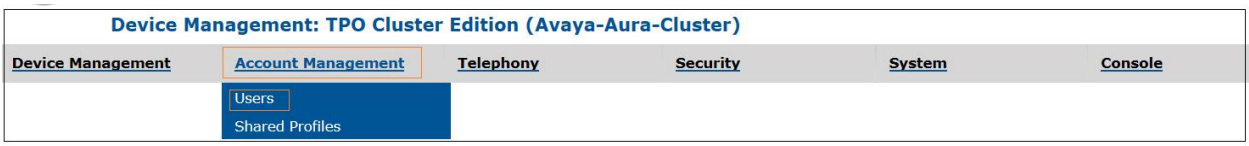
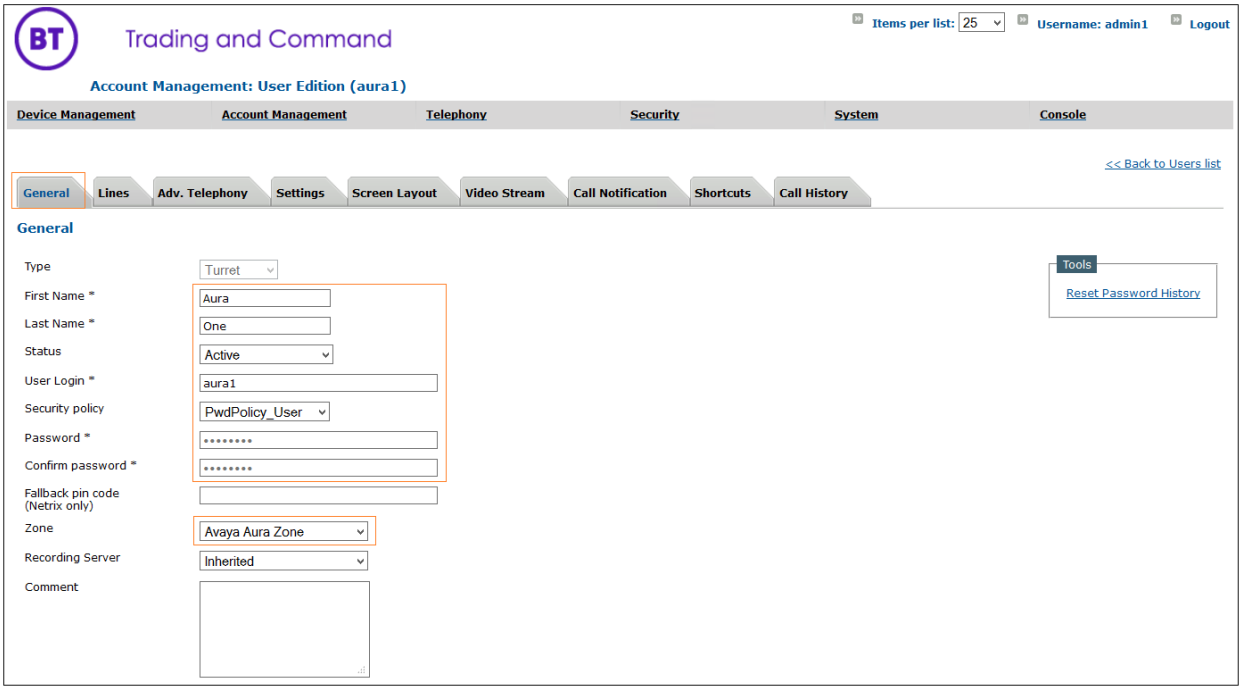
7.1.5. Add Users

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



Select **Add new**.

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



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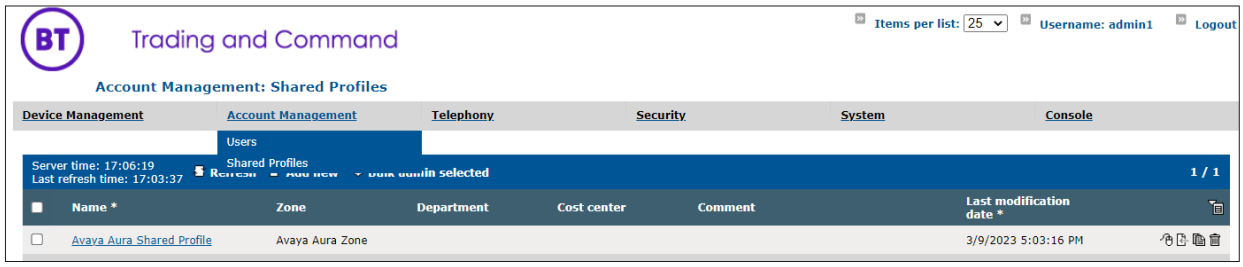
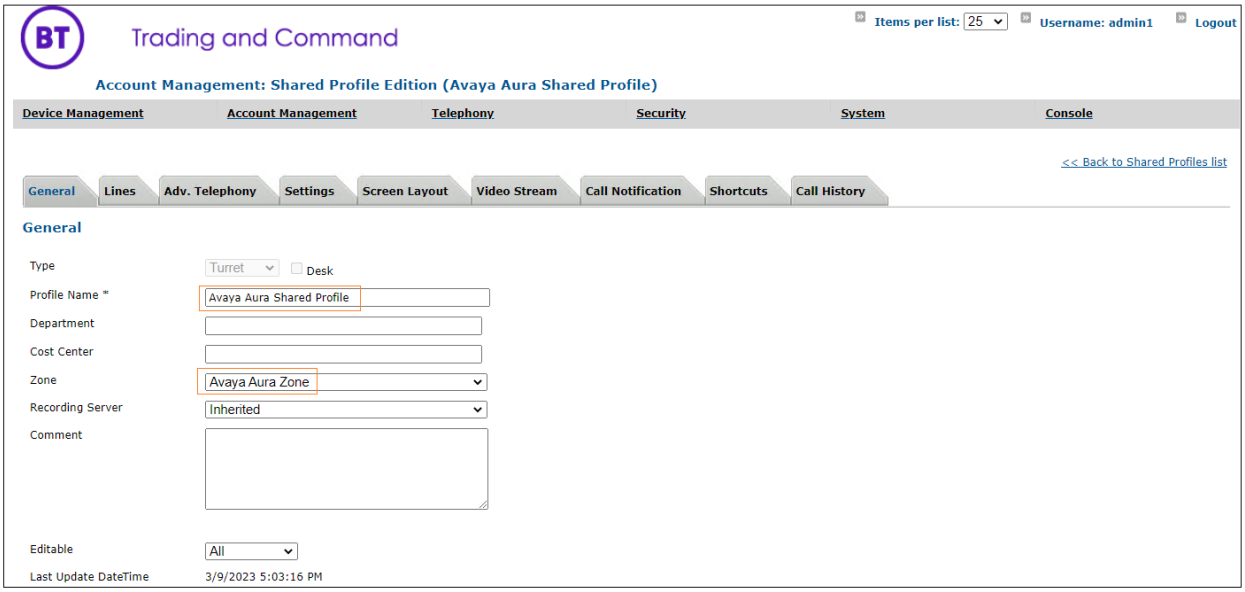
Now create a shared profile, select **Account Management** and then **Shared Profiles**.

