Avaya Solution & Interoperability Test Lab

Application Notes for configuring Axis Communications AB AXIS C3003-E Network Horn Speaker with Avaya IP Office Server Edition and IP Office 500 V2 Expansion R9.1 – Issue 1.0

Abstract

These Application Notes describe the configuration steps for provisioning the AXIS C3003-E Network Horn Speaker from Axis Communications AB to interoperate with Avaya IP Office Server Edition and IP Office 500 V2 expansion R9.1.

Readers should pay particular attention to the scope of testing as outlined in **Section 2.1**, as well as 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 for provisioning the AXIS C3003-E Network Horn Speaker from Axis Communications AB to interoperate with Avaya IP Office Server Edition and IP Office 500 V2 expansion R9.1

AXIS C3003-E Network Horn Speaker is an outdoor loudspeaker that provides clear, long-range speech for remote speaking in video surveillance applications. In live video monitoring situations, AXIS C3003-E enables an operator to remotely address people and deter unwanted activity. The loudspeaker can also play a pre-recorded audio file when it is manually or automatically triggered in response to an alarm event.

The unit supports Session Initiation Protocol (SIP) for easy integration with Avaya IP Office and the AXIS C3003-E makes announcements possible from anywhere with network connectivity. It easily integrates with video management software (VMS) that support two-way audio and with Voice over IP (VoIP) telephony systems that use SIP (Session Initiation Protocol).

2. General Test Approach and Test Results

The interoperability compliance testing evaluates the ability of the AXIS C3003-E Network Horn Speaker (Axis Speaker) to receive calls from Avaya Digital, H.323 and SIP desk phones as well as mobile/PSTN endpoints. The speaker is registered to IP Office as a SIP endpoint.

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's formal testing and Declaration of Conformity is provided only on the headsets/Smartphones that carry the Avaya brand or logo. Avaya may conduct testing of non-Avaya headset/handset to determine interoperability with Avaya phones. However, Avaya does not conduct the testing of non-Avaya headsets/Smartphones for: Acoustic Pressure, Safety, Hearing Aid Compliance, EMC regulations, or any other tests to ensure conformity with safety, audio quality, long-term reliability or any regulation requirements. As a result, Avaya makes no representations whether a particular non-Avaya headset will work with Avaya's telephones or with a different generation of the same Avaya telephone.

2.1. Interoperability Compliance Testing

The compliance testing included the test scenarios shown below. Note that when applicable, all tests were performed with Avaya SIP phones, H.323 phones Digital phones, and PSTN endpoints.

- Registration of speaker.
- Invalid usernames/passwords for registration.
- Basic calls.
- Codec support.
- Serviceability testing.

2.2. Test Results

All test cases passed successfully with no issues or observations.

2.3. Support

Support from Avaya is available by visiting the website http://support.avaya.com and a list of product documentation can be found in **Section 9** of these Application Notes. Technical support for the AXIS C3003-E Network Horn Speaker product can be obtained as follows:

Axis Communications AB
Tel: +46 46 272 18 00
Fax: +46 46 13 61 30
http://www.axis.com/global/en/learning-and-support

3. Reference Configuration

Figure 1 shows the network topology during compliance testing, an AXIS C3003-E Network Horn Speaker from Axis Communications AB with Avaya IP Office Server Edition.

