Avaya Solution & Interoperability Test Lab

Application Notes for Revolabs FLX UC 1000 with Avaya IP Office - Issue 1.0

Abstract

These Application Notes describe the configuration steps required to integrate the Revolabs FLX UC 1000 with Avaya IP Office. Revolabs FLX UC 1000 is a SIP conference phone that registers with Avaya IP office as a SIP endpoint in support of voice communications and enterprise conferencing.

Readers should pay attention to **Section2**, 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.

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1. Introduction

These Application Notes describe the configuration steps required to integrate the Revolabs FLX UC 1000 with Avaya IP Office. Revolabs FLX UC 1000 is a SIP conference phone that registers with Avaya IP Office as a SIP endpoint in support of voice communications and enterprise conferencing. In the compliance test, Revolabs FLX UC 1000 successfully registered with Avaya IP Office, established calls with other Avaya SIP and H.323 telephones, and exercised telephony features, such as hold, call transfer, 3-way conference, and call forwarding.

2. General Test Approach and Test Results

The interoperability compliance test included feature and serviceability testing. The feature testing focused on establishing calls between Revolabs FLXUC 1000 and Avaya SIP and H.323 telephone and exercising basic telephony features, such as hold, mute, transfer and conference. Additional telephony features, such as call forward, follow me, call park/unpark, and call pickup were also verified using Avaya IP Office Shortcodes.

The serviceability testing focused on verifying that Revolabs FLX UC 1000 came back into service after re-connecting the Ethernet connect or rebooting the phone.

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.

2.1. Interoperability Compliance Testing

Interoperability compliance testing covered the following features and functionality:

- SIP registration of Revolabs FLX UC 1000 with Avaya IP Office.
- Calls between Revolabs FLX UC 1000 and Avaya SIP and H.323 telephones with Direct IP Media (Shuffling) enabled and disabled.
- Calls between the Revolabs FLX UC 1000 and the PSTN.
- Support of G.711 and G.729 codecs.
- Proper recognition of DTMF tones.
- Basic telephony features, including hold, mute, redial, multiple calls, attended transfer and attended 3-way conference.
- Extended telephony features using Avaya IP Office Shortcodes for Call Forward, Follow Me, Call Park/Unpark, and Call Pickup.
- Voicemail coverage, MWI support, and logging into voicemail system to retrieve messages.
- Proper system recovery after a restart of Revolabs FLX UC 1000 and loss of IP connectivity.

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2.2. Test Results

All test cases passed with the following observations noted:

- Revolabs FLX UC 1000 does not support blind transfer or blind conference. It supports attended transfer and attended conference.
- The G.729 codec was not always displayed as an option under the audio codecs supported by Revolabs FLX UC 1000.

2.3. Support

For technical support on the Revolabs FLX UC 1000, contact Revolabs Customer Support via phone, email, or website.

- **Phone:** (800) 326-1088
- **Web:** http://www.revolabs.com/support/product-line/uc-1000
- **Email:** support@revolabs.com

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3. Reference Configuration

Figure 1 illustrates a sample configuration consisting of Revolabs FLX UC 1000 with Avaya IP Office. Revolabs FLX UC 1000 registered with Avaya IP Office via SIP. Avaya Embedded Voicemail served as the voicemail system. Avaya 9600 Series H.323 Deskphones and an Avaya 1120E SIP Deskphone were used for placing and receiving calls.

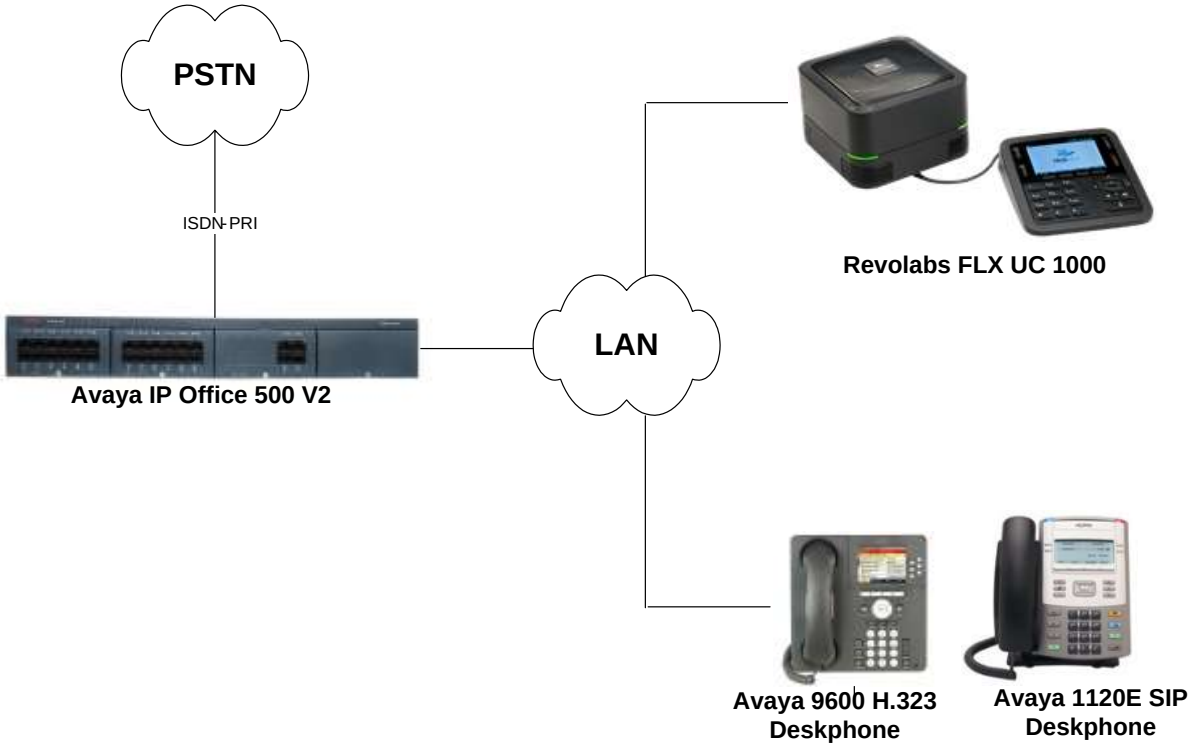

Figure 1: Revolabs FLX UC 1000 with Avaya IP Office

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4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office 500 V2	9.1.100.10
Avaya 9600 Series IP Deskphone	6.4014 (H.323)
Avaya 1120E IP Deskphone	04.04.18 (SIP)
Revolabs FLX UC 1000	1.1.0.163

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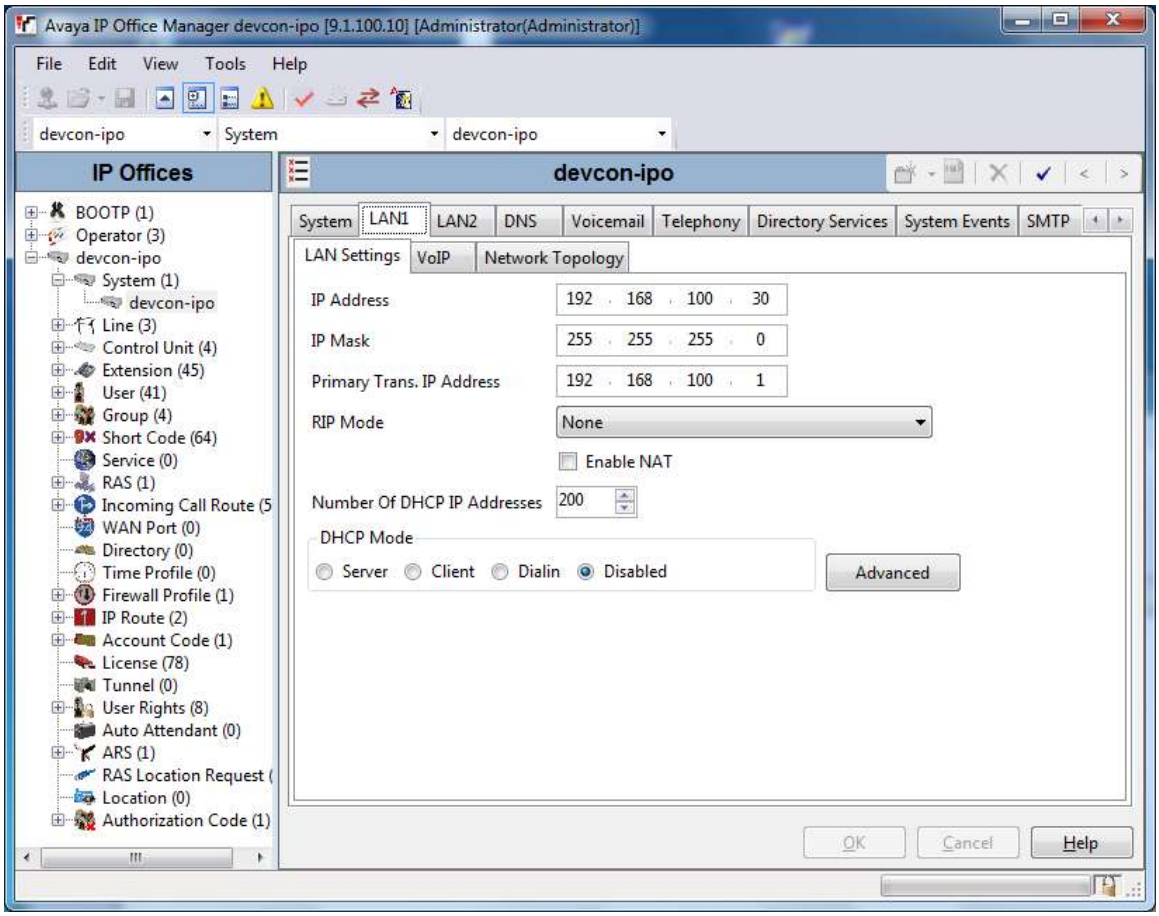
5. Configure Avaya IP Office

