



## Avaya Solution & Interoperability Test Lab

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# Application Notes for Polycom Trio™ Conference Phones and Avaya IP Office™ – Issue 1.0

### Abstract

These Application Notes describe the procedures for configuring Polycom Trio™ Conference Phones which were compliance tested with Avaya IP Office™.

The overall objective of the interoperability compliance testing was to verify Polycom Trio Conference Phones functionalities in an environment comprised of Avaya IP Office™ and various Avaya H.323 and SIP Telephones. Polycom Trio Conference Phones are SIP based.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as any observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

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

# 1. Introduction

These Application Notes describe the configuration steps required for Polycom Trio conference phones to interoperate with Avaya IP Office (IP Office). During the compliance testing, Polycom Trio 8800 and 8500 (Trio 8800 and Trio 8500) were used. (Note: Polycom Trio™ 8800 and 8500 are also known as Polycom RealPresence Trio™ 8800 and 8500.)

Trio 8800 and 8500 SIP conference phones register with IP Office as SIP endpoints combining the functionality of IP phone and conferencing station in support of voice communications and conferencing requirements. Trio 8800 and Trio 8500 connected to IP Office via TLS. Trio 8800 and Trio 8500 use the same SIP software stack and provisioning model.

**Note:** Trio 8800 and Trio 8500 also support H.264 based video and BFCP based content via the optional Polycom Trio Visual+ accessory but in this compliance testing only audio capabilities of the phone were tested.

## 2. General Test Approach and Test Results

The general test approach was to place calls to and from, Trio 8800 and Trio 8500, and exercise basic telephone operations. The main objectives were to verify the following:

- Registration
- Codecs (G.711MU and G.729A)
- Inbound calls
- Outbound calls
- Hold/Resume, Call Transfer and Conferencing
- Call termination (origination/destination)
- Message Waiting Indicator (MWI)
- Voicemail
- Serviceability

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 Polycom Trio utilized enabled capabilities of secure connectivity via TLS.

## **2.1. Interoperability Compliance Testing**

The interoperability compliance test included features and serviceability. The focus of interoperability compliance testing was primarily on verifying call establishment on Trio 8800 and Trio 8500. Trio 8800 and Trio 8500 operations such as inbound calls, outbound calls, hold/resume, transfer, conference, short code, and Trio 8800 interactions with Avaya IP Office, and Avaya SIP and H.323 telephones were verified. The serviceability testing introduced failure scenarios to see if Trio 8800 and Trio 8500 can recover from failures.

## **2.2. Test Results**

The test objectives were verified. For serviceability testing, Trio 8800 and Trio 8500 operated properly after recovering from failures such as cable disconnects, and resets of, Trio 8800 and Trio 8500, and Avaya IP Office. Trio 8800 and Trio 8500 successfully negotiated the codec that was used. The features tested worked as expected.

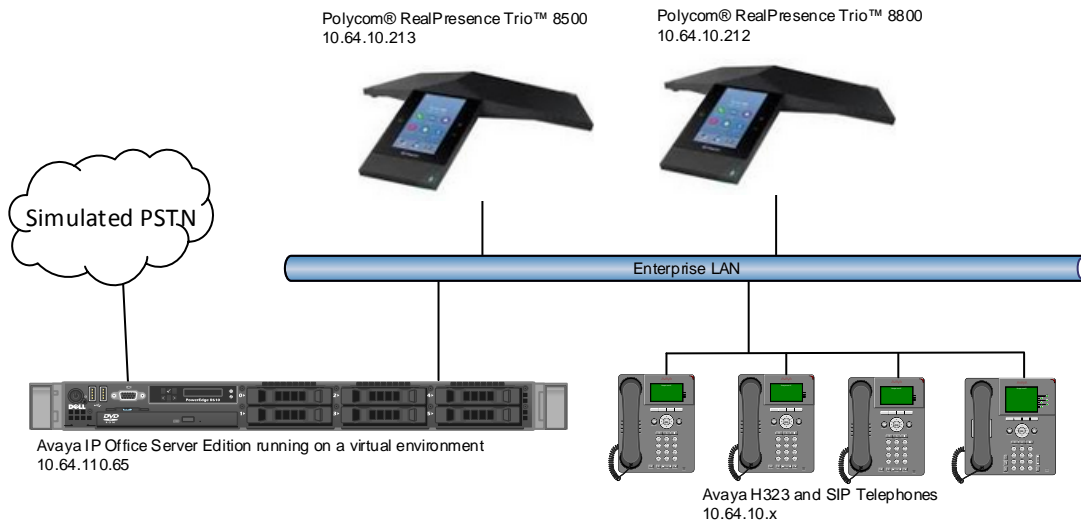
## **2.3. Support**

For technical support on Polycom Trio Conference Phones, please contact via the following:

- **Web:** <http://support.polycom.com>

### 3. Reference Configuration

**Figure 1** illustrates a sample configuration consisting of an Avaya IP Office and, Trio 8800 and Trio 8500. For completeness, Avaya 9600 Series H.323 IP Telephones and Avaya J129 SIP Telephones are included in **Figure 1** to demonstrate calls between the SIP-based Trio 8800 and Avaya SIP and H.323 Telephones.



