Avaya Solution & Interoperability Test Lab

Application Notes for Polycom® SoundStation® IP 6000 and Avaya IP Office 500 V2 – Issue 1.1

Abstract

These Application Notes describe the procedures for configuring Polycom® SoundStation® IP 6000 which was compliance tested with Avaya IP Office 500 V2.

The overall objective of the interoperability compliance testing is to verify Polycom® SoundStation® IP 6000 features and functionality in an environment comprised of Avaya IP Office 500 V2, and various Avaya H.323 IP and DCP Telephones.

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 procedures for configuring Polycom® SoundStation® IP 6000 (herein referred to as SoundStation IP 6000) which was compliance tested with Avaya IP Office 500 V2 (herein referred to as Avaya IP Office). SoundStation IP 6000 is a SIP-based IP conference phone that delivers superior performance for small to midsize conference rooms.

These Application Notes assume that Avaya IP Office is already installed and basic configuration steps have been performed. Only steps relevant to this compliance test will be described in this document.

For further details on SoundStation IP 6000 configuration steps not covered in this document, consult **[2]**.

During the compliance test, SoundStation IP 5000, IP 6000 and IP 7000 were simultaneously tested, but these Application Notes will only cover the SoundStation IP 6000. Separate Application Notes exist for the other endpoints.

2. General Test Approach and Test Results

The general test approach was to place calls to and from SoundStation IP 6000 and exercise basic telephone operations. The main objectives were to verify that:

- SoundStation IP 6000 successfully registers with Avaya IP Office.
- SoundStation IP 6000 successfully establishes calls with Avaya H.323 and digital telephones registered to Avaya IP Office.
- SoundStation IP 6000 successfully negotiates the appropriate codec (G.711MU or G.729A).
- SoundStation IP 6000 successfully places a call on hold.
- SoundStation IP 6000 successfully transfers a call, including blind and supervised transfers.
- DTMF tones could be passed successfully to the voicemail system.
- SoundStation IP 6000 successfully establishes a three party conference call.
- SoundStation IP 6000 successfully verifies the following Short Codes:
    - Do Not Disturb
    - Call Pickup Any
    - Call Forward (Unconditional, Busy/no answer)
- Calls could be shuffled and unshuffled.
- MWI would be lit when new voicemail exists and extinguished after listening to voicemail.

For serviceability testing, failures such as cable pulls and hardware resets were performed.

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2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing. The focus of the interoperability compliance testing was primarily on verifying call establishment on the SoundStation IP 6000

The feature testing included registration, basic calls, display, hold/resume, conference, media shuffling, G.711, G.729, DTMF, Call Pickup, Do Not Disturb, Call Forwarding, Call Transfers, MWI, and leaving/retrieving VM.

The serviceability testing focused on verifying the ability of SoundStation IP 6000 to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet cable to the devices.

2.2. Test Results

The test objectives were verified. For serviceability testing, the SoundStation IP 6000 operated properly after recovering from failures such as cable disconnects, and resets of the SoundStation IP 6000 and Avaya IP Office. SoundStation IP 6000 successfully negotiated the codec that was used. The features tested and worked as expected.

2.3. Support

Technical support on Polycom® SoundStation® IP 6000 can be obtained through the following:

- **Phone:** (978) 292-5000
- **Web:** http://www.polycom.com/support/index.html

3. Reference Configuration

Figure 1 below shows the configuration used for the compliance testing of SoundStation IP 6000.

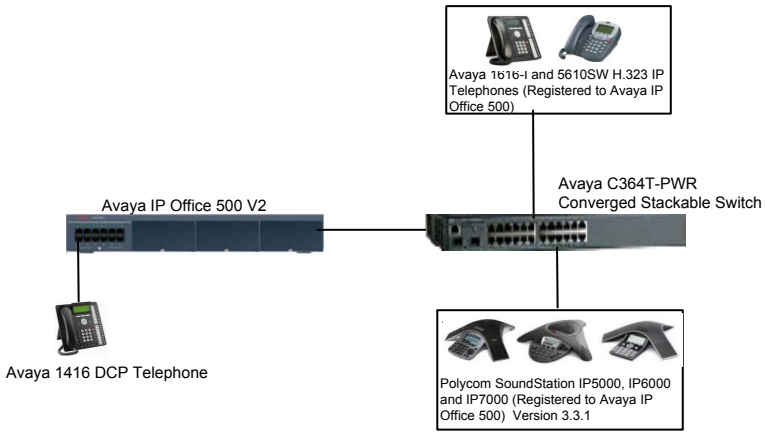

Figure 1: Test Configuration of Polycom® SoundStation® IP 5000, 6000 and 7000

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4. Equipment and Software Validated

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

Equipment		Software/Firmware
Avaya IP Office 500 V2		6.1 (5)
Avaya H.323 IP Telephones		
	5610 (H.323) 1616-I (H.323)	2.9.1 1.22
Avaya 1416 Digital Telephone		-
IP Office Manager on Windows XP Professional 2002 with SP3		8.1 (5)
Polycom® SoundStation® IP 6000		3.3.1

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5. Configure Avaya IP Office