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

- Obtain LAN IP address
- Administer SIP registrar
- Administer SIP extension for Revolabs FLX UC 1000
- Administer SIP user for Revolabs FLX UC 1000

5.1. Obtain LAN IP Address

From the configuration tree in the left pane, select **System** to display the **System** screen for the IP Office 500 V2 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 UC 1000.



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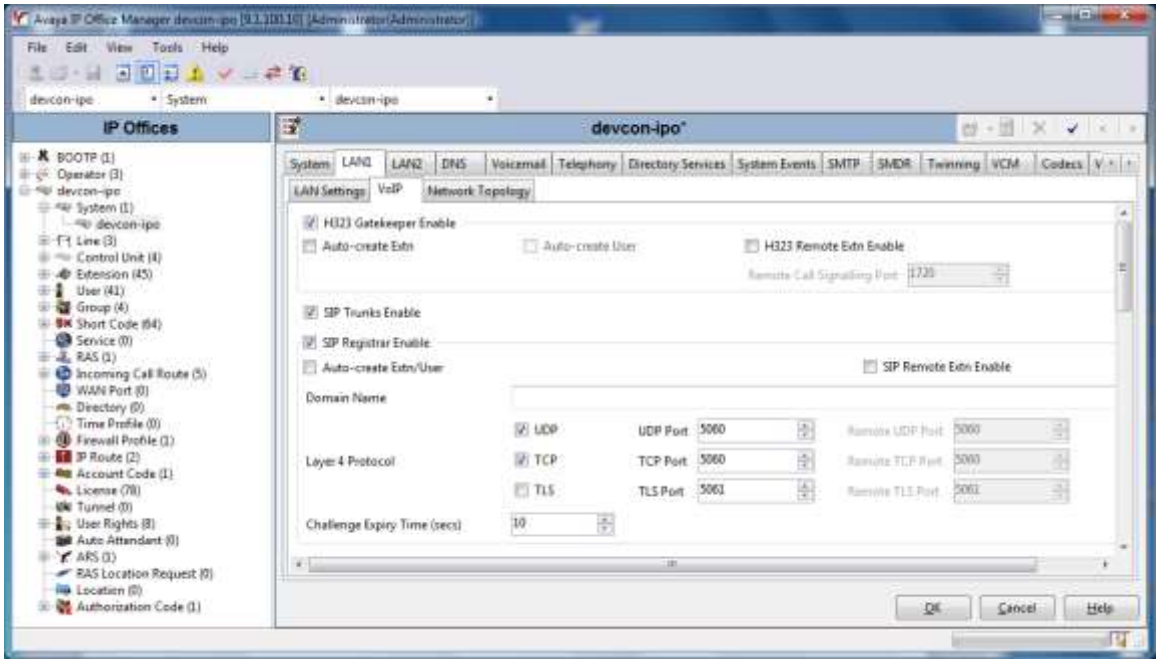
5.2. Administer SIP Registrar

Select the **VoIP** sub-tab. Ensure that **SIP Registrar Enable** is checked and enter a valid **Domain Name**. In the compliance testing, the **Domain Name** field was left blank so the LAN IP address was used.



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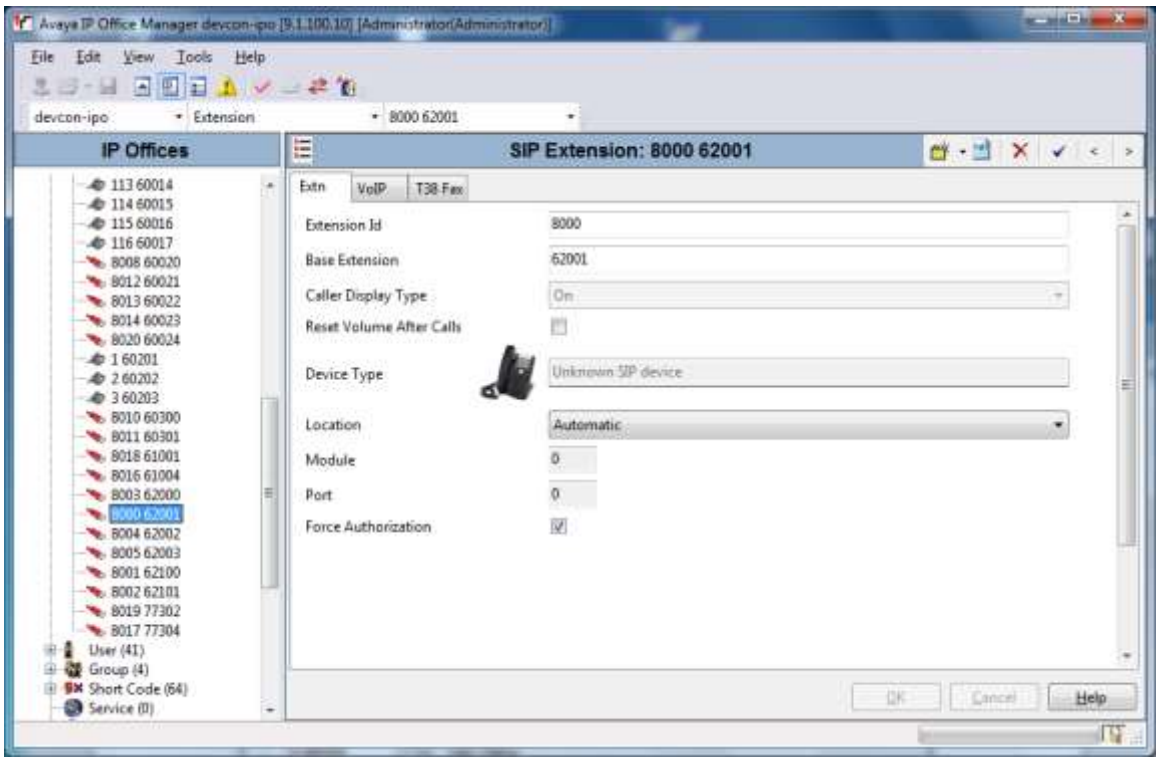
5.3. Administer SIP Extension for Revolabs FLX UC 1000

From the configuration tree in the left pane, right-click on **Extension** and select **New → SIP** from the pop-up list to add a new SIP extension. Enter the desired extension for the **Base Extension** field as shown below. In this example, Revolabs FLX UC 1000 was assigned extension *62001*. This is the extension that Revolabs FLX UC 1000 will use to register with IP Office.



