



Application Notes for British Telecom Trading Platform 9.7 with Avaya IP Office 11.1 - Issue 1.0

Abstract

These Application Notes describe the configuration steps required to integrate British Telecom (Financial Technology Services) Trading Platform 9.7 with Avaya IP Office 11.1. British Telecom Trading Platform is a SIP endpoints management solution that interoperates with Avaya IP Office 11.1 to register British Telecom Trading Turrets 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 9.6 with Avaya IP Office 11.1. The BT Trading Platform is a SIP endpoints management solution that interoperates with Avaya IP Office 11.1 to register British Telecom Trading Turrets as SIP endpoints.

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 IP Office.

- **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 extension and local BT Trading Turrets end-users. When the local BT Trading Turrets end-users dial the remote TPO proxy number, the users can speak publicly or privately to that remote proxy phone. In these Application Notes, the TPO server registers one SIP endpoint as the proxy phone with Avaya IP Office.

2. General Test Approach and Test Results

The general test approach was to configure the BT Trading Turrets to communicate with the Avaya IP Office 11.1 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 Trade 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 DDI lines with IP Office Server Edition and Expansion 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.
- Basic features include 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

All the test cases passed.

The following observations were noted:

- After an IP Office restart, the BT Turrets need restarting to register again.

2.3. Support

For technical support on BT Trading Platform, send email to 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 Avaya IP Office. BT Trading Platform manages BT Trading Turrets and uses the DDI lines by registering to Avaya IP Office and allowing communication with Avaya desk phones.

BT Trading Platform interoperates with Avaya IP Office using TCP connection.

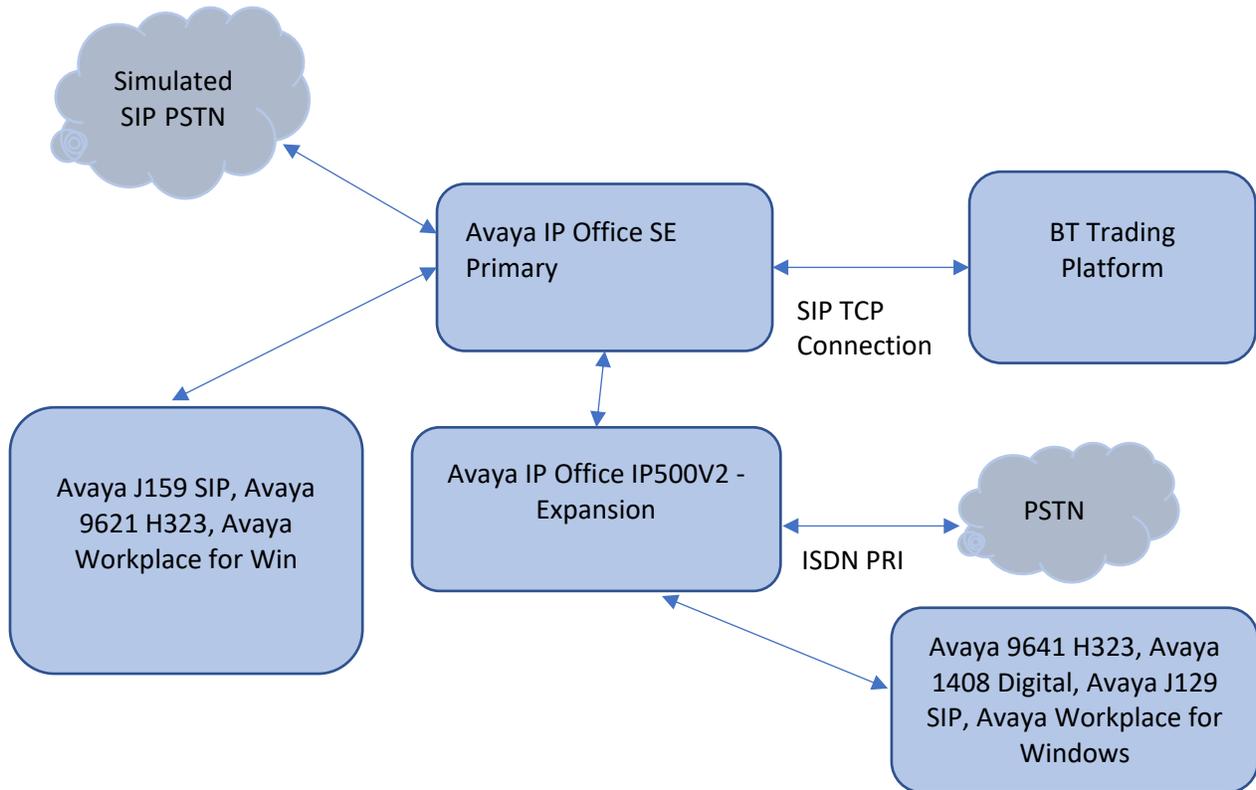


Figure 1: Connection of BT Trading Platform with Avaya IP Office

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office 500v2 Expansion System	11.1 FP2 SP4
Avaya IP Office Manager running on a Windows 10 PC	11.1 FP2 SP4
Avaya IP Office Server Edition on VMware	11.1 FP2 SP4
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
Avaya 1408 Digital Deskphone	2.0 Service Pack 9 (R20)
BT Trading Platform Turret Support Server (TSS) <ul style="list-style-type: none"> • Firmware • Bootstrap 	R9.7.9.56615 R9.7_9.56602
BT TPO with Redundancy Mode Session Persistency <ul style="list-style-type: none"> • Firmware • Bootstrap 	R9.7_9.56619 R9.7_9.56613
BT Trading Turrets <ul style="list-style-type: none"> BT TouchPro <ul style="list-style-type: none"> • Firmware • Bootstrap BT FlexPro Version 	R9.7_9.56619 R9.7_9.56613 R9.7_9.56619

Note: Compliance Testing is applicable when the tested solution is deployed with a standalone IP Office 500 V2 and when deployed with IP Office Server Edition in all configurations.

5. Configure Avaya IP Office

Configuration and verification operations on Avaya IP Office illustrated in this section were all performed using Avaya IP Office Manager. The information provided in this section describes the configuration of the IP Office for this solution. It is implied a working system is already in place with the necessary licensing. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 9**. The configuration operations described in this section can be summarized as follows:

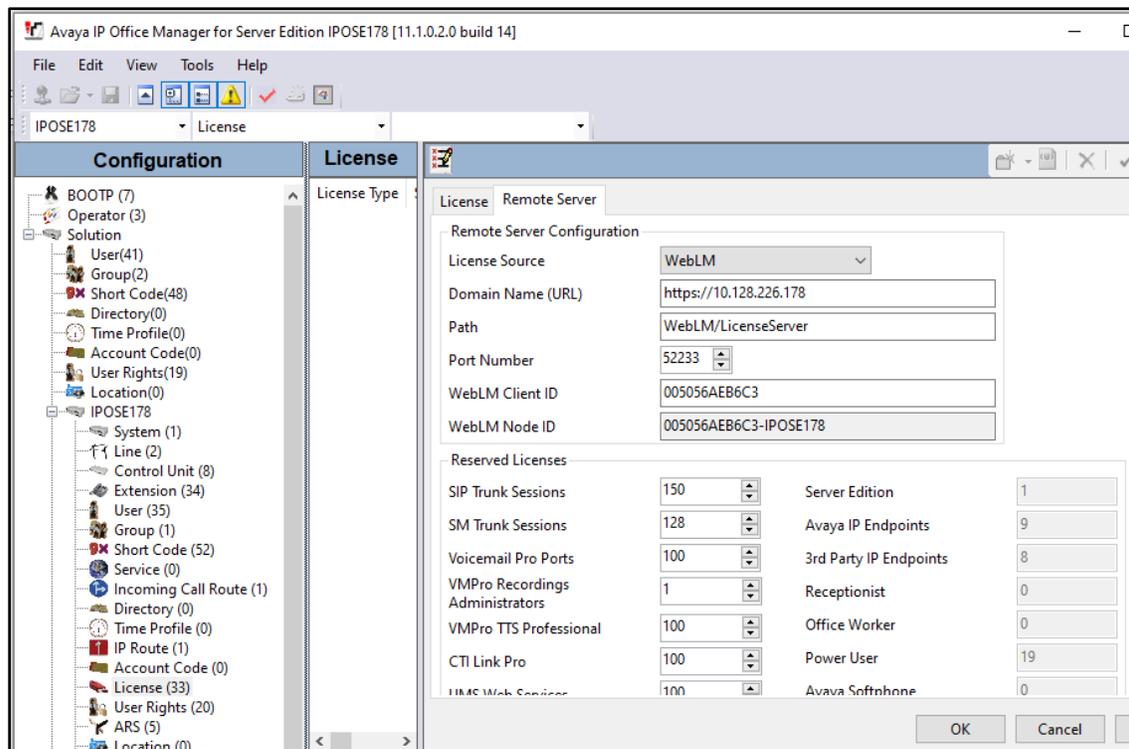
- Launch Avaya IP Office Manager (Administration)
- Check 3rd Party IP Endpoints License
- Add Users for BT Trading Turrets
- Save Configuration

5.1. Launch Avaya IP Office Manager (Administration)

From the Avaya IP Office Manager PC, go to **Start** → **Program** → **IP Office** → **Manager** to launch the Manager application. Log into **Avaya IP Office** using the appropriate credentials to receive its configuration (Not Shown).

5.2. Check 3rd Party IP Endpoints License

Select **IPO Server Edition (Primary)** → **License** → **Remote Server** to display the applicable WebLM server. Log into WebLM server using the appropriate credentials and navigate to display installed licenses (not shown).



Select **Licensed products** → **IPO** → **IP Office** in the left pane, to display the **Licensed Features** screen in the right pane.
 Verify that there are sufficient licenses for **3rd Party IP Endpoints**, as shown below.

