Avaya Solution & Interoperability Test Lab

Application Notes for Revolabs FLX SIP Conference Phone and Avaya IP Office – Issue 1.0

Abstract

These Application Notes describe the procedures for configuring Revolabs FLX SIP Conference Phone which was compliance tested with Avaya IP Office. The overall objective of the interoperability compliance testing is to verify Revolabs FLX SIP Conference Phone functionalities in an environment comprised of Avaya IP Office and various Avaya H.323, SIP IP Telephones, 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.

1. Introduction

These Application Notes describe the procedures for configuring Revolabs FLX SIP Conference Phone which was compliance tested with Avaya IP Office. The FLX SIP Conference phone provides enhanced freedom for telephone conference by allowing independent locations of the microphones and the speaker during the call.

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 configuration steps not covered in this document, consult reference **[1]**.

2. General Test Approach and Test Results

The general test approach was to place calls to and from Revolabs FLX SIP Conference phone and exercise basic telephone operations. The main objectives were to verify the following:

- Registration.
- Codec Negotiation (G.711MU, G711MA and G722).
- Inbound and outbound, blind and consultative transfers, local call forward, call waiting and conference calls.
- Hold/Resume.
- Call termination (origination/destination).
- DTMF method: RFC2833 and SIP INFO.
- Voicemail and Messaging Waiting Indicator.
- PSTN Calls.
- Serviceability.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute a full product performance or feature testing performed by third party vendors, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a third party solution.

2.1. Interoperability Compliance Testing

All test cases were performed manually. The general approach was to place various types of calls to and from Revolabs FLX SIP phone. Revolabs FLX SIP phone operations such as inbound calls, outbound calls, hold, transfer, forward, conference and FLX interactions with Avaya IP Office, and Avaya SIP, H.323, and DCP telephones were verified. For serviceability testing, failures such as cable pulls and resets were applied.

2.2. Test Results

All test cases are passed except the local call forward as described below.

- The local call forward on the FLX phone that consists of Always Forward, Forward on No Answer, and Forward on Busy is not working, instead of forwarding call to destination number set it gave busy tone.

2.3. Support

Technical support for Revolabs FLX SIP Conference phone can be obtained by contacting Revolabs as below.

Revolabs, Inc.
Address: 144 North Rd, Suite 3250 Sudbury, MA 01776, US.
Phone: 1.978-610-4040
Email: FLXsupport@revolabs.com
Website: http://www.revolabs.com

3. Reference Configuration

Figure 1 illustrates a sample configuration consisting of an Avaya IP Office system and Revolabs FLX SIP Conference Phone.

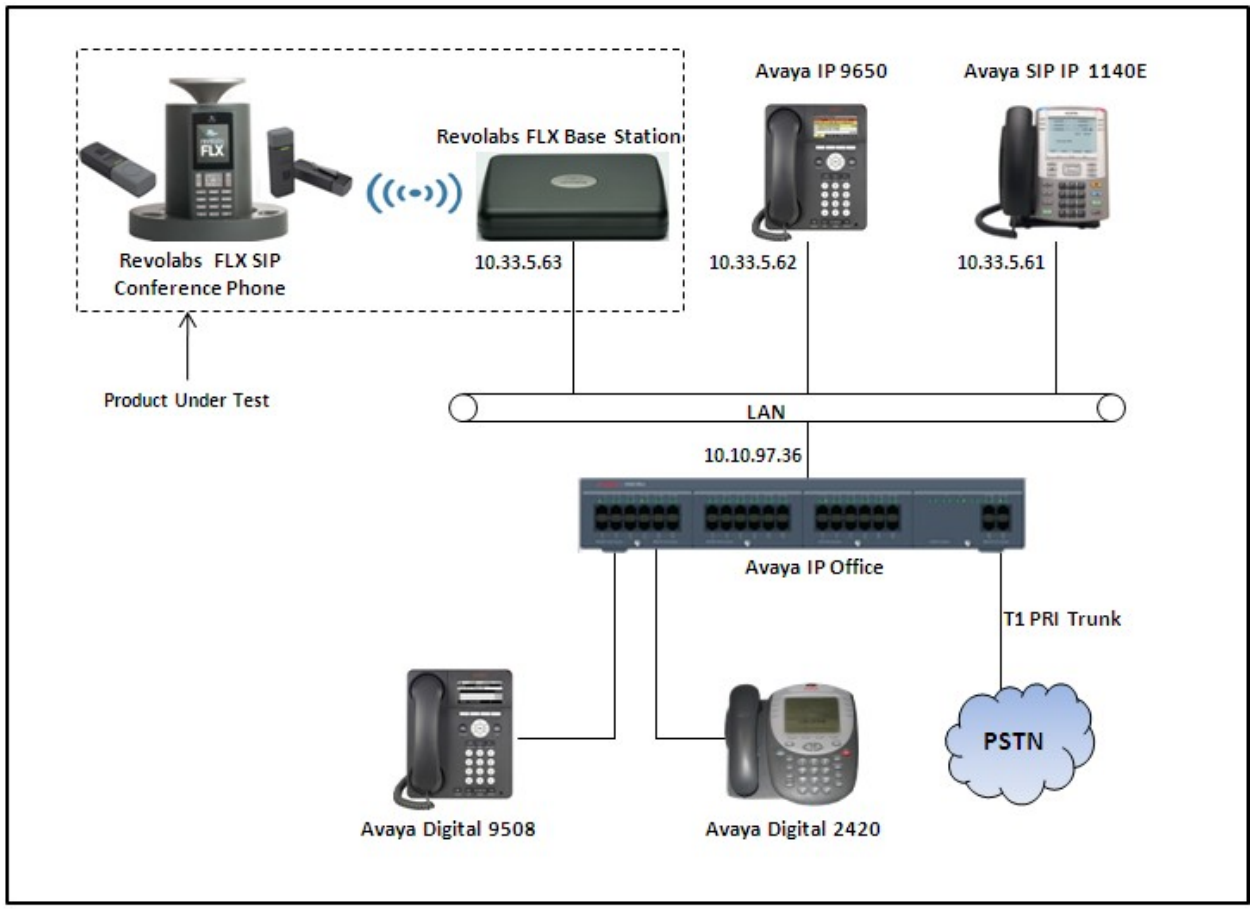


Figure 1: Test Configuration of Revolabs FLX SIP phone with Avaya IP Office

4. Equipment and Software Validated

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

Equipment	Software
Avaya IP Office 500 V2	8.0
Avaya IP Office Manager	8.0 (18)
Avaya IP H323 9650 Phone	3.186a
Avaya IP SIP 1140E Phone	4.03.09
Avaya Digital 2420 Phone	-
Avaya Digital 9508 Phone	-
Revolabs FLX SIP Firmware	2.0
Revolabs FLX Base Station Version	2.0
Revolabs FLX Speaker Version	2.0

