Avaya Solution & Interoperability Test Lab

Application Notes for PIVOT™ by Spectralink (87-Series) Wireless Telephones and Avaya IP Office – Issue 1.0

Abstract

These Application Notes describe the procedures for configuring PIVOT™ by Spectralink (87-Series) Wireless Telephones which were compliance tested with Avaya IP Office.

The overall objective of the interoperability compliance testing was to verify PIVOT™ by Spectralink (87-Series) Wireless Telephones functionalities in an environment compromised of Avaya IP Office and various Avaya H.323, SIP, Analog and Digital Telephones. PIVOT™ by Spectralink (87-Series) Wireless Telephones are SIP based.

Testing was performed using Avaya IP Office 500 V2 R9.0, but it also applies to Avaya IP Office Server Edition R9.0 (single site configuration only).

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 PIVOT™ by Spectralink (87-Series) Wireless Telephones (8741 and 8753) which were compliance tested with Avaya IP Office.

PIVOT (87-Series) expands the Spectralink 8000 Portfolio of Voice over Wi-Fi handsets to deliver enterprise-grade, on-site voice mobility with a user-friendly interface presented on an extensible application platform.

Based on the industry standard Android™ operating system, it is a WorkSmart solution - applying its intuitive touchscreen design, HD voice quality, seamless Voice over Wi-Fi roaming without dropouts, durability, broad telephony and WLAN interoperability.
PIVOT operates with two enhanced standards-based application interfaces, an optional, high-performance integrated barcode scanner and an industrial-grade accelerometer.

These Application Notes assume that 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 configuration steps not covered in this document, consult the documentation library mentioned in **Section 9**.

2. General Test Approach and Test Results

The general test approach was to place calls to and from PIVOT 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)
- Avaya Feature Name Extension (FNE)
    - Call Park
    - Call Pickup
    - Call Forward (Unconditional, Busy/no answer)
- 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.

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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 PIVOT. PIVOT operations such as inbound calls, outbound calls, hold/resume, transfer, conference, short code, and PIVOT interactions with Avaya IP Office, and Avaya SIP, H.323, Analog and Digital telephones were verified. The serviceability testing introduced failure scenarios to see if PIVOT can recover from failures.

2.2. Test Results

The test objectives were verified. For serviceability testing, PIVOT operated properly after recovering from failures such as network disconnects, and resets of PIVOT and Avaya IP Office. The following feature tests were included during compliance test:

- Registration
- Codecs (G.711MU and G.729A)
- Inbound calls
- Outbound calls
- Hold/Resume
- Call termination (origination/destination)
- Three party conference (origination/destination)
- Avaya Feature Name Extension (FNE)
    - Call Park
    - Call Pickup
    - Call Forward (Unconditional, Busy/no answer)
- MWI
- Voicemail
- Serviceability

The features tested worked as expected with an exception of the following:

- When Call Park feature is attempted from PIVOT, it sends a SIP REFER instead of a SIP INVITE, which causes the feature to not work. The issue has been reported to Spectralink and a fix for it is expected in a future release.

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2.3. Support

Technical support on PIVOT can be obtained through the following:

North America:

Phone: +1-800-775-5330

Email: nolarma@spectralink.com

Web: http://support.spectralink.com

EMEA:

Phone: +33 176774541

Email: emeaom@spectralink.com

Web: http://support.spectralink.com

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3. Reference Configuration

Figure 1 illustrates a sample configuration consisting of an Avaya IP Office and PIVOT™ by Spectralink. For completeness, Avaya 9600 Series H.323 IP Telephones, Avaya 1200 Series SIP IP Telephones, Avaya Digital Telephones and Avaya Analog Telephone, are included in **Figure 1** to demonstrate calls between the SIP-based PIVOT and Avaya SIP, H.323, and Digital and Analog Telephones.