**Figure 1: Test Configuration of Polycom Trio Conference Phones with Avaya IP Office**

## 4. Equipment and Software Validated

The following equipment and software were used for the test configuration.

Equipment	Software/Firmware
Avaya IP Office Server Edition	10.1.0.1.0 build 3
Avaya IP Office Manager	10.1.0.1.0 build 3
Avaya 9600 Series H.323 Deskphones	6.6506
Avaya J129 SIP Phone	1.1.0.0.15
Polycom Trio 8800	5.5.3.3441

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

## 5. Configure Avaya IP Office™

This section provides the procedures for configuring IP Office. The procedures include the following areas:

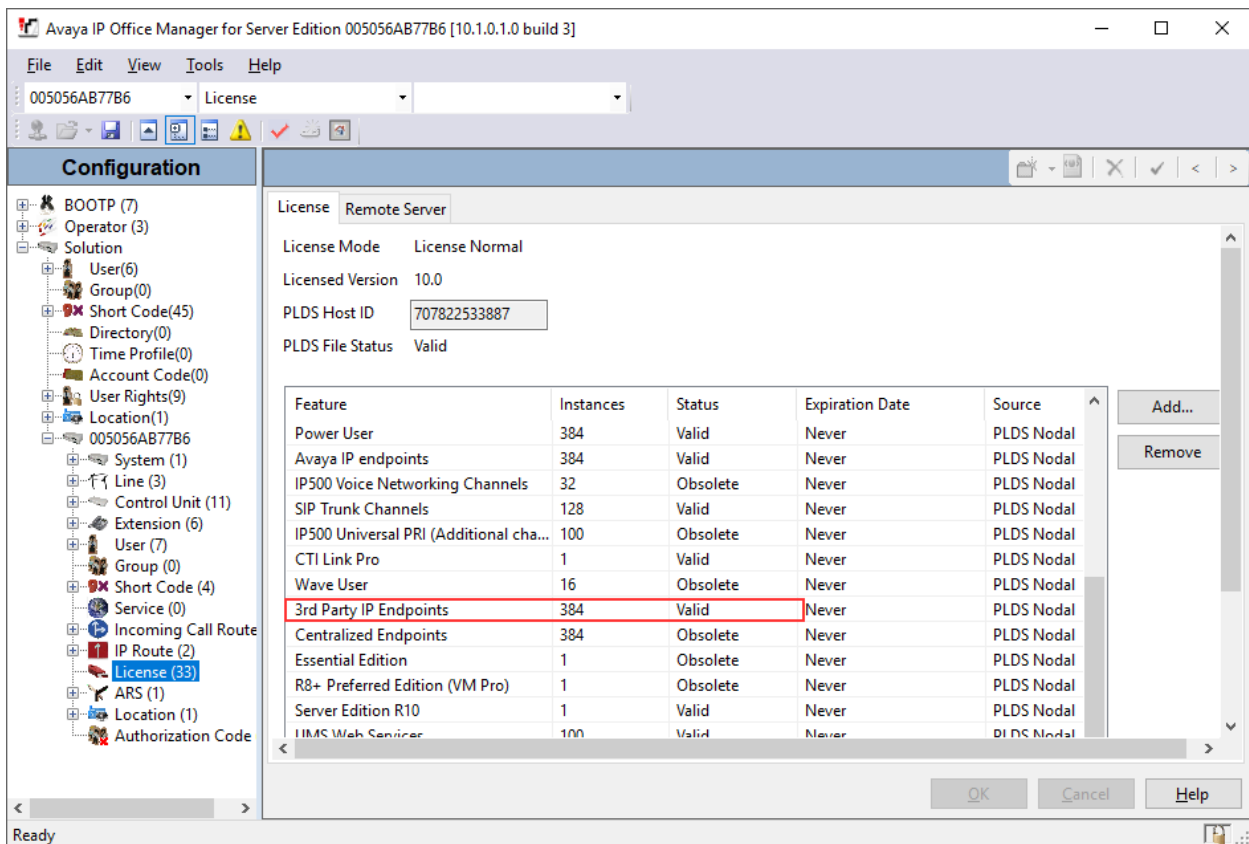
- Verify IP Office license
- Obtain LAN IP address
- Administer SIP registrar
- Administer SIP extensions
- Administer SIP users

These steps are performed from the Avaya IP Office Manager.

### 5.1. Verify IP Office License

From a PC running the Avaya IP Office Manager application, select **Start → All Programs → IP Office → Manager** to launch the Manager application. Select the proper IP Office system if there are more than one IP Office system, and log in with the appropriate credentials.

The Avaya IP Office Manager screen is displayed. From the configuration tree in the left pane, select **License → 3<sup>rd</sup> Party IP Endpoints** to display the Avaya IP endpoints screen in the right pane. Verify that the License Status field is set to **Valid**.



The screenshot shows the Avaya IP Office Manager for Server Edition application. The window title is "Avaya IP Office Manager for Server Edition 005056AB77B6 [10.1.0.1.0 build 3]". The menu bar includes File, Edit, View, Tools, and Help. The main window is divided into a left pane labeled "Configuration" and a right pane labeled "License Remote Server".