5. Configure Avaya IP Office

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

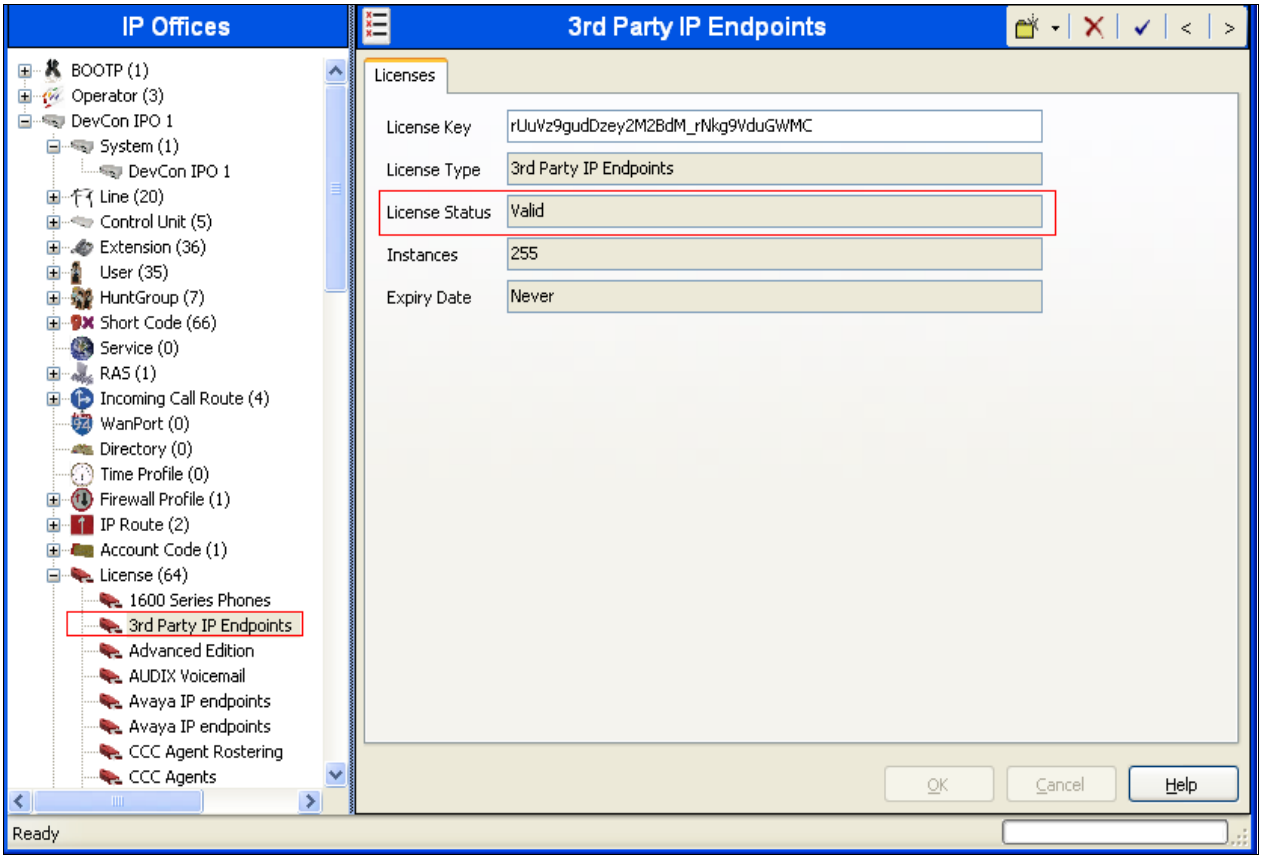
- Verify IP Office license
- Obtain LAN IP address
- Administer SIP registrar
- Administer SIP extensions
- Administer SIP users

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.

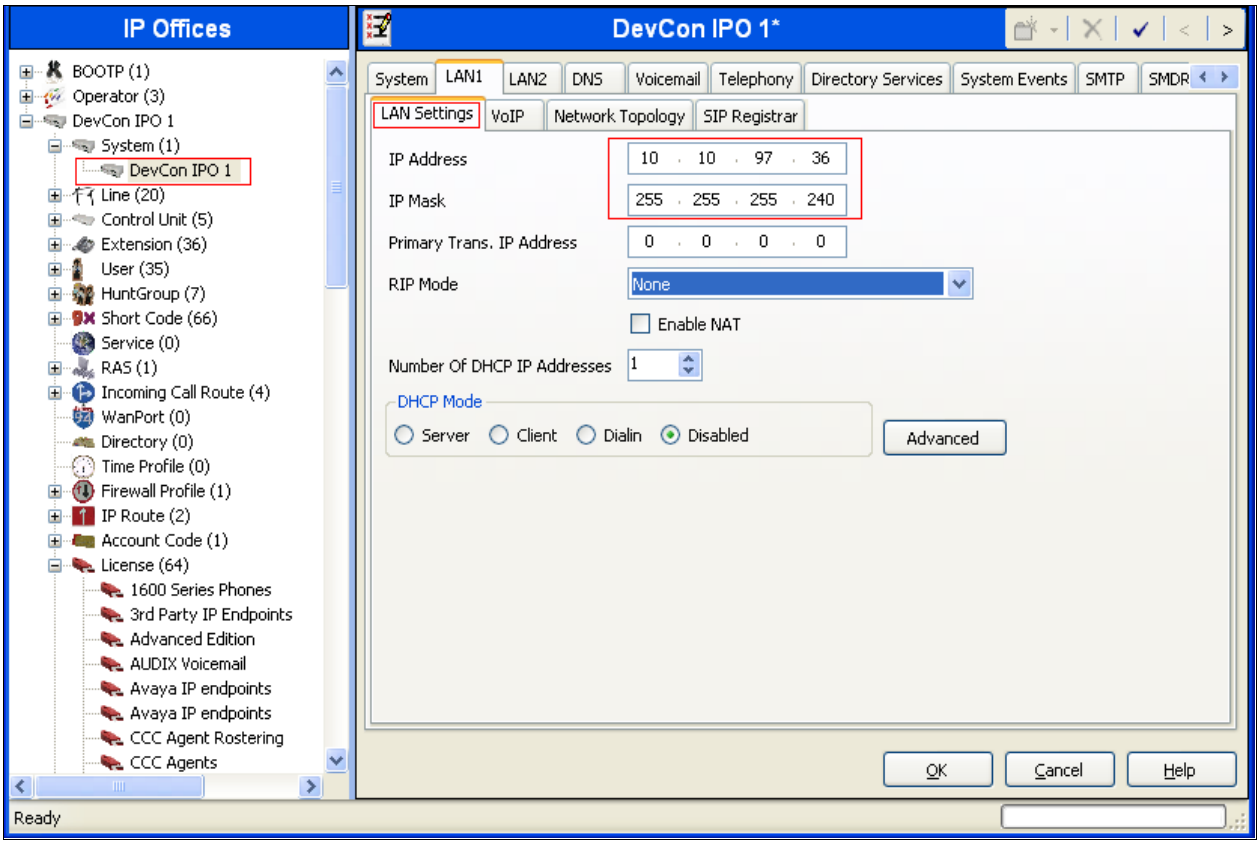
The Avaya IP Office Manager screen is displayed. From the configuration tree in the left pane, select **License > 3rd Party IP Endpoints** to display the Avaya IP endpoints screen in the right pane. Verify that the License Status field is set to **Valid**.