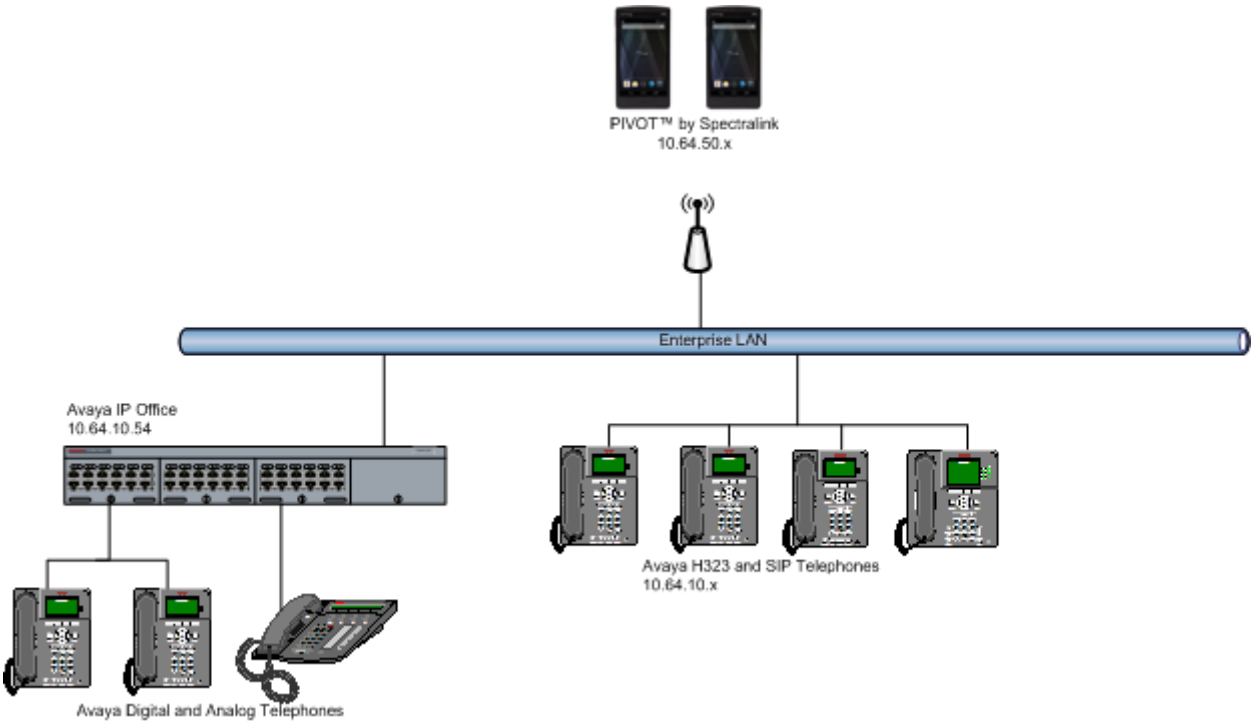

Figure 1: Test Configuration of PIVOT Wireless Telephones with Avaya IP Office

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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	9.0.0.829
Avaya IP Office Manager	9.0.0.829
Avaya 9600 Series H.323 Deskphones 96x0 96x1	 3.2.0 6.3.0
Avaya 12x0 Series SIP Phones	4.3.18
Avaya 9508 and 1408 Digital Telephones	0.45
Avaya 6211 Analog Phone	-
PIVOT™ by Spectralink	JZO54K 1.0.0.4037

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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. Please note that only the values or parameters that are mention in this section were changed. Rest of the values were left at default.

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 (not shown).

The Avaya IP Office Manager screen is displayed. From the configuration tree in the left pane, select **Licence → 3rd Party IP 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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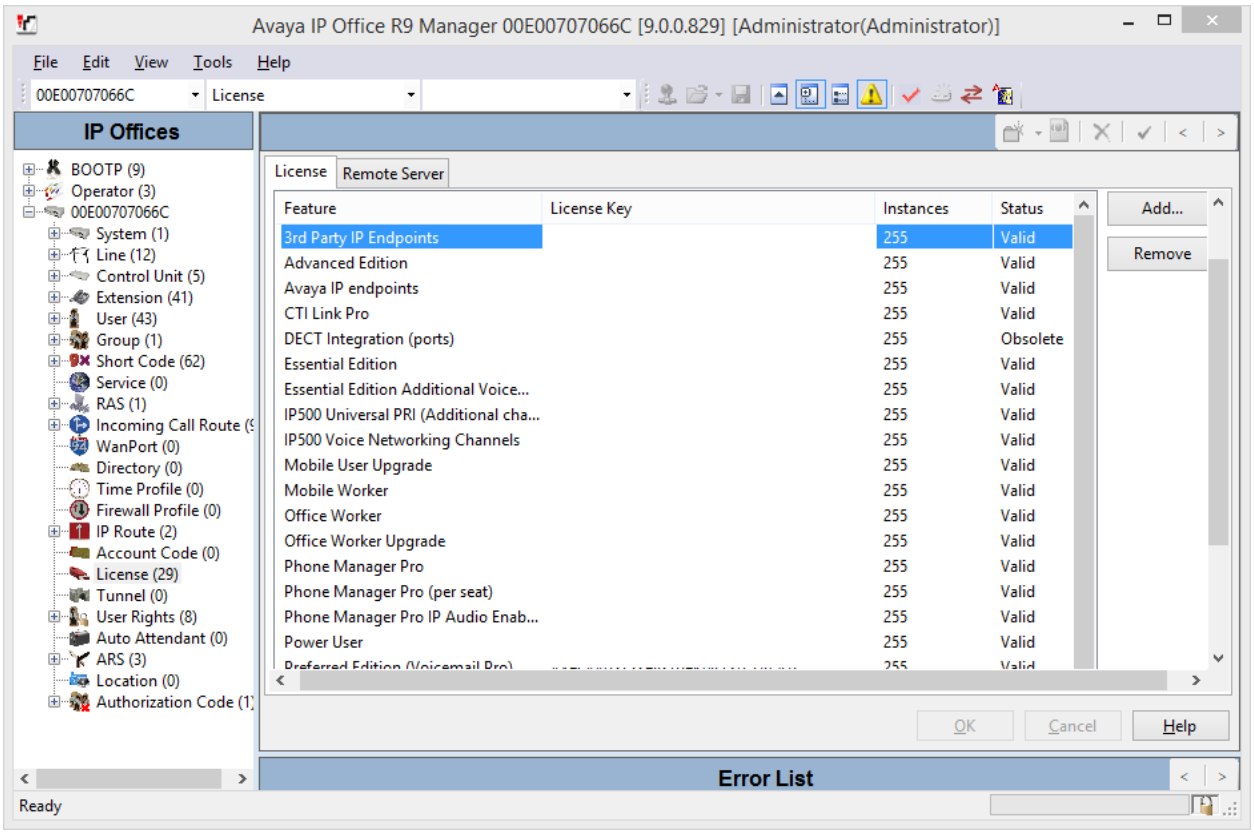

5.2. Obtain LAN IP Address

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 Spectralink 84-Series.