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

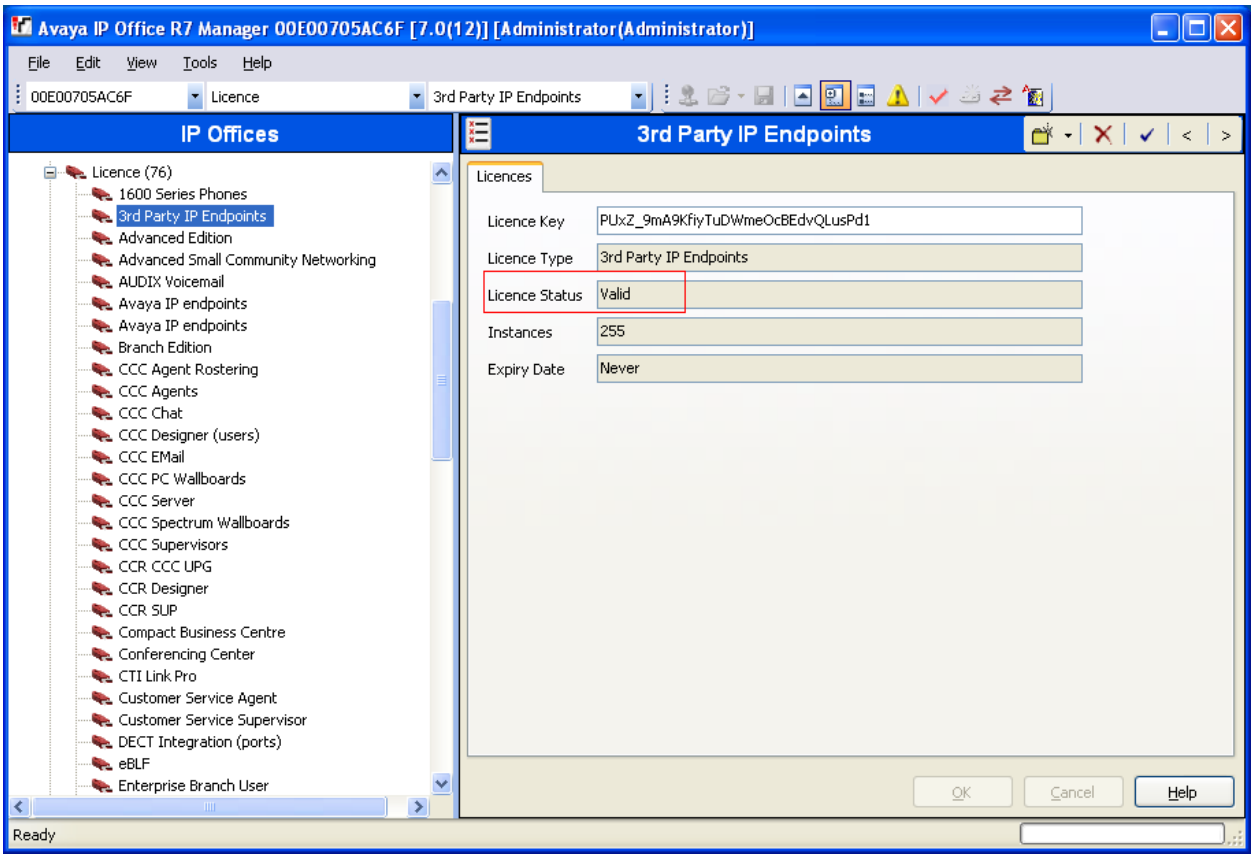
- Verify IP Office license
- Obtain LAN IP address
- Administer SIP registrar
- Administer SIP extensions
- Administer SIP users

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 → 3rd PartyIP endpoints** to display the Avaya IP endpoints screen in the right pane. Verify that the License Status field is set to **Valid**.



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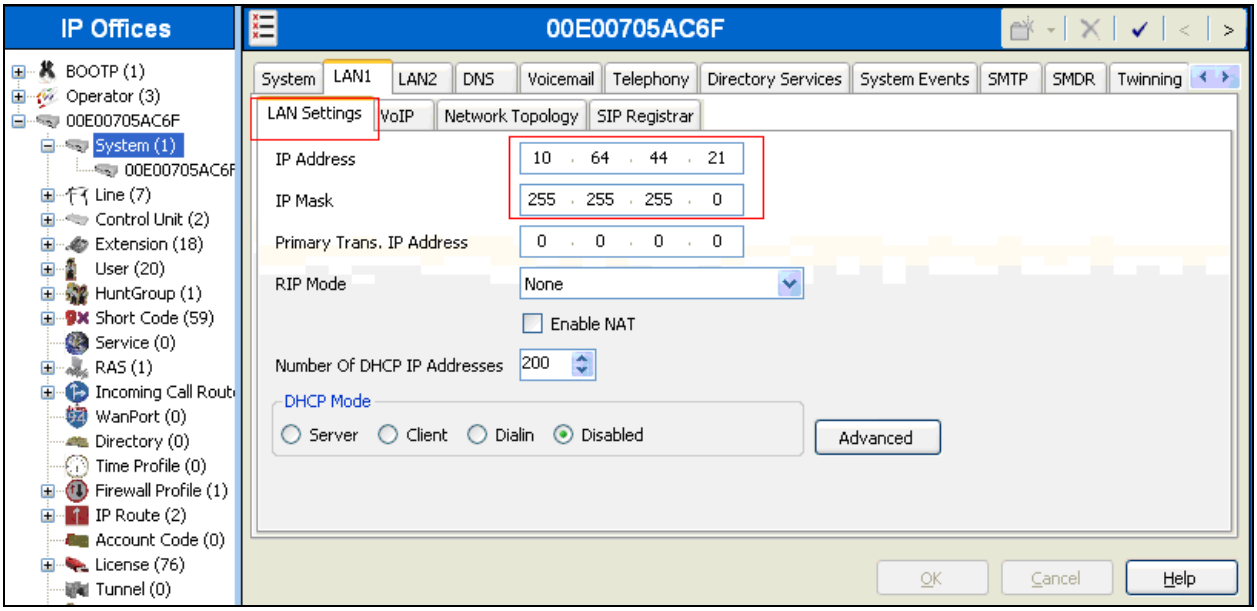
5.2. Obtain LAN IP Address

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 SoundStation IP 6000.

Note: During the initial configuration of Avaya IP Office, the LAN1 was configured on the private network side and LAN2 was configured on the public network side. Avaya IP Office can support SIP extensions on the LAN1 and/or LAN2 interfaces, but the compliance test used the LAN1 interface. Thus, only the LAN1 configuration will be discussed in these Application Notes.