5.2. Obtain LAN IP Address

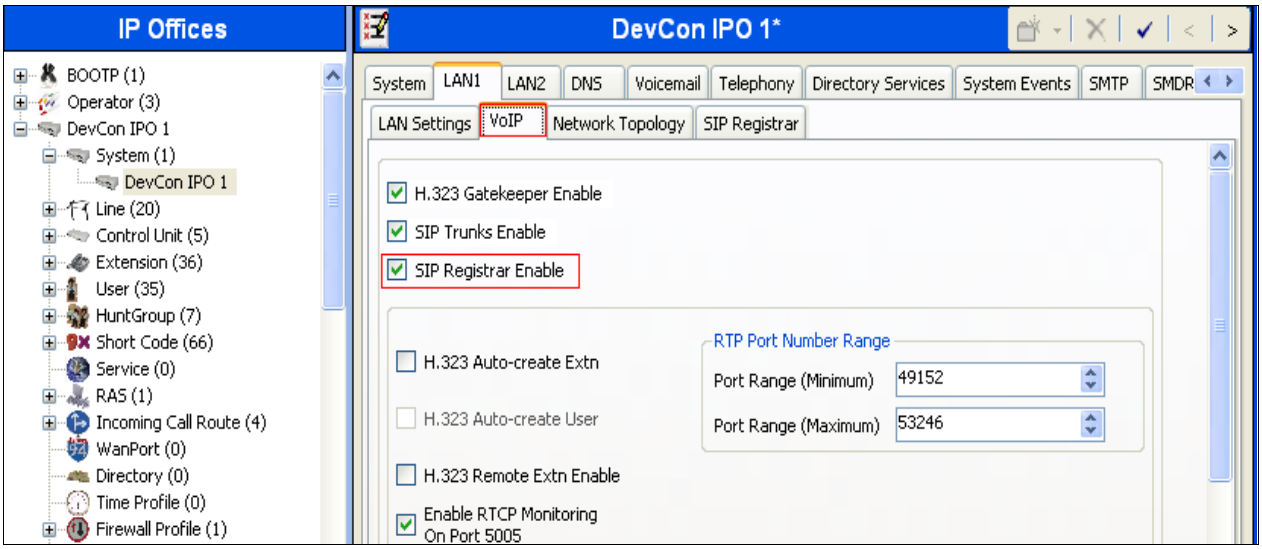
From the configuration tree in the left pane, select **System** to display the System screen in the right pane. Select the **LAN1** tab, followed by the **LAN Settings** sub-tab in the right pane. Make a note of the **IP Address**, which will be used later to configure Revolabs FLX phone.

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.

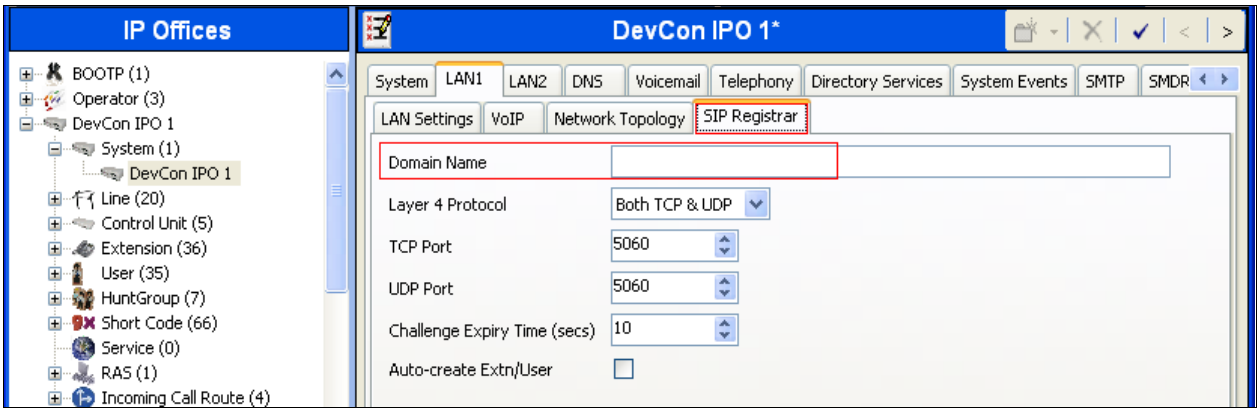


5.3. Administer SIP Registrar

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

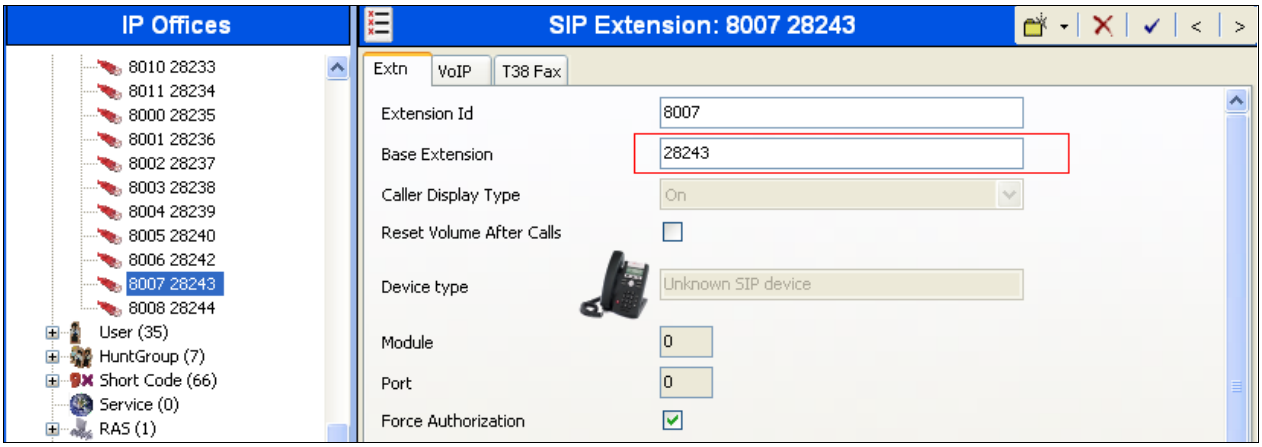


Select the **SIP Registrar** sub-tab, and either enter a valid Domain Name for SIP endpoints to use for registration with IP Office or leave it blank. In the compliance testing, the **Domain Name** field was left blank. If the **Domain Name** field is left blank, then the SIP endpoints will use the LAN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

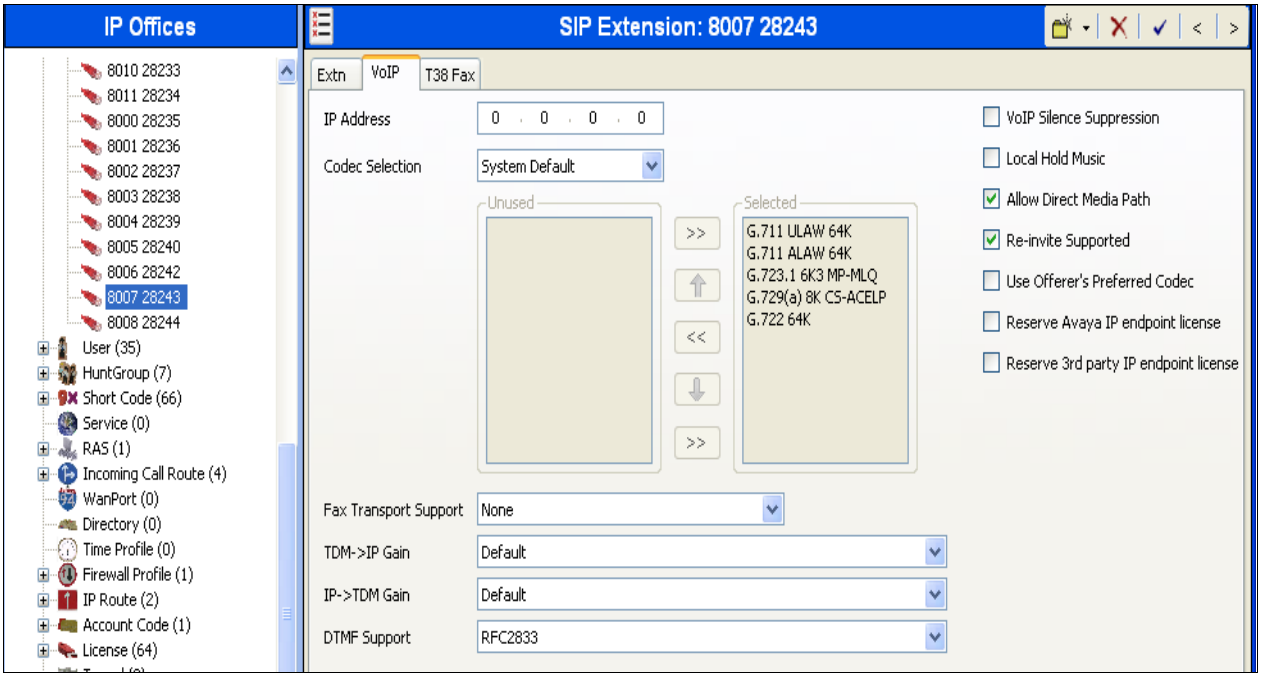


5.4. Administer SIP Extensions

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.