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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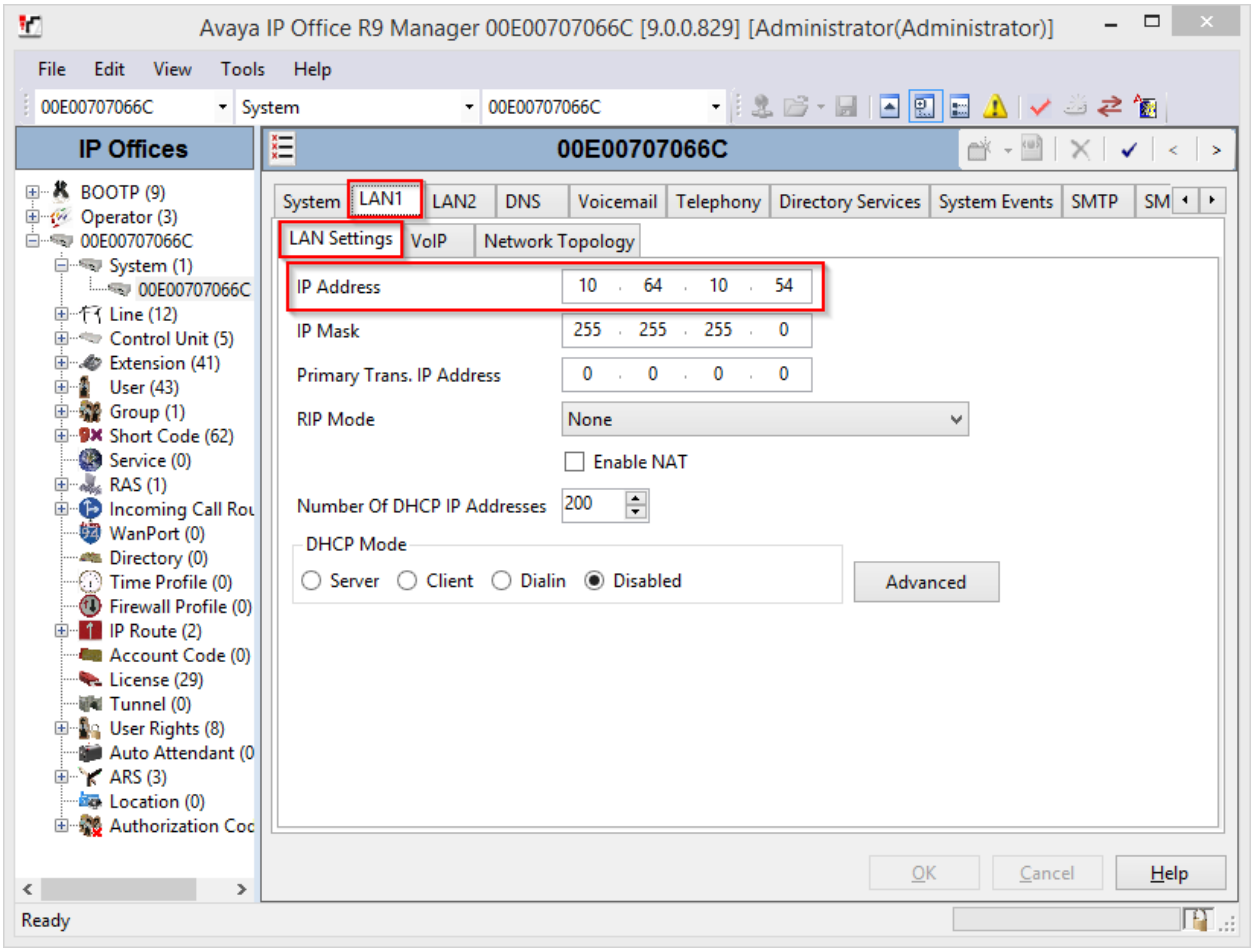

5.3. Administer SIP Registrar

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

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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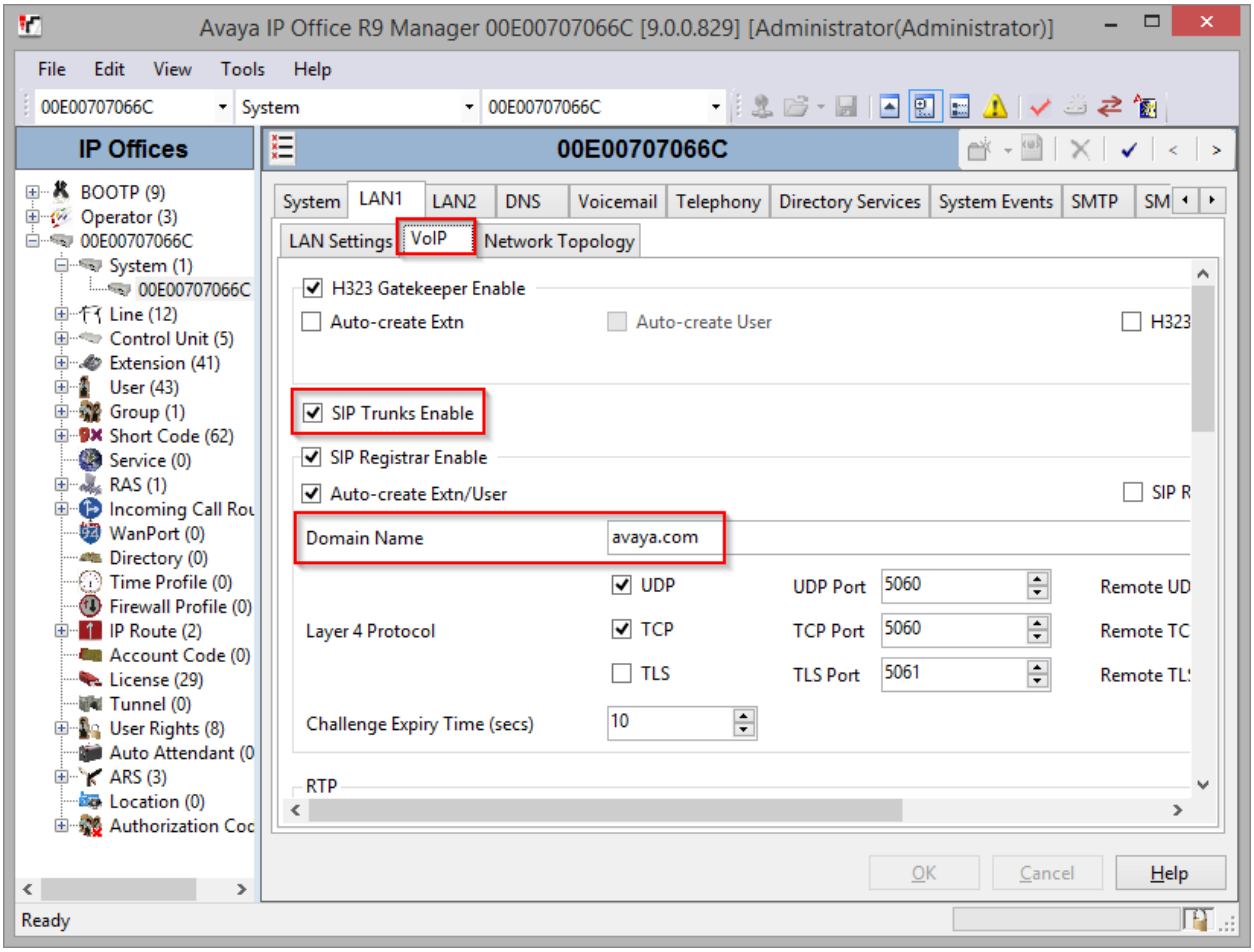