The left pane shows a tree view of the configuration hierarchy. The "License" folder is expanded, and "3rd Party IP Endpoints" is selected. The right pane displays the license configuration details:

- License Mode: License Normal
- Licensed Version: 10.0
- PLDS Host ID: 707822533887
- PLDS File Status: Valid

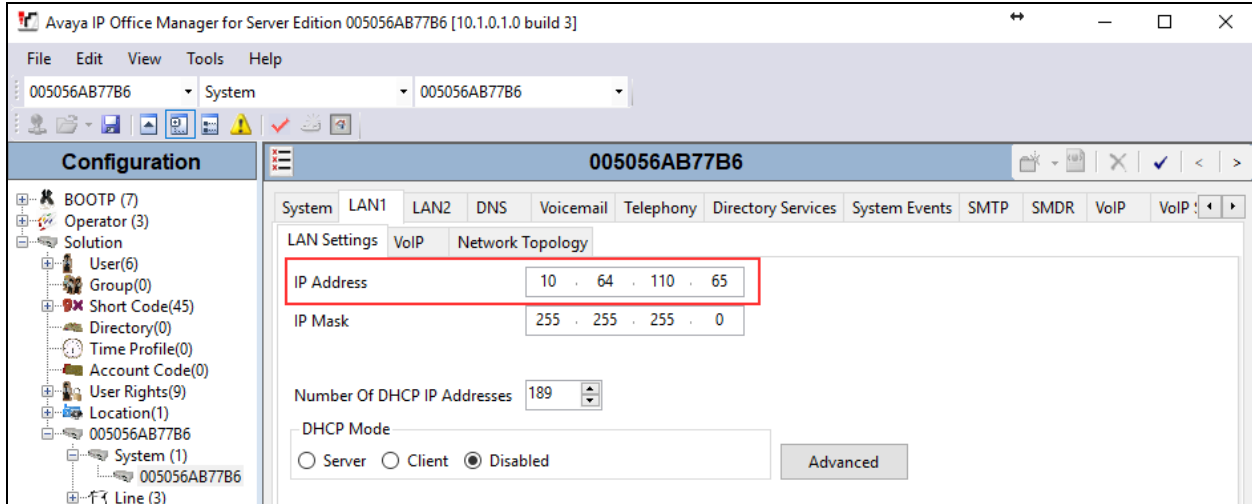
Below these details is a table listing various features and their status:

Feature	Instances	Status	Expiration Date	Source
Power User	384	Valid	Never	PLDS Nodal
Avaya IP endpoints	384	Valid	Never	PLDS Nodal
IP500 Voice Networking Channels	32	Obsolete	Never	PLDS Nodal
SIP Trunk Channels	128	Valid	Never	PLDS Nodal
IP500 Universal PRI (Additional cha...	100	Obsolete	Never	PLDS Nodal
CTI Link Pro	1	Valid	Never	PLDS Nodal
Wave User	16	Obsolete	Never	PLDS Nodal
<b>3rd Party IP Endpoints</b>	<b>384</b>	<b>Valid</b>	Never	PLDS Nodal
Centralized Endpoints	384	Obsolete	Never	PLDS Nodal
Essential Edition	1	Obsolete	Never	PLDS Nodal
R8+ Preferred Edition (VM Pro)	1	Obsolete	Never	PLDS Nodal
Server Edition R10	1	Valid	Never	PLDS Nodal
IIMS Web Services	100	Valid	Never	PLDS Nodal

The "3rd Party IP Endpoints" row is highlighted with a red border. The status "Valid" is clearly visible. The table also includes "Add..." and "Remove" buttons on the right side.