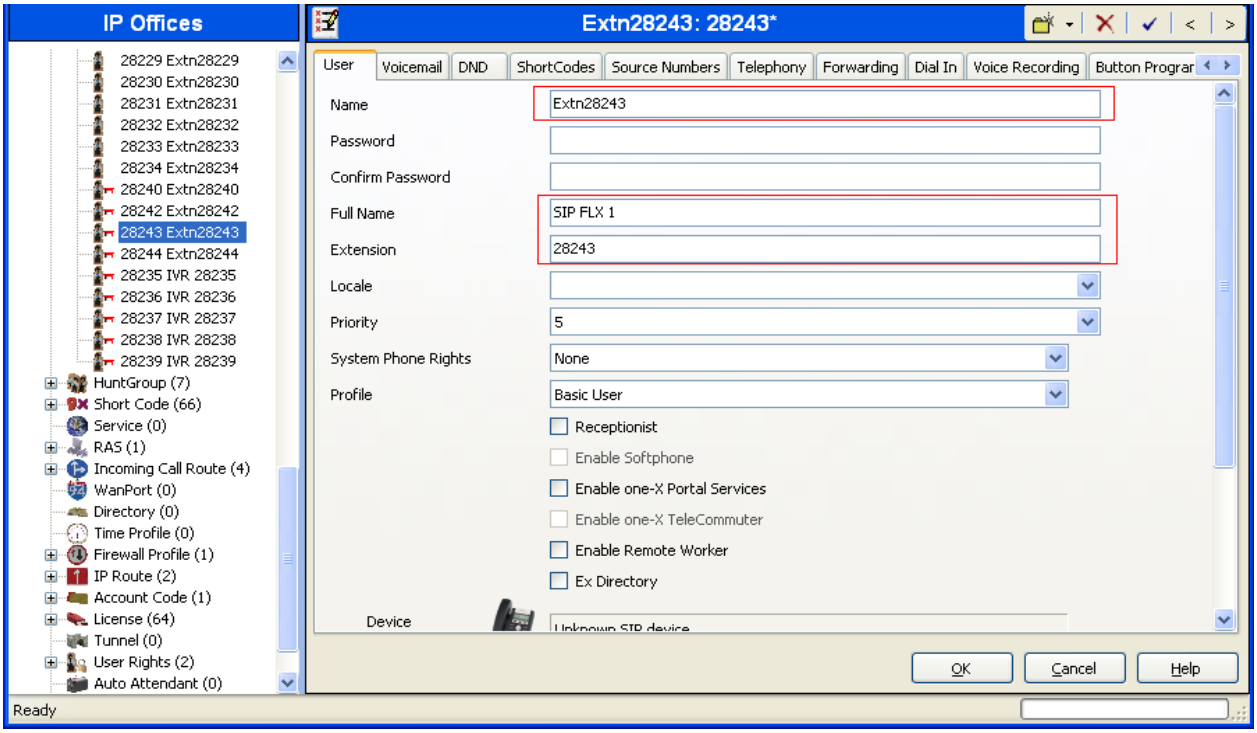


Select the **VoIP** tab, and retain the default values in all fields. Repeat this section to add new SIP extension for second FLX SIP phone. During the compliance test, extensions 28243 and 28244 were created for FLX SIP phones.

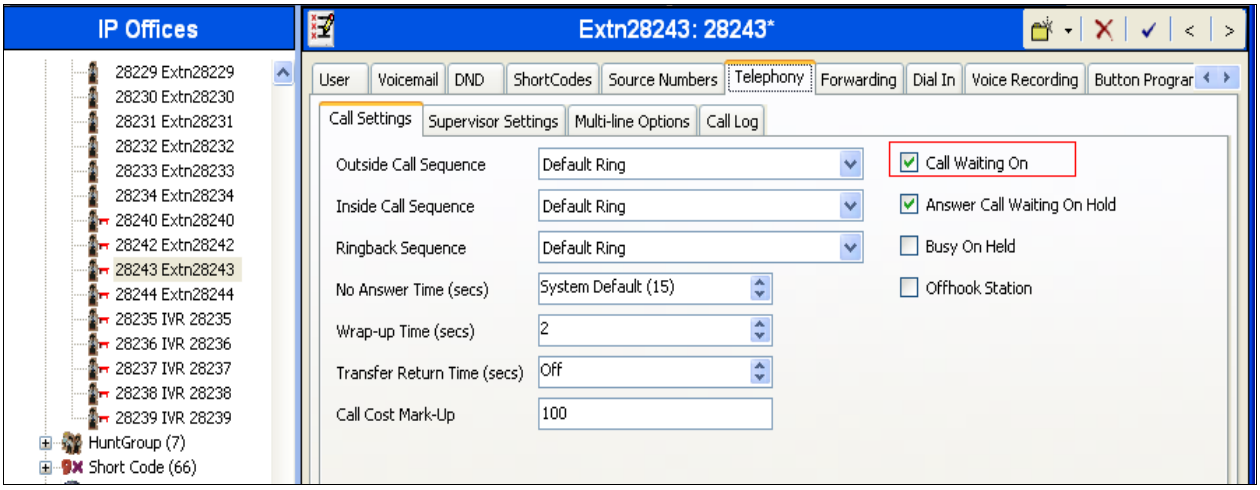


5.5. Administer SIP Users

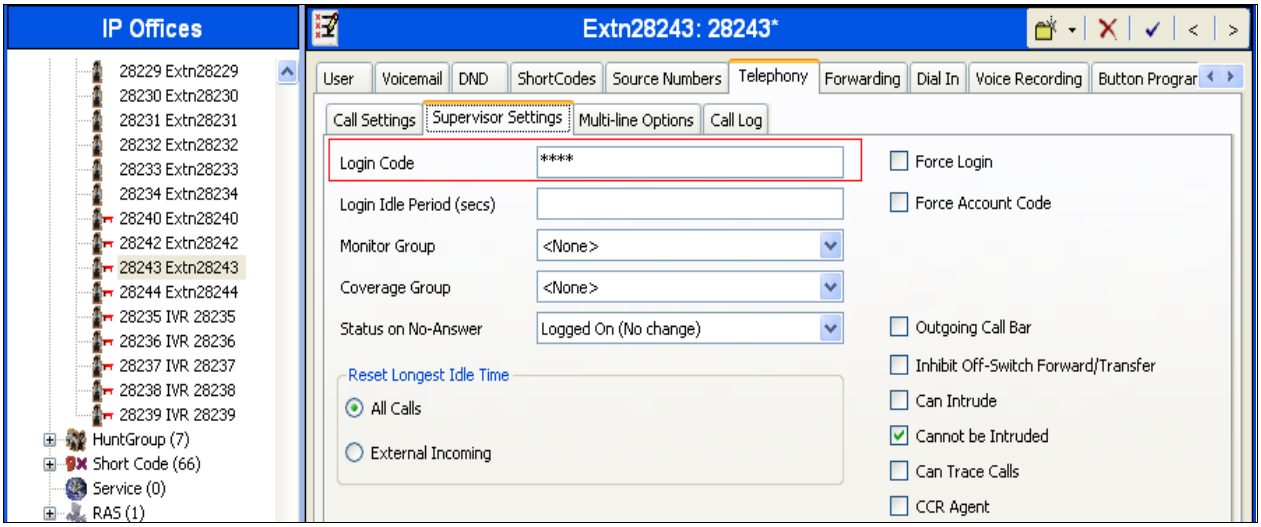
From the left pane, right-click on **User** and select **New** from the pop-up list. Enter desired values for the **Name** and **Full Name** fields. For the **Extension** field, enter the SIP extension created in **Section 5.4**