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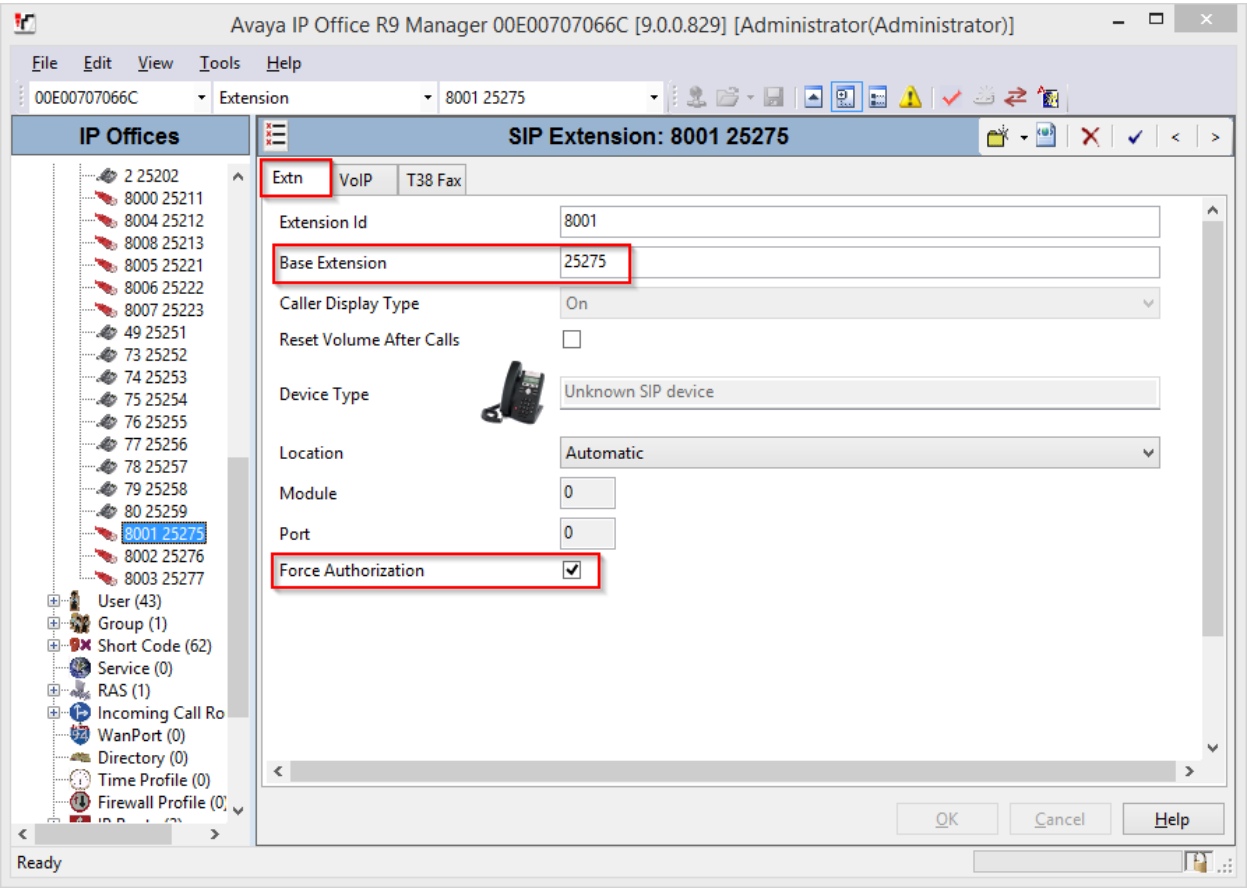
5.4. Administer SIP Extensions

From the configuration tree in the left pane, right-click on **Extension** and select **New ➔ SIP Extension** from the pop-up list (not shown) to add a new SIP extension. Enter the desired digits for the **Base Extension** field, and retain the default check in the **Force Authorization** field as shown below.



Repeat this section to add a new SIP extension for each PIVOT handset. During the compliance test, extensions 25275, 25276 and 25277 were created for PIVOT.