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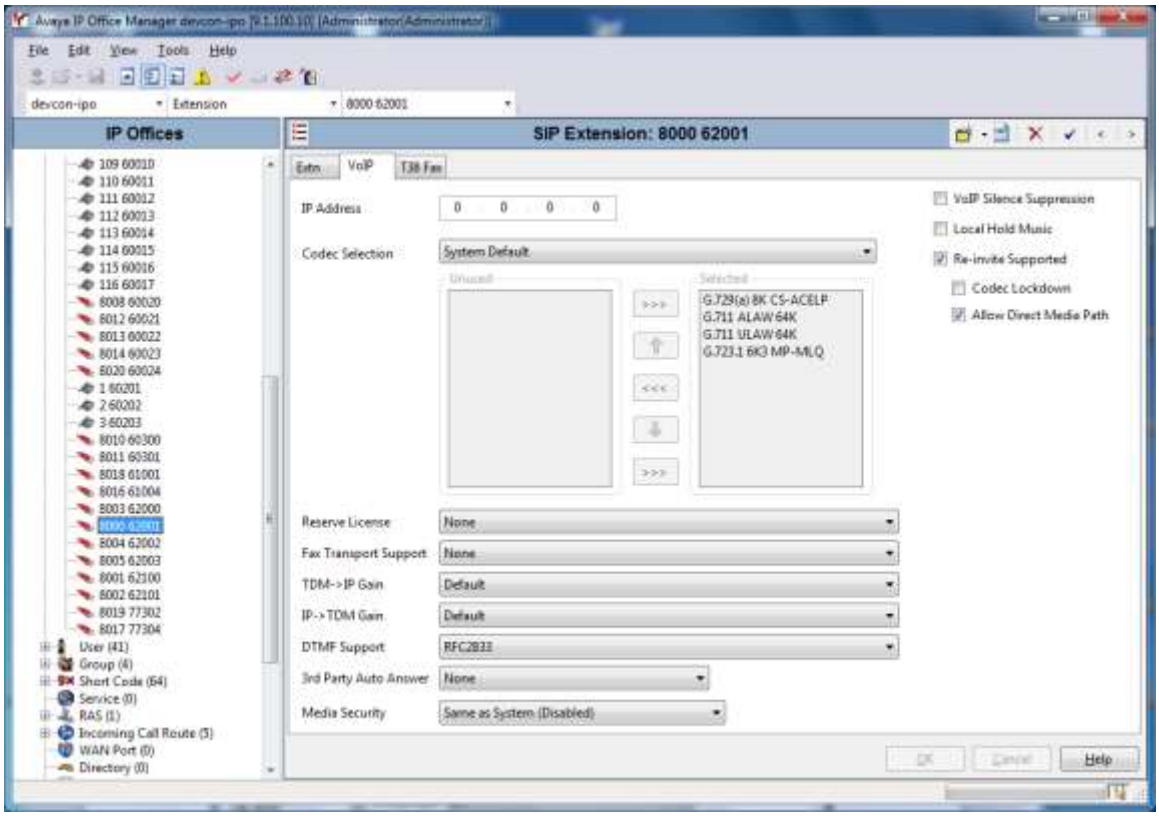
Select the **VoIP** tab and retain the default values in the all fields. During the compliance test, Revolabs FLX UC 1000 was tested using G.711 and G.729 codecs. Enable **Allow Direct Media Path** so that audio/RTP flows directly between two SIP endpoints without using media resources in Avaya IP Office.



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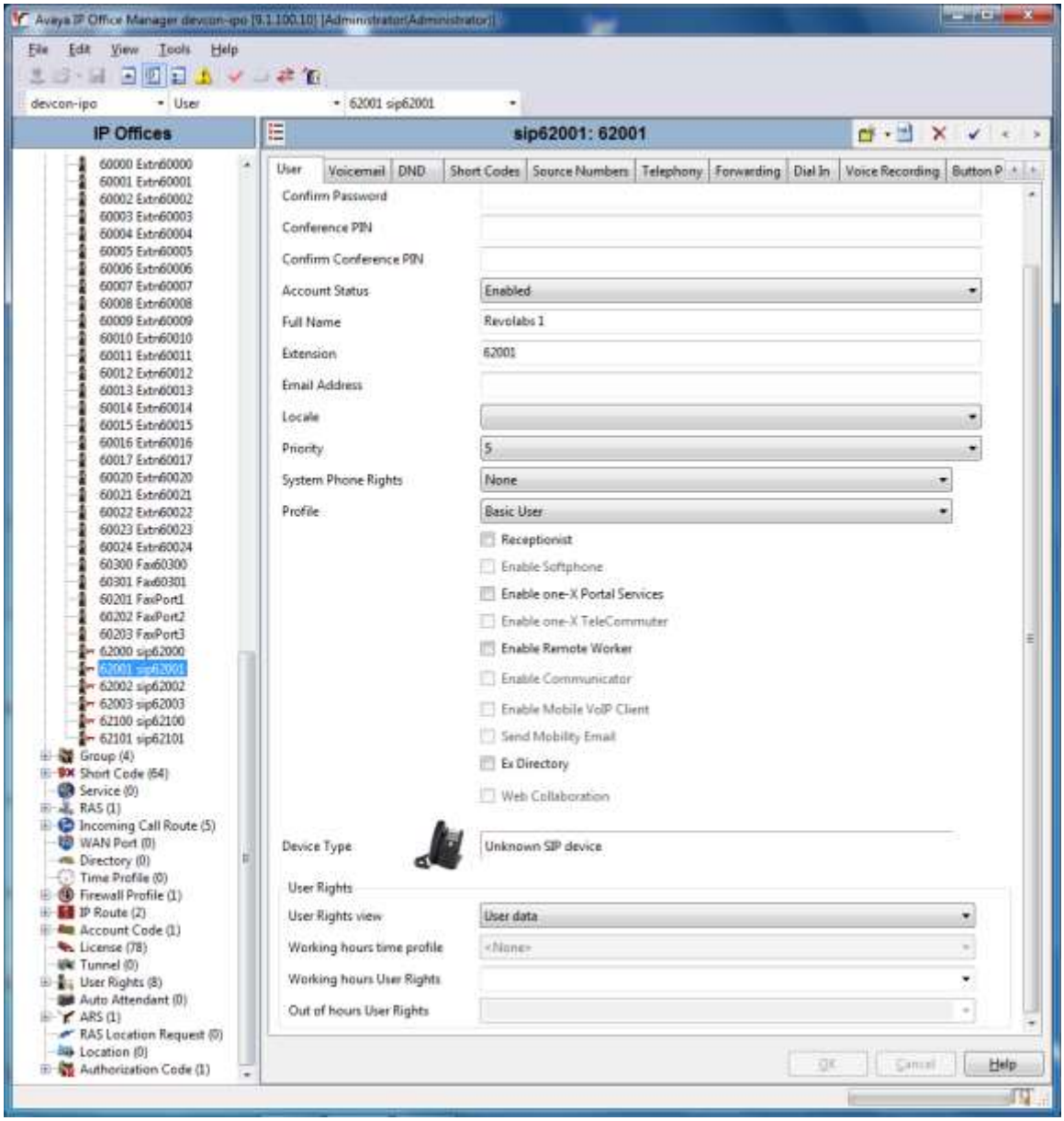
5.4. Administer SIP User for Revolabs FLX UC 1000

From the configuration tree in 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 above.



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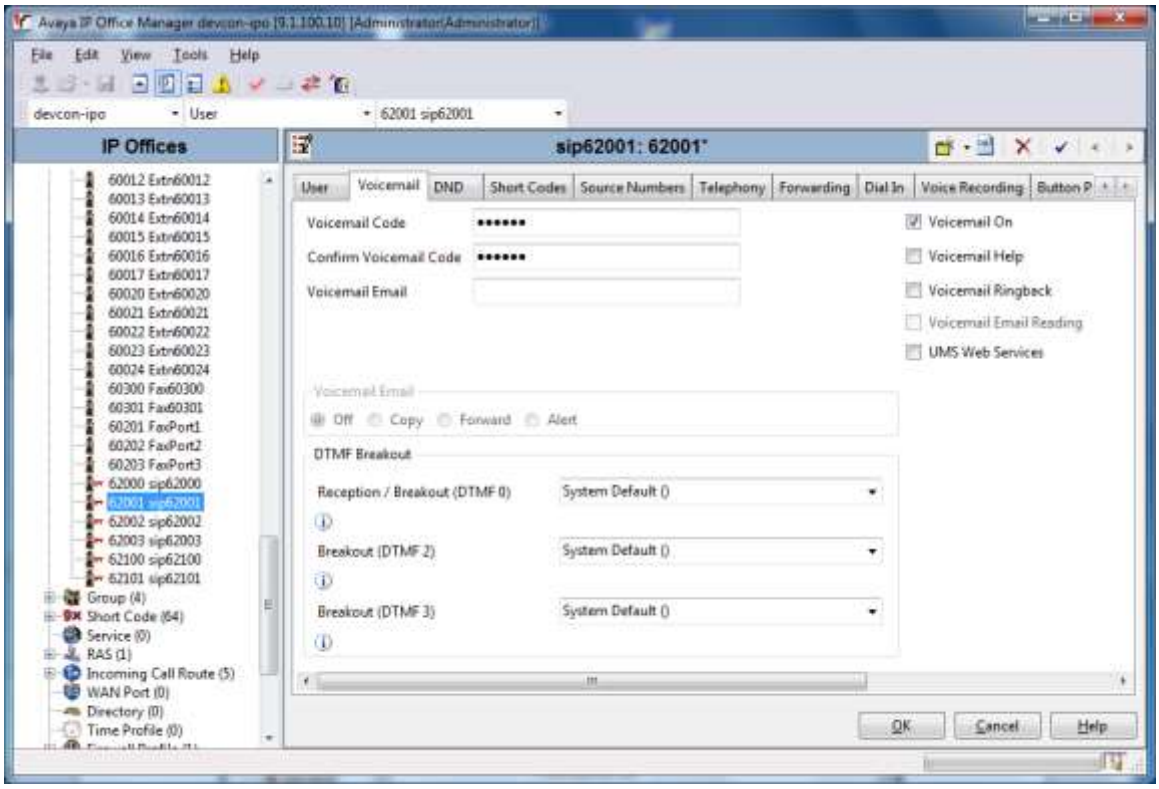
Select the **Voicemail** tab and select **Voicemail On** to enable voicemail for Revolabs FLX UC 1000.