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



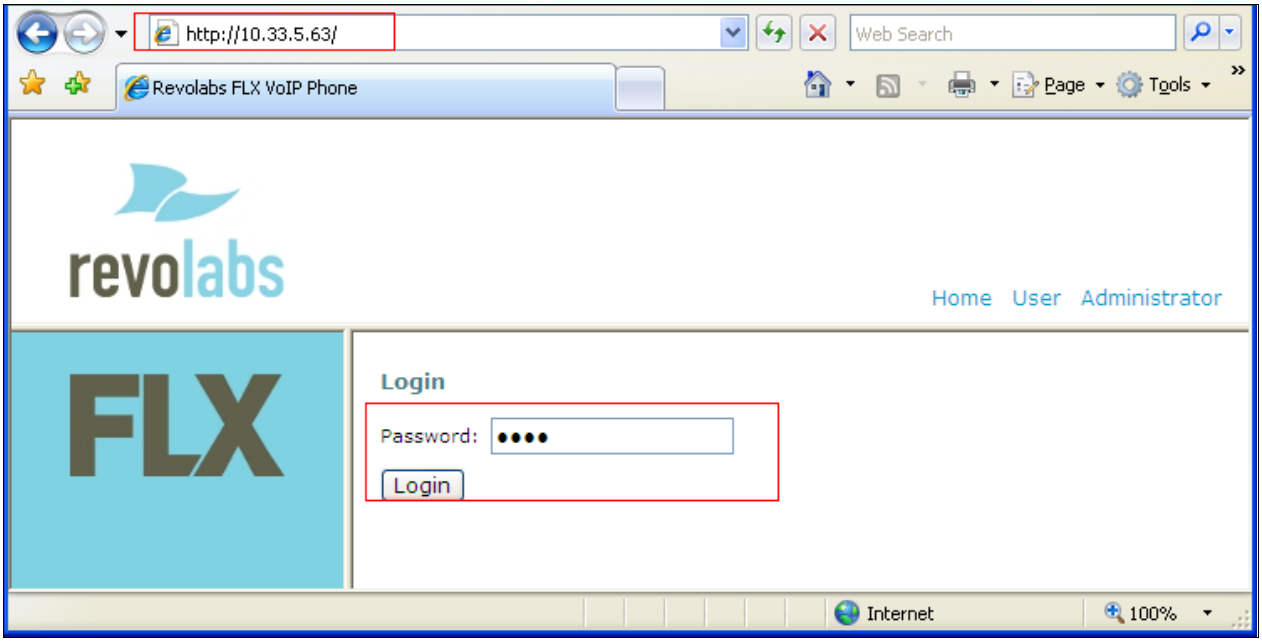
Select the **Supervisor Settings** sub-tab, and enter a desired **Login Code, e.g. "1234"**. Repeat this section for each SIP extension from **Section 5.4**



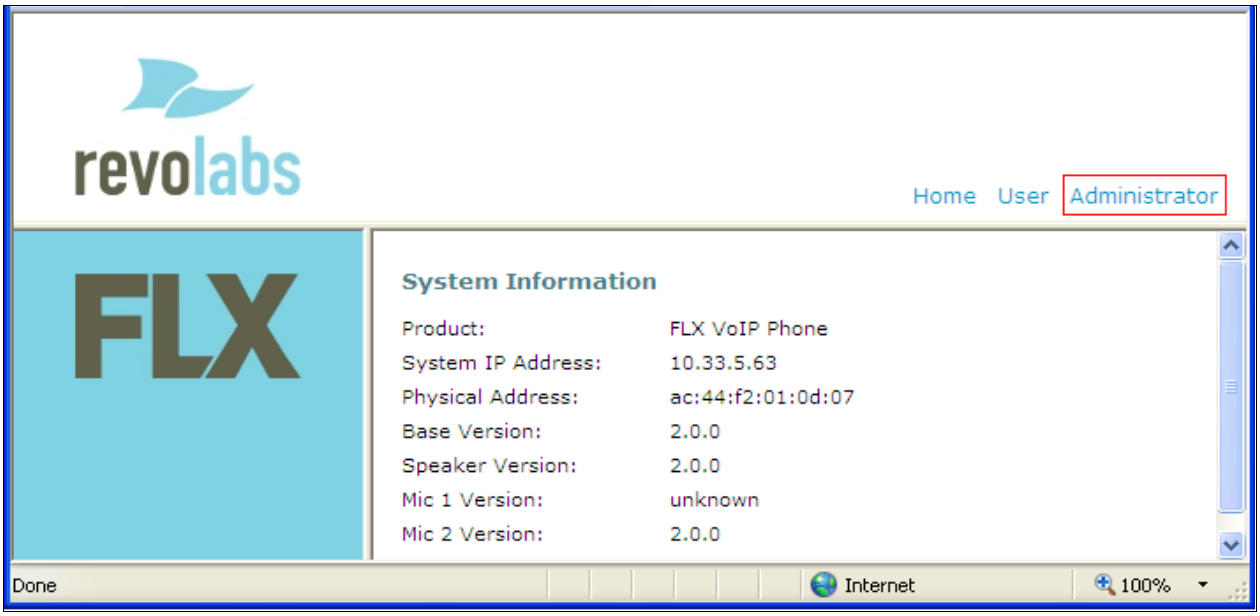
6. Configure Revolabs FLX SIP Conference Phone

This section only provides steps to configure Revolabs FLX SIP phone to interface with Avaya IP Office. From a PC, launch webpage of Revolabs FLX phone by entering its IP address in to the address box of browser as shown below.

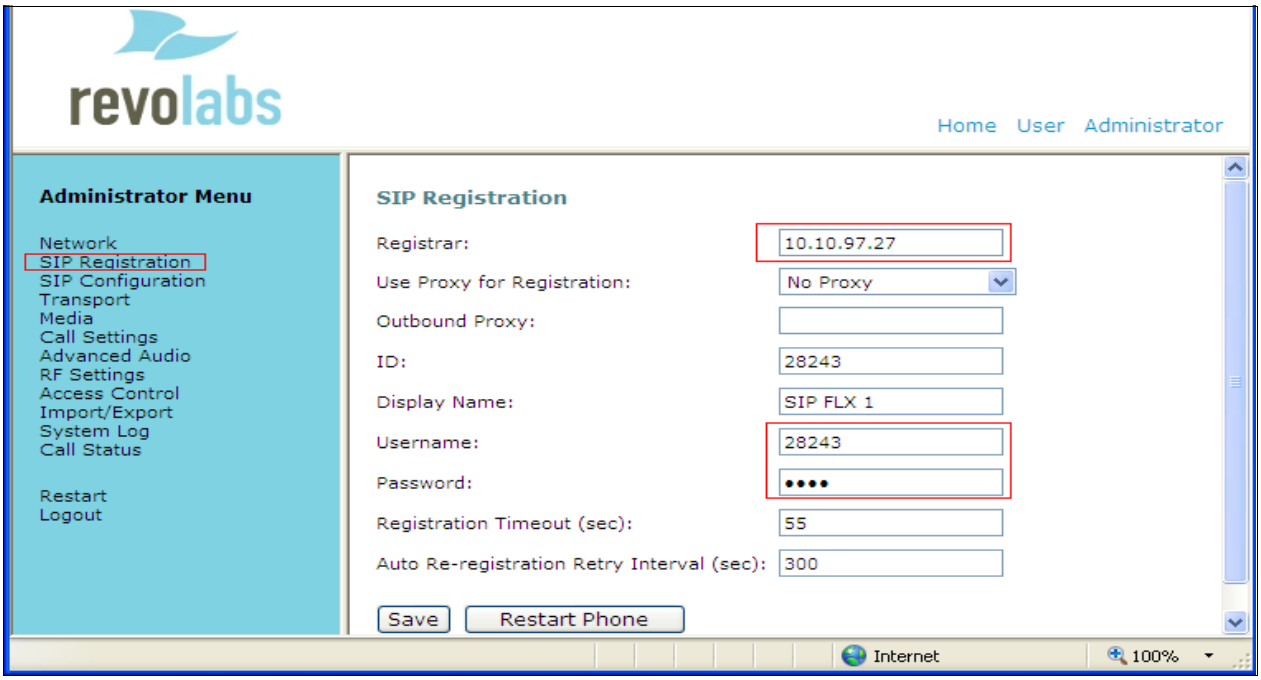
The FLX login page is displayed with password field, enter appropriate password of the FLX phone and click on **Login** button to log in.