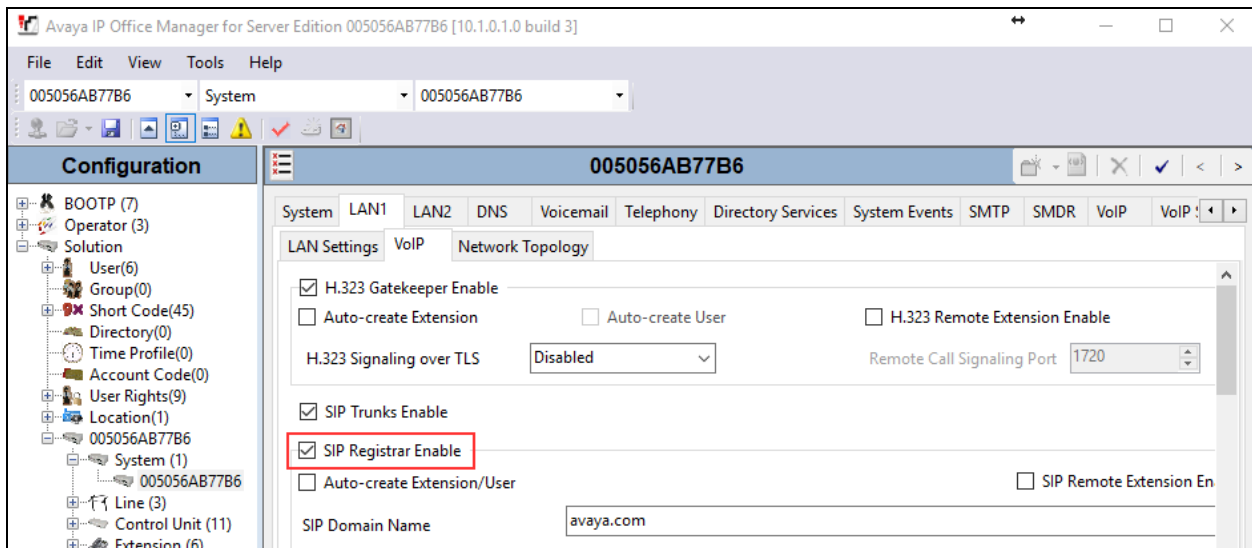
## 5.2. Obtain LAN IP Address

From the configuration tree in the left pane, select **System** to display the System screen in the right pane. Select the **LAN1** tab, followed by the **LAN Settings** sub-tab in the right pane. Make a note of the **IP Address**, which will be used later to configure Trio Conference Phones.



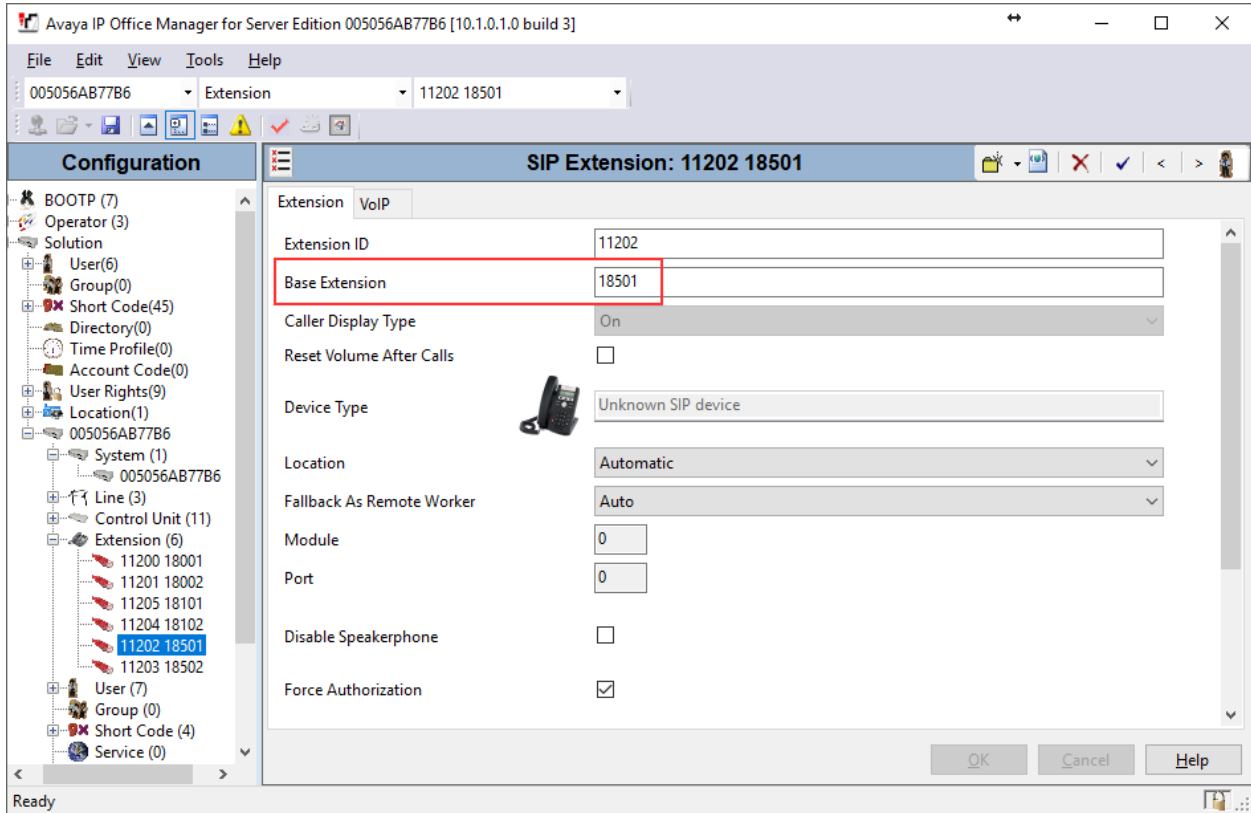
## 5.3. Administer SIP Registrar

Continuing from above, select the **VoIP** sub-tab. Ensure that **SIP Registrar Enable** is checked, as shown below.