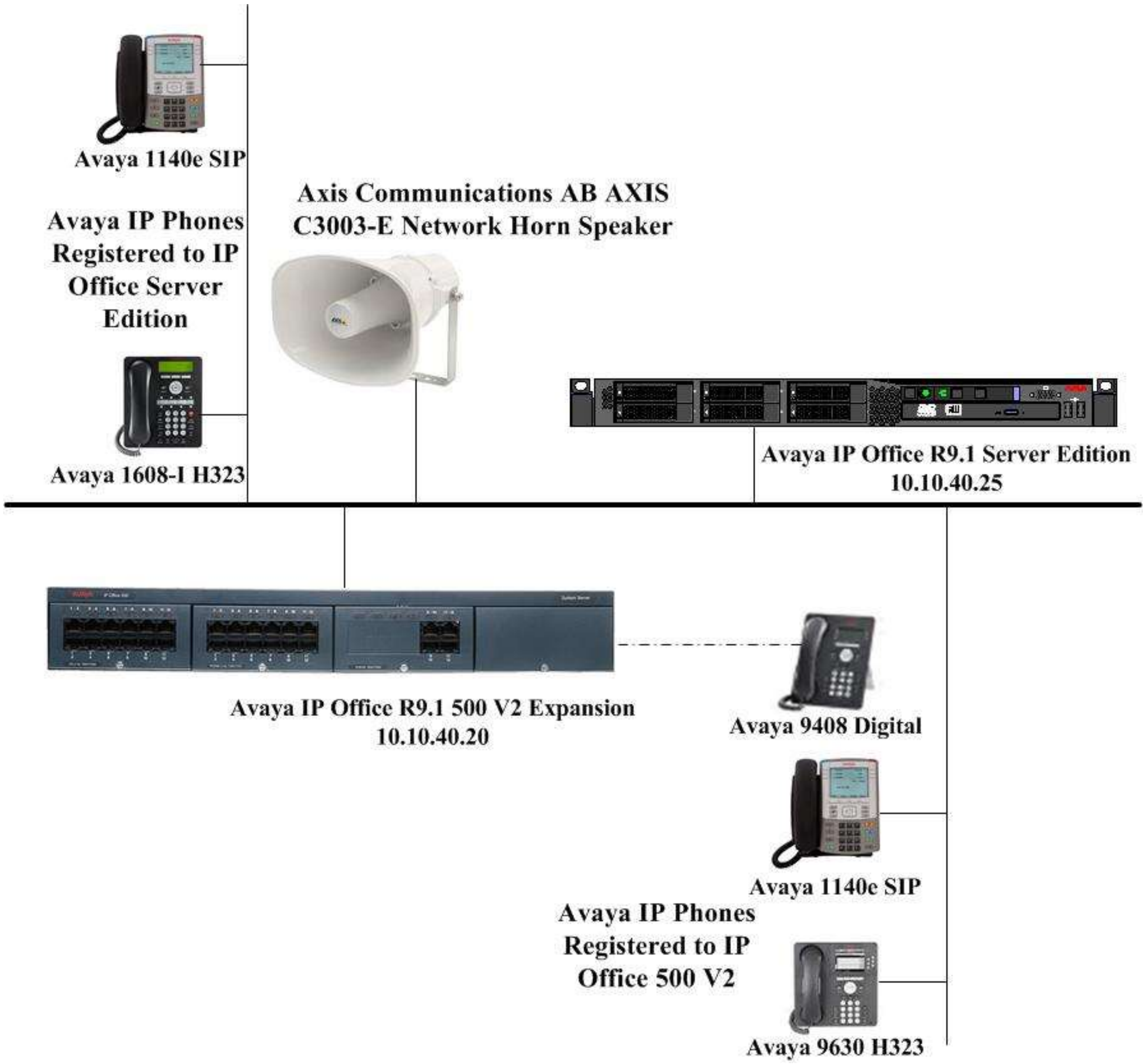


Figure 1: Connection of Axis Communications AB C3003-E Network Horn Speaker with Avaya IP Office Server Edition and IP Office 500 V2 R9.1

4. Equipment and Software Validated

The following equipment and software was used for the compliance test.

Equipment/Software	Version/Release
Avaya IP Office Server Edition running on a virtual platform	R9.1 SP6
Avaya IP Office 500 V2	R9.1 SP6
Avaya IP Office Manager running on Windows 7 PC	R9.1 SP6
Avaya 9630 Deskphone	H.323 Release 6.4014U
Avaya 1140e Deskphone	SIP R04.03.12.00
Avaya 1616-I Deskphone	H323 1608UA1_350B.bin
Avaya 9408 Digital Deskphone	V 2.0
Axis Communications AB AXIS C3003-E Network Horn Speaker	Firmware Version 1.20.1