IP Office - Release: 11 - SID: 91615000 **Standard License file**

You are here: Licensed Products > IP_Office > View License Capacity

License installed on: June 6, 2018 5:06:44 AM +00:00

License File Host IDs: V4-9E-43-EE-A6-2C-01

Licensed Features

35 Items Show 15

Feature (License Keyword)	Expiration date	License
Additional Voicemail Pro Ports VALUE_IPO_VM_PORTS	permanent	150
VMPro TTS - Scansoft VALUE_IPO_VM_TTS_SCANSOFT	permanent	40
UMS Web Services VALUE_IPO_UMS_WEB	permanent	100
Receptionists VALUE_IPO_CCC_WOC	permanent	4
Centralized Endpoints VALUE_IPO_CENT_ENDPOINTS	permanent	100
Server Edition VALUE_IPO_EDITION_SERVER	permanent	10
IPSec Tunneling VALUE_IPO_IPSEC	permanent	1
3rd Party IP Endpoints VALUE_IPO_IP_ENDPOINTS	permanent	384

5.3. Add Users for BT Trading Turrets

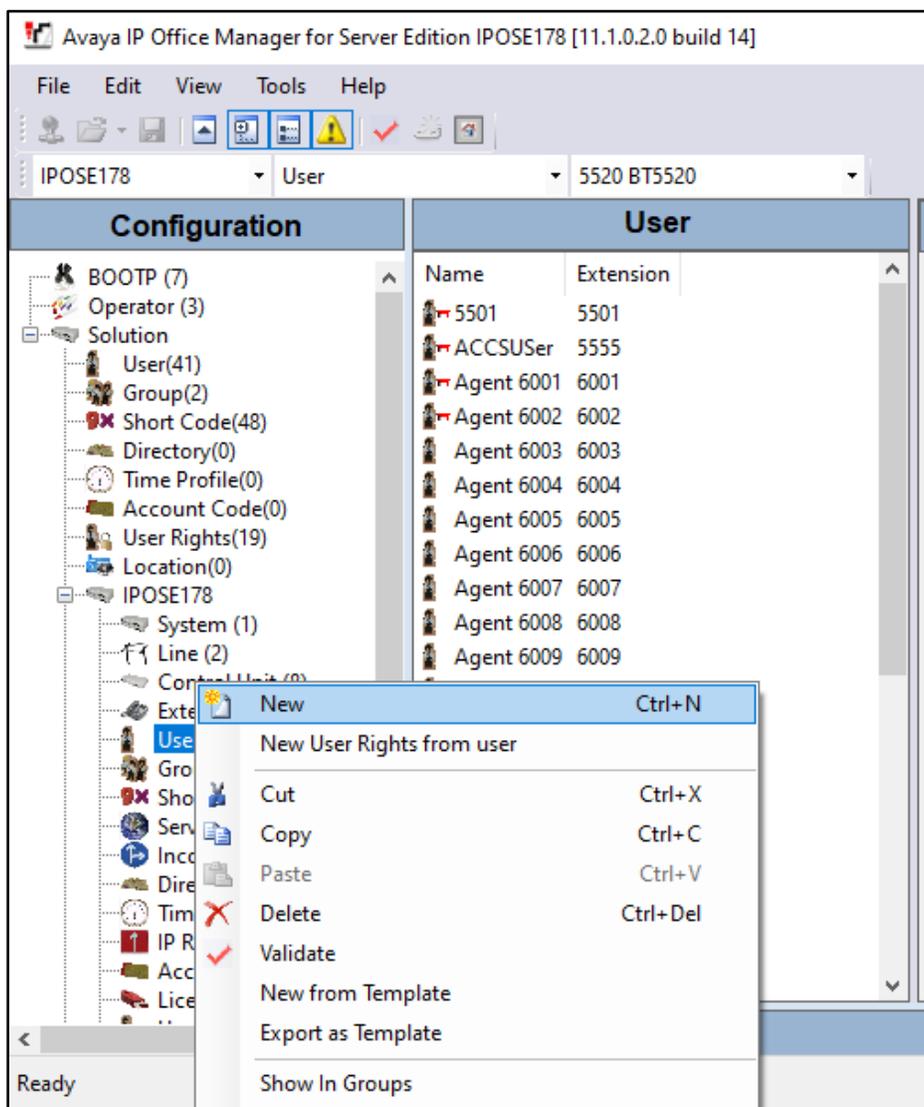
In this section the configuration steps required to connect BT Trade Platform to Avaya IP Office as SIP Endpoints are described. It is assumed that Avaya IP Office has already been installed and configured as this is out with the scope of this document. All Configuration steps were carried out using **Avaya IP Office Manager**. Configuration steps will include:

- Adding a BT Trading Turrets as SIP Users.
- Check Extension Properties.

5.3.1. Create a New User

A SIP user must be added for each BT Trading Turret required. In this compliance test, 6 Users are created: **5520-5525** for BT Trade Turrets.

From the Avaya IP Office Manager, Select **IPO Server Edition (Primary) IPOSE178**, right click on **User** and select **New**.



On the Identity tab enter an identifying **Name**, **Full Name**, **Extension** and administer a password in the **Password** and **Confirm Password** fields. Select **Basic User** from the **Profile** drop down box

User	Voicemail	DND	Short Codes	Source Numbers	Telephony	Forwarding	Dial In	Voice Rec
Name	<input type="text" value="BT5520"/>							
Password	<input type="password" value="••••••••"/>							
Confirm Password	<input type="password" value="••••••••"/>							
Unique Identity	<input type="text"/>							
Conference PIN	<input type="text"/>							
Confirm Audio Conference PIN	<input type="text"/>							
Account Status	Enabled ▾							
Full Name	<input type="text" value="BT5520"/>							
Extension	<input type="text" value="5520"/>							
Email Address	<input type="text"/>							
Locale	▾							
Priority	5 ▾							
System Phone Rights	None ▾							
ACCS Agent Type	<input type="text" value="None"/>							
Profile	Power User ▾							
	<input type="checkbox"/> Receptionist							
	<input checked="" type="checkbox"/> Enable Softphone							
	<input checked="" type="checkbox"/> Enable one-X Portal Services							
	<input checked="" type="checkbox"/> Enable one-X TeleCommuter							
	<input checked="" type="checkbox"/> Enable Remote Worker							
	<input checked="" type="checkbox"/> Enable Desktop/Tablet VoIP client							
	<input checked="" type="checkbox"/> Enable Mobile VoIP Client							
	<input type="checkbox"/> Send Mobility Email							
	<input type="checkbox"/> Web Collaboration							
	<input type="checkbox"/> Exclude From Directory							
Device Type	 <input type="text" value="Unknown SIP device"/>							
User Rights	<input type="text" value="User Rights view"/> <input type="text" value="User data"/> ▾							

Under the **Telephony** tab and **Supervisor Settings** tab, enter the password again for the **Login Code**.

User Voicemail DND Short Codes Source Numbers **Telephony** Forwarding Dial In Voice Recording

Call Settings **Supervisor Settings** Multi-line Options Call Log TUI

Login Code [.....] Force Login

Confirm Login Code [.....]

Login Idle Period (sec) [] Force Account Code

Monitor Group [<None>] Force Authorization Code

Coverage Group [<None>] Incoming Call Bar

Status on No-Answer [Logged On (No change)] Outgoing Call Bar

Privacy Override Group [<None>] Inhibit Off-Switch Forward/Transfer

Reset Longest Idle Time All Calls External Incoming Can Intrude Cannot Be Intruded Can Trace Calls Deny Auto Intercom Calls

Once **OK** is clicked at the bottom of the screen a new window should appear asking to create a new extension. Select **SIP Extension** as is shown below.

Note: If the system is not setup to auto-create extensions then a new extension can be added by right-clicking on **Extension** on the left window and selecting **New**, (not shown).

Avaya IP Office Manager

Would you like a new VoIP extension created with this number?

None

H323 Extension

SIP Extension

OK

5.3.2. Check Extension Properties

Once the SIP extension has been successfully created in **Section 5.3.1**, open the extension configuration. Select **Extension** in the left window and select the required extension number. In the main window under **VoIP** tab, Allow **Direct Media Path** can be checked or unchecked as shown below. Other settings such as **DTMF Support** and **Codec Selection** are possible to change here as well again if required by BT.

Select **Reserve 3rd party IP endpoint license** from **Reserve License** drop box. And select **Disabled** from **Media Security** drop box.

The screenshot displays the VoIP configuration interface with the following settings:

- IP Address:** 0 . 0 . 0 . 0
- Codec Selection:** Custom (dropdown menu)
- Codec Selection List:**
 - Unused:** G.722 64K, G.729(a) 8K CS-ACELP
 - Selected:** G.711 ULAW 64K, G.711 ALAW 64K
- Reserve License:** Reserve 3rd party IP endpoint license (dropdown menu)
- Fax Transport Support:** None (dropdown menu)
- DTMF Support:** RFC2833/RFC4733 (dropdown menu)
- 3rd Party Auto Answer:** None (dropdown menu)
- Media Security:** Disabled (dropdown menu)

Additional options on the right side:

- Requires DTMF
- Local Hold Music
- Re-invite Supported
- Codec Lockdown
- Allow Direct Media Path

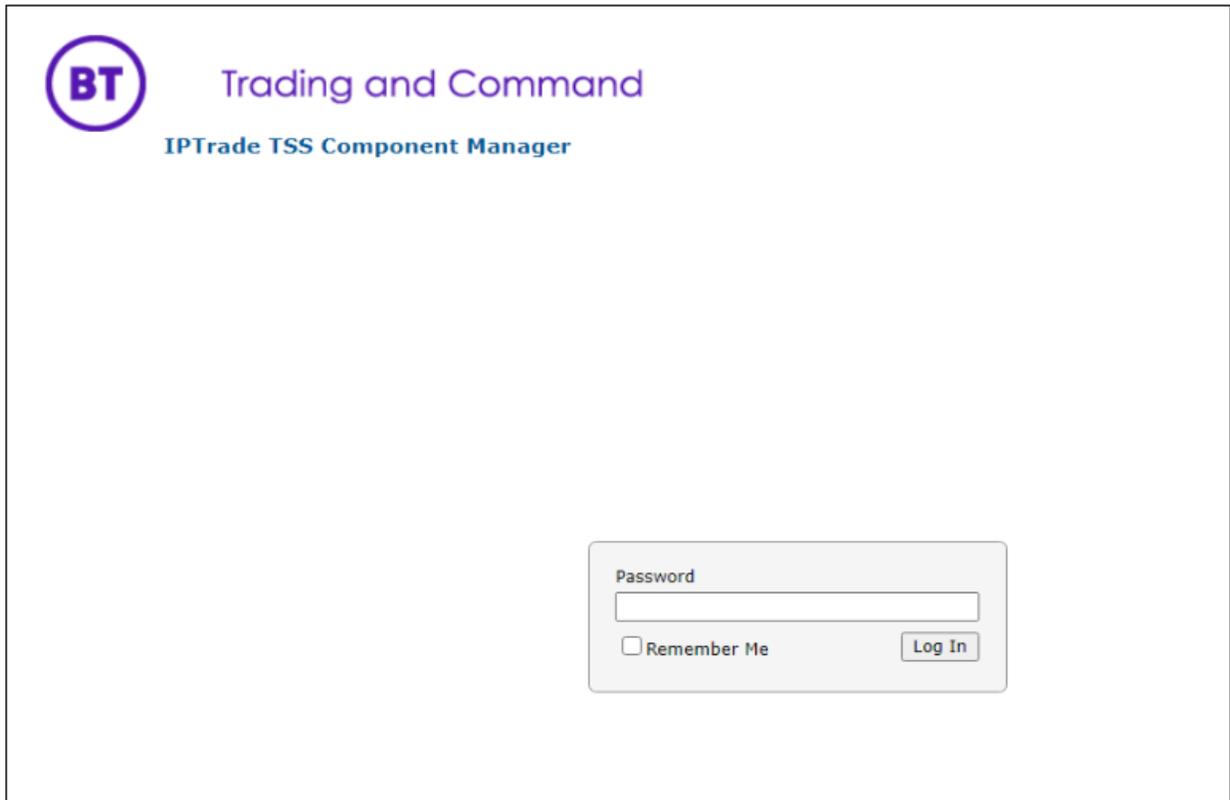
6. Configure the BT Trading Platform

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.

6.1. 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**.



The screenshot shows the login interface for the BT Trading and Command IPTrade TSS Component Manager. At the top left is the BT logo, followed by the text "Trading and Command" and "IPTrade TSS Component Manager". In the center, there is a login form with a "Password" label, a text input field, a "Remember Me" checkbox, and a "Log In" button.