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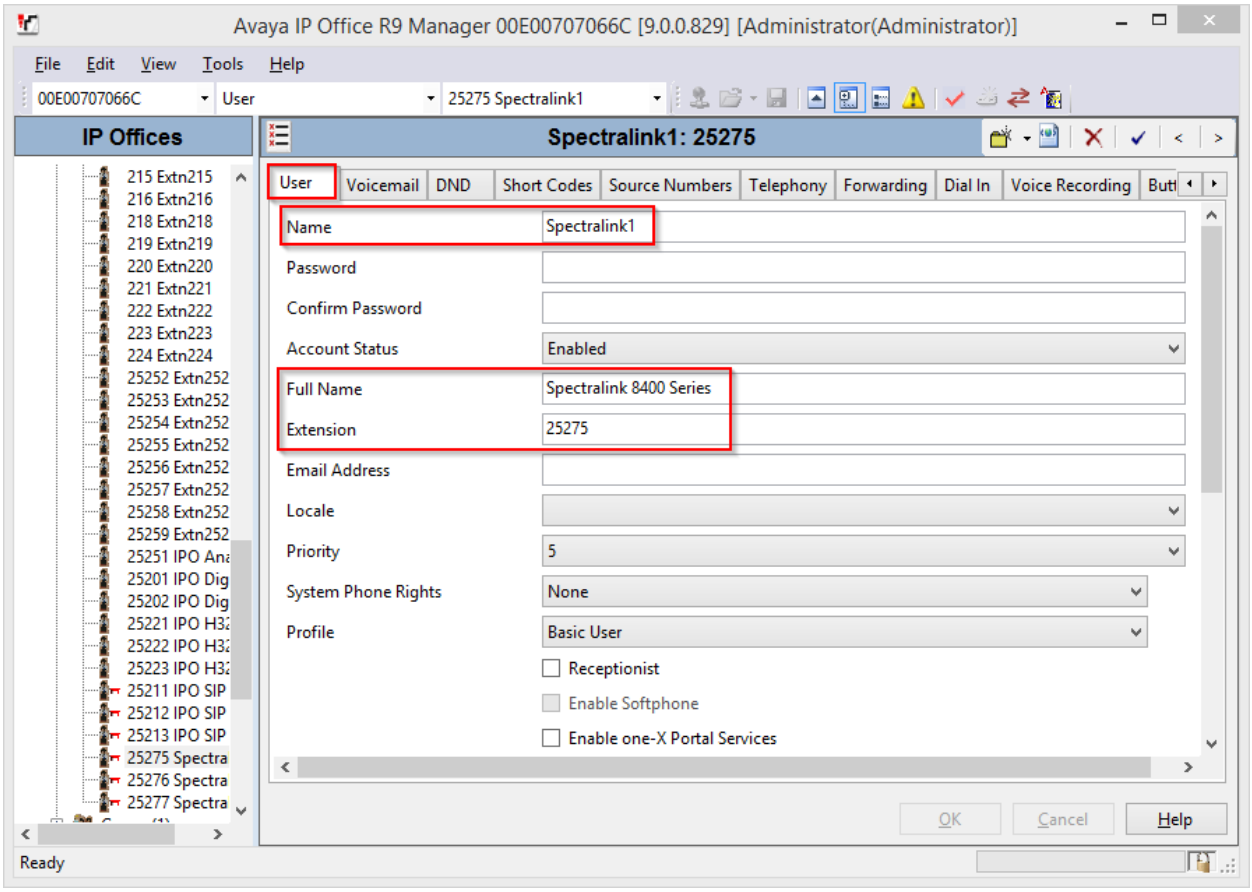
5.5. Administer SIP Users