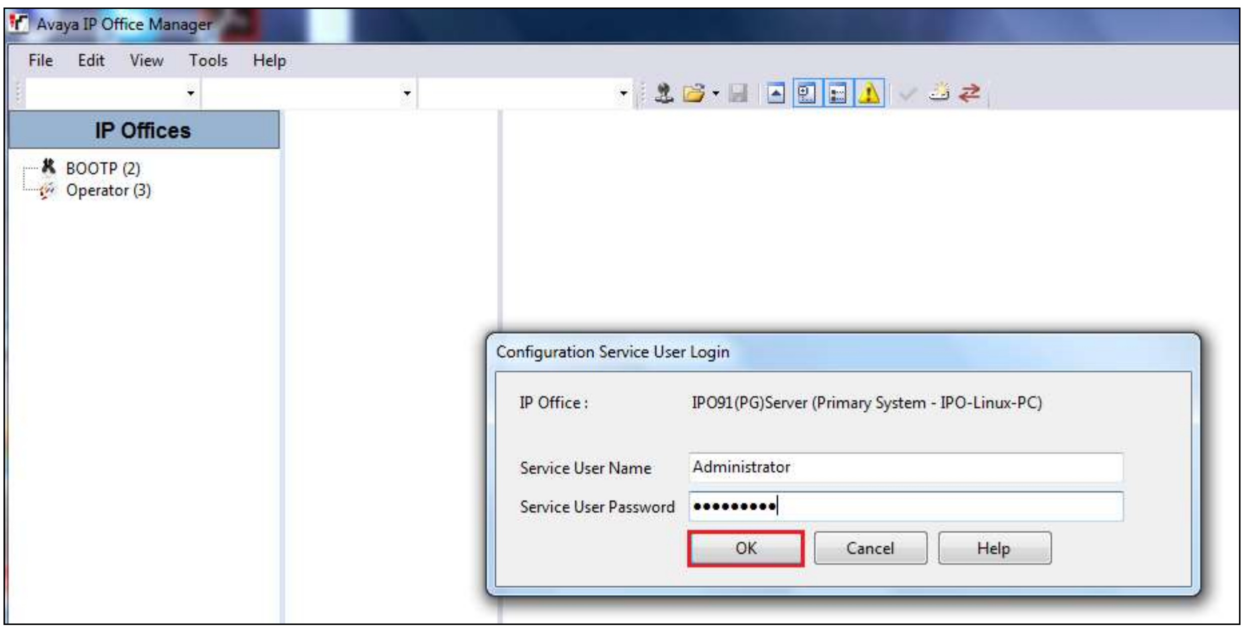
5. Configure Avaya IP Office

Configuration and verification operations on the Avaya IP Office illustrated in this section were all performed using Avaya IP Office Manager. The information provided in this section describes the configuration of the Avaya IP Office for this solution. It is implied a working system is already in place. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 9**. The configuration operations described in this section can be summarized as follows:

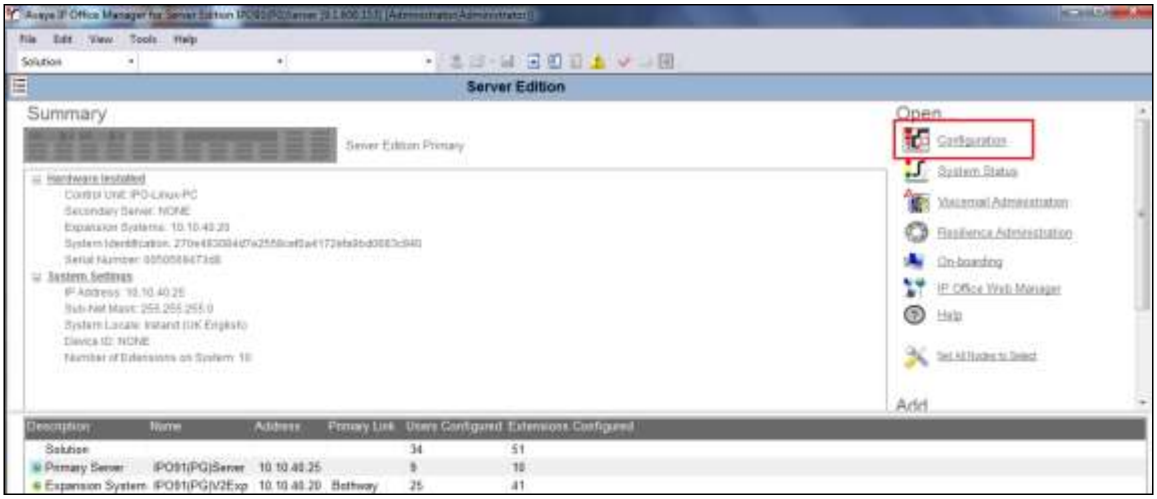
- Launch Avaya IP Office Manager.
- Display LAN Configuration.
- Configure New SIP User.
- Save Configuration.

5.1. Launch Avaya IP Office Manager

From the Avaya IP Office Manager PC, go to **Start → Programs → IP Office → Manager** to launch the Manager application or use the shortcut on the desktop (not shown). A login window will automatically appear, using the appropriate credentials click **OK** to log in.