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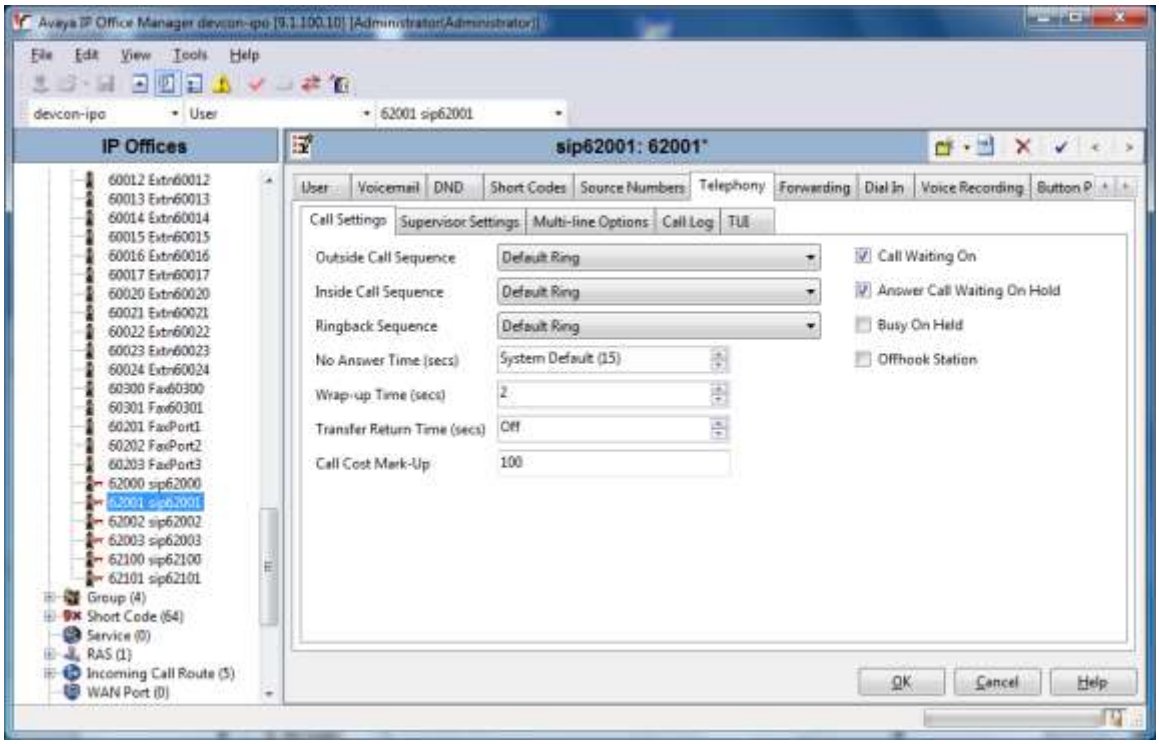
Select the **Telephony** tab followed by the **Call Settings** sub-tab. Note the settings below for the user.

Note: Call Waiting is required to allow a secondary incoming call to Revolabs FLX UC 1000; otherwise, the call second incoming call will be denied.



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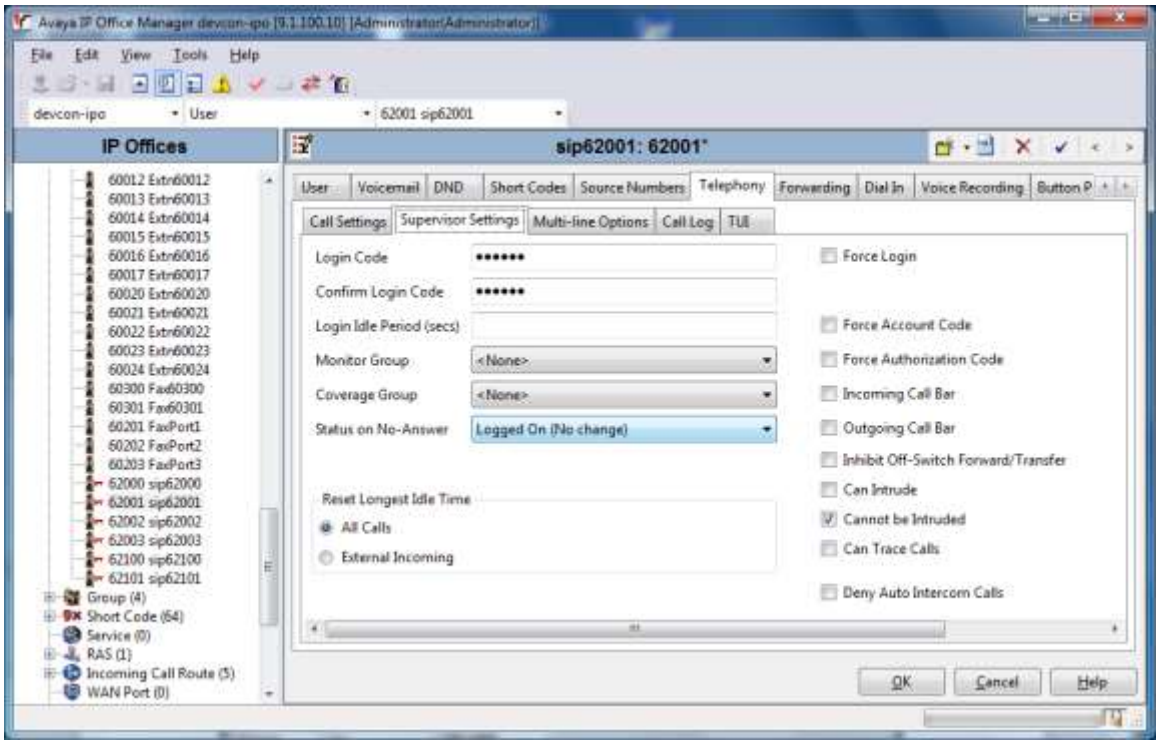
Select the **Supervisor Settings** tab and enter a desired **Login Code**. The Login Code is the password that will be used by Revolabs FLX UC 1000 to register with IP Office.



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6. Configure Revolabs FLX UC 1000

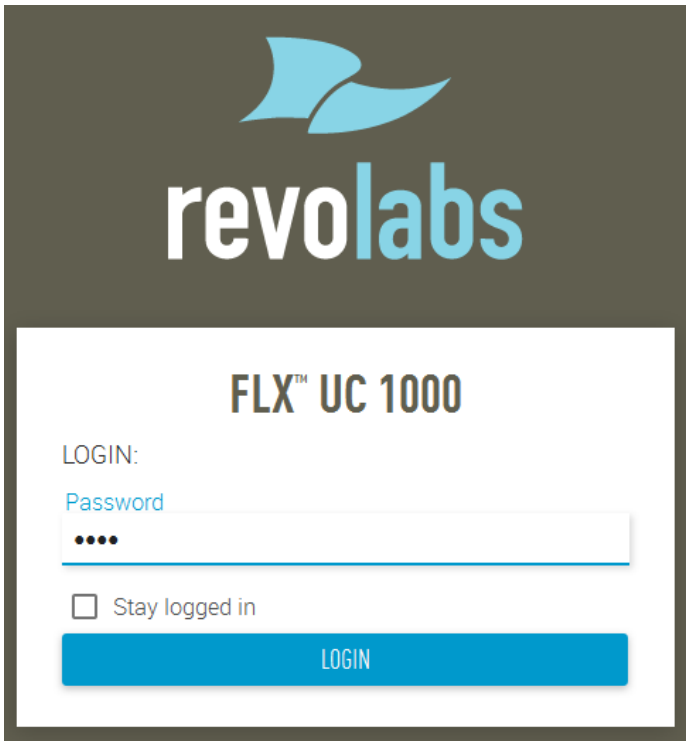
This section provides the procedures for configuring Revolabs FLX UC 1000. The procedures fall into the following areas:

- Launch web interface.
- Administer network settings.
- Administer SIP settings.
- Configure SIP Port and Transport Protocol.
- Enable Message Waiting Indicator (MWI).
- Configure Audio Codecs.