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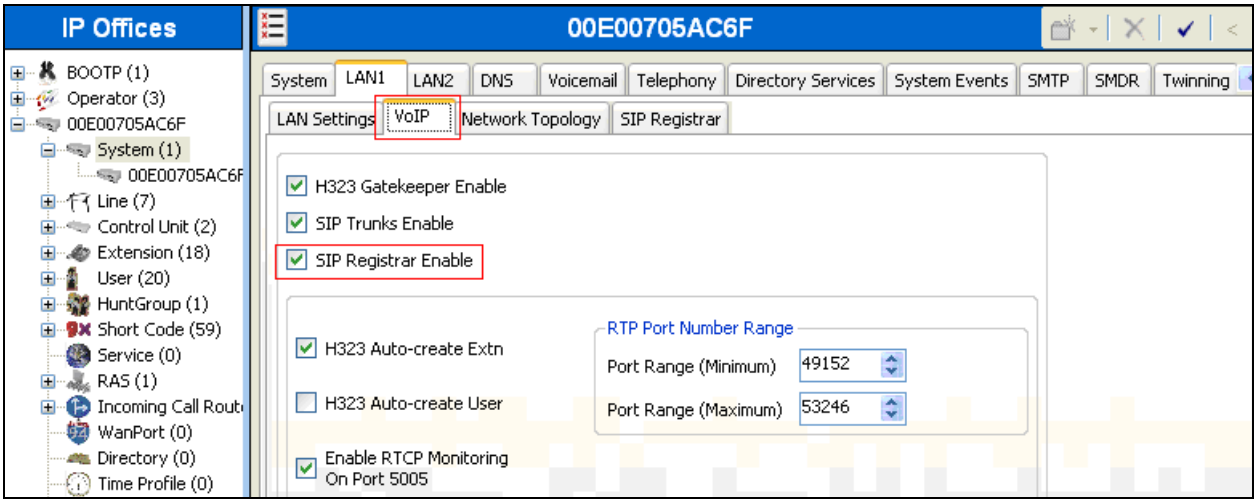
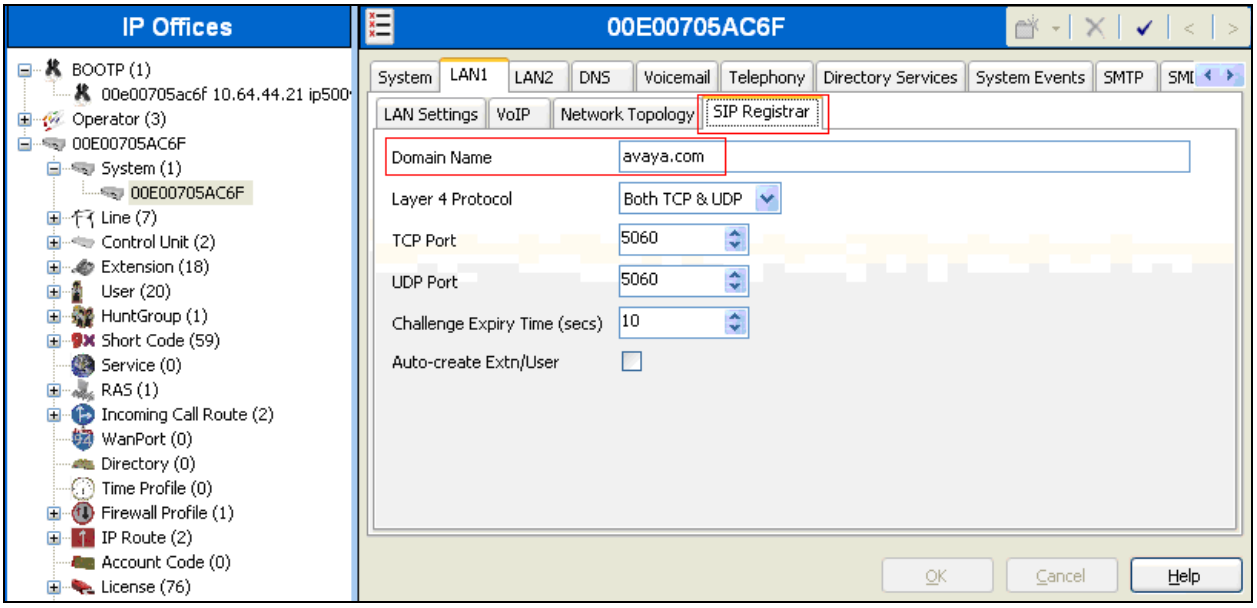
5.3. Administer SIP Registrar

Select the **VoIP** sub-tab. Ensure that **SIP Registrar Enable** is checked, as shown below.



Select the **SIP Registrar** sub-tab, and enter a valid Domain Name for SIP endpoints to use for registration with IP Office. In the compliance testing, the **Domain Name** field was set to **avaya.com**. If the **Domain Name** field is left blank, then the SIP endpoints will use the LAN IP address for registration.