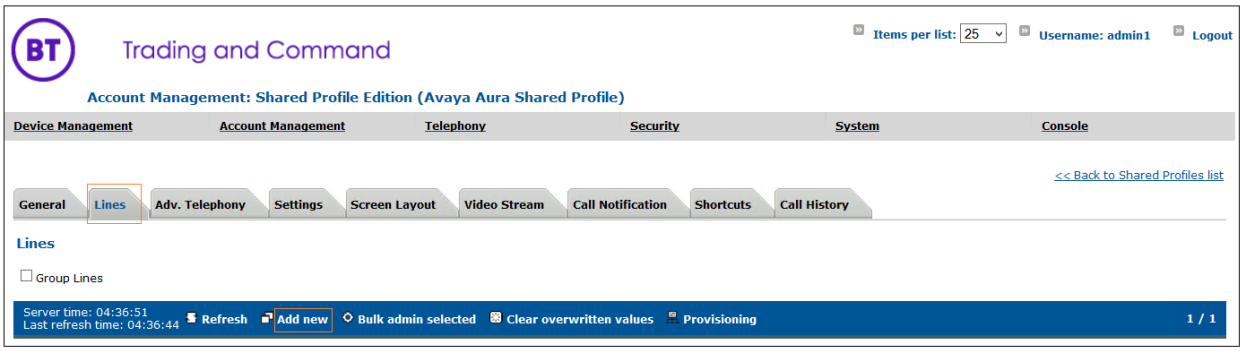


Select **Add new**.

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



Select the **Lines** tab, then select **Add new**.



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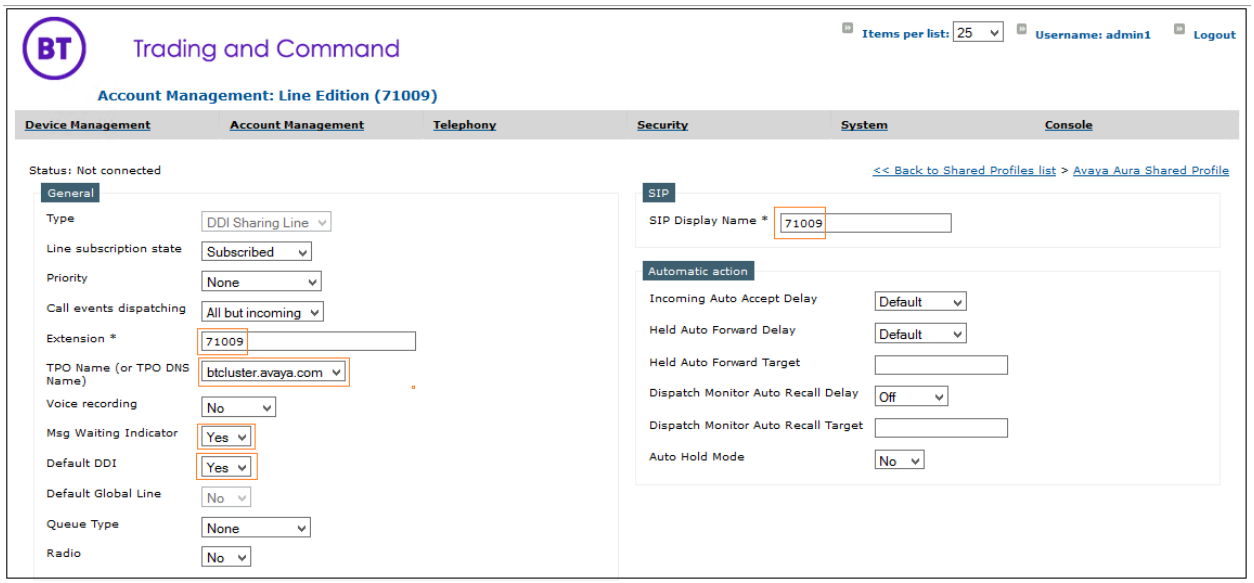
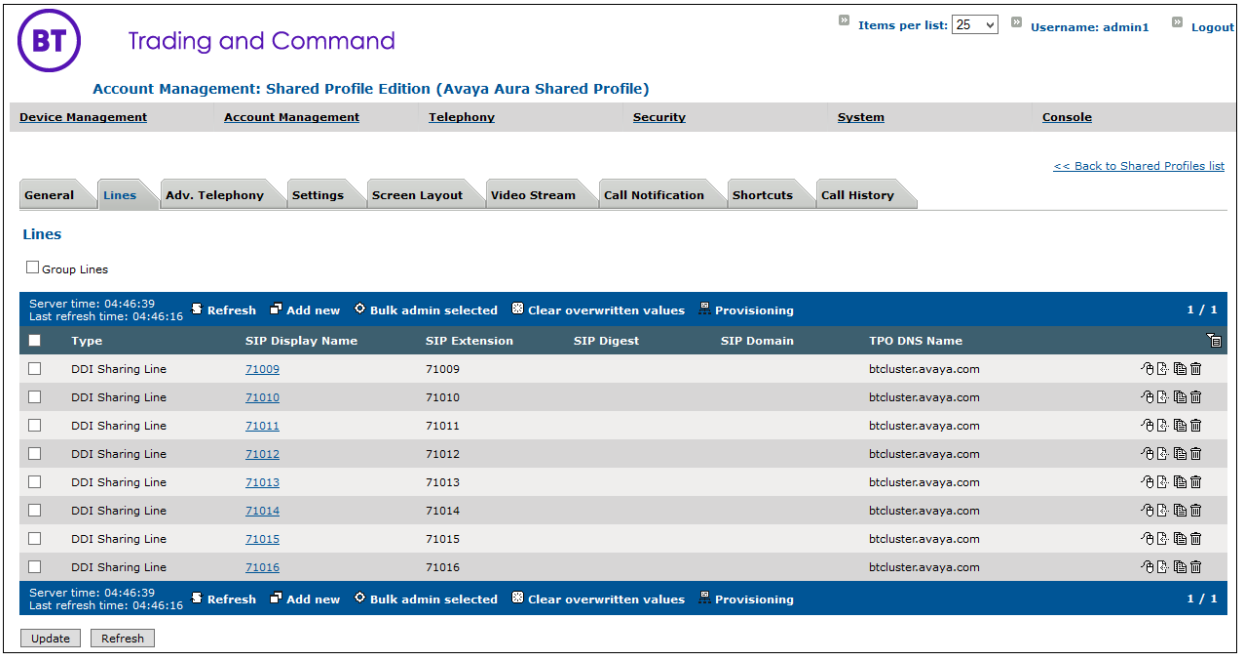
Enter all the Lines associated with the Avaya profile by entering the following information. In this example the shared line 71009 is added.