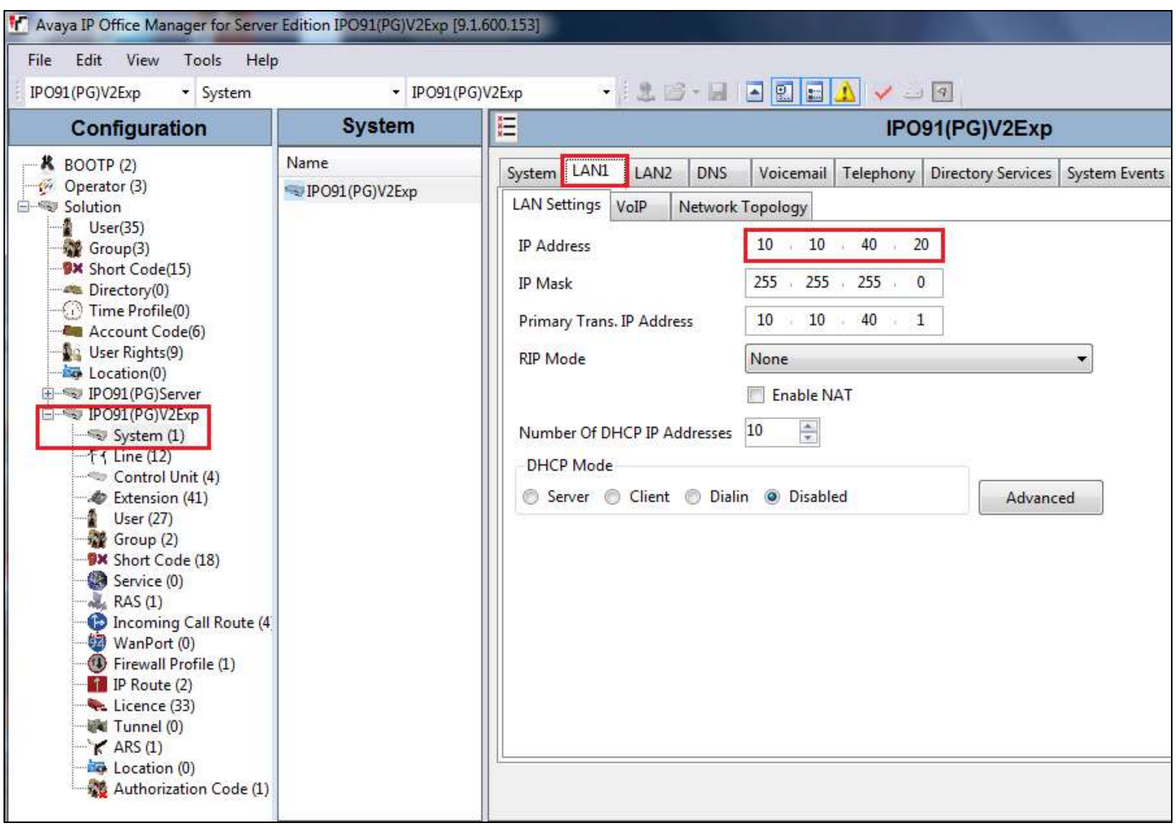


Click on **Configuration** to open the configuration GUI for both the Server Edition system and the expansion system.

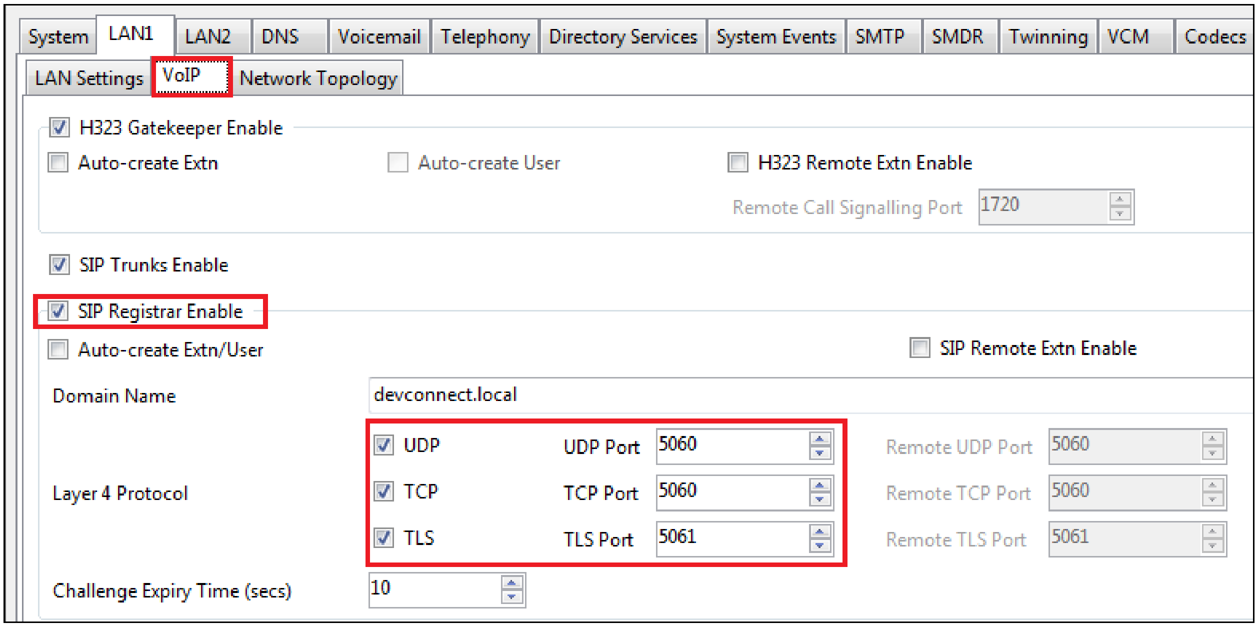


5.2. Display LAN Configuration

Once logged in navigate to **System** in the left window and this will display the IP Office system properties in the main window. Select the **LAN1** tab in the main window and within that tab select the **LAN Settings** tab. This displays the **IP Address** information for the Axis speaker to register to in **Section 6.2**.