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

BT Trading and Command

IPTrade TSS Component Manager

TSS Versions TSS OS TSS Bootstrap

Replication Secondary server IP or FQDN: Set

Default Version 9.7.9.56615

	PRIMARY	SECONDARY
Console	https://Avaya_TSS01.thrdpa.itsnet.bt.com/iotradenet/console	
TSS	https://Avaya_TSS01.thrdpa.itsnet.bt.com/iotradenet/tss	

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

BT Trading and Command

Log In

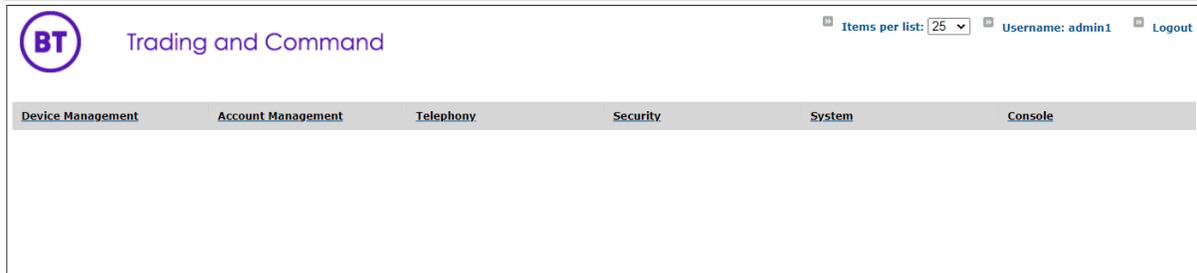
User Identifier

Password

Remember my login on this computer

Log In

Upon successful login, the following screen will be presented.



6.1.1. 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 IPO Zone and **Update**.

The screenshot shows the 'Device Management: Zone Edition' page in the 'Trading and Command' interface. The page title is 'Device Management: Zone Edition'. The navigation tabs are 'Device Management', 'Account Management', 'Telephony', 'Security', 'System', and 'Console'. The 'General' tab is selected. The form contains the following fields:

- Name *: Avaya IPO Zone
- Comment: Avaya IPO Zone
- Location: Country (None), State (None), City (None)

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

The screenshot shows the 'Device Management: Zone Edition (Avaya IPO Zone)' page. The navigation tabs are 'Device Management', 'Account Management', 'Telephony', 'Security', 'System', and 'Console'. The 'Zone: Avaya IPO Zone' is displayed. The 'General' tab is selected. The form contains the following fields:

- Name *: Avaya IPO Zone
- Comment: Avaya IPO Zone
- Location: Country (None), State (None), City (None), Call Prefix
- Recording Server: Disabled
- Turret WES7 (x64) OS Upgrade Level: Default (Inherited from global config (0))
- TPO WES7 OS Upgrade Level: Default (Inherited from global config (19))
- TPO W10 OS Upgrade Level: Default (Inherited from global config (0))

Additional tabs are visible: TPO Boot Settings, Turret Boot Settings, Turrets, Mobile Trader, TPO, TPO Cluster, TPO DNS, Users, Shared Profiles, Adv. Telephony. A 'Usage' window is open, showing:

- Turrets: 3PA-Turret-01, 3PA-Turret-02, 3PA-Turret-03, DESKDEV42
- MobileTrader: none
- TPO:

A link 'Reboot all devices for this zone' is visible at the bottom of the Usage window.

Navigate to the **Turret Boot Settings** tab in Avaya IPO Zone, then select **SIP** option **Basic Mode** (not shown) and update Avaya IP Office server address to 10.128.226.178 and other highlighted parameters below.

Zone: Avaya IPO Zone [<< Back to Zones list](#)

General TPO Boot Settings **Turret Boot Settings** Turrets Mobile Trader TPO TPO Cluster TPO DNS Users Shared Profiles Adv. Telephony

Turret Boot Settings [+ Pre-defined settings](#)

T4 **Basic Mode** Expert Mode Advanced Mode

	Name	Value	Description
Audio	<input checked="" type="checkbox"/> Use bulk registration (Cisco only)	<input type="radio"/> true <input checked="" type="radio"/> false	
Automatic actions	<input type="checkbox"/> MSG Proxy Transport Type	TCP	
Bluetooth	<input type="checkbox"/> MSG Encoding		
Call History	<input checked="" type="checkbox"/> SIP Compatibility mode	ccm50	
Contact Center	<input checked="" type="checkbox"/> SIP local domain	10.128.226.178	
Contact Center	<input checked="" type="checkbox"/> SIP Connection mode	TCP	
Contextual Email	<input checked="" type="checkbox"/> SIP Proxy Transport Type	TCP	
CRM	<input checked="" type="checkbox"/> Fast media connection on SIP Ringing state	<input checked="" type="radio"/> true <input type="radio"/> false	
DDI - Sharing	<input checked="" type="checkbox"/> SIP Local IP Ports	5060	
Devices	<input checked="" type="checkbox"/> Parking mode	<input checked="" type="radio"/> tpo <input type="radio"/> adhoc	
Dial Plan	<input type="checkbox"/> SIP Manage Unsolicited messages	<input type="radio"/> true <input type="radio"/> false	

Update Refresh

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

Zone: Avaya IPO Zone [<< Back to Zones list](#)

General TPO Boot Settings **Turret Boot Settings** Turrets Mobile Trader TPO TPO Cluster TPO DNS Users Shared Profiles Adv. Telephony

Turret Boot Settings + Pre-defined settings

Basic Mode Expert Mode **Advanced Mode**

Refresh Add new Bulk admin selected Provisioning 1 / 1

Parameter *	Value	
application.bscg.alternateServiceURI		
application.bscg.baseServiceURI	https://Avaya_TSS01.thrdpa.itsnet.bt.com/lptradeNet.T...	
<input type="checkbox"/> application.mm.DTMFPayloadType	127	
<input type="checkbox"/> application.mm.supportedcodecs	0,PCMU,8000 ; 8,PCMA,8000 ; 127,telephone-event,80...	
<input type="checkbox"/> application.mm.supportedcodecs.video.H264	97 ° H264 ° 90000 ° profile-level-id=42801E;packetizati...	
<input type="checkbox"/> application.sip.call.fastmediaconnect	true	
<input type="checkbox"/> application.sip.connection.mode	TCP	
<input type="checkbox"/> application.sip.connection.port	5060	
<input type="checkbox"/> application.sip.enableTCP	true	
<input type="checkbox"/> application.sip.koml.enabled	false	
<input type="checkbox"/> application.sip.localdomain	10.128.226.178	
<input type="checkbox"/> application.sip.non-standard.compatibility	ccm50	
<input type="checkbox"/> application.sip.park.mode	tpo	
<input type="checkbox"/> application.sip.proxy.transporttype	TCP	
<input type="checkbox"/> application.sip.register.bulk	false	
<input type="checkbox"/> profile.setting.videocall.defaultstate.heldresume	send_receive	

Refresh Add new Bulk admin selected Provisioning 1 / 1

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

application.sip.localdomain 10.128.226.178

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

Zone: Avaya IPO Zone [<< Back to Zones list](#)

General TPO Boot Settings **Turret Boot Settings** Turrets Mobile Trader TPO TPO Cluster TPO DNS Users Shared Profiles Adv. Telephony

Turret Boot Settings + Pre-defined settings

Basic Mode Expert Mode **Advanced Mode**

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

Now, enter the following statement, the IP Address should mirror the Avaya IP Office. In this example, the IP Address is 10.128.226.178. When complete, select **Update and Go Back**.

Zone: Avaya IPO Zone [<< Back to Zones list >](#) [Avaya IPO Zone](#)

Name *

Value

Update and Go Back Reset Refresh Cancel Delete

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.

The screenshot shows the 'Turret Boot Settings' configuration page in 'Advanced Mode'. The 'application.mm.supportedcodecs' parameter is highlighted with a red box. The table below lists the parameters and their values:

Parameter *	Value
application.bscg.alternateServiceURI	
application.bscg.baseServiceURI	https://Avaya_TSS01.thrdpa.itsnet.bt.com/IptradeNet.T...
application.mm.DTMFPayloadType	127
application.mm.supportedcodecs	0,PCMU,8000 ; 8,PCMA,8000 ; 127,telephone-event,80...
application.mm.supportedcodecs.video.H264	97 ° H264 ° 90000 ° profile-level-id=42801E;packetizati...
application.sip.call.fastmediaconnect	true
application.sip.connection.mode	TCP
application.sip.connection.port	3060
application.sip.enableTCP	true
application.sip.kvml.enabled	false
application.sip.localdomain	10.128.226.178
application.sip.non-standard.compatibility	ccm50
application.sip.park.mode	tpo
application.sip.proxy.transporttype	TCP
application.sip.register.bulk	false
profile.setting.videocall.defaultstate.heldresume	send_receive

6.1.2. Configure Avaya TPO Cluster

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

The screenshot shows the 'Device Management: TPO Clusters' page in the Avaya interface. The page displays a table of TPO Clusters with the following data:

Zone	Department	Cost center	Comment	Last modification date *
Avaya Aura Zone				2/20/2023 3:51:54 PM
Avaya IPO Zone			Avaya-IPO-Cluster	5/8/2023 8:43:19 AM
CUCH Zone				3/16/2023 5:15:41 PM

A warning message is displayed: "Warning! One of your license validation has expired." and a "+ Configuration fetch" button is visible.

Click **Add new** and provide the TPO cluster name as **Avaya-IPO-Cluster**. Assign the Zone as **Avaya IPO Zone** → Click on Save and Go Back.

BT Trading and Command

Device Management: TPO Cluster Edition

Device Management Account Management Telephony Security System Console

Items per list: 25 Username: admin1 Logout

<< Back to TPO Clusters list

General

Name * Avaya-IPO-Cluster

Zone Avaya IPO Zone

Recording Server Inherited

Comment Avaya-IPO-Cluster

Save and Go Back Save and Edit Save and Add Another Reset Cancel

Navigate to **Avaya-IPO-Cluster** → **Boot Settings** and configure IP Office IP and other parameters shown in picture below.

BT Trading and Command

Device Management: TPO Cluster Edition (Avaya-IPO-Cluster)

Device Management Account Management Telephony Security System Console

Items per list: 25 Username: admin1 Logout

Users Shared Profiles

<< Back to TPO Clusters list

General Boot Settings Settings TPO Cluster TPO Places TPO Lines

Boot Settings

Basic Mode Expert Mode Advanced Mode

	Name	Value	Description
CAPF	<input checked="" type="checkbox"/> SIP local domain	10.128.226.178	⊕
Cluster	<input checked="" type="checkbox"/> SIP Connection mode	TCP	⊕
FTP	<input checked="" type="checkbox"/> SIP Proxy Transport Type	TCP	⊕
Global	<input type="checkbox"/> Early media mixing	<input type="radio"/> true <input type="radio"/> false	⊕
Media	<input checked="" type="checkbox"/> SIP Local IP Ports	5060,5062,5064,5066,5068,5070,5072,5074,5076,5078,5080,5082,5084	⊕
	<input checked="" type="checkbox"/> SIP Local IP addresses	10.128.226.178	⊕
OLDCB	<input type="checkbox"/> Check replace header on incoming call	<input type="radio"/> true <input checked="" type="radio"/> false	⊕
Recorder	<input type="checkbox"/> Use bulk registration (Cisco only)	<input type="radio"/> true <input type="radio"/> false	⊕
SIP	<input type="checkbox"/> MSG Proxy Transport Type	TCP	⊕
SNMP	<input type="checkbox"/> MSG Encoding		⊕
TMMH			
TSS			

Update Refresh

Select the **Boot Settings** tab and then **Advanced Mode**, ensure that the configuration matches with the below snapshot.