Select **Update and Go Back** (not shown) when completed.

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



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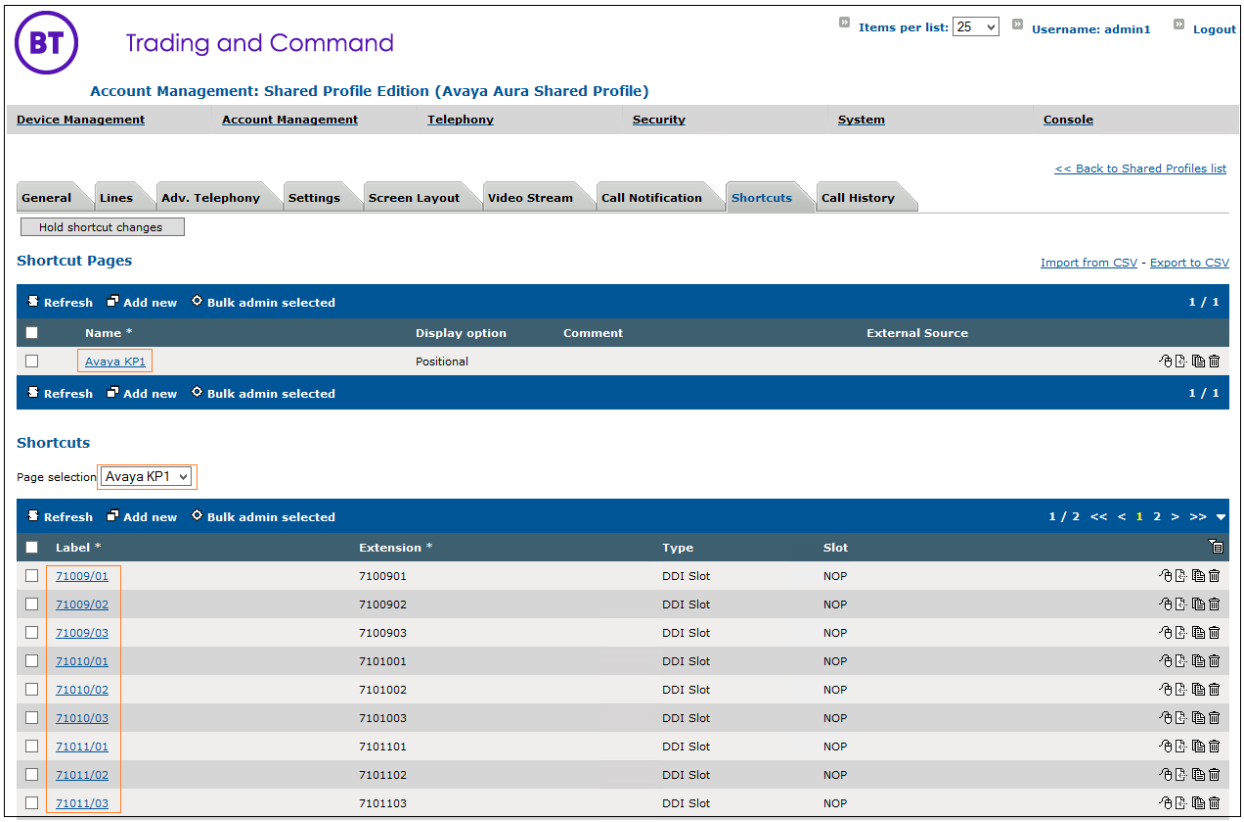
Now that the lines are added, they need to be inserted onto a Keypage. Navigate to **Account Management** and then **Shared Profiles** (not shown).

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.



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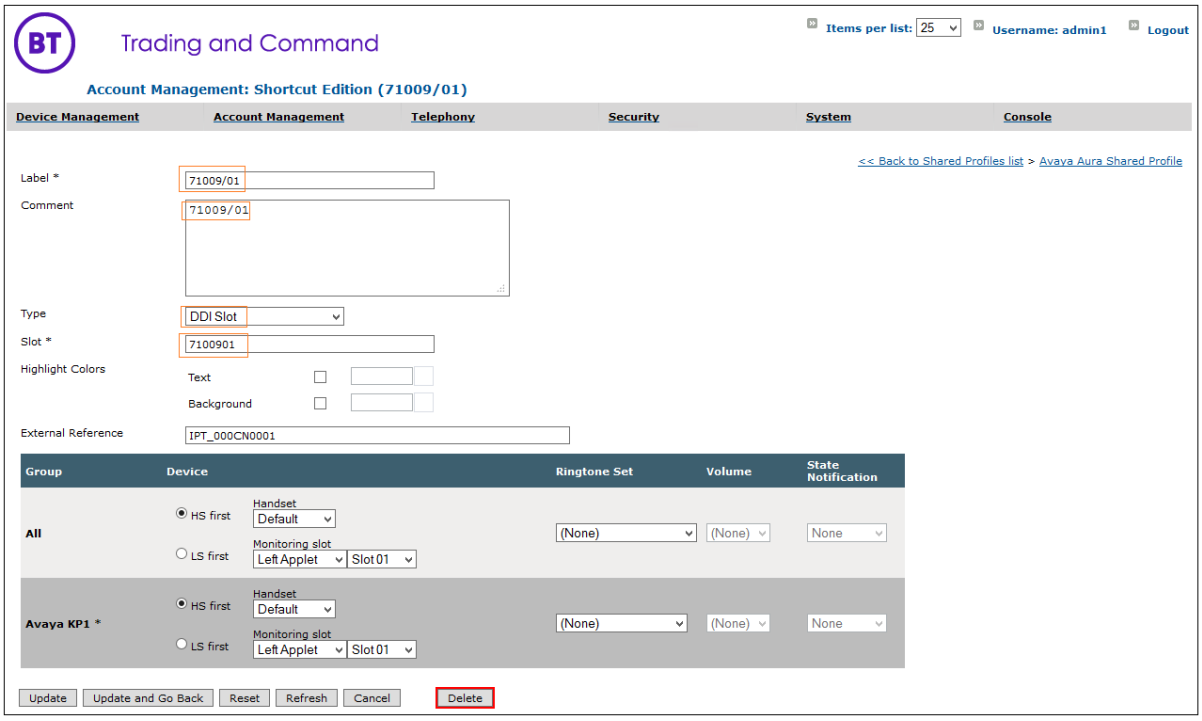
Configure the example shown below. In this example, the first slot (71009/1) is configured for Shared Appearance 71009.