## 5.4. Administer SIP Extensions

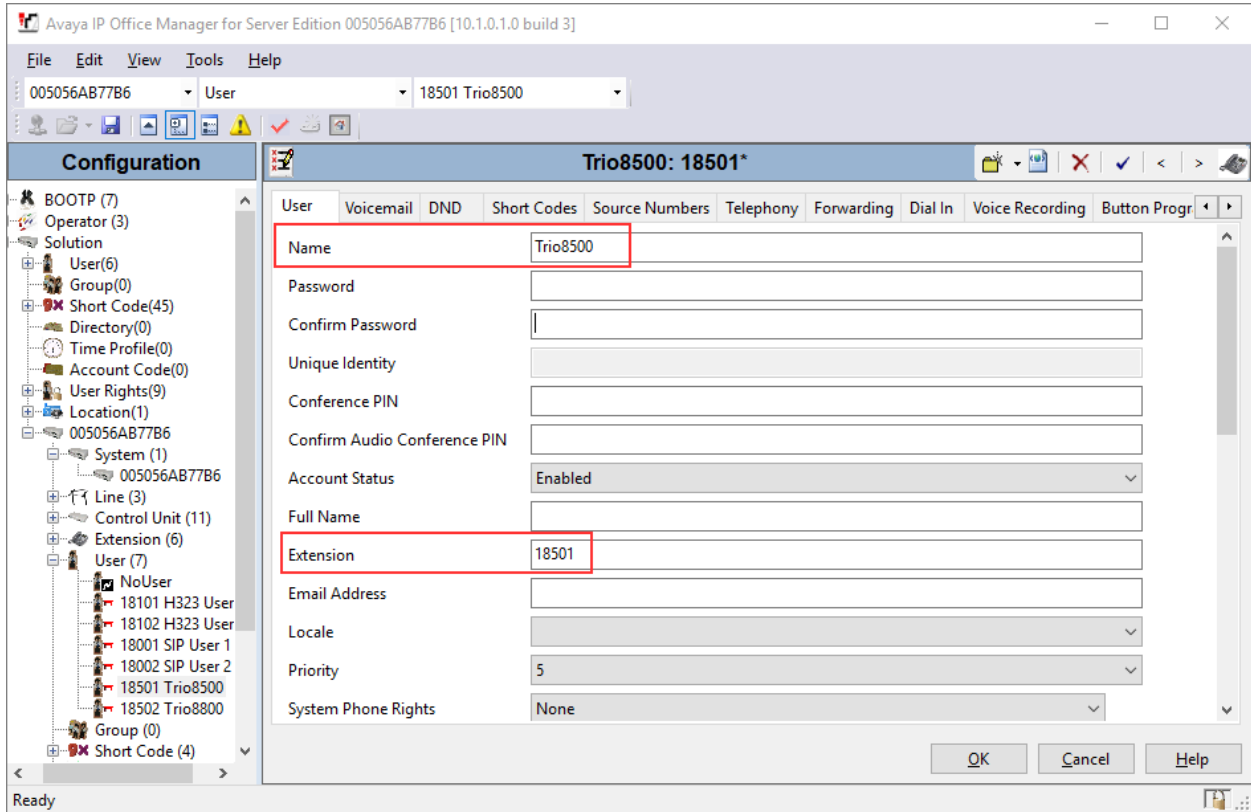
To create a new SIP Extension, from the configuration tree in the left pane, right-click on **Extension**, and select **New** → **SIP Extension** from the pop-up list (not shown). Enter the desired digits for the **Base Extension** field. This is the Extension that will be used for Trio Conference Phones to log in.