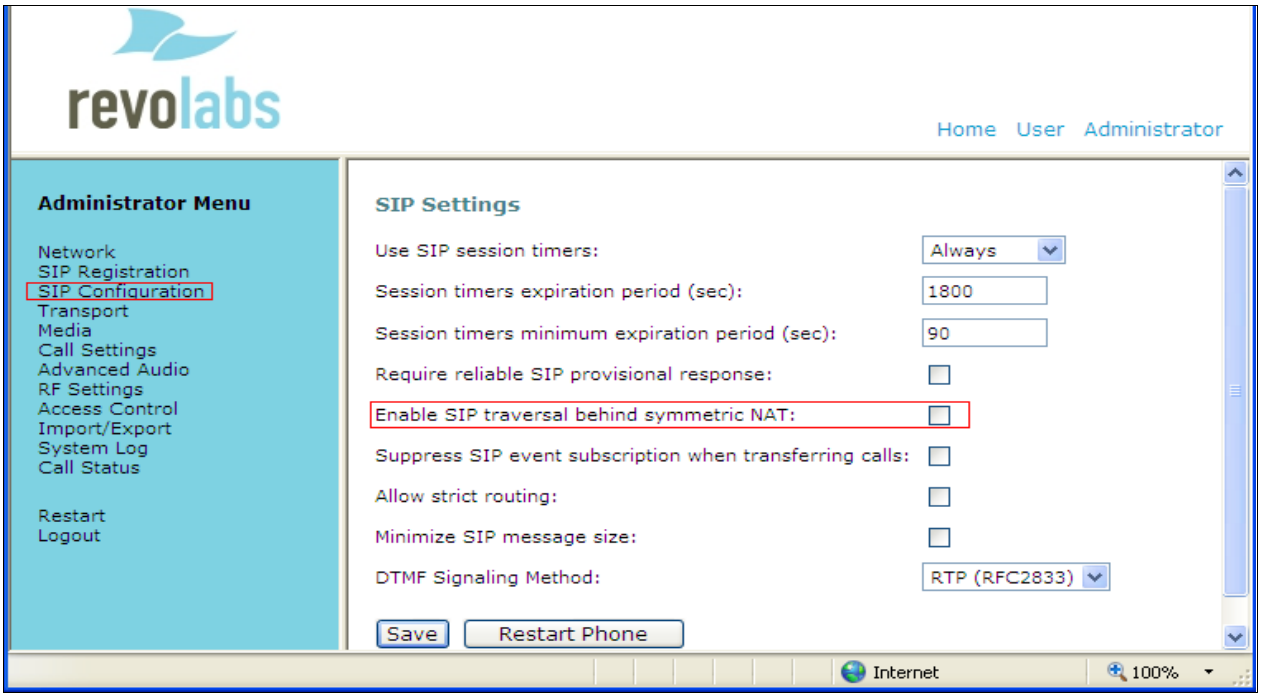
Click on **Administrator** link in the upper right corner of the FLX homepage to administer the phone.



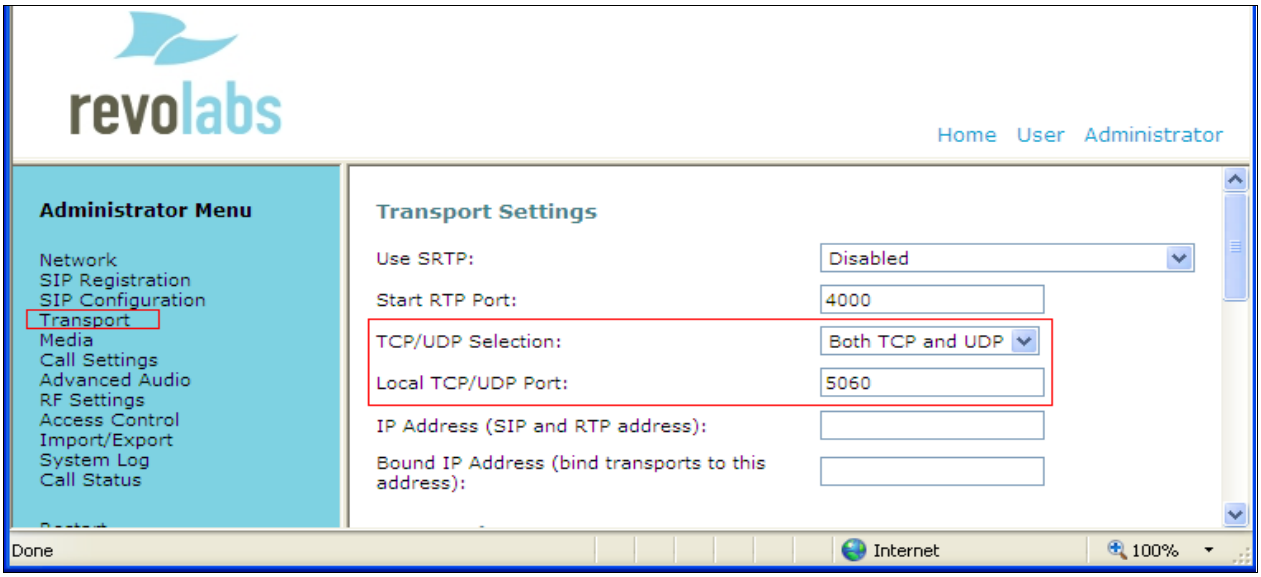
Under the **Administrator Menu** in the left pane, click on **SIP Registration** link, the **SIP Registration** page is displayed on the right of the webpage. Enter the **LAN1 IP** address of IP Office in the **Registrar** field, a name in the **Display Name** field, the extension **28243** which is defined in **Section 5.4** in the **Username** field, the password "1234" which is defined in **Section 5.5** in the **Password field** and retain remaining fields at default. Click on **Save** button to save the changes.