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



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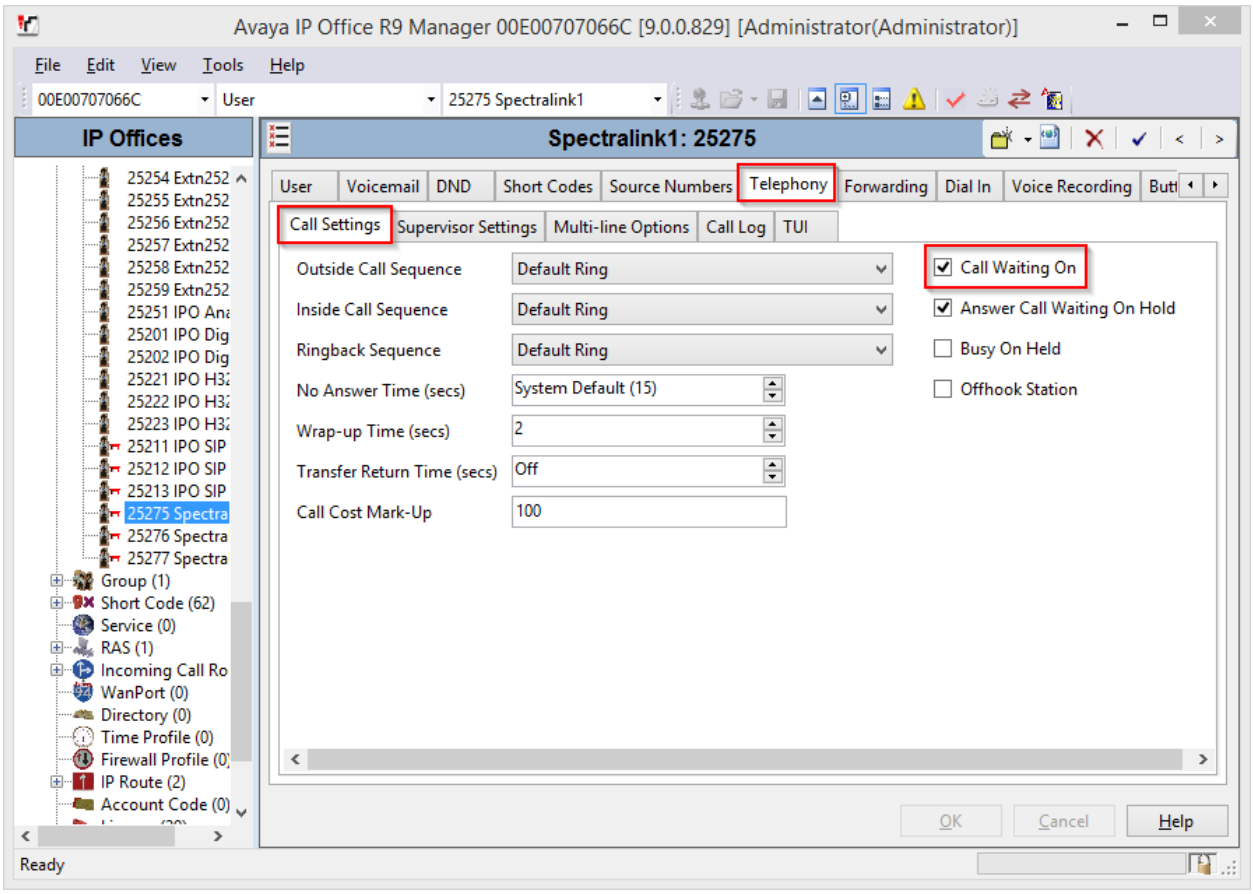
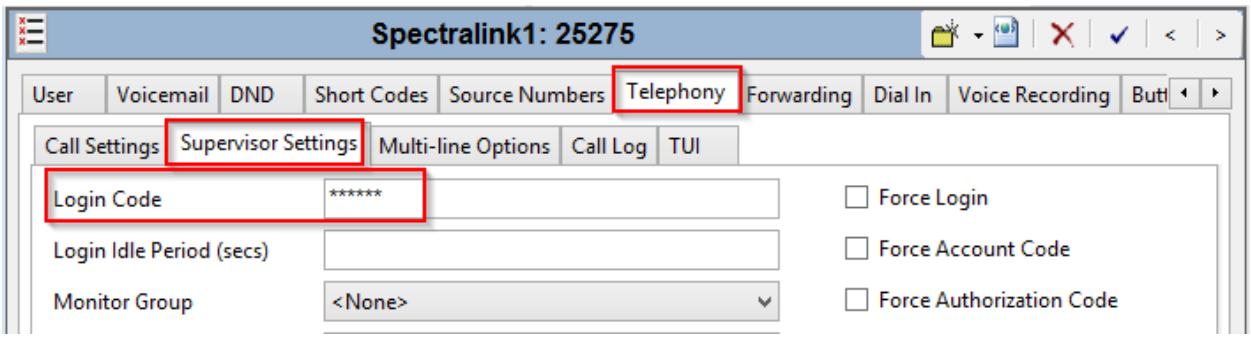
Select the **Telephony** tab, followed by the **Call Settings** sub-tab. Check the **Call Waiting On** field, as shown below.



Select the **Supervisor Settings** tab, and enter a desired **Login Code**. This code will be used as a password for PIVOT phones.

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



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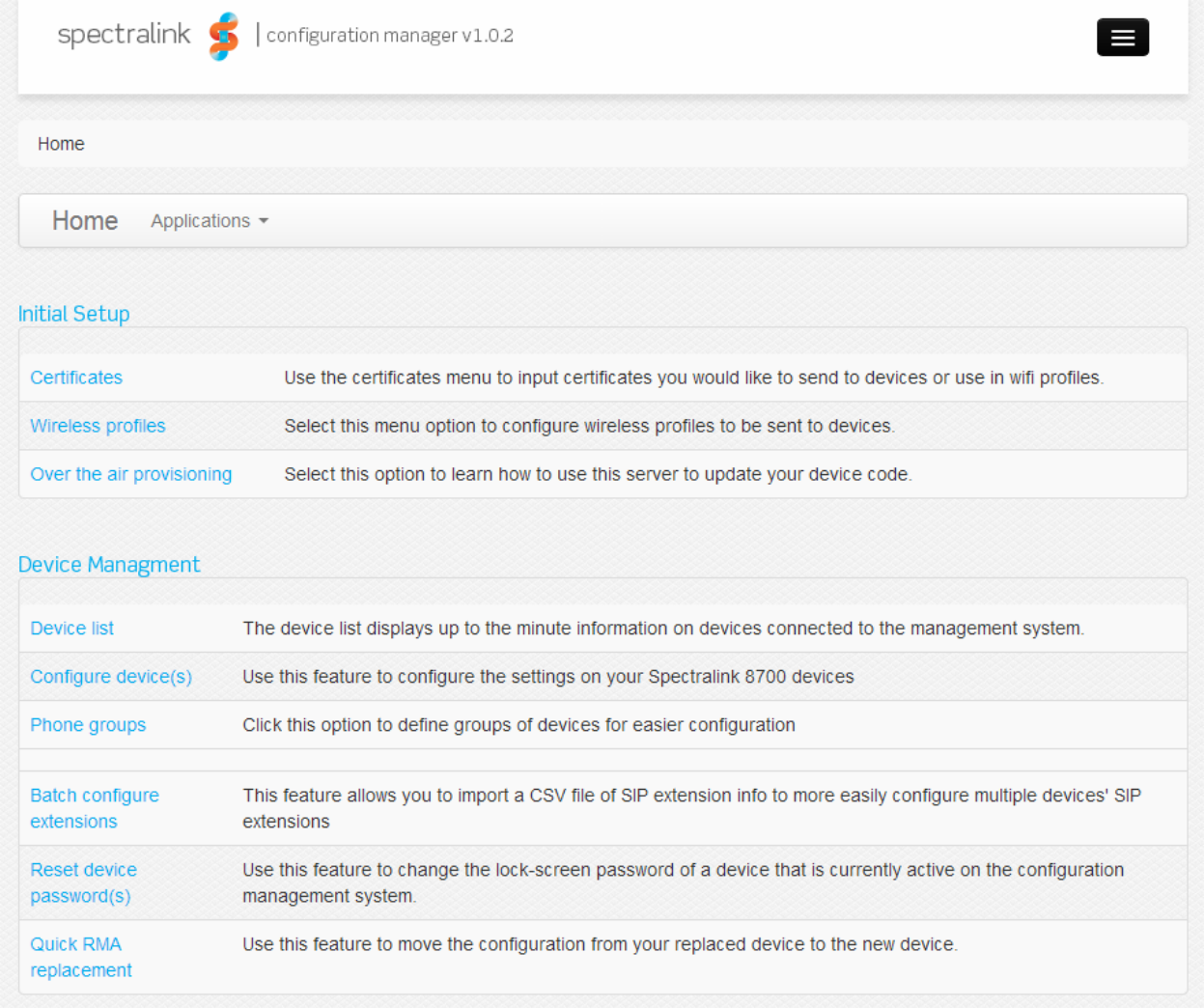
6. Configure PIVOT™ by Spectralink Wireless Telephone