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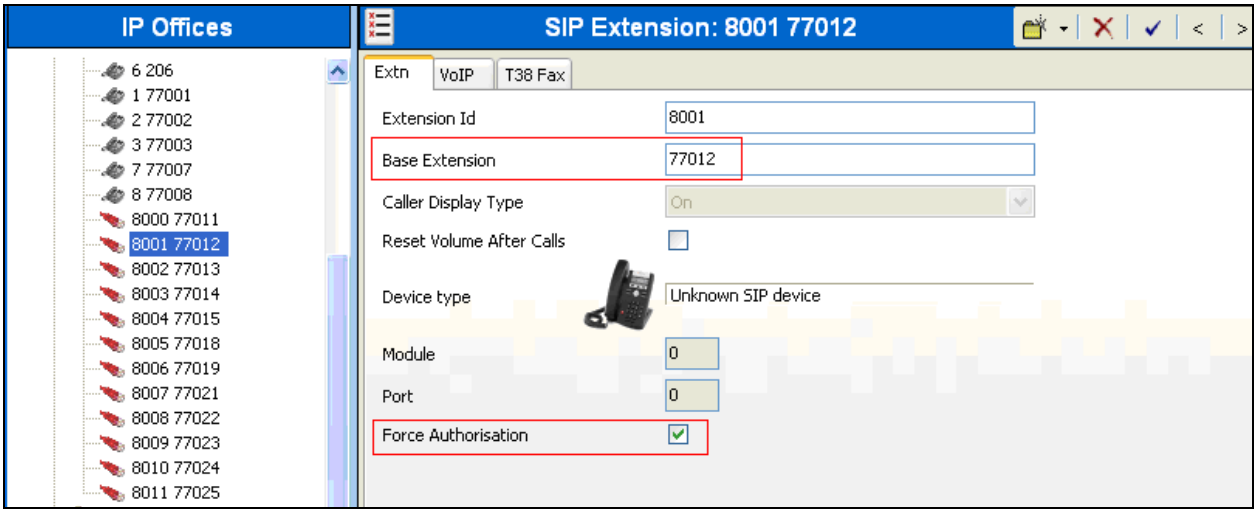
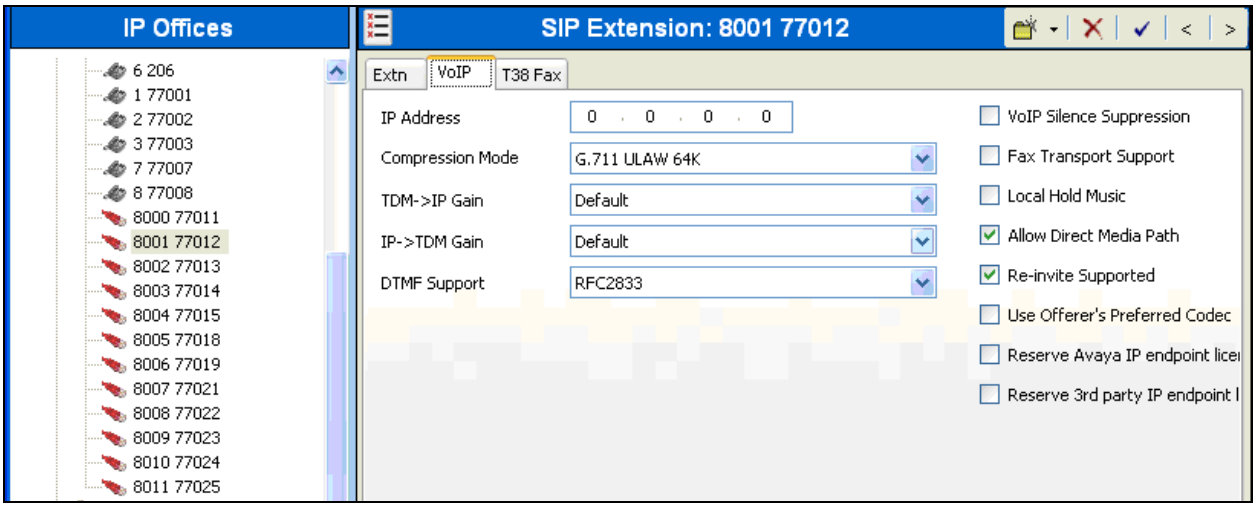
5.4. Administer SIP Extensions

From the configuration tree in the left pane, right-click on **Extension**, and select **New ➔ SIP Extension** from the pop-up list to add a new SIP extension. Enter the desired digits for the **Base Extension** field, and retain the default check in the **Force Authorisation** field as shown below.



Select the **VoIP** tab, and retain the default values in all fields.

Repeat this section to add a new SIP extension for each SoundStation. During the compliance test, extensions 77011, 77012 and 77013 were created for SoundStation IP 5000, 6000 and 7000.



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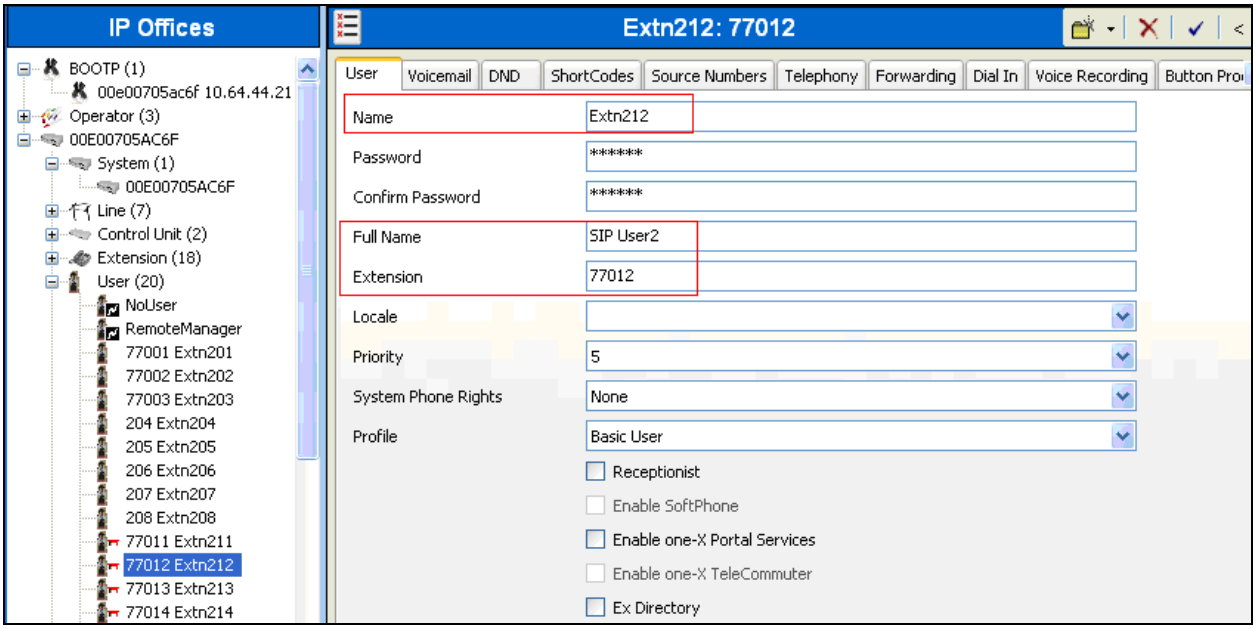
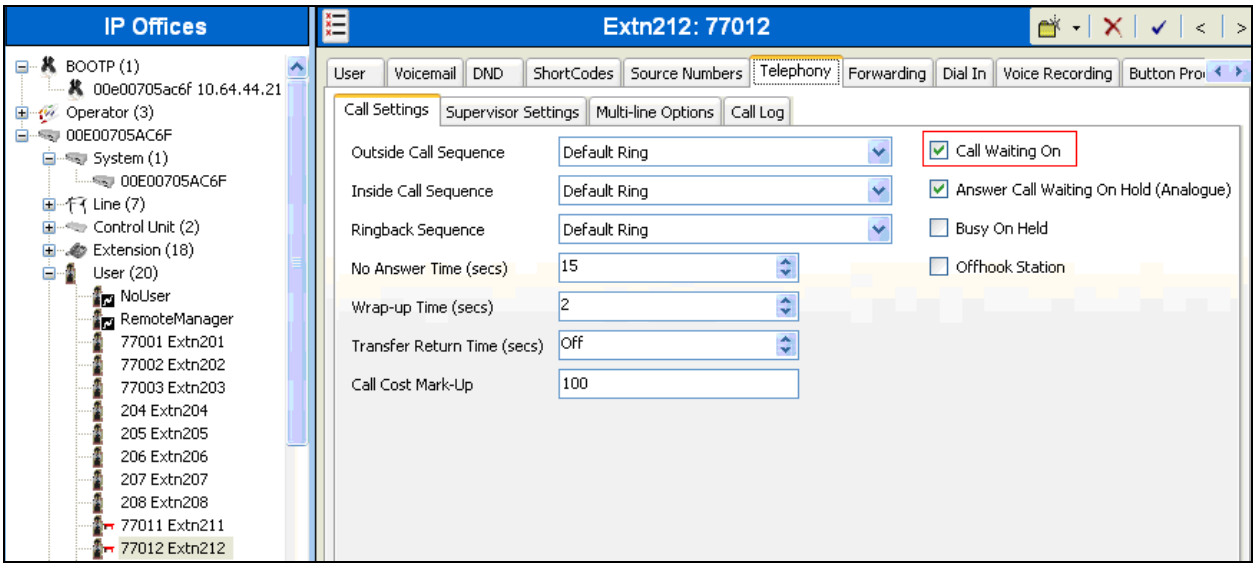
5.5. Administer SIP Users