The screenshot shows the BT Trading and Command interface. At the top, there is a navigation bar with tabs for Device Management, Account Management, Telephony, Security, System, and Console. Below this, a warning message states: "Warning! One of your license validation has expired." A yellow banner below the warning contains a message: "The TPO Cluster has at least one Group ID (TPO name) that is not supposed to run because it is not associated to an ACTIVE TPO node." Below the banner, there are tabs for General, Boot Settings, Settings, TPO Cluster, TPO Places, and TPO Lines. The Boot Settings section is active, and within it, the Advanced Mode tab is selected. A table of parameters is displayed with columns for Parameter, Value, and Level. The table includes parameters such as application.bscg.alternateServiceURI, application.bscg.baseServiceURI, application.mm.nvsupportedcodecs.video.H264, and application.mm.video.enable. The table also includes checkboxes for application.sip.connection.ipaddress, application.sip.connection.mode, application.sip.connection.port, application.sip.enableTCP, application.sip.localdomain, application.sip.non-standard.ccm50.offhold.header, application.sip.non-standard.ccm50.onhold.header, application.sip.proxv.transportvoe, and application.tpo.rcap.active.maxtime.

Parameter *	Value	Level
application.bscg.alternateServiceURI		Zone
application.bscg.baseServiceURI	https://Avaya_TSS01.thrdpa.itsnet.bt.com/IptradeNet.T...	Zone
application.mm.nvsupportedcodecs.video.H264	97 ° H264 ° 90000 ° profile-level-id=42801E;packetizati...	Zone
application.mm.video.enable	true	Zone
<input type="checkbox"/> application.sip.connection.ipaddress	10.128.226.178	TPO Cluster
<input type="checkbox"/> application.sip.connection.mode	TCP	TPO Cluster
<input type="checkbox"/> application.sip.connection.port	5060,5062,5064,5066,5068,5070,5072,5074,5076,5078,...	TPO Cluster
<input type="checkbox"/> application.sip.enableTCP	true	TPO Cluster
<input type="checkbox"/> application.sip.localdomain	10.128.226.178	TPO Cluster
<input type="checkbox"/> application.sip.non-standard.ccm50.offhold.header	dummy	TPO Cluster
<input type="checkbox"/> application.sip.non-standard.ccm50.onhold.header	dummy	TPO Cluster
<input type="checkbox"/> application.sip.proxv.transportvoe	TCP	TPO Cluster
<input type="checkbox"/> application.tpo.rcap.active.maxtime	3600	TPO Cluster

Select Device Management and navigate to TPOs.

The screenshot shows a dropdown menu for Device Management. The menu items are: Productivity Tools, Productivity Tools Clusters, Geographic Groups, Turrets, Mobile Traders, PCs, TPOs (highlighted), TPO Clusters, TPOs Floor Map, Zones, Recording Servers, SIP Private Wire Gateways, PBX Clusters, and DMR AIS Gateways.

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

The screenshot shows the menu bar with the following items: Refresh, Add new (highlighted), Bulk admin selected, Provisioning, and Rebuild boot settings. The page number 1 / 1 is displayed on the right.

Enter new TPO Device Identifier i.e., **AvayaTPO4** and select the **Avaya IPO Zone** created in previous steps. Repeat the same step again to add more TPO's. **AvayaTPO5 & AvayaTPO6**.

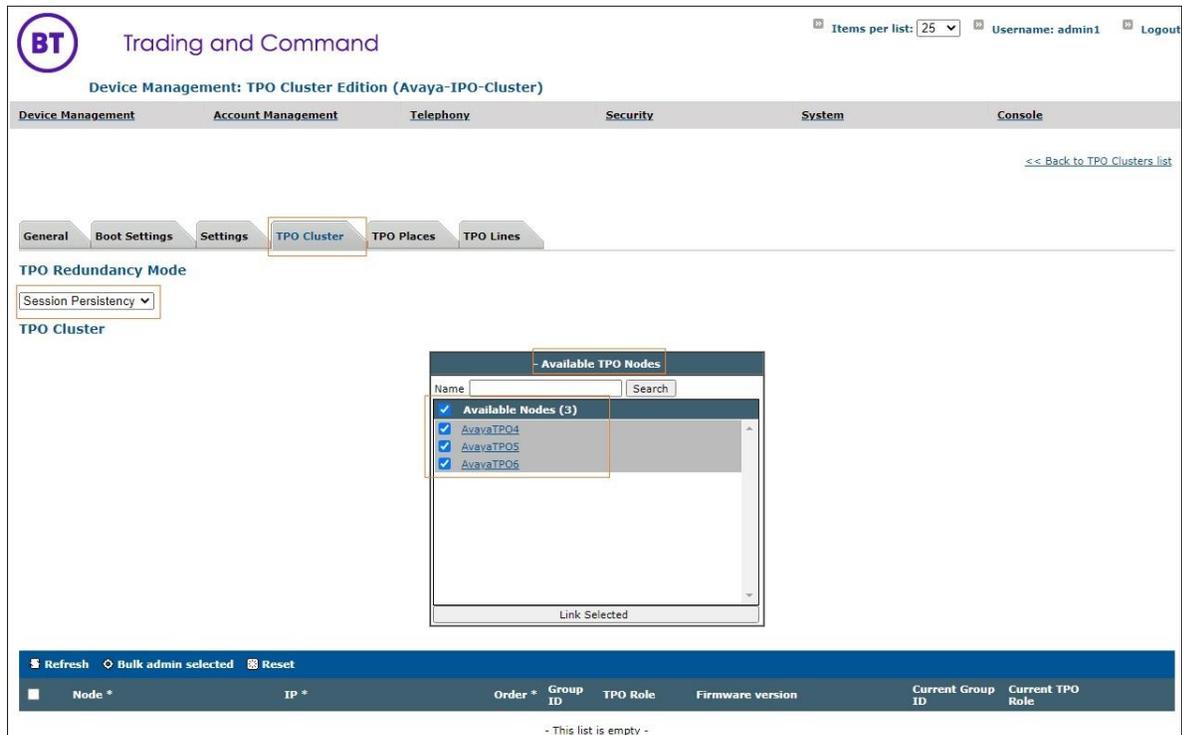
The screenshot displays the 'Trading and Command' web interface for 'Device Management: TPO Edition (AvayaTPO4)'. The top navigation bar includes 'Device Management', 'Account Management', 'Telephony', 'Security', 'System', and 'Console'. A warning message states: 'Warning! One of your license validation has expired.' Below this, there are links for '<< Back to TPOs list' and 'Go to syslog_data'. The main content area is divided into tabs: 'General', 'Boot Settings', 'Settings', and 'Certificates'. The 'General' tab is active, showing the following configuration fields:

- Device Identifier *: AvayaTPO4
- Zone: Avaya IPO Zone
- Recording Server: Inherited (Disabled) with a 'Start' button
- Comment: (Empty text area)
- Bootstrap Version: Default (Inherited from global config (R9.7_9.56595))
- Firmware Version: Default (Inherited from global config (R9.7_9.56595))
- Last Update DateTime: 5/9/2023 5:44:24 PM
- Dump System Information: Dump
- Log tracing configuration: + Log tracing configuration

Below the configuration fields, there is a section for 'Assigned TPO Cluster' with a link to 'Avaya-IPO-Cluster'. At the bottom, there are buttons for 'Update', 'Update and Go Back', 'Reset', 'Refresh', and 'Cancel'.

Link newly added TPO's to the TPO cluster i.e., **Avaya-IPO-Cluster**. Navigate to **Device Management** → **TPO Clusters** → **Avaya-IPO-Cluster** → **Settings** → **TPO Cluster** → Select **AvayaTPO4**, **AvayaTPO5** and **AvayaTPO6** which are added in the previous step and click on **Link6Selected** to link TPO's to Cluster.

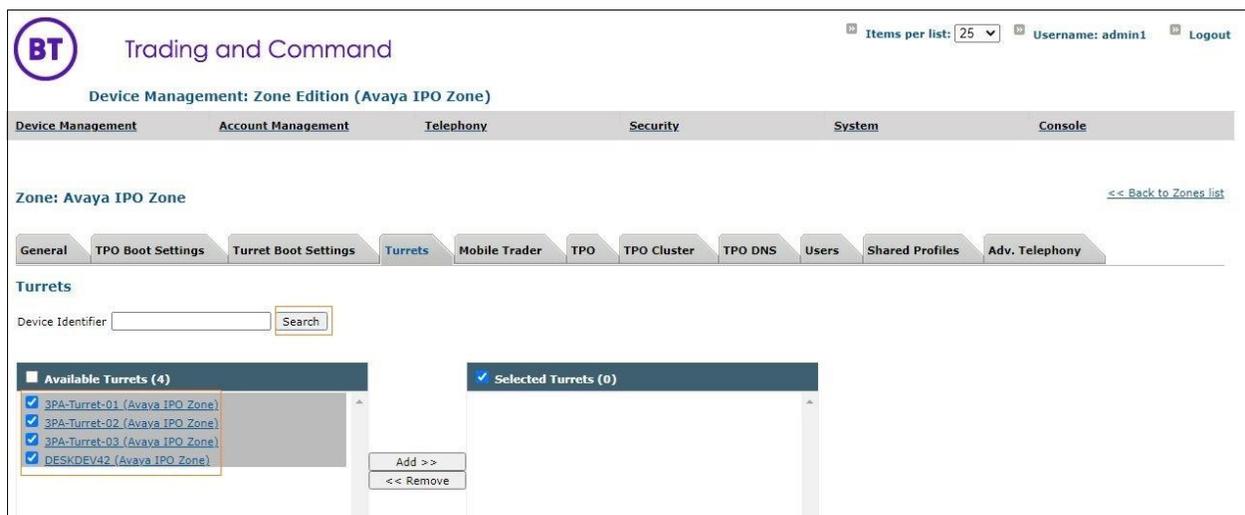
Select the TPO Redundancy mode to ‘**Session Persistency**’.