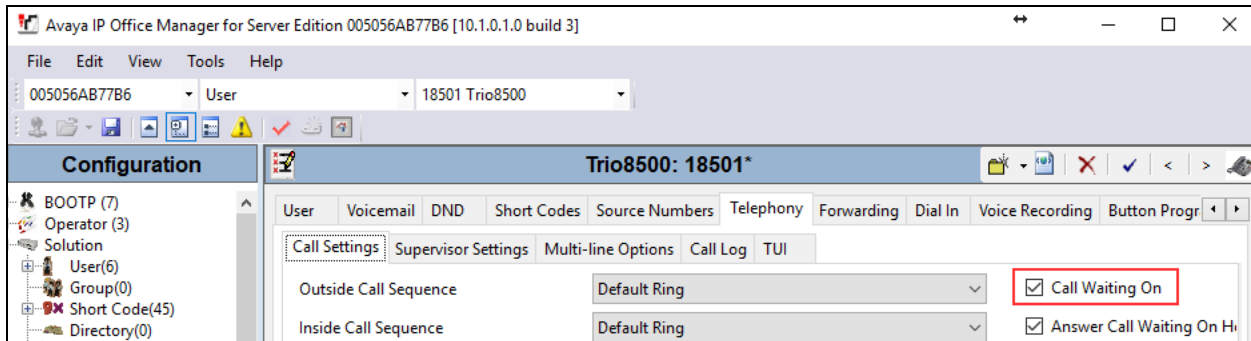


## 5.5. Administer SIP Users

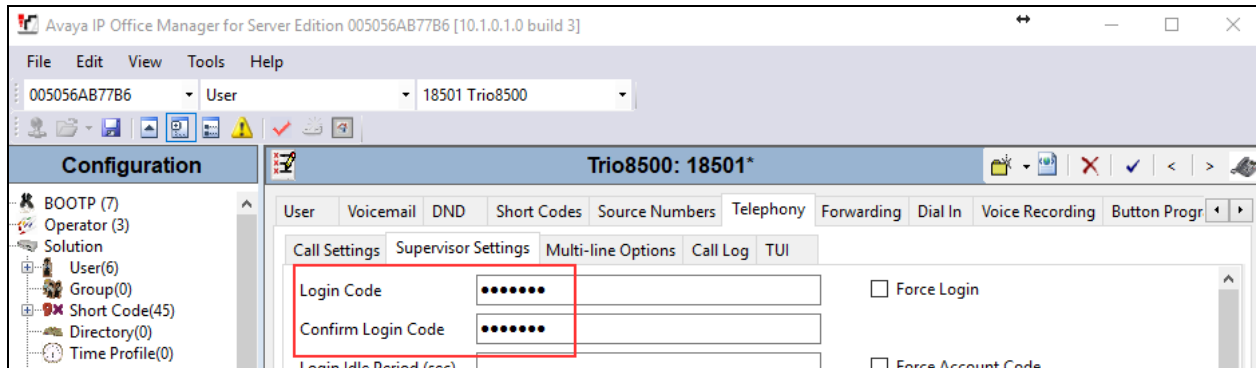
To create a new SIP User, from the configuration tree in left pane, right-click on **User**, and select **New** from the pop-up list (not shown). Enter desired values for the **Name** field. For the **Extension** field, enter the SIP extension created in **Section 5.4**.



Select the **Telephony** tab, followed by the **Call Settings** sub-tab. Check the **Call Waiting On** field, as shown below.



Select the **Supervisor Settings** tab, and enter a desired **Login Code** and **Confirm Login Code**. This code will be used as a password for Trio Conference Phones.

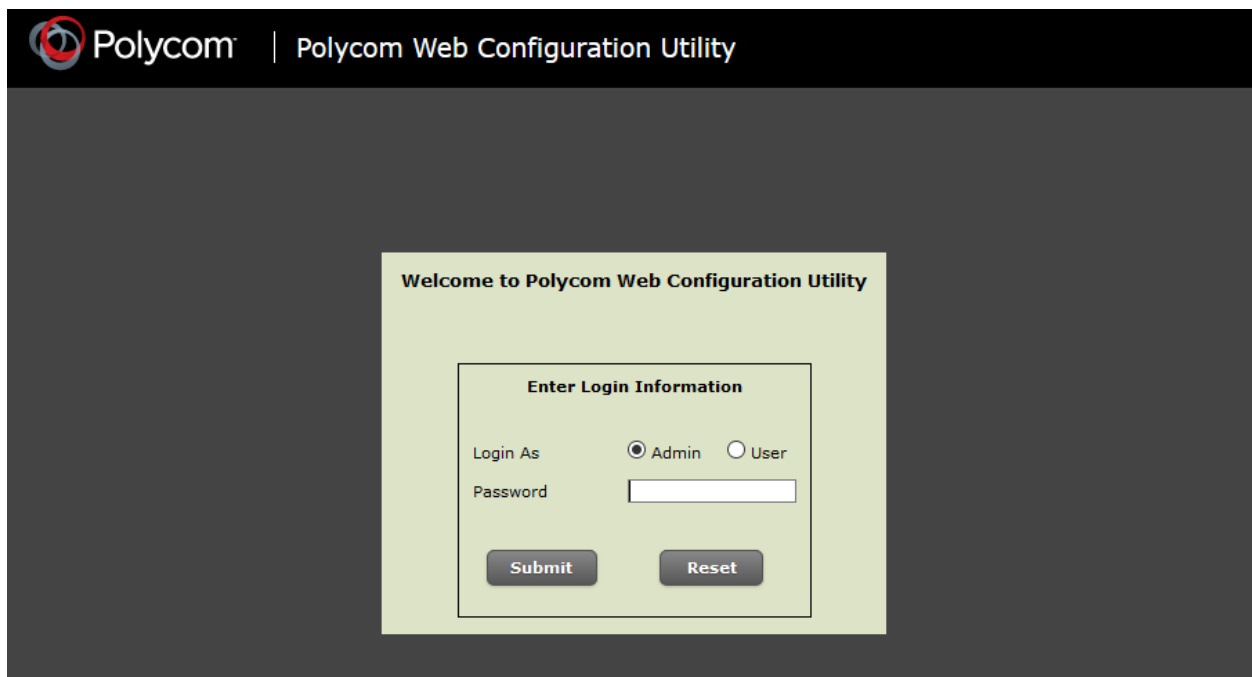


## 6. Configure Polycom Trio Conference Phone

This section provides steps to configure Trio 8800. Configuration for Trio 8500 is similar.

Note that the configuration for TLS was performed by a Polycom Engineer. IP Office used Avaya Aura® System Manager as the certificate authority. Thus, the root certificate of Avaya Aura® System Manager was provided.

To configure Trio 8800, using a web browser, navigate to <http://<IP Address of Trio 8800>> and log in using appropriate credentials.



The screenshot shows the Polycom Web Configuration Utility login interface. At the top, the Polycom logo and the text "Polycom Web Configuration Utility" are displayed. Below this, a central box titled "Welcome to Polycom Web Configuration Utility" contains a form titled "Enter Login Information". The form includes a "Login As" section with radio buttons for "Admin" (selected) and "User". Below this is a "Password" field with a text input box. At the bottom of the form are two buttons: "Submit" and "Reset".

Once logged in, Select **Simple Setup**.