From the left pane, right-click on **User**, and select **New** from the pop-up list. Enter desired values for the **Name** and **Full Name** fields. 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.



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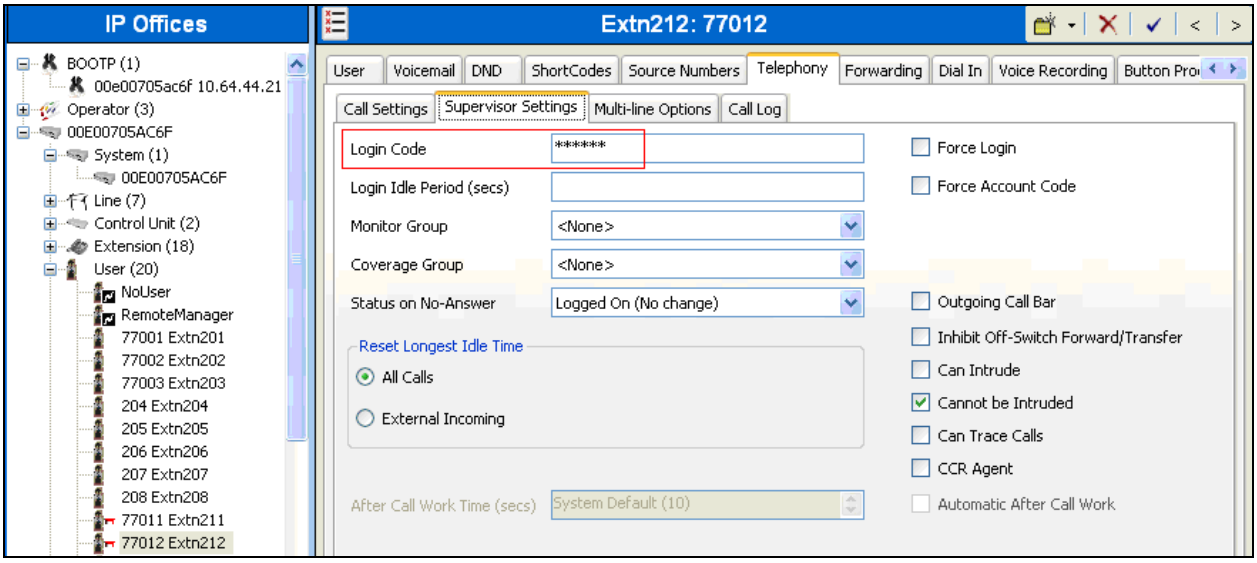
Select the **Supervisor Settings** tab, and enter a desired **Login Code**.

Repeat this section for each SIP extension from **Section 5.4**.