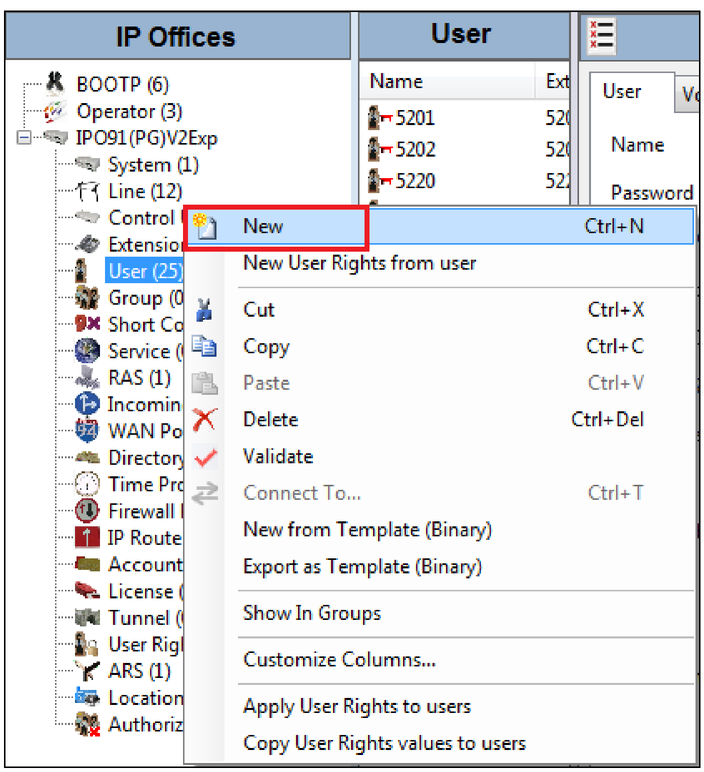


Selecting the **VoIP** tab displays the **Domain Name** and the **UDP**, **TCP** and **TLS Port** details used in the configuration of the Axis speaker in **Section 6.2**.