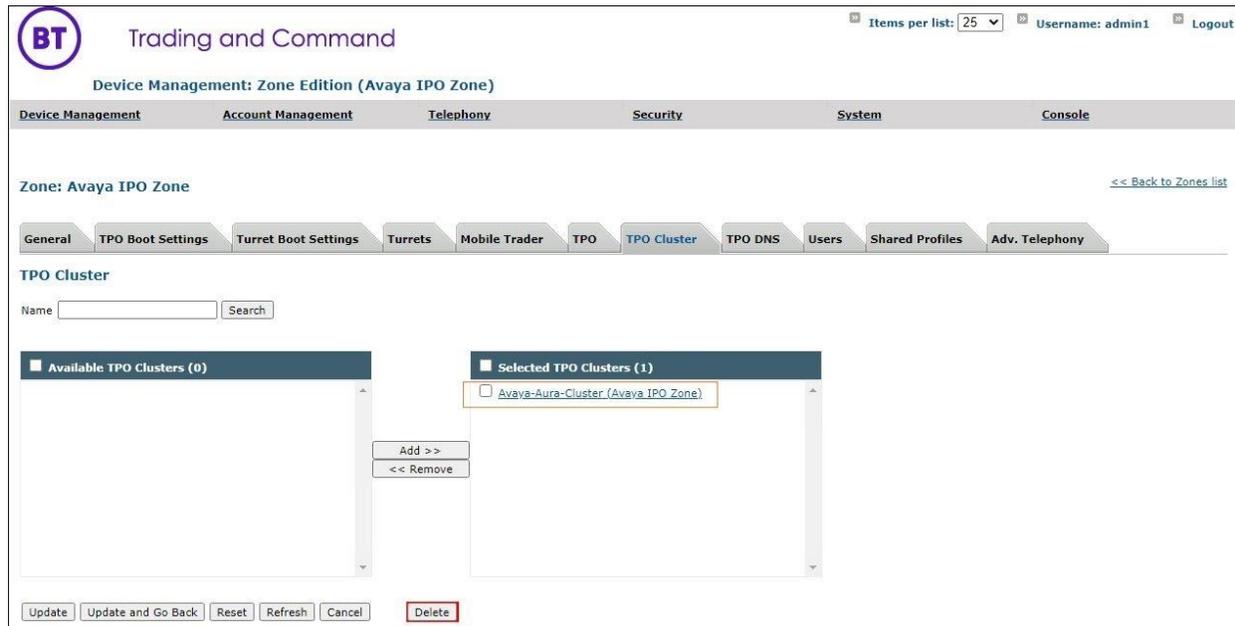
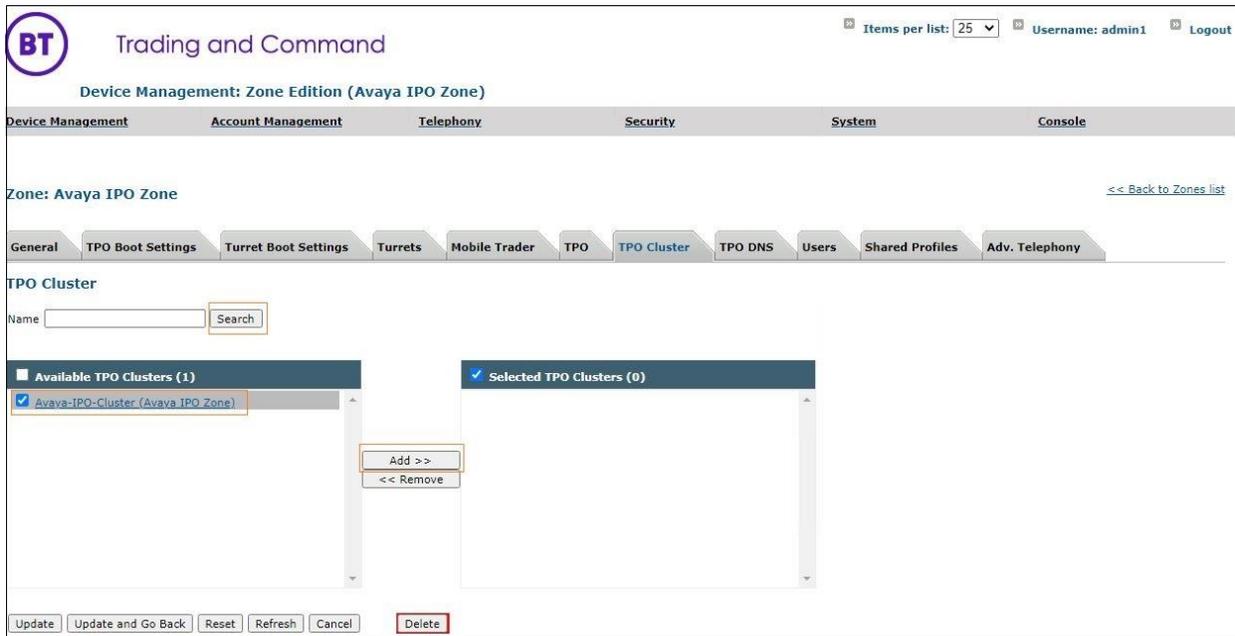
6.1.3. Assign Turrets to the Avaya Zone

Select **Device Management** → **Zones: Avaya IPO 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.

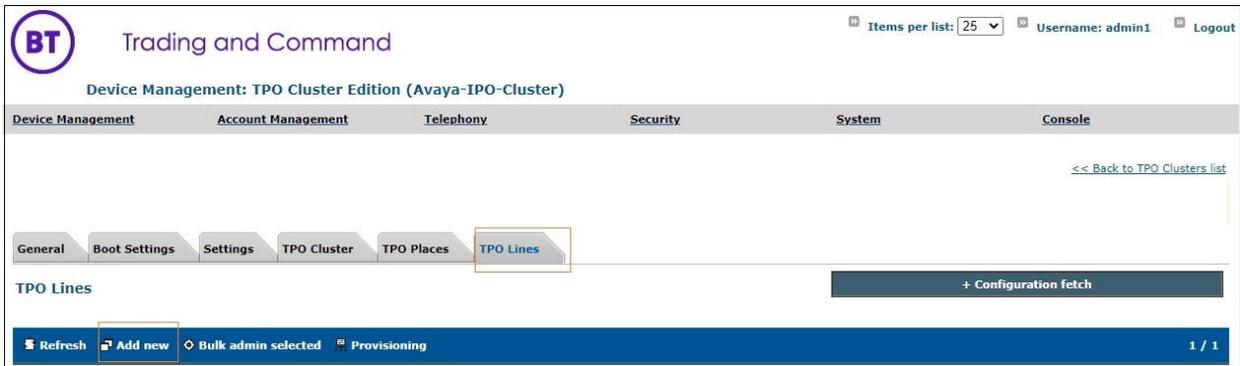
Select the Turrets from the left-hand window and select **Add** to move the Turrets into the Zone. Select **Update**.



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** → **Avaya IPO Cluster** and configure TPO lines by selecting the **TPO Lines** tab and select **Add new**



Enter the data as shown below.

Extension: The Avaya Number defined in **Section 5.3.1**

Register: Select the Yes radio button.

SIP Display Name: Define the Avaya Number again.

SIP Password: The Extension Password that you set on IP Office.

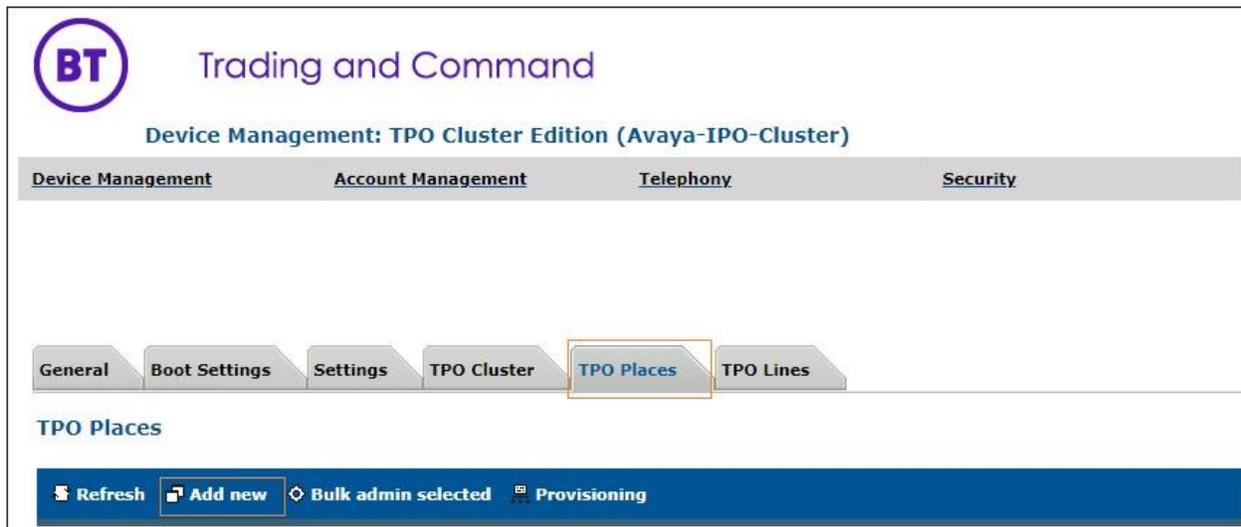
SIP Digest: Define the Avaya Number again.

SIP Domain: Define the IP Address of IP Office.

Access Point Extension: Set the radio button to No.

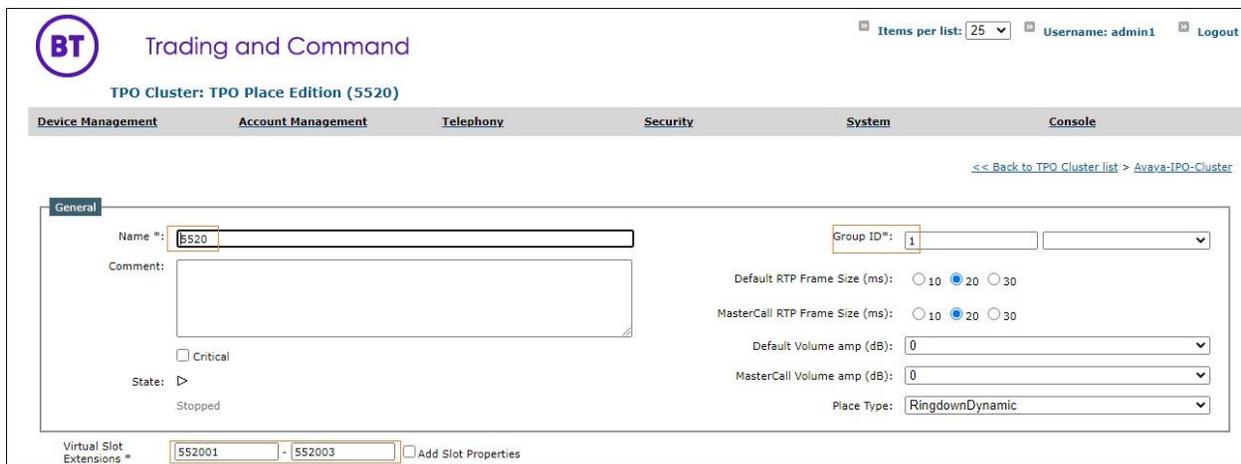
Once complete, select **Save and Go Back** (not shown).