6.1. Launch Web Interface

The Revolabs FLX UC 1000 may be configured directly from its keypad and display or using its web interface. For the compliance test, the configuration was performed through the web interface as described in this section. Access the Revolabs FLX UC 1000 web interface by using the URL "https://ip-address" in an Internet browser window, where "ip-address" is the IP address of the SIP conference phone. Log in using the appropriate credentials and then click **Enter**.

Note: Initially, the network parameters can be configured directly from the Revolabs FLX UC 1000 keypad and display as described in **[2].** After the IP address is changed to match the customer's network, configuration can proceed through the web interface, if desired.



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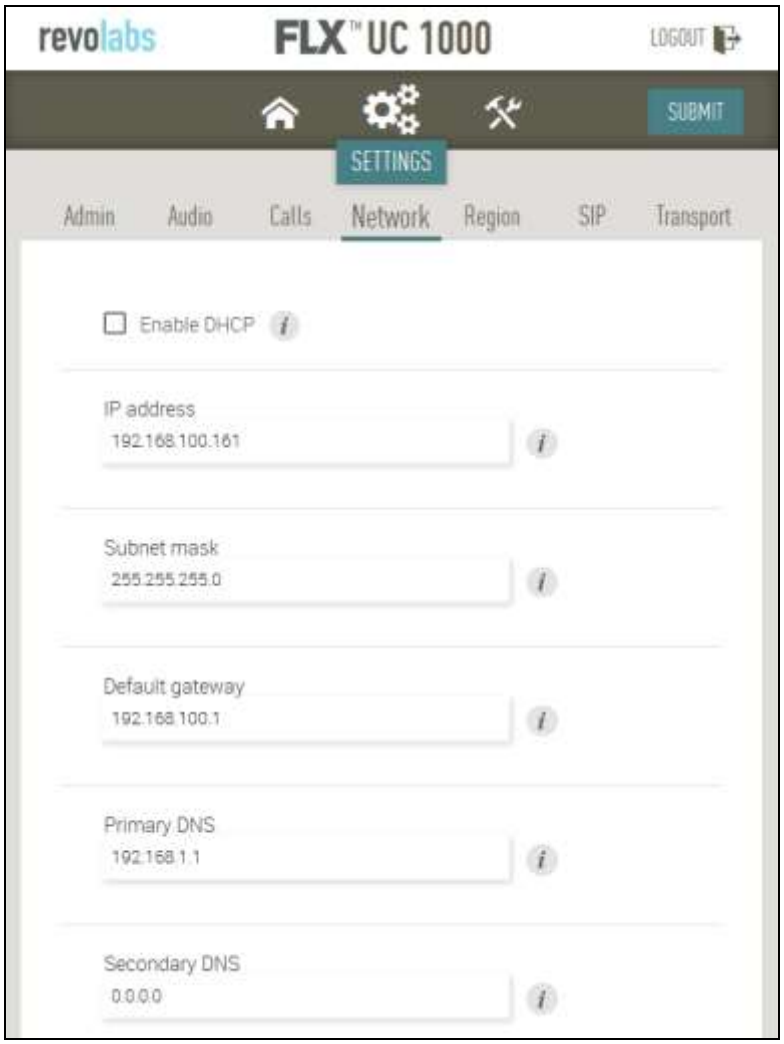
6.2. Administer Network Settings

To configure network settings, click on **Settings → Network** at the top of the web page. Disable DHCP and configure the **IP address**, **Subnet mask**, **Default gateway**, and **Primay DNS**. Click **Submit** when done. The **Primary DNS** is required so that FLX UC 1000 can reach the NTP servers.



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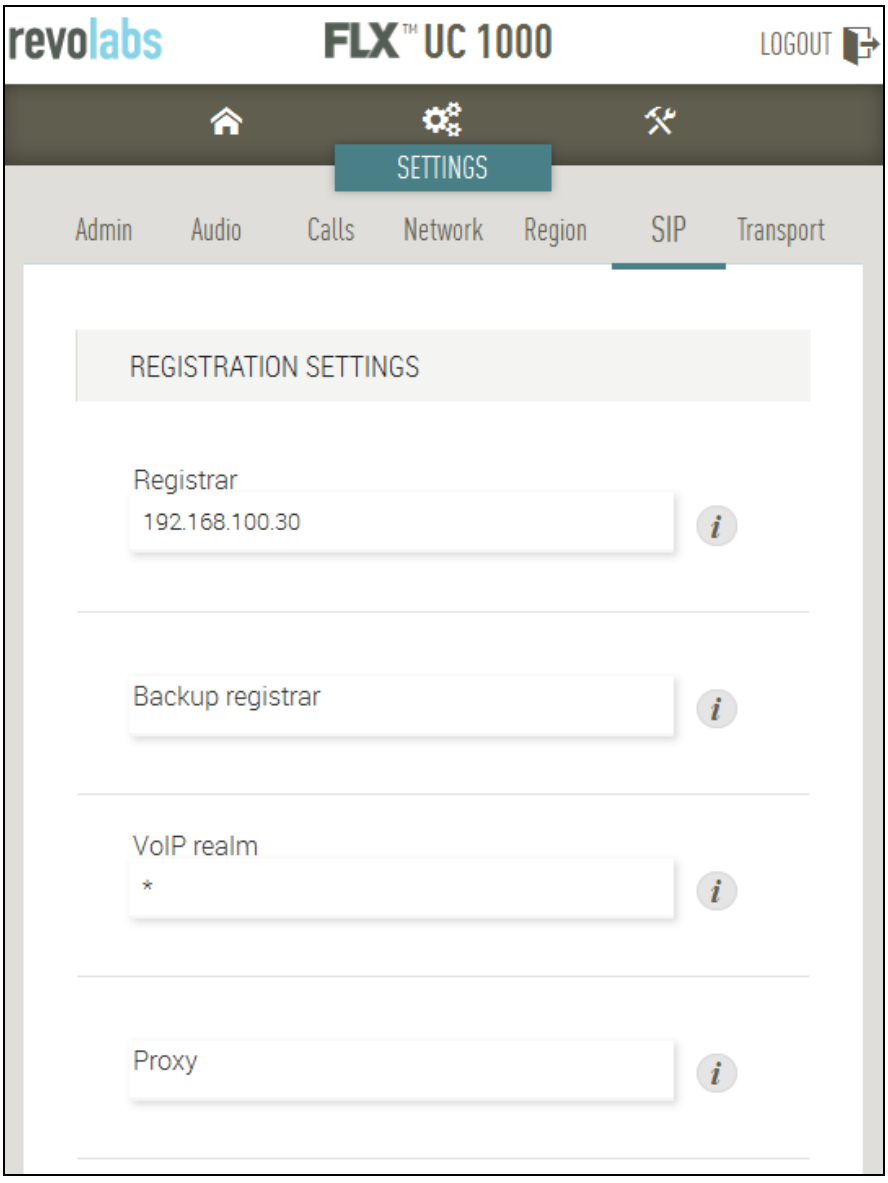
6.3. Administer SIP Settings

To configure SIP settings, click on **Settings → SIP** at the top of the web page. Configure the following fields:

- **Registrar** Enter the LAN1 IP address of IP Office.
- **VoIP realm** Set to * so that FLX UC 1000 responds to calls from all domains.

Retain the default values for the other fields.