Configuration for PIVOT phones is done via Spectralink Configuration Management system (CMS). CMS can be reached via browser, http://<CMS-IP-Address>

Provide the login credentials and log in.



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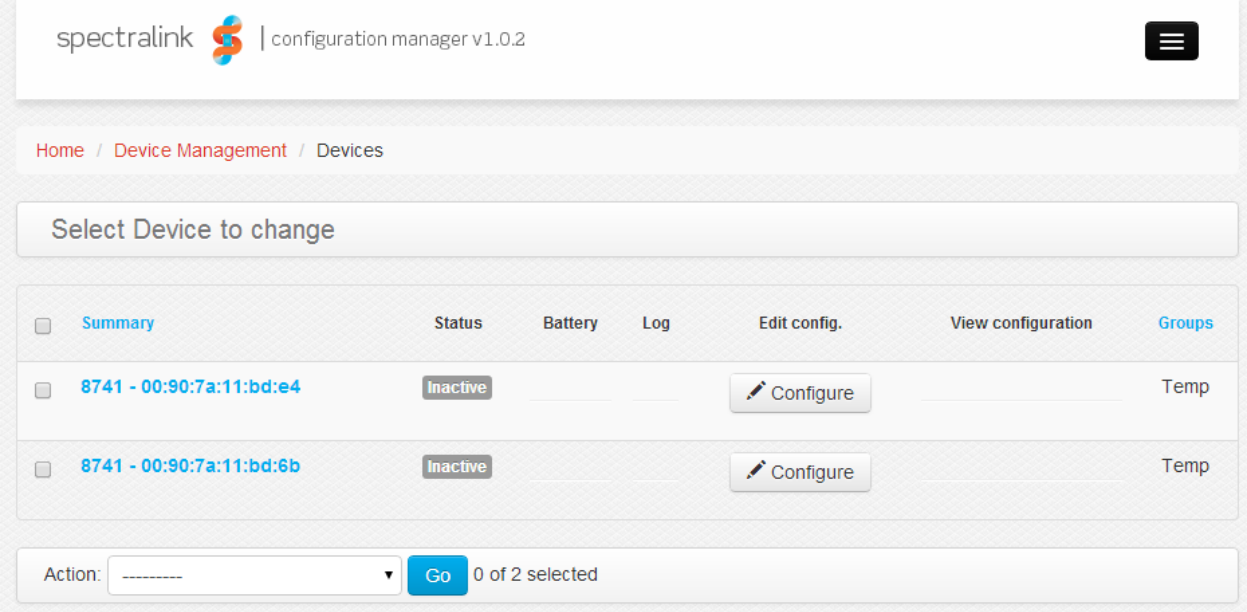
Once the phones are connected to Wi-Fi, CMS automatically detects those using broadcast messages. To view all the phones that are detected by CMS, select **Device List**.