Label: The Shared Appearance followed by the slot number.
Type: Select **DDI Slot**.
Slot: The full Shared Appearance. 7100901. mean this slot take 1st appearance of extension 71009.

Once complete, select **Update and Go Back**.



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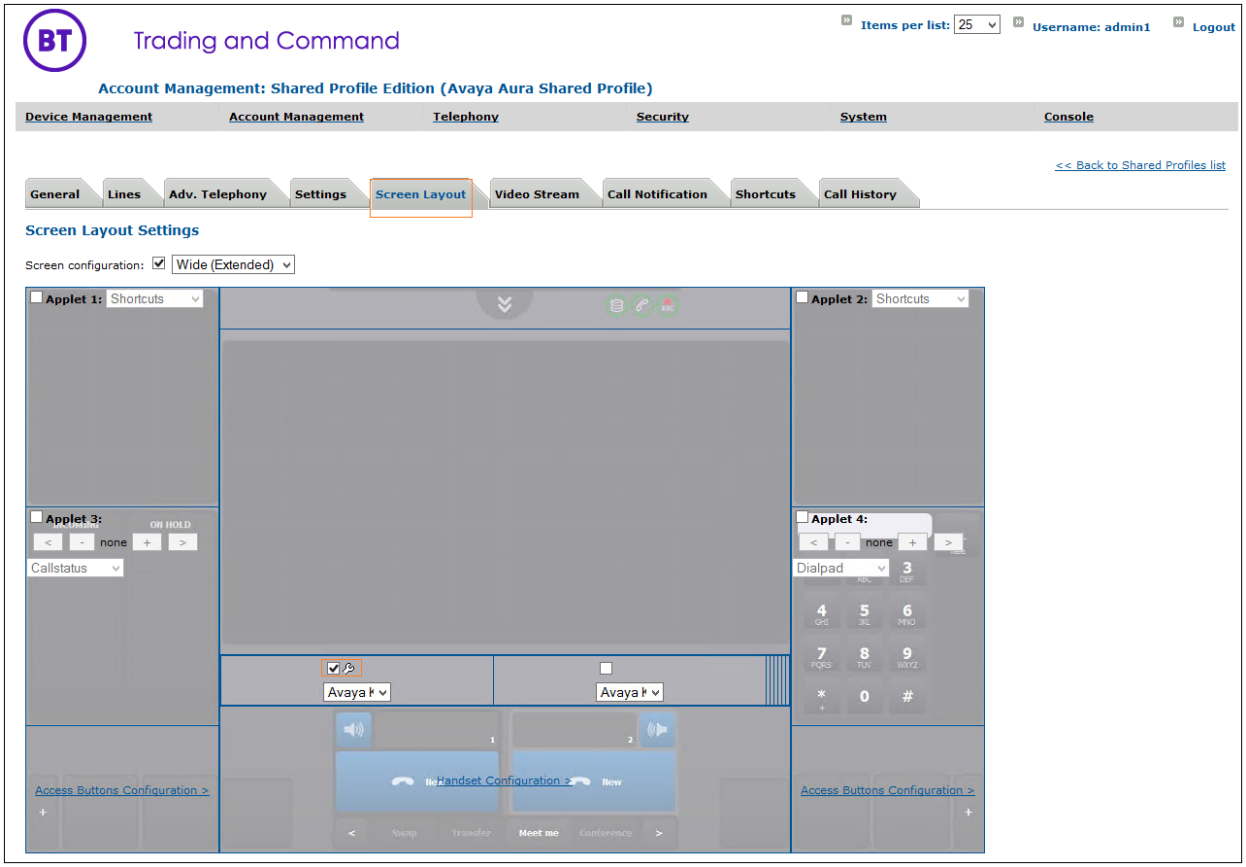
Next, select the **Screen Layout** tab from the top menu bar.

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.