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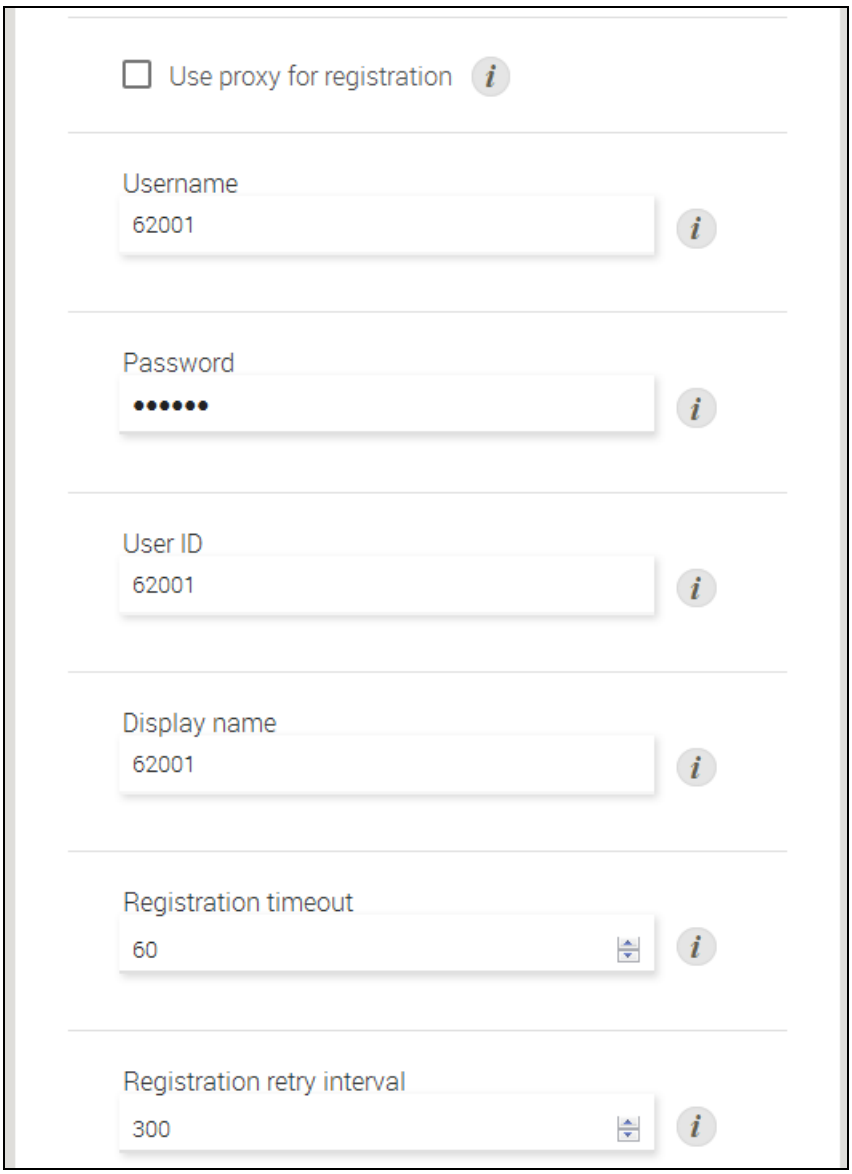
Scroll down and set the following fields:

- **Username** Set to the SIP extension configured in **Section 5.3**.
- **Password** Enter the password configured in the **Login Code** field in **Section 5.4**.
- **User ID** Enter the SIP extension.
- **Display name** Enter the SIP extension.

Retain the default values for the other fields.



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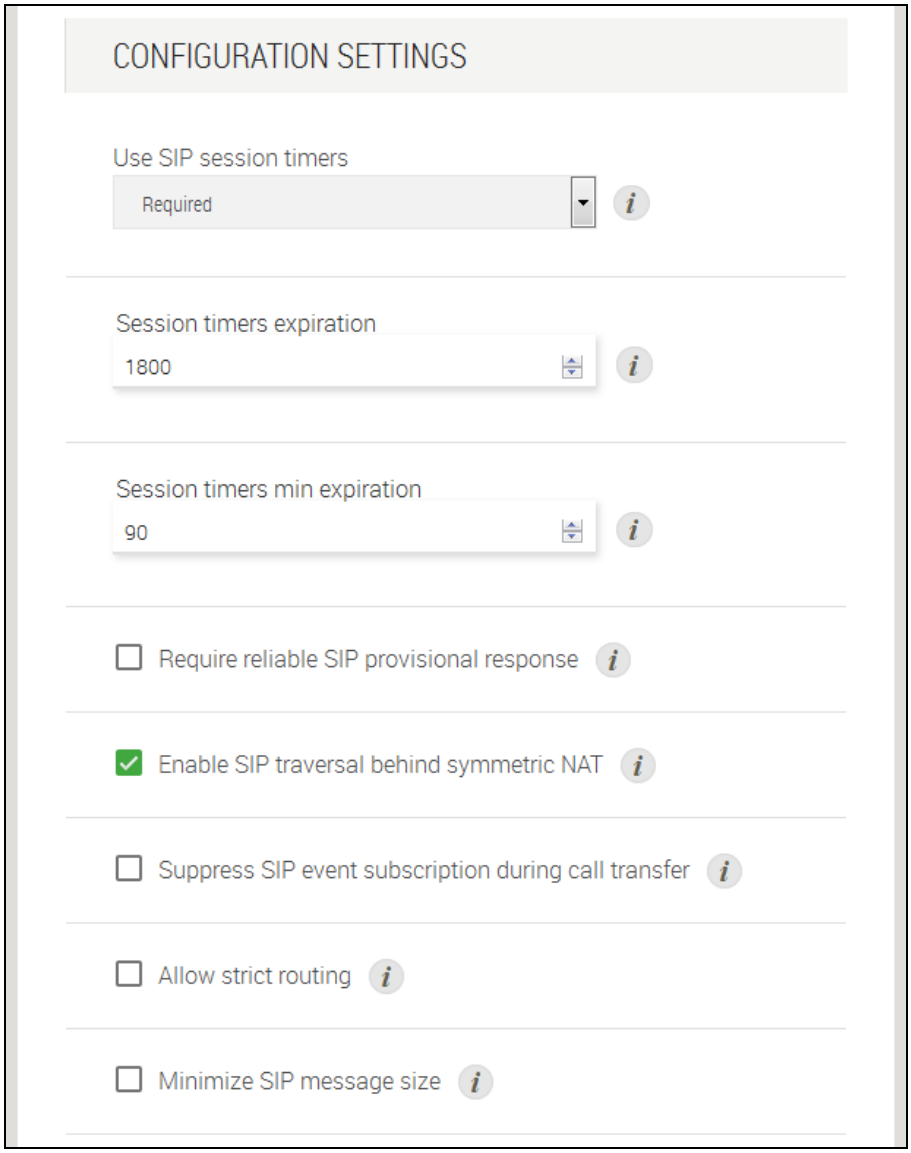
Scroll down to the Configuration Settings section and configure the following fields:

- **Use SIP session timers** Set this field to **Required**.
- **Session timers expiration** Enter the desired value for the session refresh interval.

Retain the default value for the other fields.



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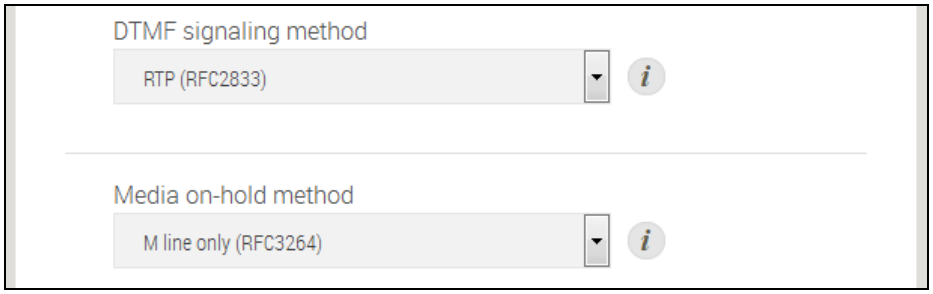
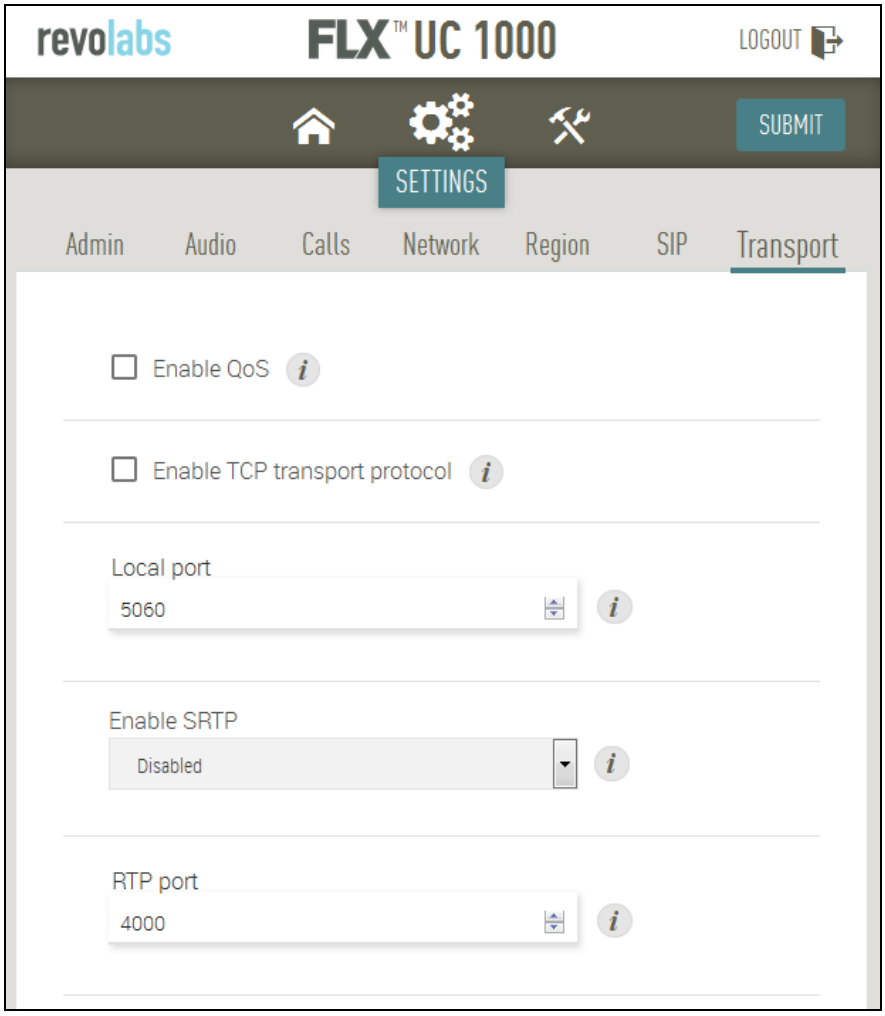
Set **DTMF signaling method** to *RTP (RFC2833)* as shown below. Click **Submit** (not shown).