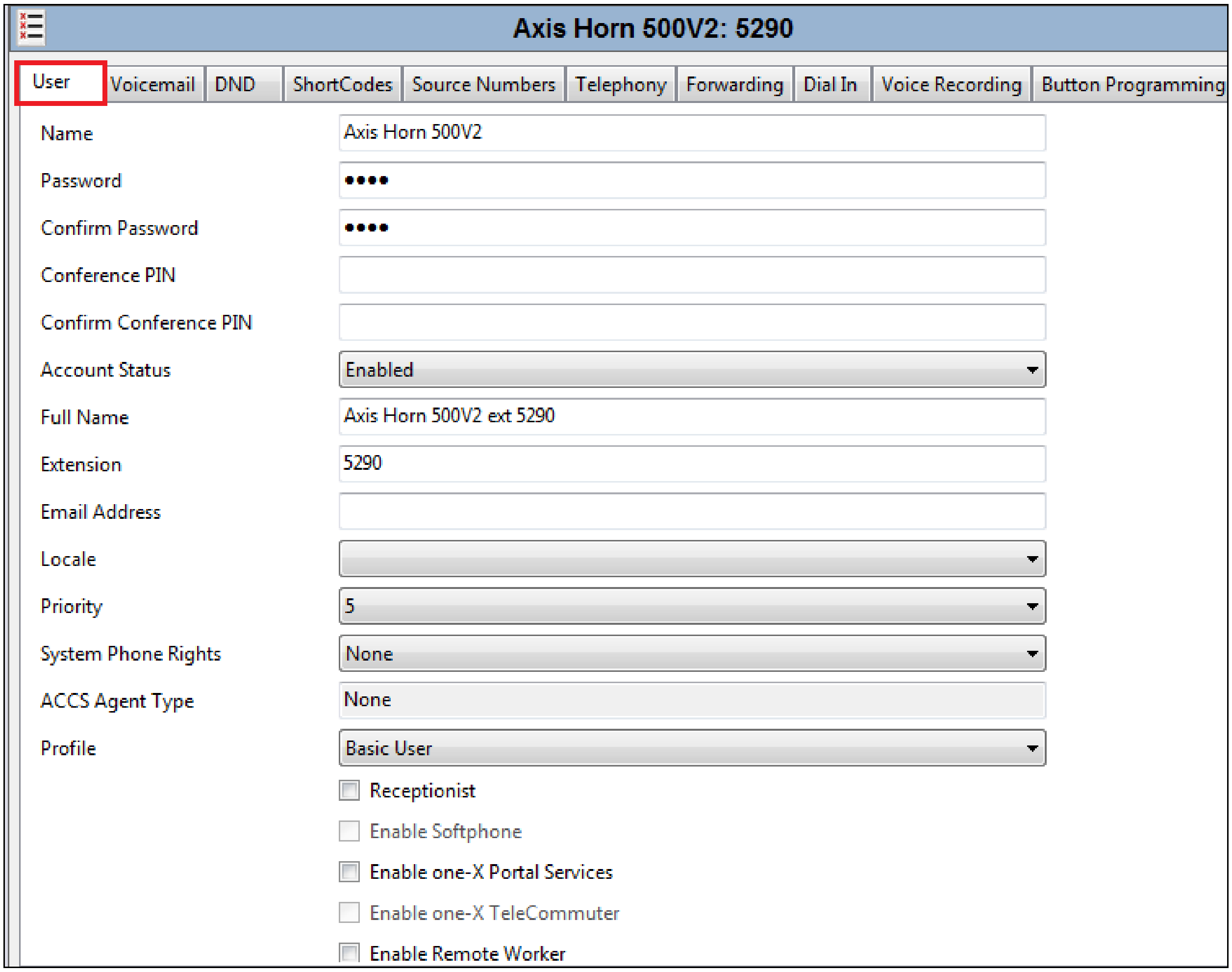


5.3. Configure New SIP User

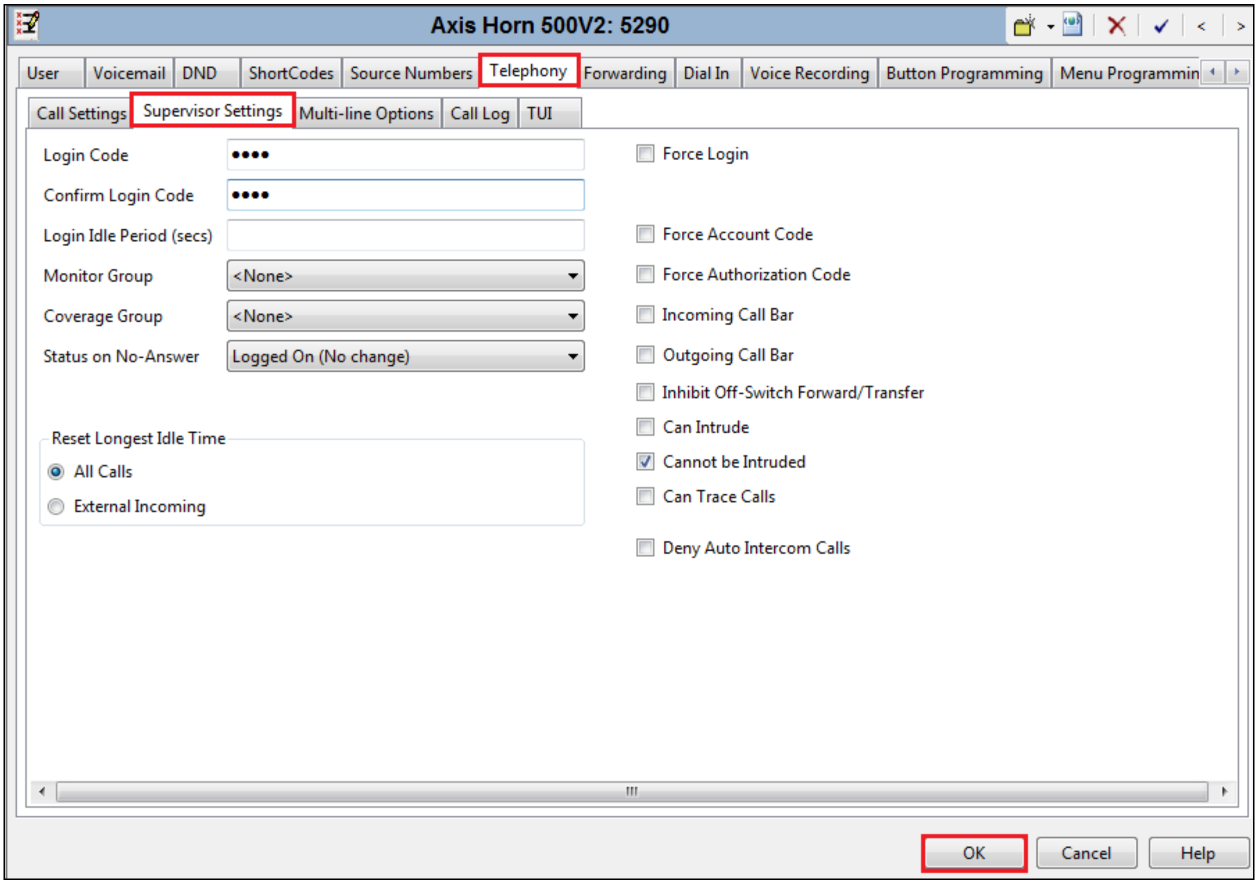
From the left window right click on **Users** and select **New** as shown below, this will allow a new user to be added to IP Office, this new user will be a SIP user.