Configure as follows:

- Under **SIP Server**, configure the **Address** and **Port** of Avaya IP Office from **Section 5.4**.
- Under **SIP Line Identification**:
  - Type in desired values in **Display Name** and **Label**
  - For **Address** field, type in extension@domain that was configured in Avaya IP Office. E.g., [25275@10.64.10.46](mailto:25275@10.64.10.46)
  - For **Authentication User ID**, type in the extension created in Avaya IP Office from **Section 5.4**
  - For **Authentication Password**, type in the **Login Code** configured in **Section 5.5**

Once done, select **Save** (not shown).

**Polycom | Trio 8800** Default

Logged in as: Admin | Last login at: 18:37:48, Wednesday 14 Feb

Home **Simple Setup** Preferences Settings Diagnostics Utilities

You are here: Simple Setup

**Simple Setup**

**System Name**

System Name

**Language**

**Time Synchronization**

**SIP Server**

Address

Port

**SIP Outbound Proxy**

**SIP Line Identification**

Display Name

Address

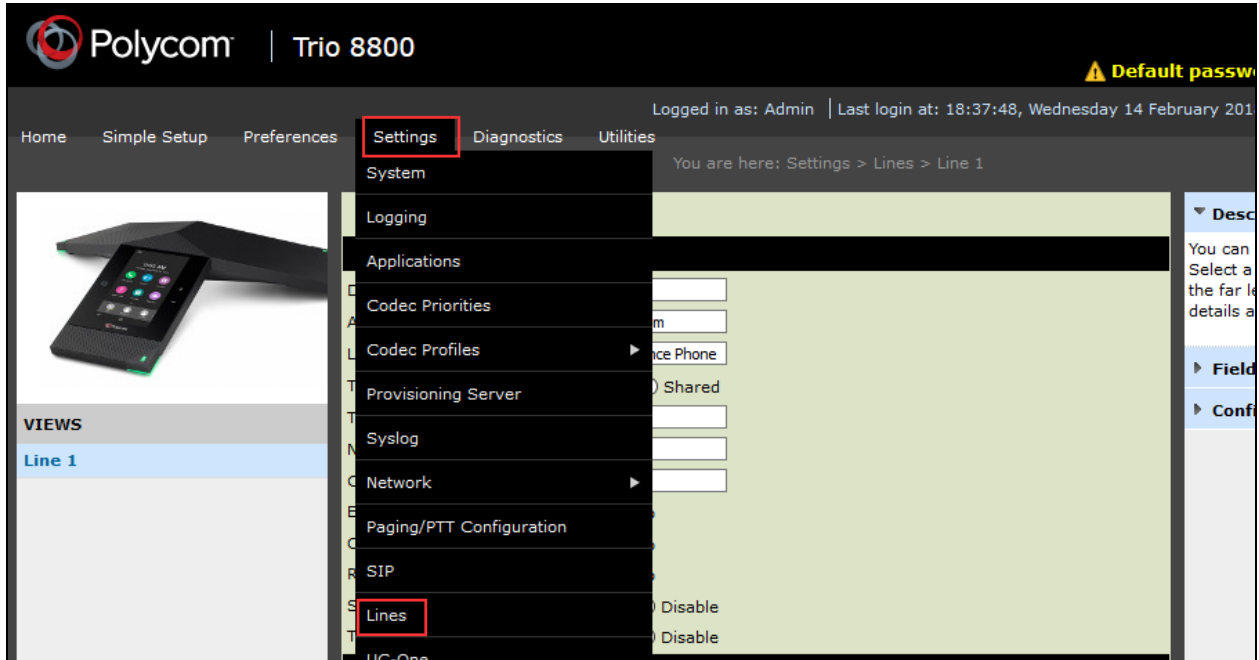
Authentication User ID

Authentication Password

Label

**Base Profile**

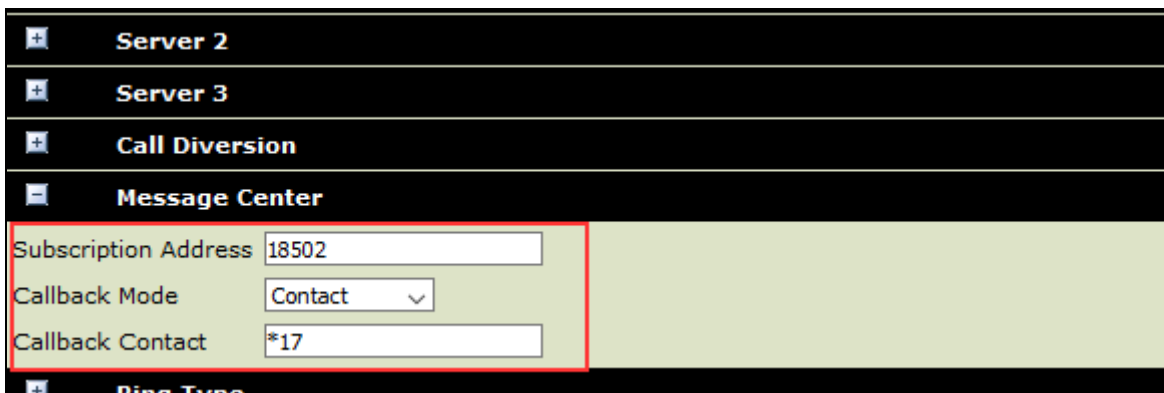
Navigate to **Settings** → **Lines**



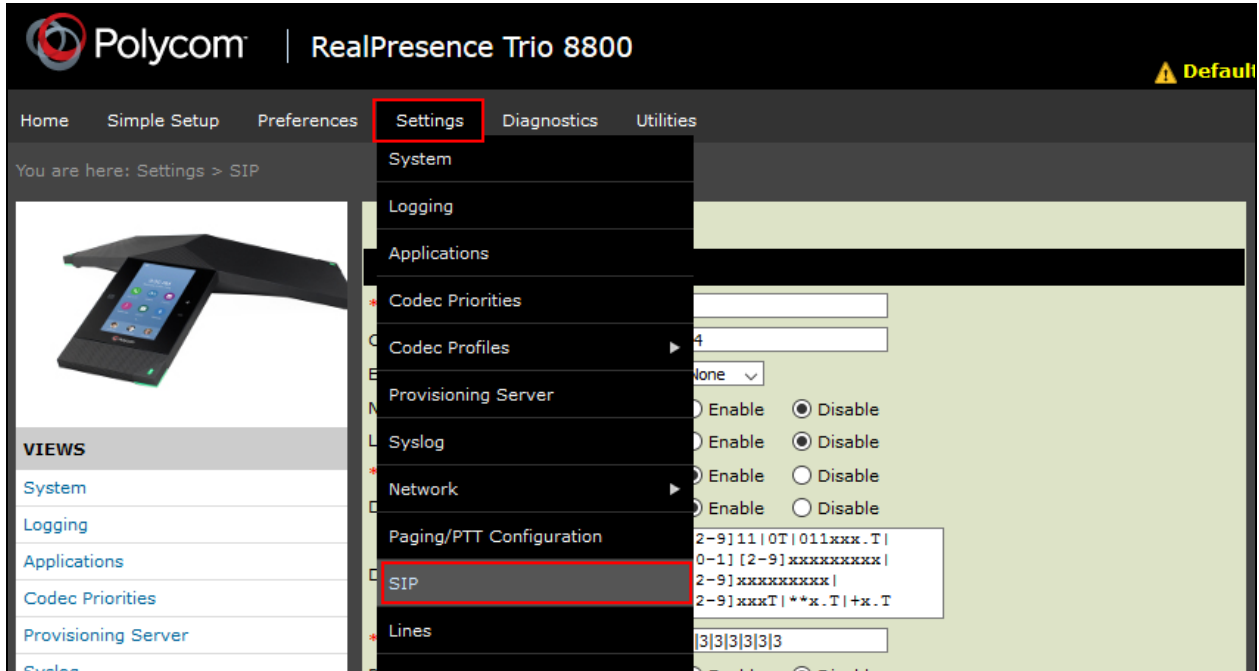
Expand **Message Center** and configure as follows:

- Type in the extension from **Section 5.4** in **Subscription Address**
- From the drop down menu for **Callback Mode**, select **Contact**
- For **Callback Contact**, configure the default Short Code that is configured to retrieve voicemail in Avaya IP Office.

Click **Save**, once done (not shown).




Navigate to **Settings** → **SIP**