6.3.1. Configure SIP Port and Transport Protocol

Under **Settings → Transport**, configure the SIP port and transport protocol. The **Local port** is set to *5060*, and by default, the transport protocol is set to UDP, unless TCP is enabled below. These are the default values.



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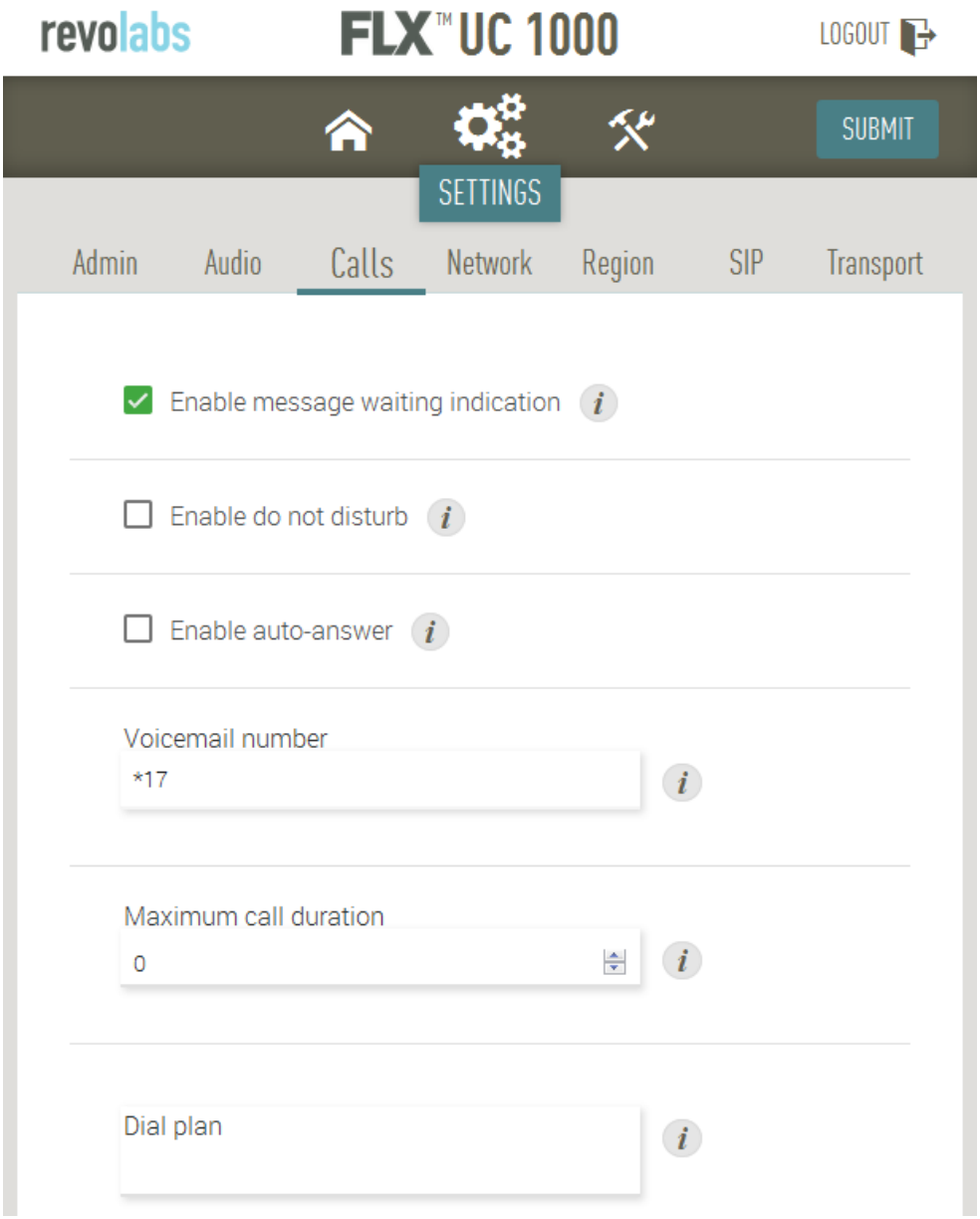
6.4. Enable Message Waiting Indicator (MWI)

Enable MWI under **Settings → Calls** and set the **Voicemail number** as shown below. The voicemail number is the Voicemail Collect shortcode.



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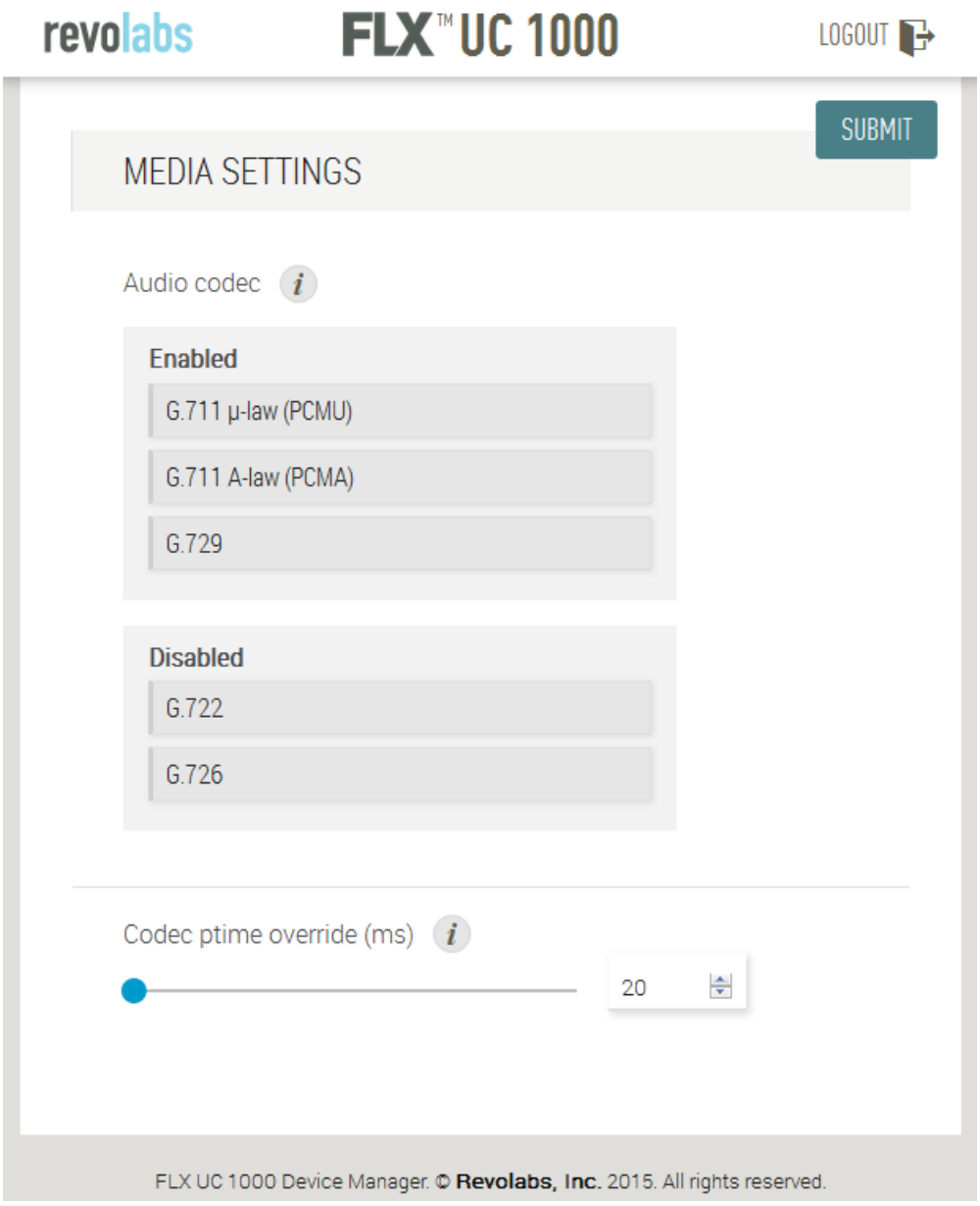
6.5. Administer Media Settings

Under **Settings → Audio**, the supported audio codecs are displayed along with their priority order. The web page below shows the audio codecs supported by IP Office. This web page allows audio codecs to be disabled or the codec precedence to be modified.