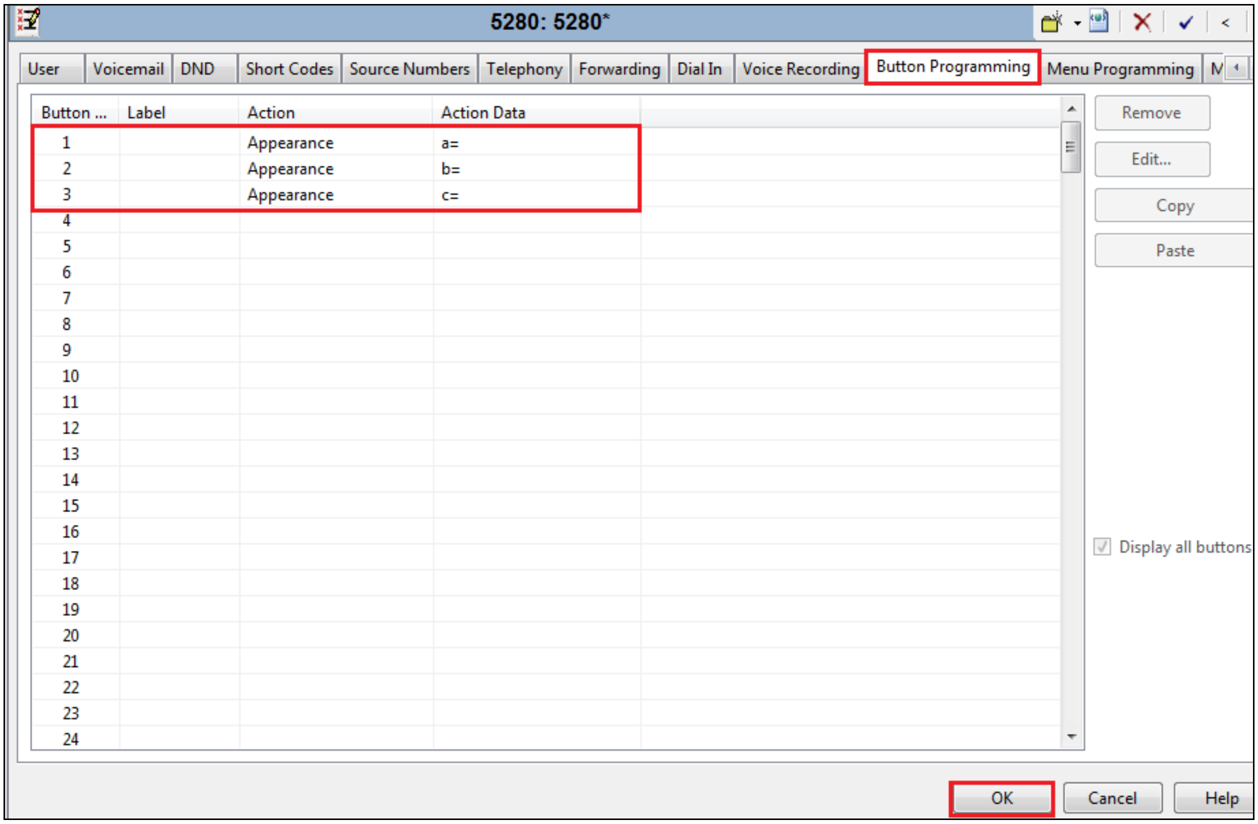
Within the **User** tab at the top of the screen, enter a suitable **Name** and **Password** for the user. Add the **Extension** number as shown below.



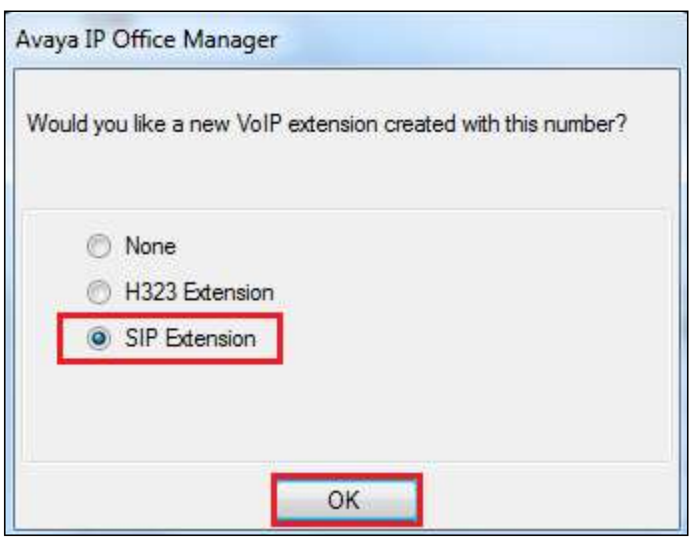
Navigate to the **Supervisor Settings** tab, enter the **Login Code** for the SIP user and note that this password will be required for the Axis speaker configuration in **Section 6.3**. Click on **OK** to save the configuration.



Navigate to **Button Programming** and the three call appearance buttons should already be programmed, click on **OK**. If not create the appearance buttons (not shown) and click on **OK**.