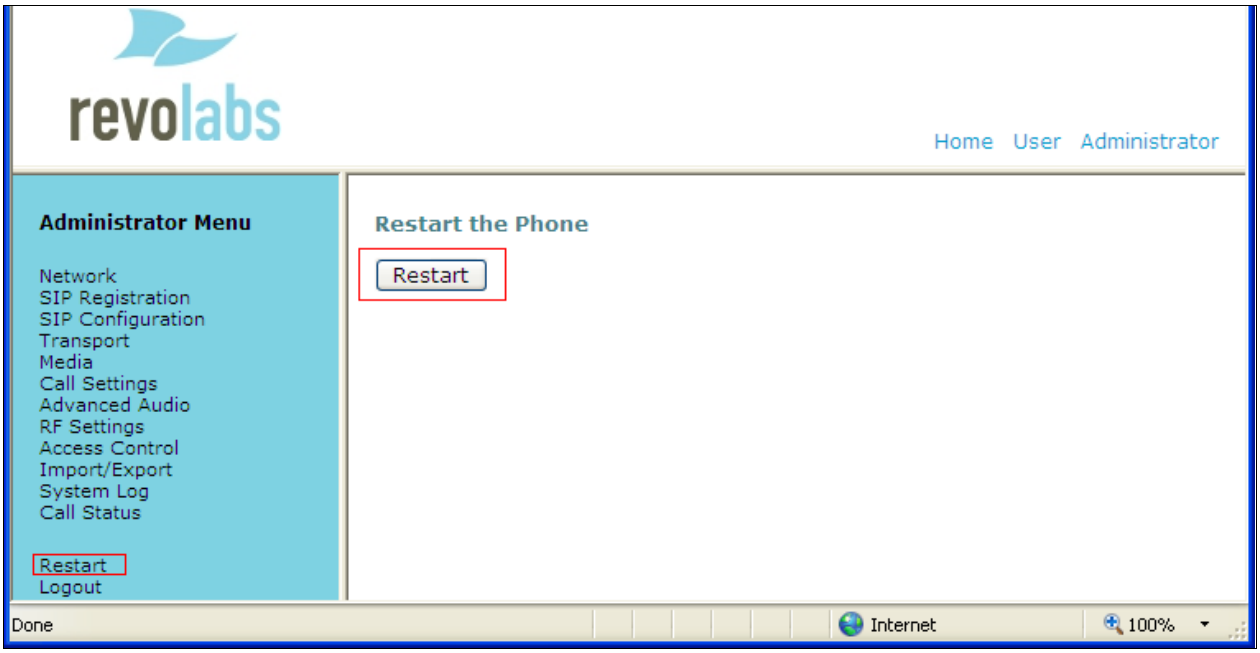
Continue to click on **SIP Configuration** link in the left pane. The **SIP Settings** page is displayed on the right, by default the **Enable SIP traversal behind symmetric NAT** checkbox is checked. Remove this checkbox if no NAT is used in the network otherwise the FLX phone will fail to register to IP Office and in the compliance test this checkbox is unchecked. Retain remaining fields at default. Click on **Save** button to save the change.



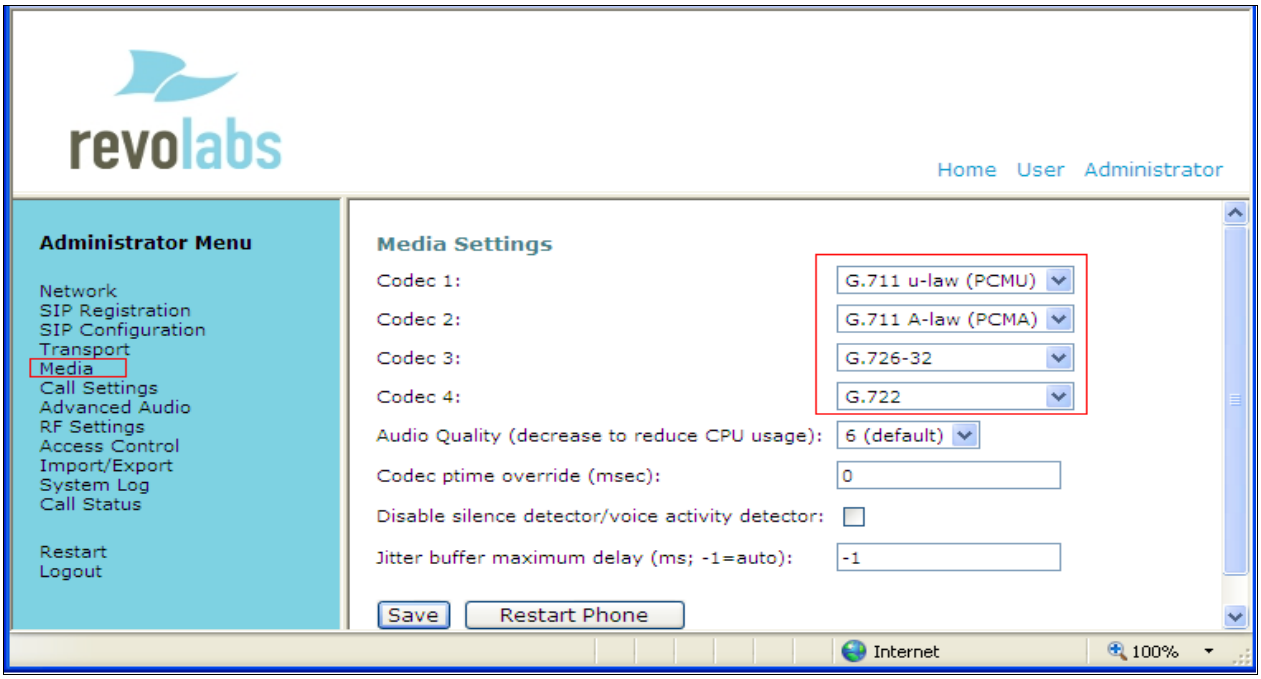
Continue to click on **Transport** link, the **Transport Settings** page is displayed on the right, select **Both TCP and UDP** in the menu of the **TCP/UDP Selection** field, enter port **5060** in the **Local TCP/UDP Port** field and retain remaining fields at default. Click **Save** button to save the changes.



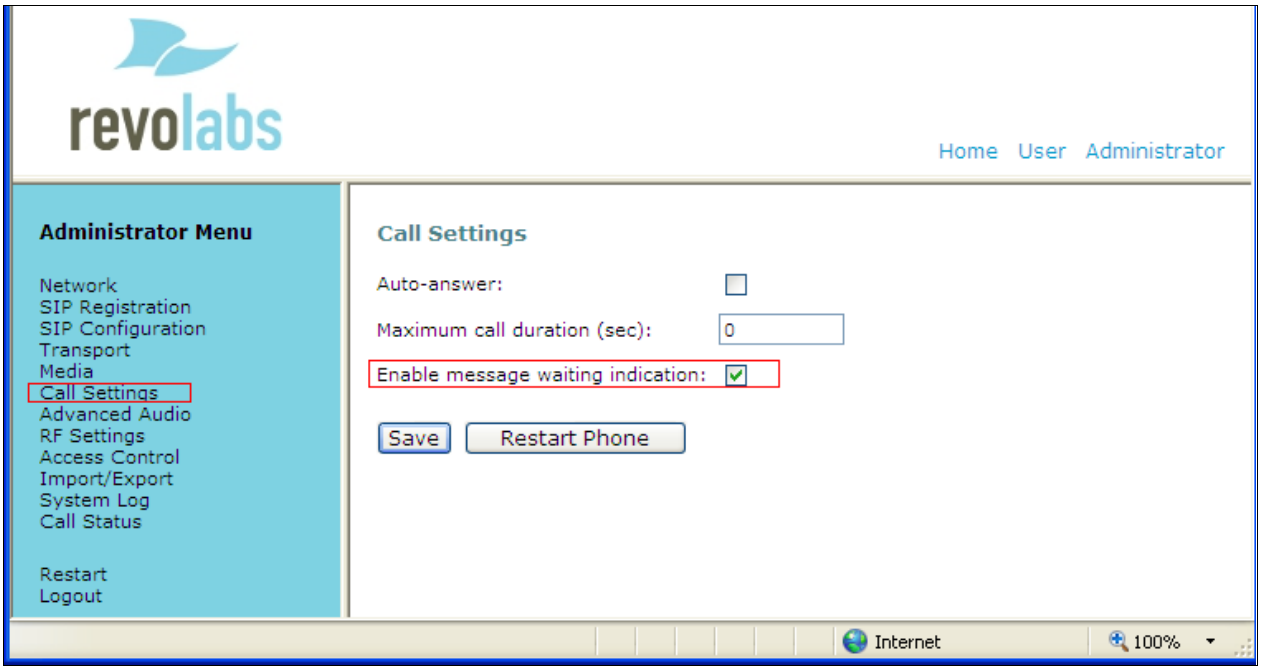
The FLX phone needs to be restarted for changes to take effect. Click on **Restart** in the left pane, the **Restart the phone** page is displayed on the right of the webpage. Click on **Restart** button to restart the phone.