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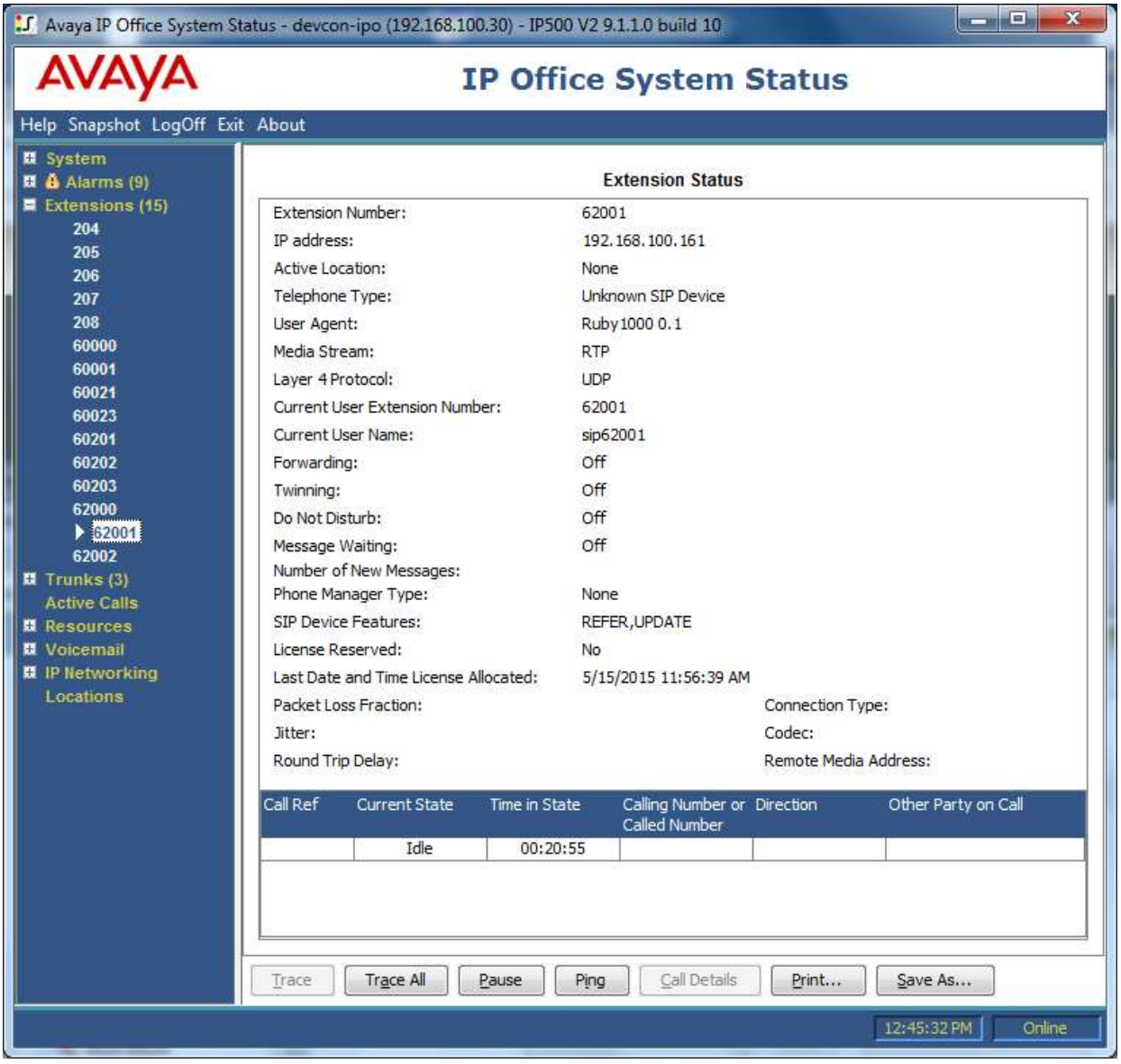
7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya IP Office and Revolabs FLX UC 1000.

1. Verify that Revolabs FLX UC 1000 has successfully registered with IP Office. In **IP Office System Status**, select the extension of Revolabs FLX UC 1000 in the left pane and verify that the **Current State** is *Idle* as shown below.



2. Verify basic telephony features by establishing calls between Revolabs FLX UC 1000 and another phone.

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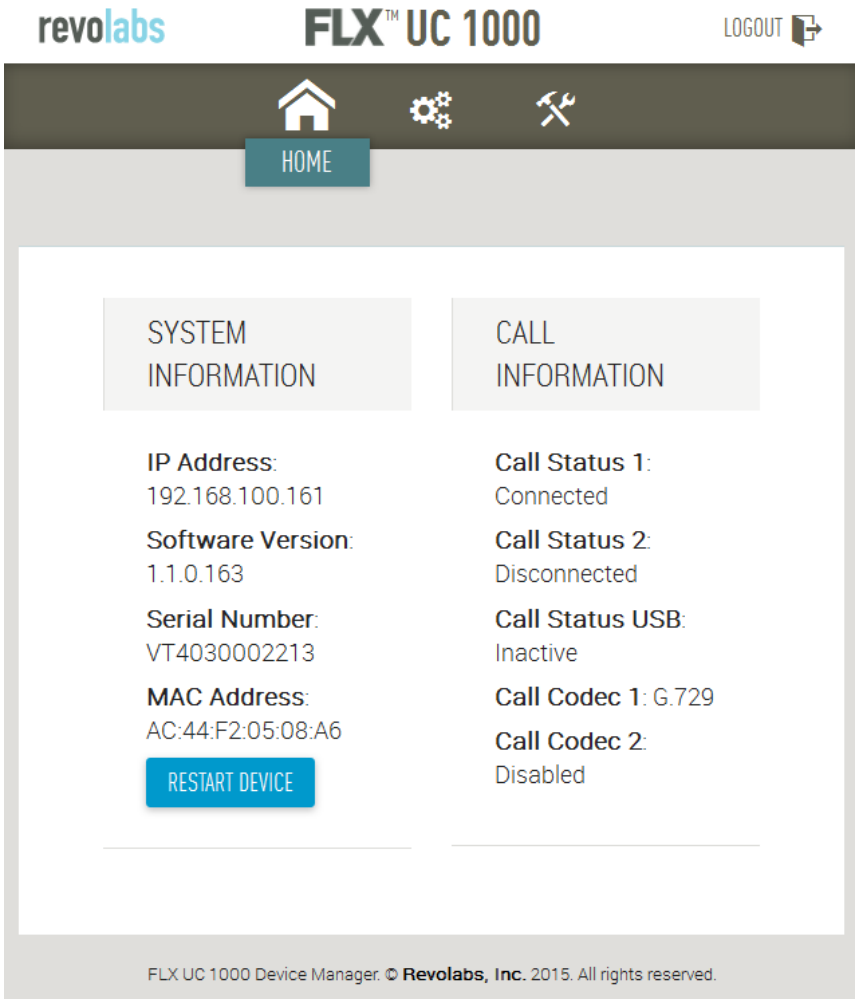
3. In the **Home** webpage of Revolabs FLX UC 1000, the **Call Status** will be set to *Connected* when it is active on a call and the **Call Codec** used for the call will also be displayed as shown below.



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8. Conclusion

These Application Notes describe the configuration steps required to integrate Revolabs FLX UC 1000 with Avaya IP Office. Revolabs FLX UC 1000 was able to register with Avaya IP Office successfully establish calls to H.323 and SIP stations and the PSTN, and exercise telephony features. All feature and serviceability test cases were completed successfully with observations noted in **Section 2.2**.

9. References

This section references the Avaya documentation relevant to these Application Notes. The Avaya product documentation is available at http://support.avaya.com.

[1] *Avaya IP Office Manager*, Release 9.0, Issue 9.01, September 2013, Document Number 15-601011.

[2] *Revolabs FLX UC 1000 IP & USB Conference Phone Installation and Operation Guide, March 2015 (Rev 2.1.0).*

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