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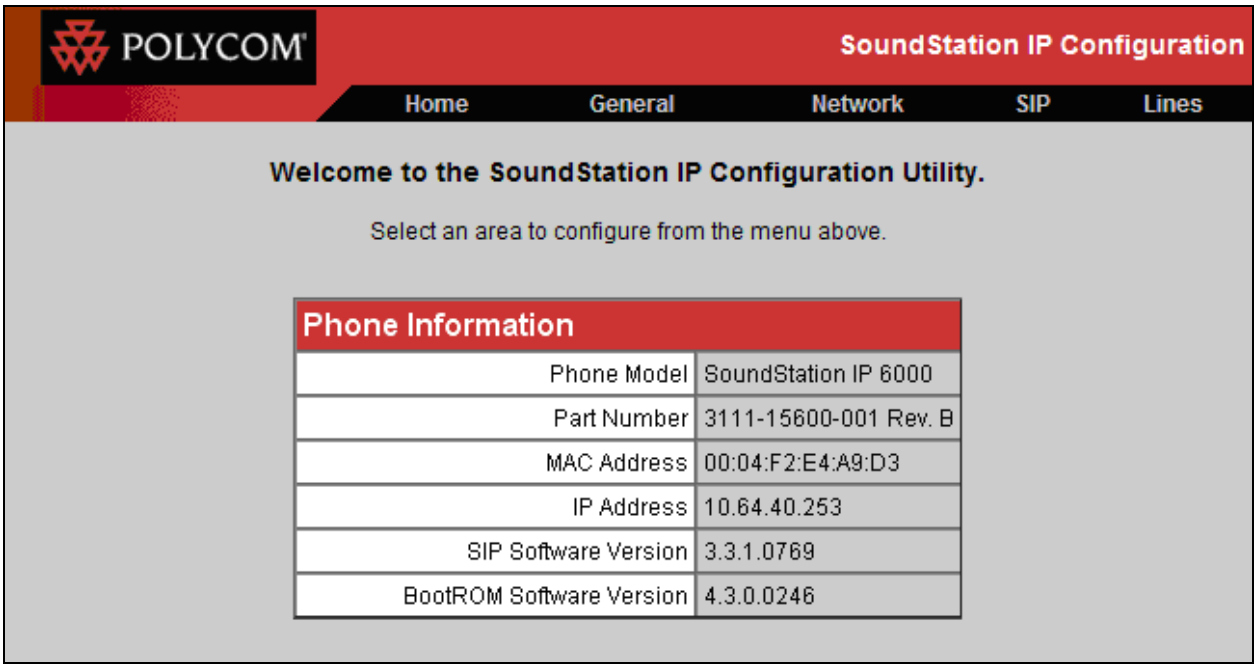
6. Configure Polycom® SoundStation® IP 6000

This section provides steps to configure SoundStation IP 6000. The latest firmware was provided by Polycom, firmware version **3.3.1**. The following steps are needed to configure SoundStation IP 6000 so that it registers with Avaya IP Office. Power cycle SoundStation IP 6000. While the phone boots up, select the Setup menu from the phone, and enter the administrator password (factory default password is 456). Provide the following information:

- **Phone IP address** (during the compliance test, a static IP address was used)
- **Subnet Mask**
- **IP Gateway**
- In the Server Menu,
  - Set **Server Type** to **TFTP**.
  - Provide the **Server Address**
- DNS Domain
- In the Syslog Menu,
  - Set **Server Address** to the IP address of Avaya IP Office.
  - Set **Server Type** to **UDP** (during the compliance test, UDP was used)
  - Select the **Exit** button to continue to boot.

Once the phone has completed the booting process, launch a web browser, enter **http://<IP address of SoundStation IP 6000>** in the URL, and log in with the appropriate credentials. The screen below is displayed.



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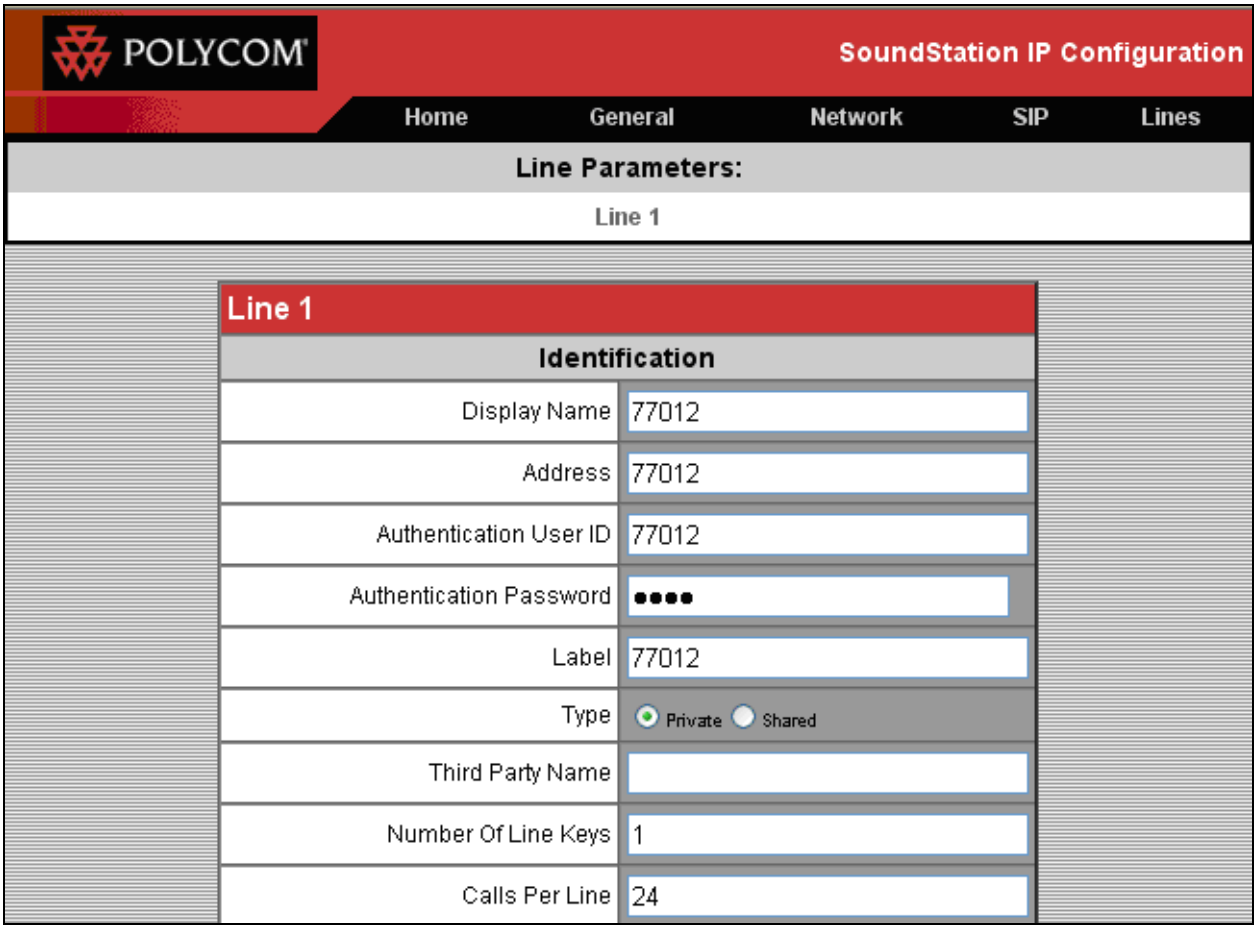
Select **Lines** from the top menu, and provide the following information in the Identification section:

- **Display Name**
- **Address**
- **Authentication User ID**
- **Authentication Password** (Login Code created in **Section 5.5**)
- **Label**



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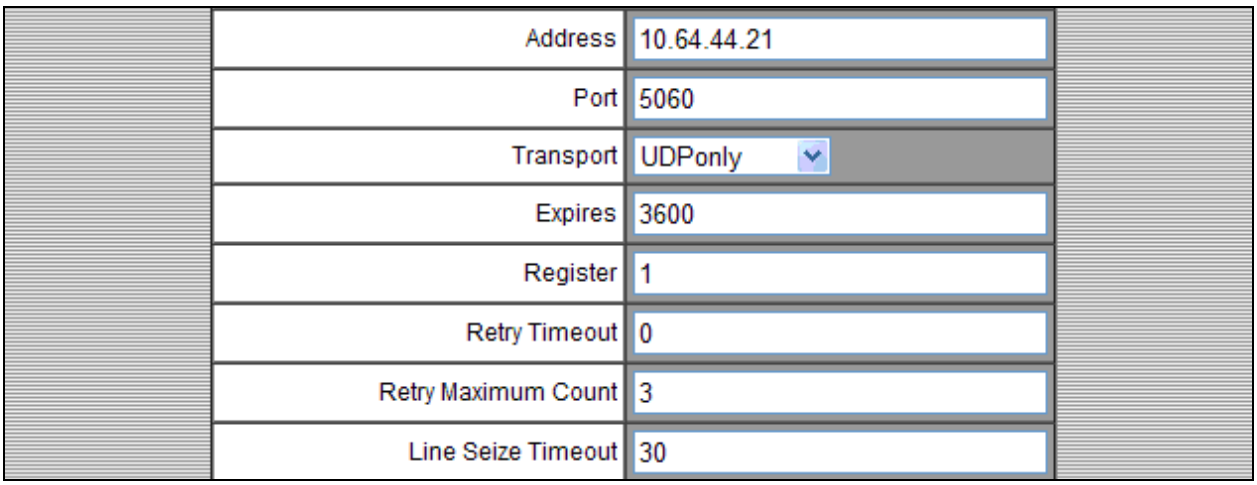
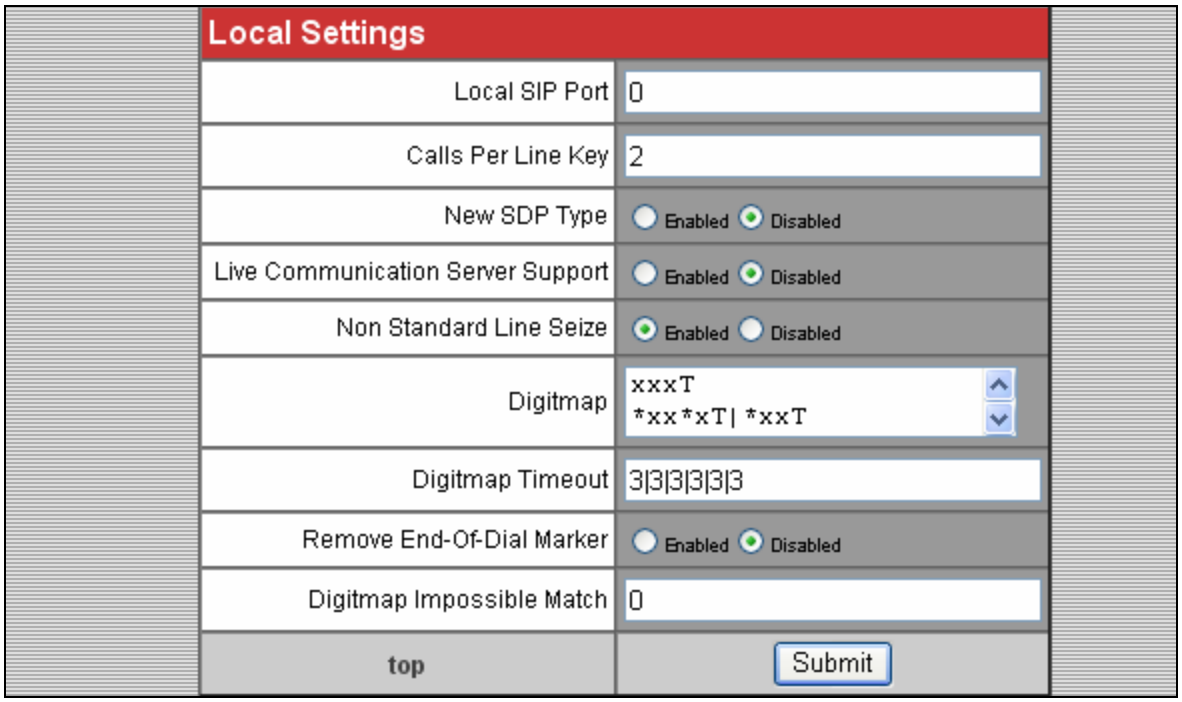
In the Server 1 section shown below, provide the following information:

- **Address** – IP address of Avaya IP Office
- **Port** – Enter the port to be used (e.g. **5060** or **5061**).
  - TLS – 5061
  - UDPonly or TCPonly – 5060
- **Transport** – UDPonly was selected for the compliance test



Scroll down the screen to display the **Local Settings** section under the SIP menu. Modify **Digitmap** to match the dial plan configuration on Avaya IP Office. In the compliance testing, the value "*xx*xT|*xxT" was used to allow for dial strings prefixed with digits, "*", or "#". Disable the **RemoveEnd-Of-Dial Marker** field. Click **Submit**.