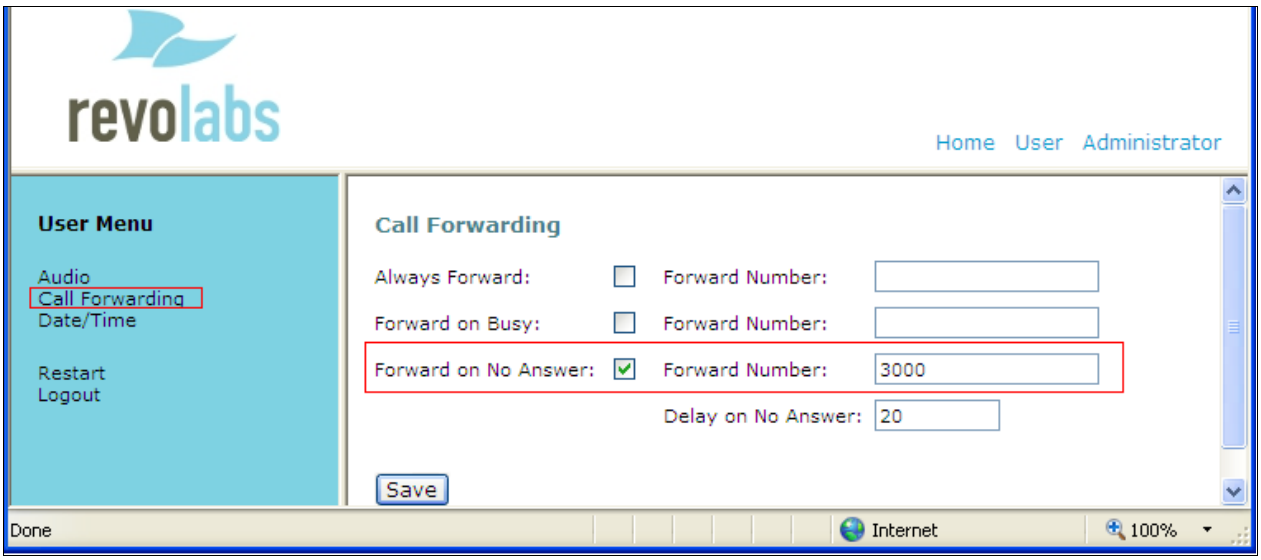
To configure media codec for the FLX phone, click on **Media** link in the left pane. The **Media Settings** page is displayed on the right of the webpage. Select desired codec in the **Codec 1**, **Codec 2**, **Codec 3**, and **Codec 4** fields. Note: changing codec for FLX phone also needs to restart the phone for changes to take effect.



To administer message waiting indication on the FLX phone, click on the **Call Settings** link in the left pane. The **Call Settings** page is displayed on the right. By default **Enable message waiting indication** field is checked.



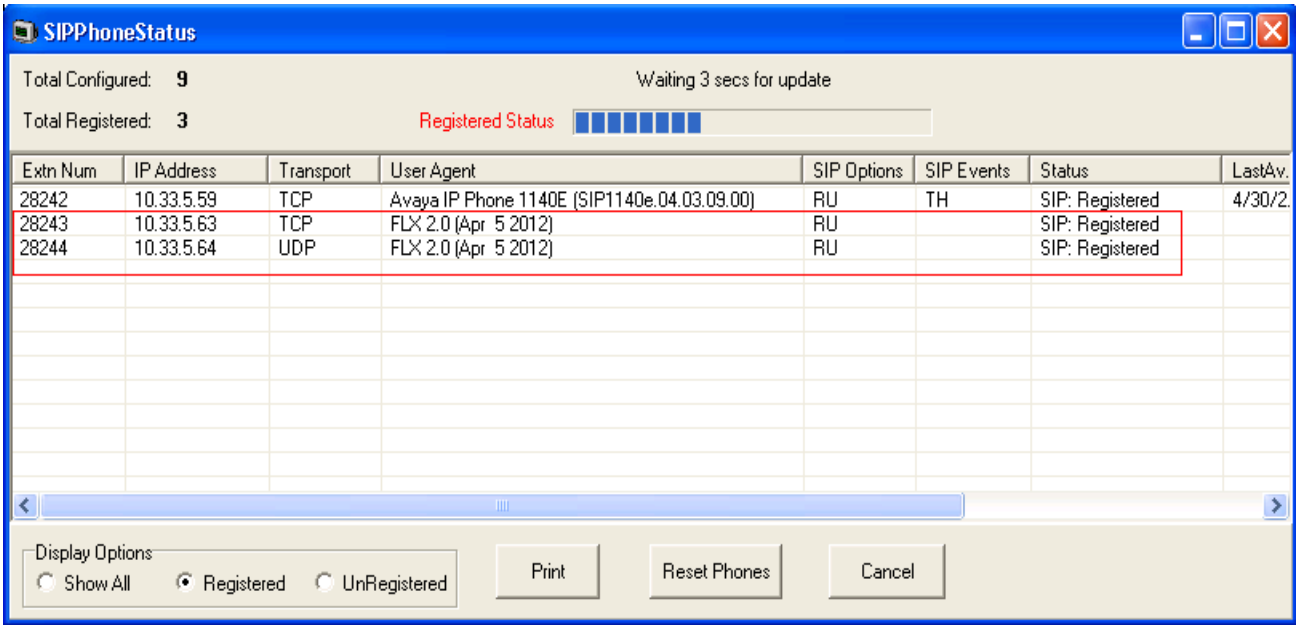
To configure local call forward on the FLX phone, from the homepage of FLX phone click on the **User** link, the **User Menu** is displayed in the left pane (not shown). Click on **Call Forwarding** link, the **Call Forwarding** page is displayed on the right. Check on type of local call forward that needs to be enabled and enter an extension that the call will forward to. Click **Save** button to save the changes.



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 > All Programs > IP Office > Monitor** to launch the application. The **Avaya IP Office SysMonitor** screen is displayed (not shown) and then select **Status > SIP Phone Status** from the top menu. The **SIPPhoneStatus** windows is displayed as below.



- Verify that there is an entry for each Revolabs FLX SIP extensions from **Section 5.4** and the Status is **SIP: Registered.**
- Place calls from and to Revolabs FLX SIP phone and verify that the calls are successfully established with two-way talk path.

8. Conclusion

Revolabs FLX SIP Conference phone was compliance tested with Avaya IP Office. Revolabs FLX SIP Conference phone functioned properly for feature and serviceability. During compliance testing, Revolabs FLX SIP Conference phone successfully registered with Avaya IP Office, placed and received calls to and from SIP and non-SIP telephones, and executed other telephony features like three-way conference, transfers, hold, etc. There is one issue with local call forward as described in **Section 2.2**.

9. Additional References

The following Avaya product documentation can be found at http://support.avaya.com

[1] *Avaya IP Office Manager*, May 2011, Release 7.0, Issue 26h, Document Number 15-601011

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at devconnect@avaya.com.