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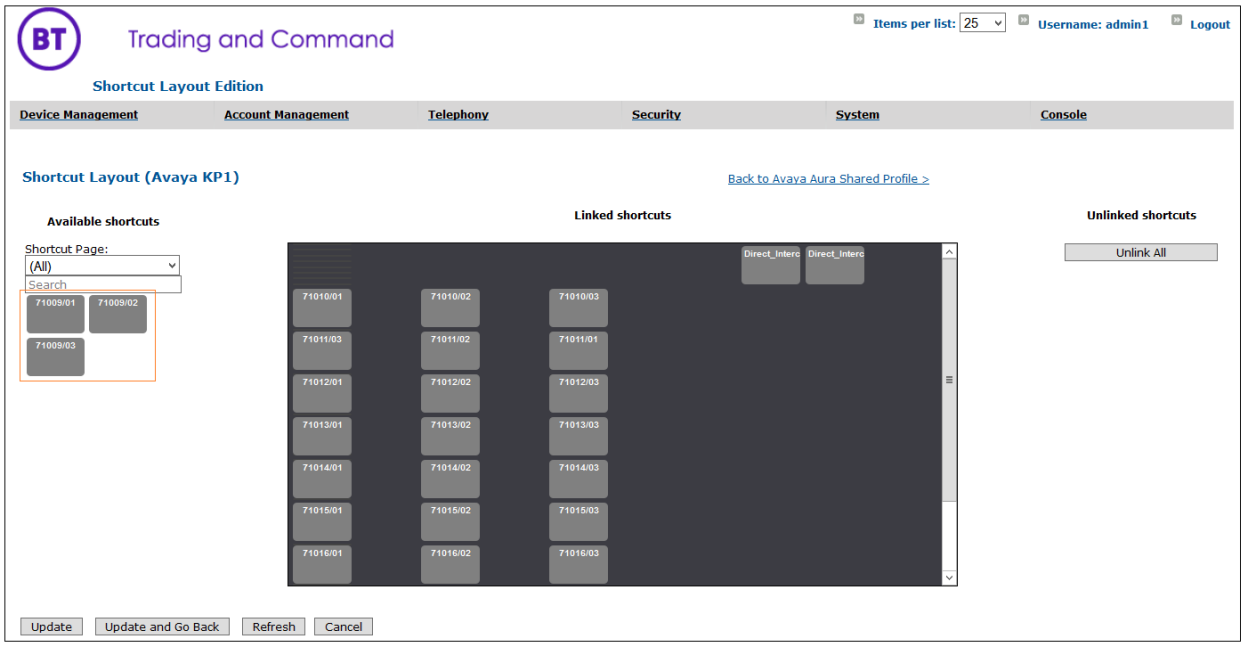
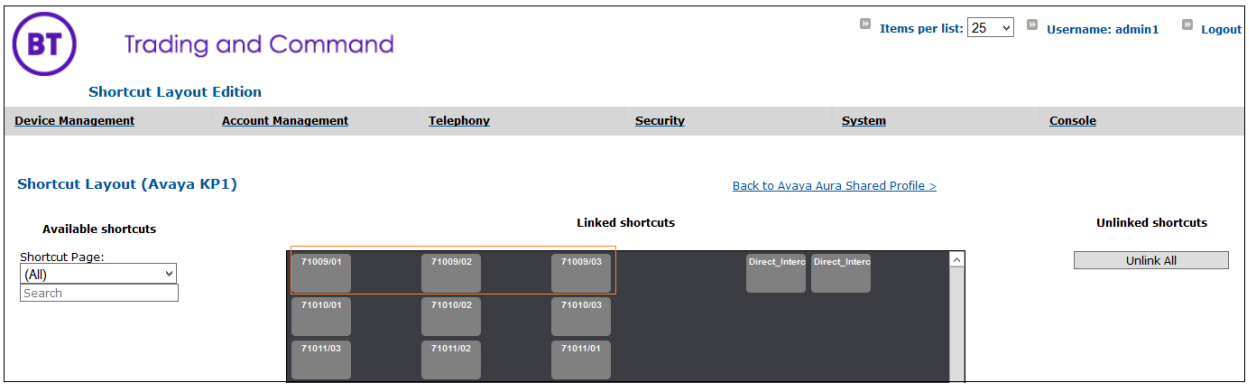
The shortcuts are created as **Available shortcuts** on the left-hand side of the screen. Click each shortcut which will automatically place the shortcut into the **Unlinked shortcuts** window. Click and drag the shortcuts into the **Linked shortcuts** window.





Select **Update and Go Back** (not shown) after linking the shortcuts.

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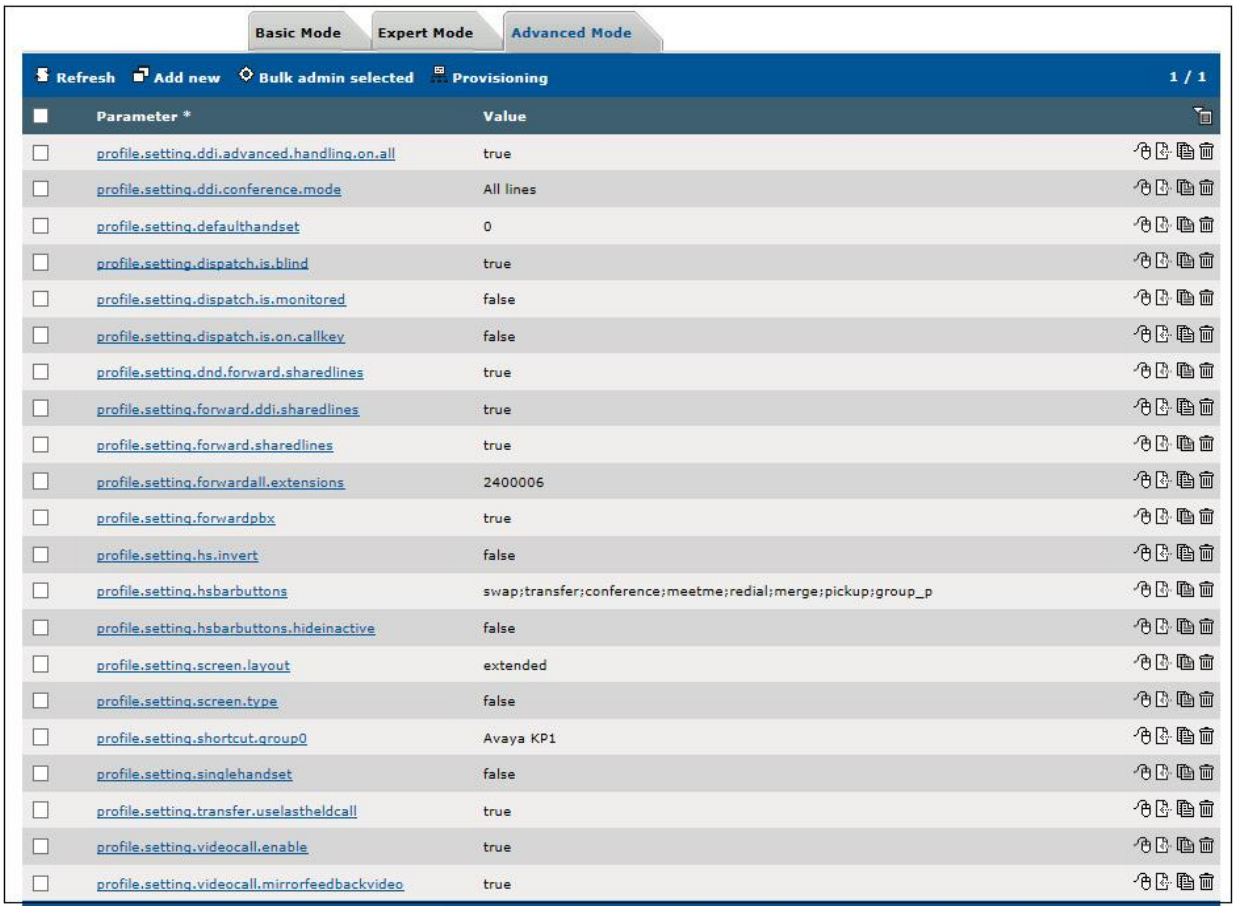
Navigate to **Advanced Mode** tab, ensure that all the advanced settings are present as per the screenshot below. Please refer to earlier in this document for adding new parameters.