## 7. Verification Steps

The following steps may be used to verify the configuration:

- From a PC running the Avaya IP Office Monitor application. The **Avaya IP Office SysMonitor** screen is displayed (not shown). Select **Status** → **SIP Phone Status** from the top menu.

SIPPhoneStatus							
Total Configured: 5		Waiting 0 secs for update					
Total Registered: 4		Registered Status 					
Extn Num	User Num	Phone Type	IP Address	Transport	User Agent	Licensed	Status
18001	18001	J129 SIP	10.64.10.208	TCP	Avaya J129 IP Phone 1.1.0.0.15 (15)	Avaya IP	SIP: Registered
18002	18002	NoPhone	0.0.0.0		UA?	No Licence	SIP: Unregistered
18501	18501	SIP	10.64.10.216	TLS	PolycomRealPresenceTrio-Trio_8500-UA/5.5.3.3441	3rd Party IP	SIP: Registered
18502	18502	SIP	10.64.10.214	TLS	PolycomRealPresenceTrio-Trio_8800-UA/5.5.3.3441	3rd Party IP	SIP: Registered
SipRecExtn		Unknown	0.0.0.0		UA?	Avaya IP	SIP: Registered

- Verify that there is an entry for each Trio extension from **Section 5.4** and the Status is **SIP: Registered**.
- Place calls to and from, Trio 8800 and Trio 8500, and verify that the calls are successfully established with two-way talk path.

## 8. Conclusion

Polycom Trio Conference Phones were compliance tested with Avaya IP Office. Trio 8800 and Trio 8500 functioned properly for feature and serviceability.

## 9. Additional References

The following Avaya product documentation can be found at <http://marketingtools.avaya.com/knowledgebase/>

The following document was provided by Polycom.

Polycom Trio Conference Phone technical product documentation is available at: <http://support.polycom.com/>

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