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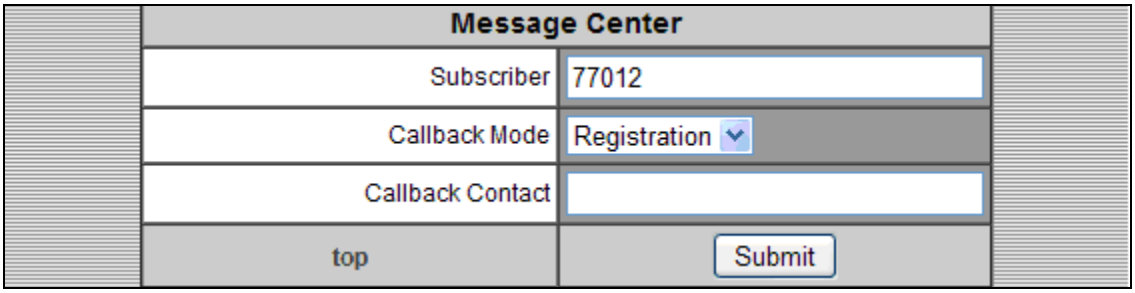
In the Message Center section, enter the subscriber extension. Afterwards, click on the **Submit** button.

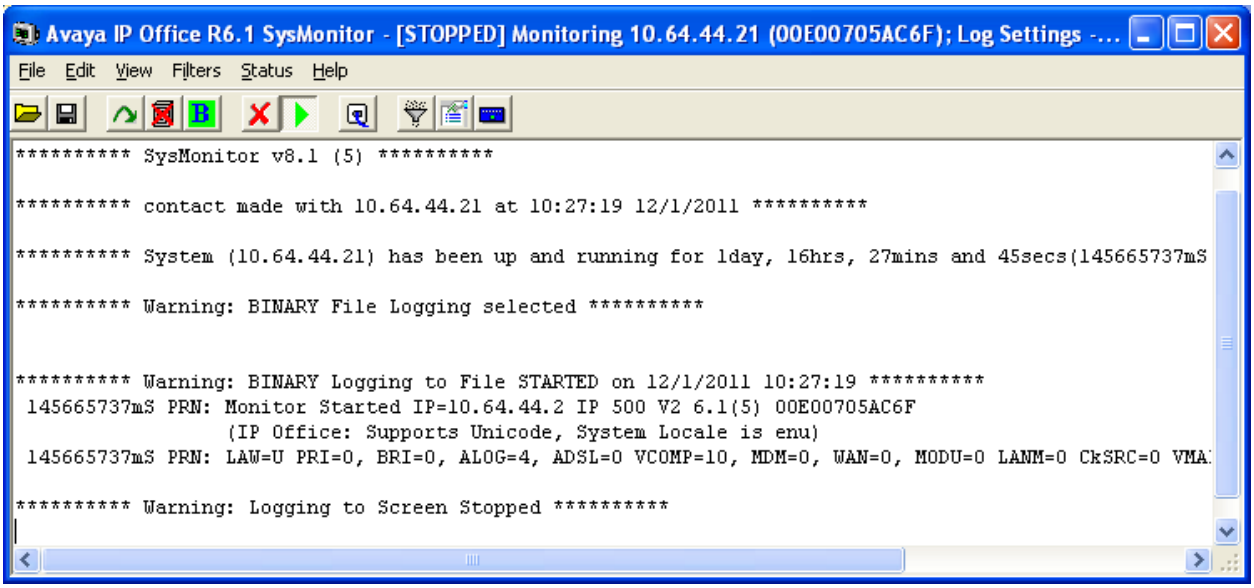


7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya IP Office and SoundStation IP 6000.

7.1. Verify Avaya IP Office

From a PC running the Avaya IP Office Monitor application, select **Start → Programs → IP Office → Monitor** to launch the application. The **Avaya IP Office R6.1 SysMonitor** screen is displayed, as shown below. Select **Status → SIP Phone Status** from the top menu.



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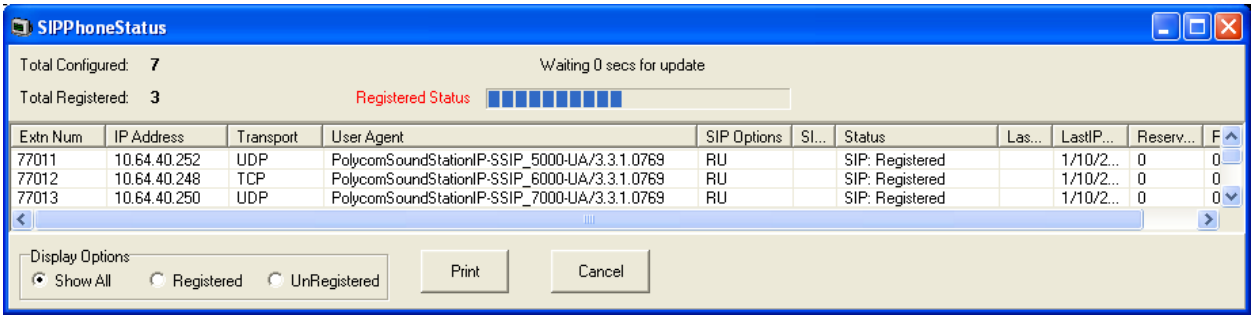
The **SIPPhoneStatus** screen is displayed. Verify that there is an entry for each SIP extension from **Section 5.4**, that the User Agent is **PolycomSoundStationIP-SSIP_6000-UA**, and that the Status is **SIP: Registered**, as shown below.



8. Conclusion

Polycom® SoundStation® IP 6000 was compliance tested with Avaya IP Office 500 V2. Polycom® SoundStation® IP 6000 functioned properly based on the feature and serviceability testing. During compliance testing, Polycom® SoundStation® IP 6000 successfully interoperated with Avaya IP Office 500 V2. All feature and serviceability test cases were completed.

9. Additional References

The following Avaya product documentation can be found at http://support.avaya.com.
[1] *IP Office Manager,* December 2010, Release 8.1, Document Number 15-601011, Issue 25j.

The following document was provided by Polycom and can be found at http://support.polycom.com.
[2] *Administrator's Guide for the Polycom UC Software 3.3.0*, June 2010, 1725-11530-330 Rev. A.

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