Basic Mode | Expert Mode | Advanced Mode

Refresh | Add new | Bulk admin selected | Provisioning | 1 / 1

Parameter *	Value
profile.setting.ddi.advanced.handling.on.all	true
profile.setting.ddi.conference.mode	All lines
profile.setting.defaulthandset	0
profile.setting.dispatch.is.blind	true
profile.setting.dispatch.is.monitored	false
profile.setting.dispatch.is.on.callkey	false
profile.setting.dnd.forward.sharedlines	true
profile.setting.forward.ddi.sharedlines	true
profile.setting.forward.sharedlines	true
profile.setting.forwardall.extensions	2400006
profile.setting.forwardpbx	true
profile.setting.hs.invert	false
profile.setting.hsbarbuttons	swap;transfer;conference;meetme;redial;merge;pickup;group_p
profile.setting.hsbarbuttons.hideinactive	false
profile.setting.screen.layout	extended
profile.setting.screen.type	false
profile.setting.shortcut.group0	Avaya KP1
profile.setting.singlehandset	false
profile.setting.transfer.uselastheldcall	true
profile.setting.videocall.enable	true
profile.setting.videocall.mirrorfeedbackvideo	true

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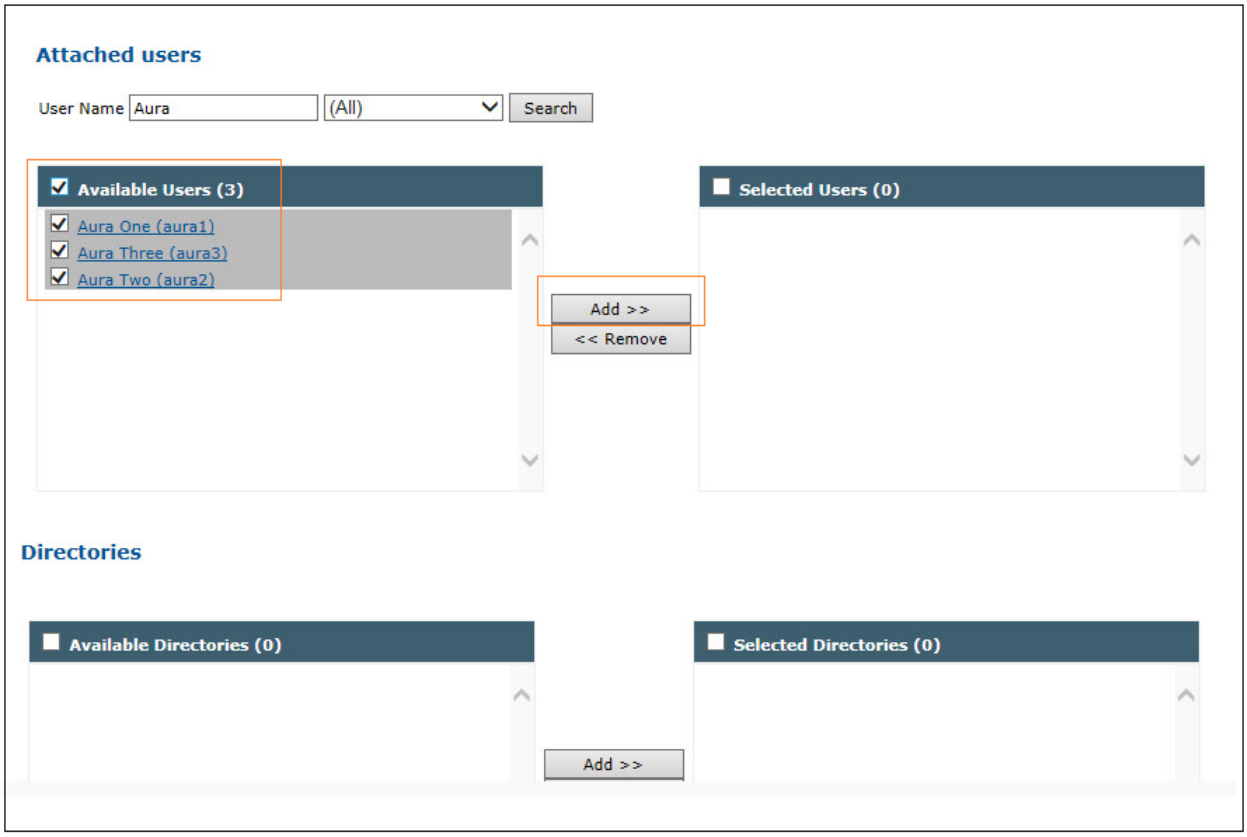
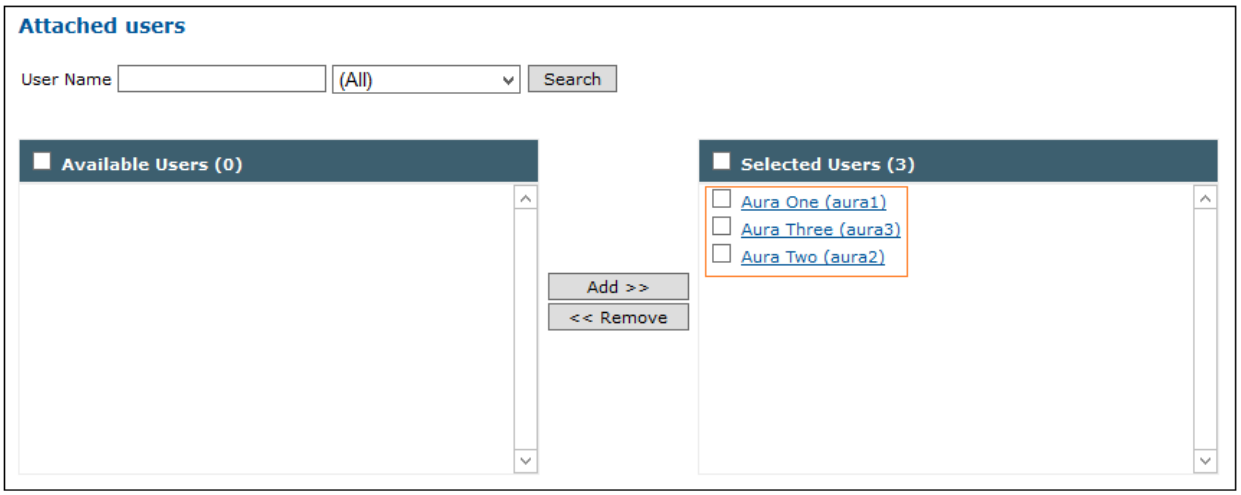
Assign Avaya Aura shared profile to the Users.