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

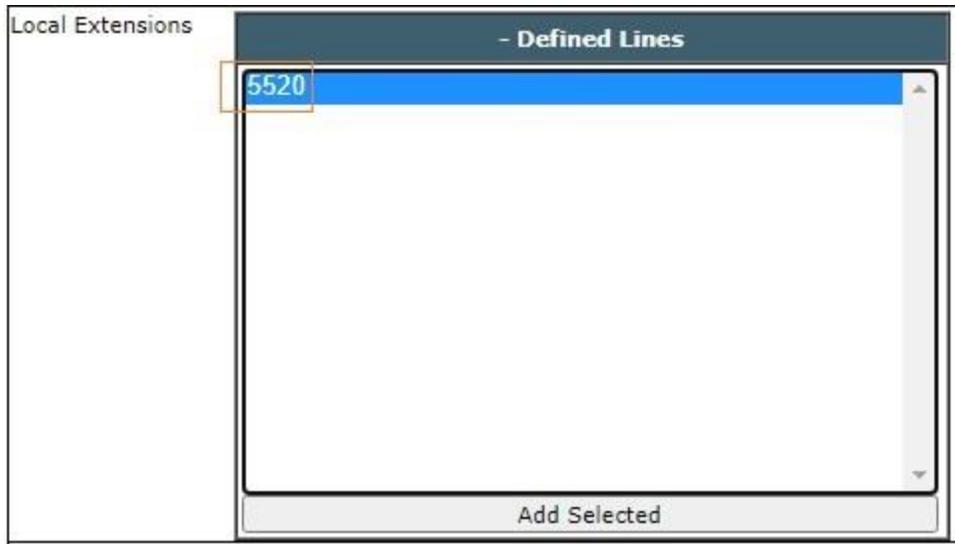


In the first instance, create a **Name**. Select the **Group ID** used. Ensure **RingdownDynamic** is selected as the **Place Type**.

In the **Virtual Slot Extensions** field, 552001 to 552003 are specified. This will create three appearances for the 5520 DDI line which is associated with Avaya IP Office, 552001 is Slot 1, 552002 is Slot 2 and 552003 and Link the Line to the TPO Place by selecting the grey **Defined Lines** box (not shown).



Select **Add Selected** to add the local Extensions.



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

Unlink selected									
<input type="checkbox"/>	Local Extension *	Register	End User Credentials	Display Name	Device ID	Line Index	IP Address	SDP IP Address	Access Point Extension
<input type="checkbox"/>	5520	Yes	No	5520					No

Unlink selected

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.hcm.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.

TPO Cluster

+ Available TPO Nodes

Node *	IP *	Order *	Group ID	TPO Role	Firmware version	Current Group ID	Current TPO Role
AvayaTPO4	172.27.130.6	1	1	Active	R9.7_9.56596	1	Active
AvayaTPO5	172.27.130.7	2		Idle	R9.7_9.56596		Passive
AvayaTPO6	172.27.130.8	3		Idle	R9.7_9.56596		Passive

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

BT Trading and Command

Device Management: TPO Cluster Edition (Avaya-IPO-Cluster)

Warning! One of your license validation has expired.

General Boot Settings Settings TPO Cluster TPO Places TPO Lines

TPO Redundancy Mode

Session Persistency

TPO Cluster

+ Available TPO Nodes

Node *	IP *	Order *	Group ID	TPO Role	Firmware version	Current Group ID	Current TPO Role
AvayaTPO4	172.27.130.6	1	1	Active	R9.7_9.56596	1	Active
AvayaTPO5	172.27.130.7	2		Passive	R9.7_9.56596		Passive
AvayaTPO6	172.27.130.8	3		Passive	R9.7_9.56596		Passive

Now select the **TPO Places** tab and select the Play button and wait for the TPO places to start.

TPO Places

6 places: 6 Stopped

Place Name *	Connected to	Place Type *	Group ID *	TPO	State	SIP Device ID
5520		RingdownDynamic	1	AvayaTPO4.(Alive)	Stopped	

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

TPO Places							6 places: 1 Started 5 Stopped
Place Name *	Connected to	Place Type *	Group ID *	TPO	State	SIP Device ID	
<input type="checkbox"/> 5520		RingdownDynamic	1	AvayaTPO4 (Alive)	Started		<input type="checkbox"/>

6.1.4. Add Users

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

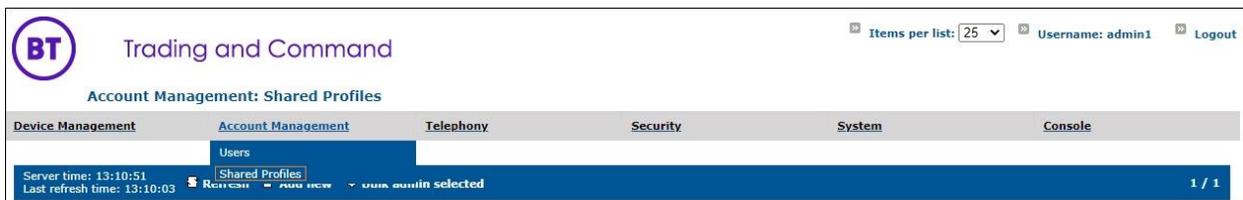


Select **Add new**.



Enter the information regarding the user below. For this example, the user ipo1 is created.

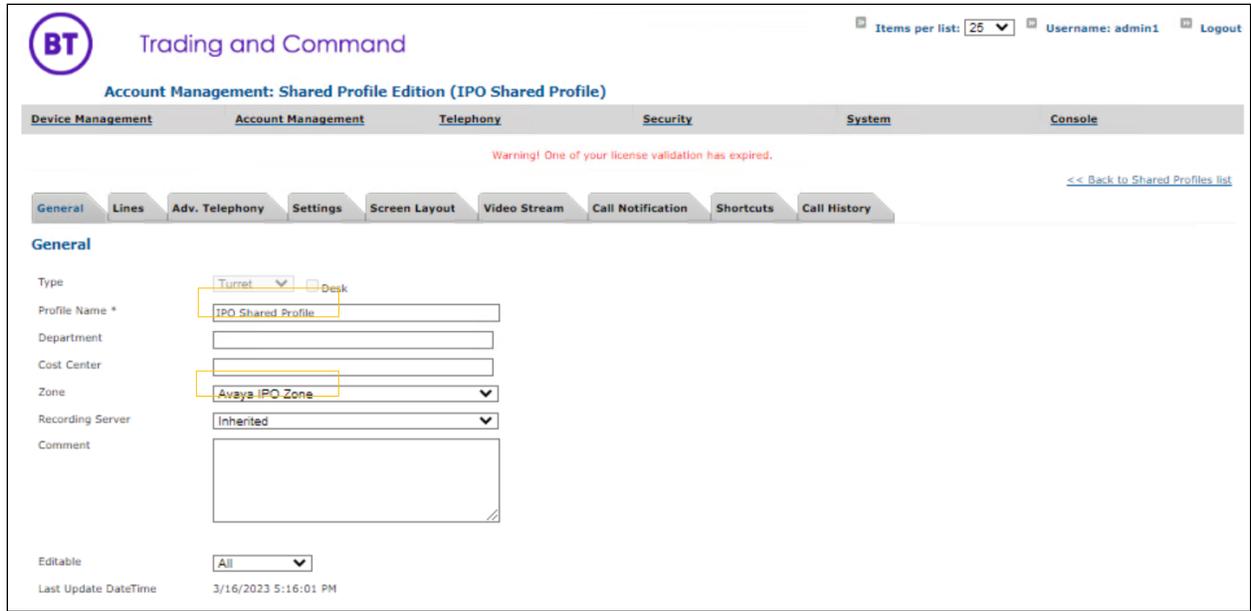
Now create a shared profile, select **Account Management** and then **Shared Profiles**.



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 **IPO Shared profile** by entering the following information. In this example, the shared line 5520 is added.

BT Trading and Command

Account Management: Line Edition (5520)

Device Management Account Management Telephony Security System Console

Status: Not connected

General

Type: DDI Sharing Line

Line subscription state: Subscribed

Priority: None

Call events dispatching: All but incoming

Extension *: 5520

TPO Name (or TPO DNS Name): btcluster.hcm.com

Voice recording: Yes

Msg Waiting Indicator: Yes

Default DDI: Yes

Default Global Line: No

Queue Type: None

Radio: No

SIP

SIP Display Name *: 5520

Automatic action

Incoming Auto Accept Delay: Default

Held Auto Forward Delay: Default

Held Auto Forward Target:

Dispatch Monitor Auto Recall Delay: Off

Dispatch Monitor Auto Recall Target:

Auto Hold Mode: No

Select **Update and Go Back** when completed.

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

BT Trading and Command

Account Management: Shared Profile Edition (IPO Shared Profile)

Device Management Account Management Telephony Security System Console

General Lines Adv. Telephony Settings Screen Layout Video Stream Call Notification Shortcuts Call History

Lines

Group Lines

Server time: 13:29:28
Last refresh time: 13:29:23

Type	SIP Display Name	SIP Extension	SIP Digest	SIP Domain	TPO DNS Name
<input type="checkbox"/> DDI Sharing Line	5520	5520		btcluster.hcm.com	
<input type="checkbox"/> DDI Sharing Line	5521	5521		btcluster.hcm.com	
<input type="checkbox"/> DDI Sharing Line	5522	5522		btcluster.hcm.com	
<input type="checkbox"/> DDI Sharing Line	5523	5523		btcluster.hcm.com	
<input type="checkbox"/> DDI Sharing Line	5524	5524		btcluster.hcm.com	
<input type="checkbox"/> DDI Sharing Line	5525	5525		btcluster.hcm.com	

Server time: 13:29:28
Last refresh time: 13:29:23

Update Refresh

Now that the lines are added, they need to be inserted onto a key page. 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. **IP Office v11**) and configure **shortcuts** for Avaya DDI Lines.

BT Trading and Command Items per list: 25 Username: admin1 Logout

Account Management: Shared Profile Edition (IPO Shared Profile)

Device Management Account Management Telephony Security System Console

General Lines Adv. Telephony Settings Screen Layout Video Stream Call Notification Shortcuts Call History

Hold shortcut changes [<< Back to Shared Profiles list](#)

Shortcut Pages [Import from CSV](#) - [Export to CSV](#)

Refresh Add new Bulk admin selected 1 / 1

Name *	Display option	Comment	External Source
<input type="checkbox"/> IP Office v11	Positional		

Refresh Add new Bulk admin selected 1 / 1

Shortcuts

Page selection: IP Office v11

Refresh Add new Bulk admin selected 1 / 1

Label *	Extension *	Type	Slot
<input type="checkbox"/> 5520/01	552001	DDI Slot	NOP
<input type="checkbox"/> 5520/02	552002	DDI Slot	NOP
<input type="checkbox"/> 5520/03	552003	DDI Slot	NOP
<input type="checkbox"/> 5521/01	552101	DDI Slot	NOP
<input type="checkbox"/> 5521/02	552102	DDI Slot	NOP
<input type="checkbox"/> 5521/03	552103	DDI Slot	NOP

Configure the example shown below. In this example, the first slot (5520/1) is configured for Shared Appearance 5520.

Label: The Shared Appearance followed by the slot number.

Type: Select **DDI Slot**.

Slot: The full Shared Appearance. 552001.