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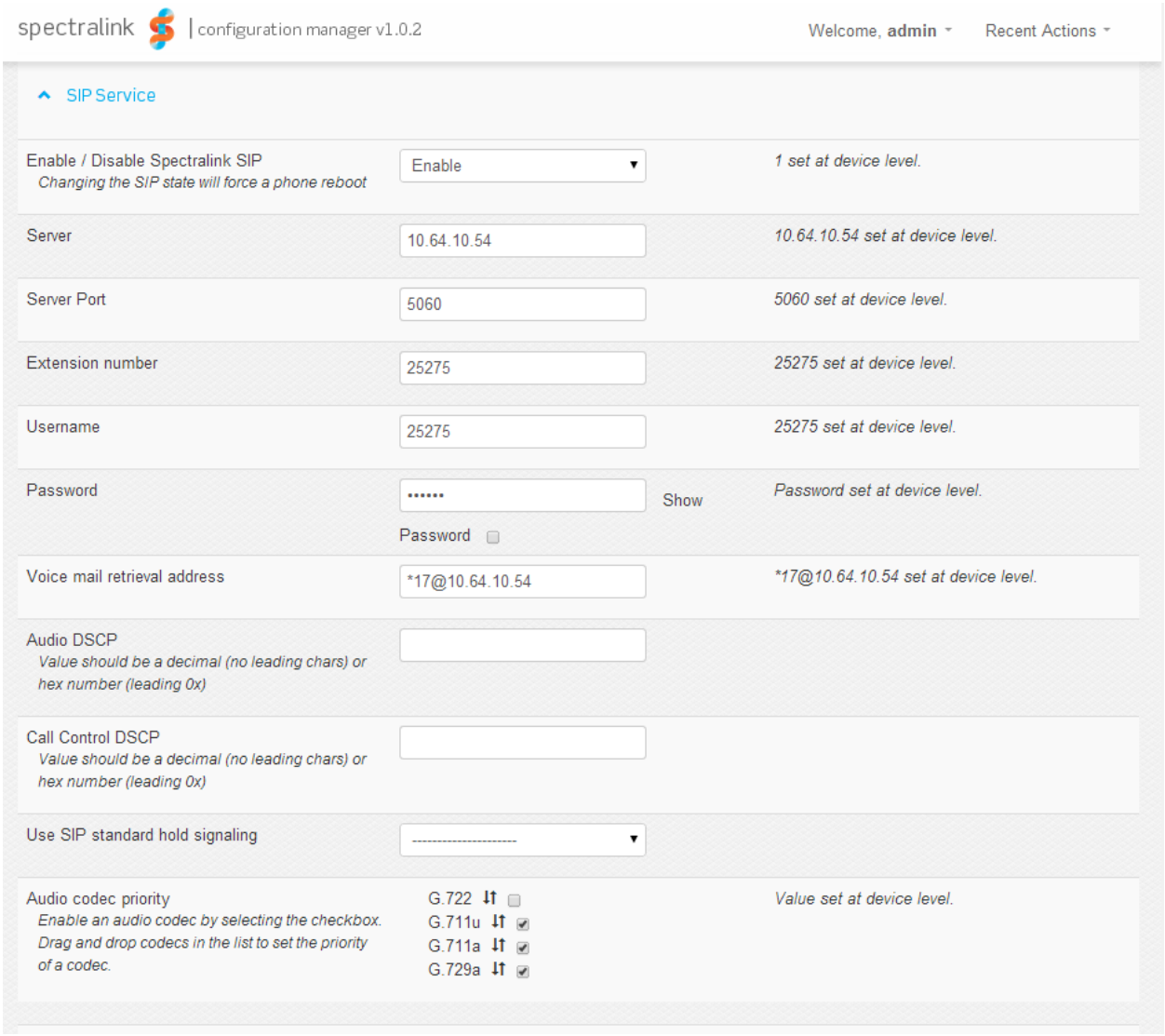
Select **Configure,** to configure SIP Settings. On the **Configure Device** page, select **SIP Service**.

- Set **Enable /Disable Spectralink SIP** to **Enable**
- For **Server,** type in the SIP address of IP Office
- For **Server Port**, type in the port number of IP Office
- For **Extension number**, type in the extension configured in **Section 5.5**
- In the **Username** and **Password** field, type in the username and password that was created in **Section 5.5**.
- In the **Voice mail retrieval address** field, type in the address used for retrieving voice messages.



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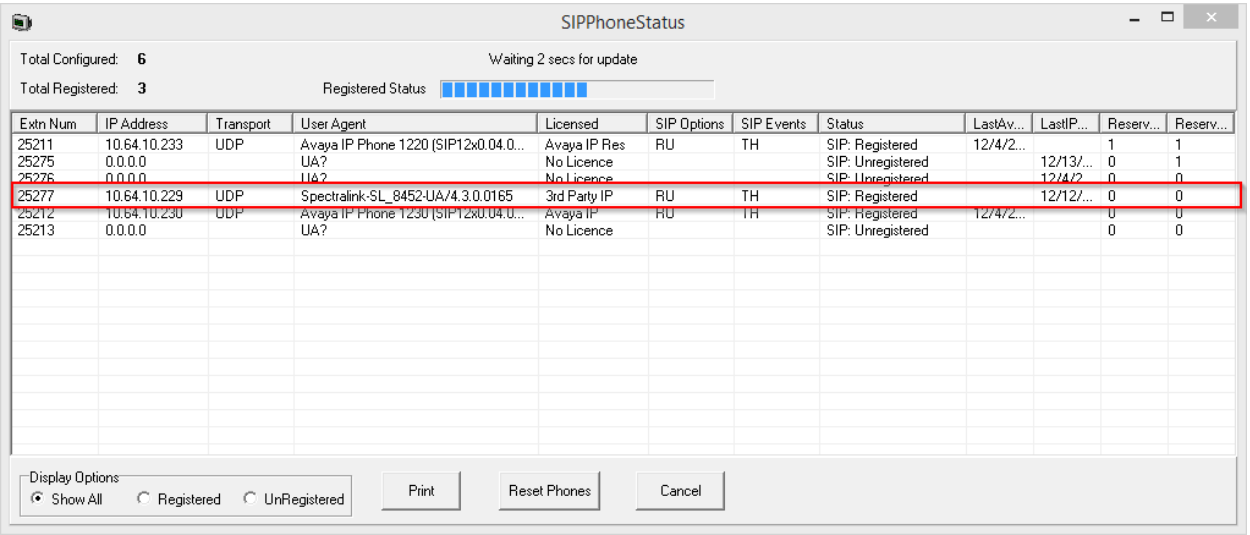
7. Verification Steps

The following steps may be used to verify the configuration:

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



- Verify that there is an entry for each PIVOT extension from **Section 5.4** and the Status is **SIP: Registered**.

- Place calls to and from PIVOT and verify that the calls are successfully established with two-way talk path.

8. Conclusion

PIVOT was compliance tested with Avaya IP Office. PIVOT™ by Spectralink functioned properly for feature and serviceability with the exception that is mentioned in **Section 2.2**.

9. Additional References

Documentation related to Avaya IP Office can be found at
http://marketingtools.avaya.com/knowledgebase/

The following document was provided by Spectralink.
http://partneraccess.spectralink.com/products/wi-fi/spectralink-8000-portfolio/pivot-87-series

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