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

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





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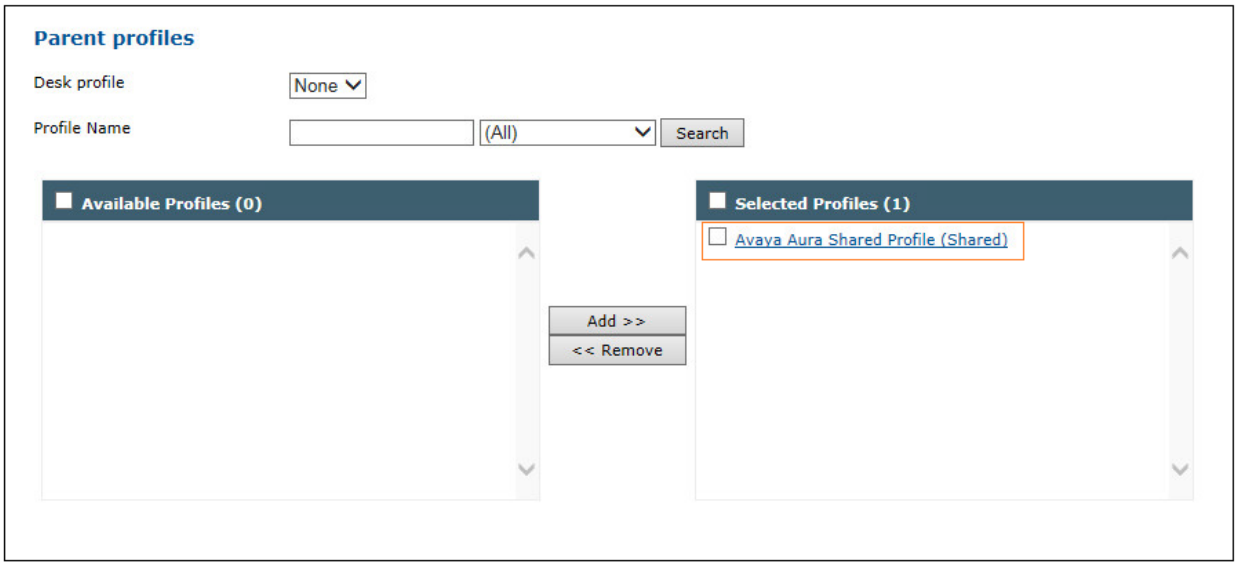
The users have been added into the right-hand window. Select **Update and Go Back** (not shown).



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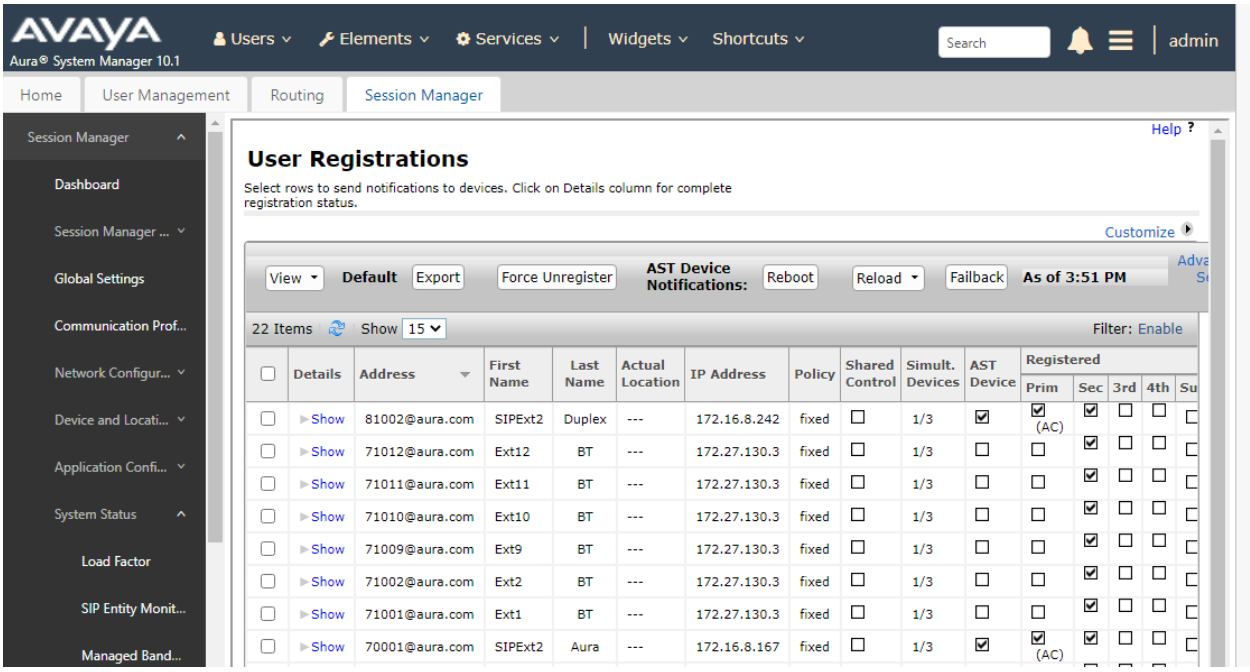
8. Verification Steps

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 → User Registrations** from the left-hand menu (not shown). The BT Trading Turret users are listed and will show a tick in the **Prim** box under **Registered**.