BT Trading and Command Items per list: 25 Username: admin1 Logout

Account Management: Shortcut Edition (5520/01)

Device Management Account Management Telephony Security System Console

Label * 5520/01 [<< Back to Shared Profiles list](#) > [IPO Shared Profile](#)

Comment 5520/01

Type DDI Slot

Slot * 552001

Highlight Colors
 Text
 Background

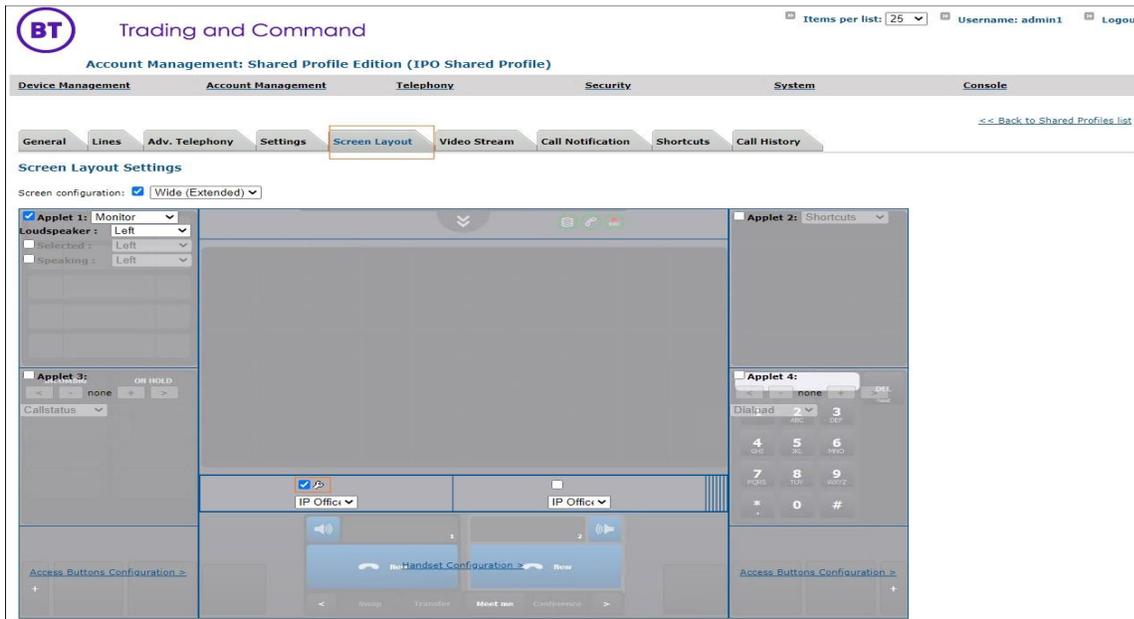
External Reference IPT_0005r0001

Group	Device	Handset	Ringtone Set	Volume	State Notification
All	<input checked="" type="radio"/> HS first	Handset Default	(None)	(None)	None
	<input type="radio"/> LS first	Monitoring slot Left Applet	Slot 01		
IP Office v11 *	<input checked="" type="radio"/> HS first	Handset Default	(None)	(None)	None
	<input type="radio"/> LS first	Monitoring slot Left Applet	Slot 01		

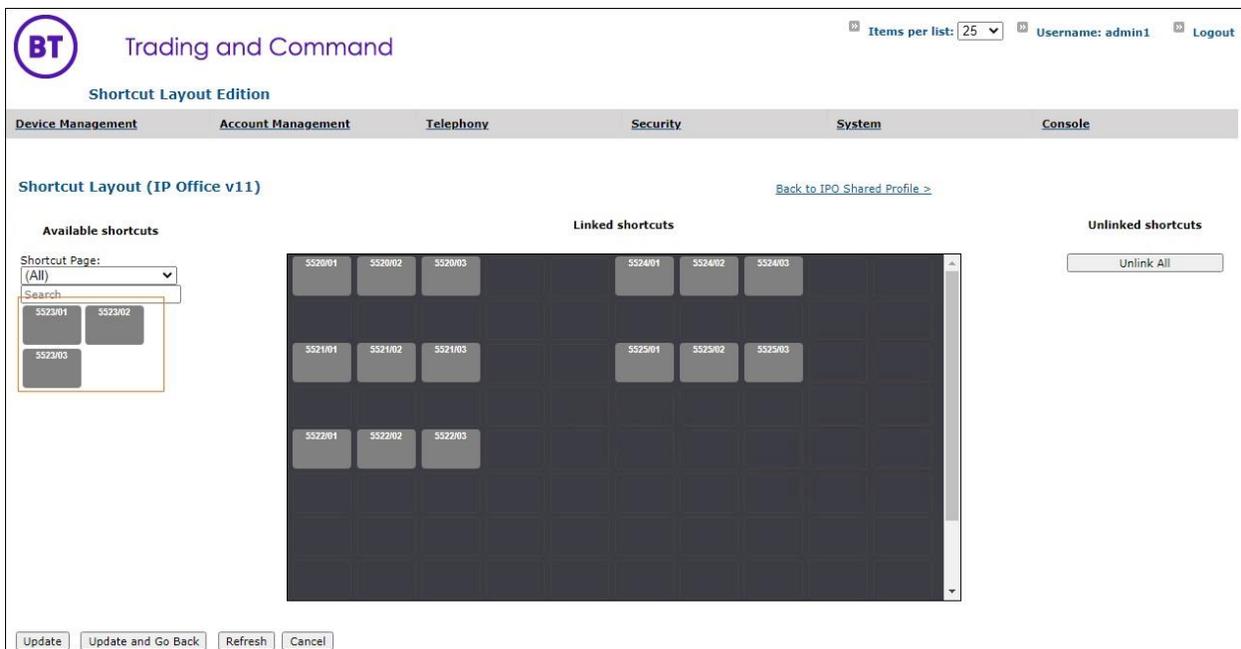
Update Update and Go Back Reset Refresh Cancel Delete

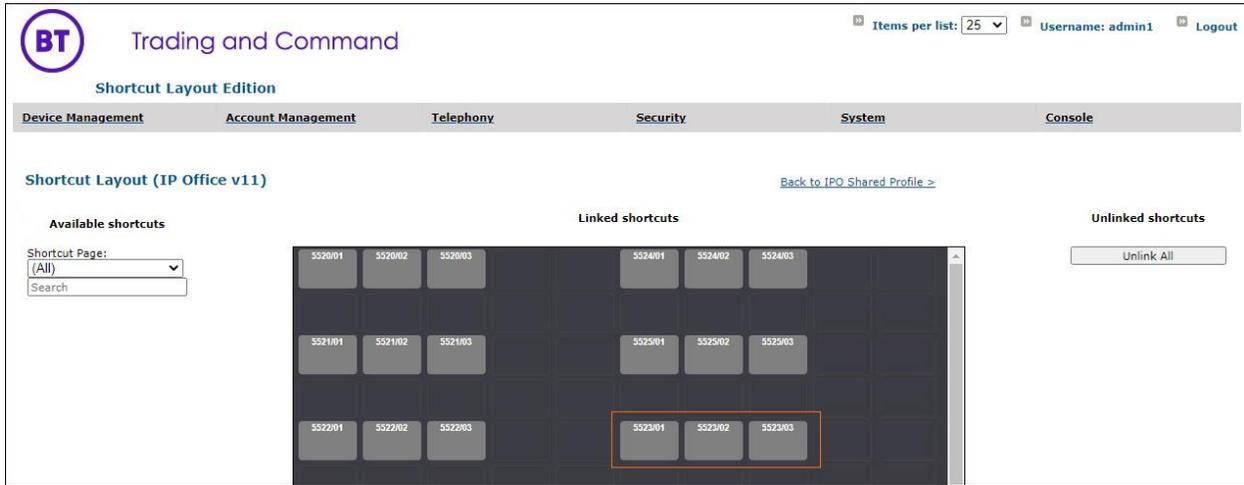
Once complete, select **Update and Go Back**.

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.



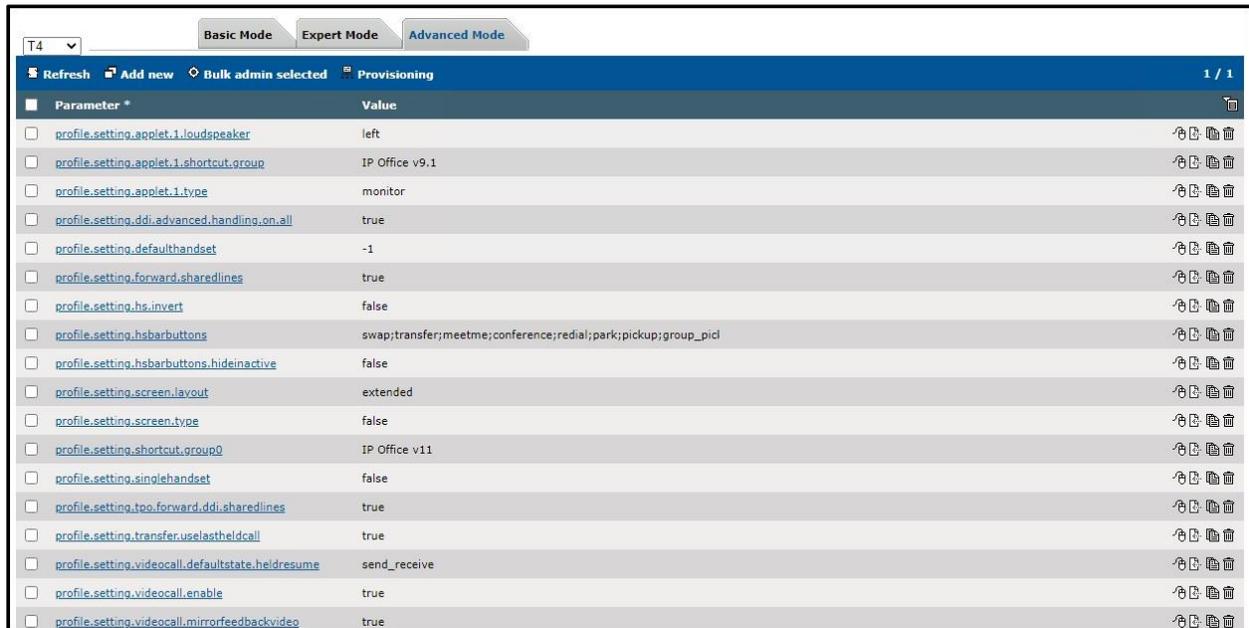
The shortcuts you have just created as Available Shortcuts on the left-hand side of the screen. Click each shortcut which will automatically place the shortcut into the Unlinked shortcuts window. Click and drag the shortcut into the Linked shortcuts window.





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 IP Office** 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**.