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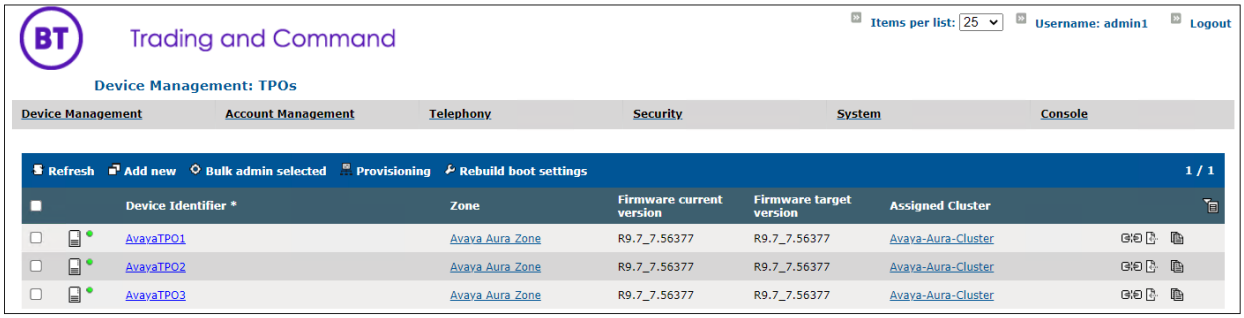
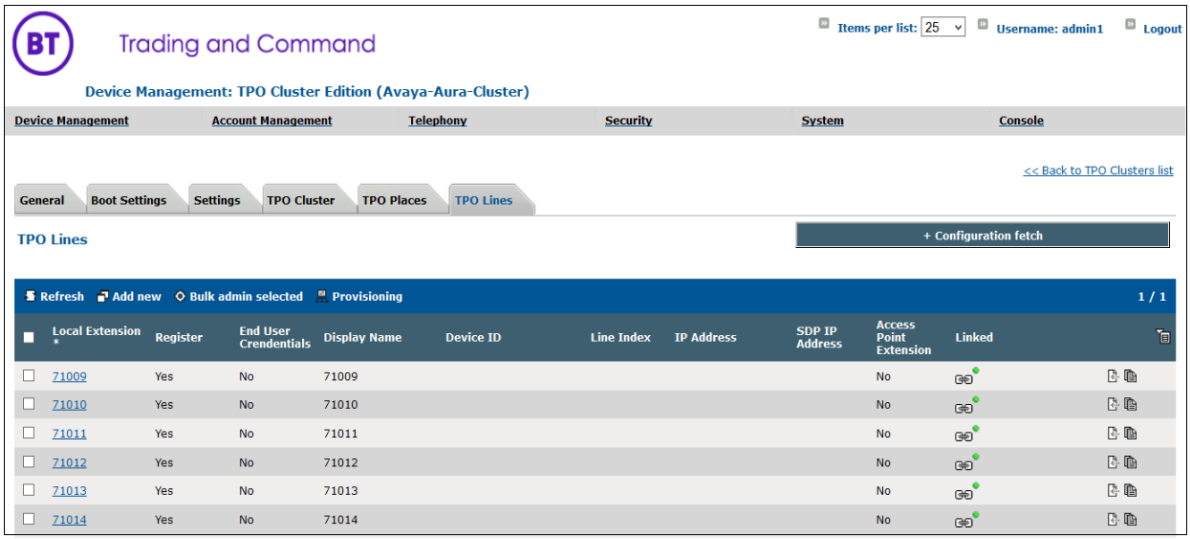
8.2. BT Trading Platform Verification

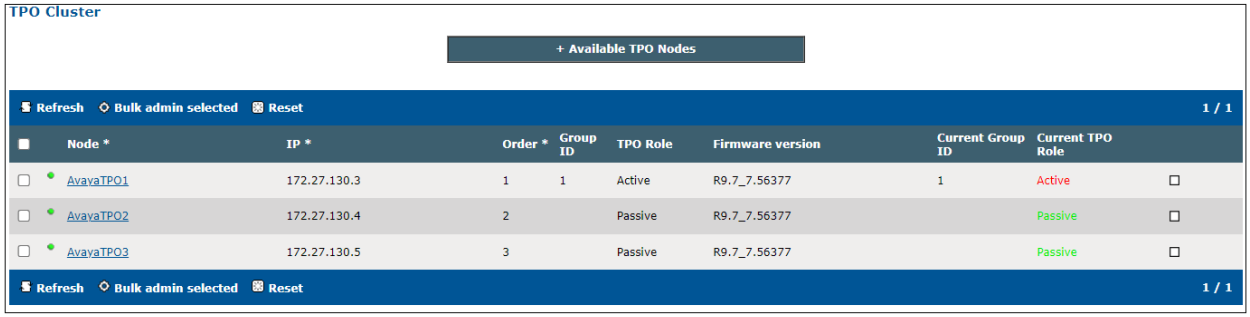
In **Device Management → TPOs**, ensure that the TPOs are reachable and appear in the green status as shown below.



In **Device Management → TPO Cluster Edition (Avaya-Aura- 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 TPOs must show a green status and Active in for the active TPO in Cluster and Passive in 2 standby TPO.



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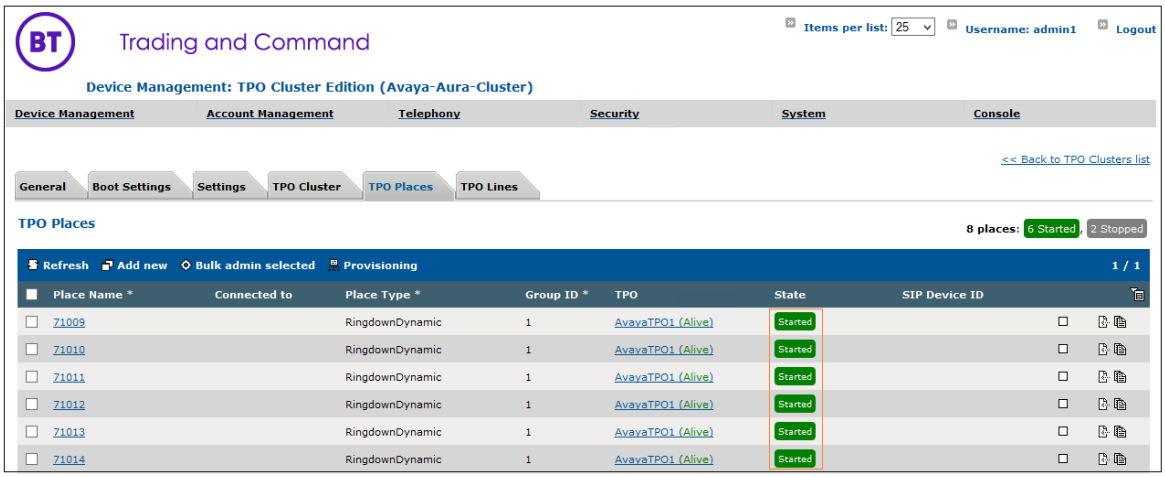
Lastly select the **TPO Places** tab. All lines show a status of **Started**; this indicates that the TPO has registered the line to the Session Manager.



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 *http://support.avaya.com*.

i. *Administering Avaya Aura® Communication Manager Administering Avaya Aura® Session Manager Release 10.1.x, Issue 4, Feb 2023*
ii. *Administering Avaya Aura® Communication Manager Release 10.1, Issue 4, Feb 2023*
iii. *Administering Avaya Aura® System Manager Release 10.1, Issue 4, Feb 2023*

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

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