Attached users

User Name (All)

Available Users (3)

- IPO One (ipo1)
- IPO Three (ipo3)
- IPO Two (ipo2)

Selected Users (0)

Directories

Available Directories (0)

Selected Directories (0)

Attached users

User Name (All)

Available Users (0)

Selected Users (3)

- IPO One (ipo1)
- IPO Three (ipo3)
- IPO Two (ipo2)

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

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

Parent profiles

Desk profile

None ▾

Profile Name

(All) ▾

Search

Available Profiles (0)

Add >>

<< Remove

Selected Profiles (1)

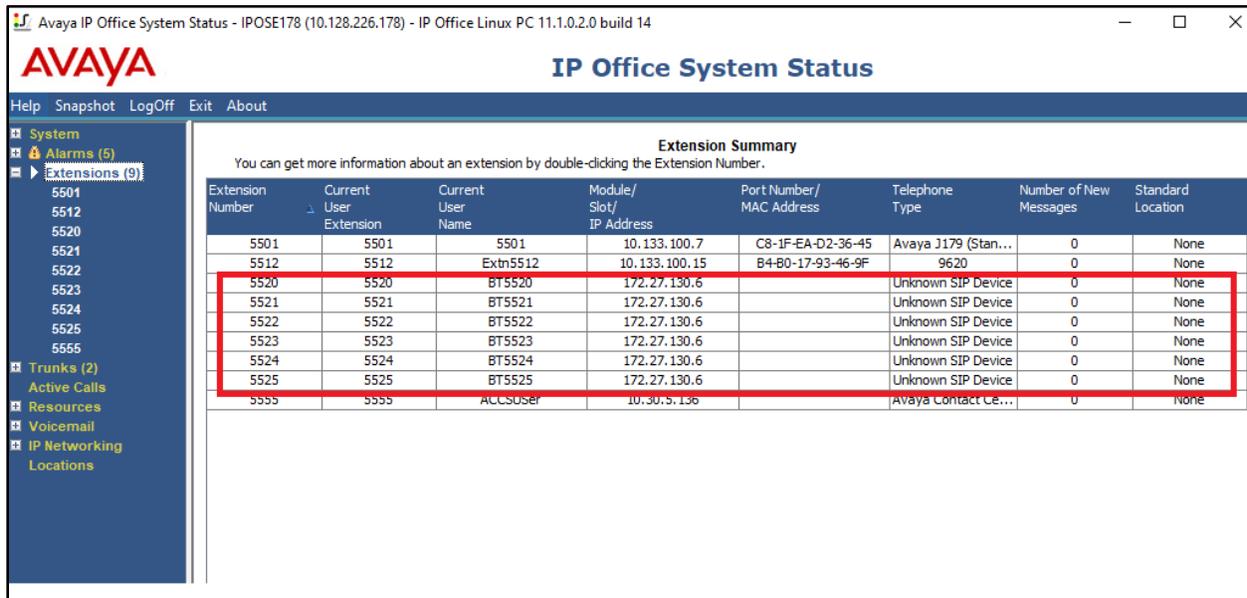
IPO Shared Profile (Shared)

7. Verification Steps

This section describes the verification that can be carried out to verify the connection between BT Trading Platform with Avaya IP Office.

7.1. Avaya IP Office Verification

Using **IP Office System Status** program, click on **Extensions** and verify that the BT Trading Turrets are registered.



Avaya IP Office System Status - IPOSE178 (10.128.226.178) - IP Office Linux PC 11.1.0.2.0 build 14

AVAYA IP Office System Status

Help Snapshot LogOff Exit About

System

- Alarms (5)
- Extensions (9)**
- 5501
- 5512
- 5520
- 5521
- 5522
- 5523
- 5524
- 5525
- 5555

Trunks (2)

- Active Calls
- Resources
- Voicemail
- IP Networking
- Locations

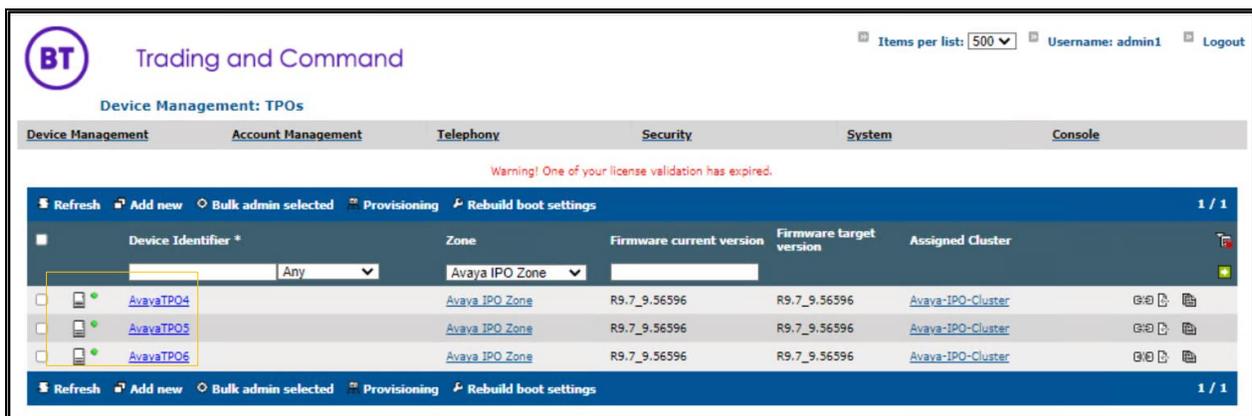
Extension Summary

You can get more information about an extension by double-clicking the Extension Number.

Extension Number	Current User Extension	Current User Name	Module/Slot/ IP Address	Port Number/ MAC Address	Telephone Type	Number of New Messages	Standard Location
5501	5501	5501	10.133.100.7	C8-1F-EA-D2-36-45	Avaya J179 (Stan...	0	None
5512	5512	Extn5512	10.133.100.15	B4-B0-17-93-46-9F	9620	0	None
5520	5520	BT5520	172.27.130.6		Unknown SIP Device	0	None
5521	5521	BT5521	172.27.130.6		Unknown SIP Device	0	None
5522	5522	BT5522	172.27.130.6		Unknown SIP Device	0	None
5523	5523	BT5523	172.27.130.6		Unknown SIP Device	0	None
5524	5524	BT5524	172.27.130.6		Unknown SIP Device	0	None
5525	5525	BT5525	172.27.130.6		Unknown SIP Device	0	None
5555	5555	ACCUSER	10.30.5.136		Avaya Contact Ce...	0	None

7.2. BT Trading Platform Verification

In **Device Management/TPOs**, ensure that the TPO is reachable. This is indicated by a Green Status as shown below.



BT Trading and Command

Items per list: 500 Username: admin1 Logout

Device Management: TPOs

Device Management Account Management Telephony Security System Console

Warning! One of your license validation has expired.

Refresh Add new Bulk admin selected Provisioning Rebuild boot settings 1 / 1

Device Identifier *	Zone	Firmware current version	Firmware target version	Assigned Cluster	
AvayaTPO4	Avaya IPO Zone	R9.7_9.36596	R9.7_9.36596	Avaya-IPO-Cluster	Green
AvayaTPO5	Avaya IPO Zone	R9.7_9.36596	R9.7_9.36596	Avaya-IPO-Cluster	Green
AvayaTPO6	Avaya IPO Zone	R9.7_9.36596	R9.7_9.36596	Avaya-IPO-Cluster	Green

Refresh Add new Bulk admin selected Provisioning Rebuild boot settings 1 / 1

In Device Management/TPO Clusters/Your TPO Cluster, navigate to the **TPO Lines** Tab. The Lines must be linked to a TPO Place. This is indicated by the Linked column. Green status indicates that the TPO is up and the TPO Place is started.

TPO Lines											+ Configuration fetch
Refresh Add new Bulk admin selected Provisioning											1 / 1
Local Extension	Register	End User Credentials	Display Name	Device ID	Line Index	IP Address	SDP IP Address	Access Point Extension	Linked		
<input type="checkbox"/> 5520	Yes	No	5520					No			
<input type="checkbox"/> 5521	Yes	No	5521					No			
<input type="checkbox"/> 5522	Yes	No	5522					No			
<input type="checkbox"/> 5523	Yes	No	5523					No			
<input type="checkbox"/> 5524	Yes	No	5524					No			
<input type="checkbox"/> 5525	Yes	No	5525					No			
Refresh Add new Bulk admin selected Provisioning											1 / 1

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

Refresh Bulk admin selected Reset									1 / 1	
Node *	IP *	Order *	Group ID	TPO Role	Firmware version	Current Group ID	Current TPO Role			
<input checked="" type="checkbox"/> AvayaTPO4	172.27.130.6	1	1	Active	R9.7_9.56596	1	Active	<input type="checkbox"/>		
<input type="checkbox"/> AvayaTPO5	172.27.130.7	2		Passive	R9.7_9.56596		Passive	<input type="checkbox"/>		
<input type="checkbox"/> AvayaTPO6	172.27.130.8	3		Passive	R9.7_9.56596		Passive	<input type="checkbox"/>		
Refresh Bulk admin selected Reset									1 / 1	

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 IP Office.

TPO Places								6 places: 6 Started	
Refresh Add new Bulk admin selected Provisioning								1 / 1	
Place Name *	Connected to	Place Type *	Group ID *	TPO	State	SIP Device ID			
<input type="checkbox"/> 5520		RingdownDynamic	1	AvayaTPO4 (Alive)	Started		<input type="checkbox"/>		
<input type="checkbox"/> 5521		RingdownDynamic	1	AvayaTPO4 (Alive)	Started		<input type="checkbox"/>		
<input type="checkbox"/> 5522		RingdownDynamic	1	AvayaTPO4 (Alive)	Started		<input type="checkbox"/>		
<input type="checkbox"/> 5523		RingdownDynamic	1	AvayaTPO4 (Alive)	Started		<input type="checkbox"/>		
<input type="checkbox"/> 5524		RingdownDynamic	1	AvayaTPO4 (Alive)	Started		<input type="checkbox"/>		
<input type="checkbox"/> 5525		RingdownDynamic	1	AvayaTPO4 (Alive)	Started		<input type="checkbox"/>		
Refresh Add new Bulk admin selected Provisioning								1 / 1	

7.3. Verification calls between Avaya endpoints and BT Turrets

From an Avaya endpoint make call to BT Turret’s number. Make sure that BT Turret can receive the call correctly. Using **IP Office System Status** and verify the call:

Extension Status					
Extension Number:	5520				
IP address:	172.27.130.6				
Standard Location:	None				
Registrar:	Primary				
Telephone Type:	Unknown SIP Device				
User-Agent SIP header:					
Media Stream:	RTP				
Layer 4 Protocol:	TCP				
Current User Extension Number:	5520				
Current User Name:	BT5520				
Forwarding:	Off				
Twinning:	Off				
Do Not Disturb:	Off				
Message Waiting:	Off				
Number of New Messages:	0				
Phone Manager Type:	None				
SIP Device Features:	UPDATE				
License Reserved:	Yes				
Last Date and Time License Allocated:	6/27/2023 5:30:28 PM				
DTMF Required:	No				
Packet Loss Fraction:			Connection Type:		
Jitter:			Codec:		
Round Trip Delay:			Remote Media Address:		
Call Ref	Current State	Time in State	Calling Number or Called Number	Direction	Other Party on Call
7	Alerting	00:00:07		Incoming	Extn 5511, Extn5511

Accept the call from BT Turret and verify audio is clear in both sides.

8. Conclusion

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

9. 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. Deploying IP Office Essential Edition (IP500 V2) IP Office™ Platform 11.0, 2 Issue 35h (Tuesday, May 18, 2021)*
- ii. Deploying Avaya IP Office™ Server Edition Solution (English), Release 11.1 FP1, Issue 16, February 2021*
- iii. Administering Avaya IP Office with Manager (English), Release 11.1.1, Issue 25, February 2021*
- iv. Administering Avaya IP Office with Web Manager (English), Release 11.1.1, Issue 25, February 2021*

Information regarding product documentation for BT Trade can be obtained by contacting the BT Support email in **Section 2.3**

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