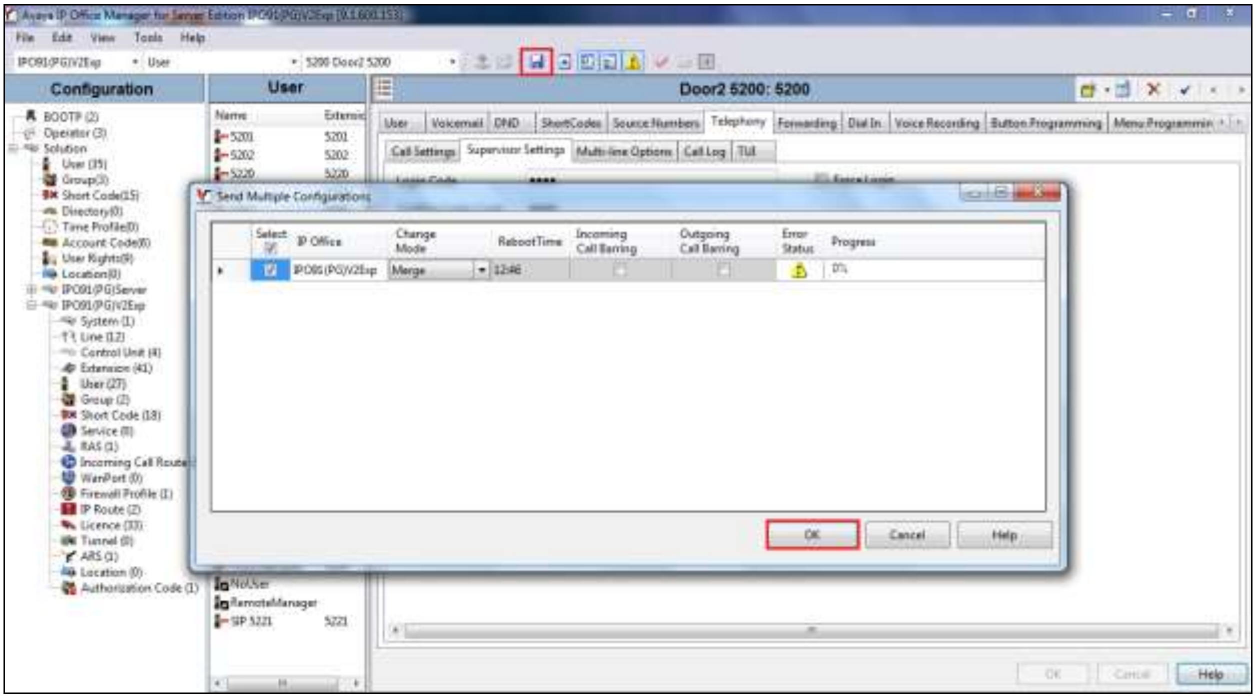


On the subsequent screen, ensure that **SIP Extension** is selected and click on **OK** to create the SIP extension along with the new user.



5.4. Save Configuration

Once all the users and extensions have been created click on the **Save** icon at the top of the screen, which will bring up a new window and click on **OK** to save the new configuration.

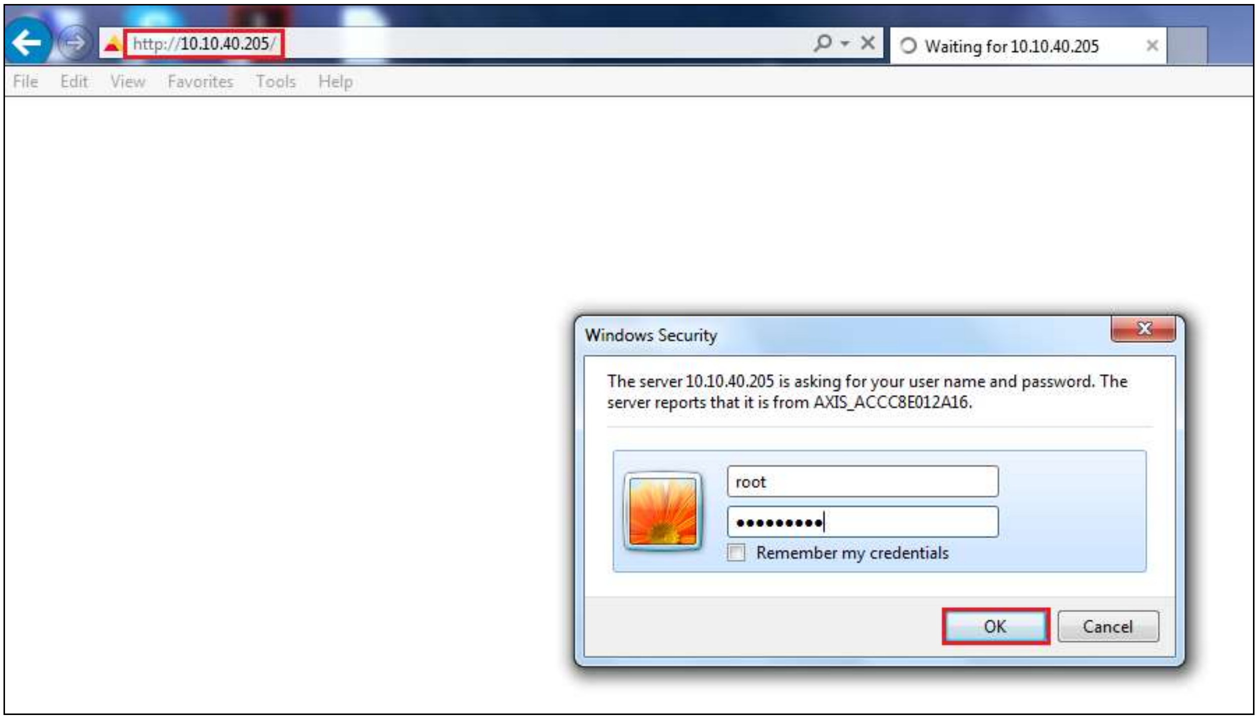


6. Configure AXIS C3003-E Network Horn Speaker

The configuration of the Axis speaker uses a web interface.

Note: The speaker obtains its IP address using DCHP and this was the way in which an IP address was given to the device during compliance testing.

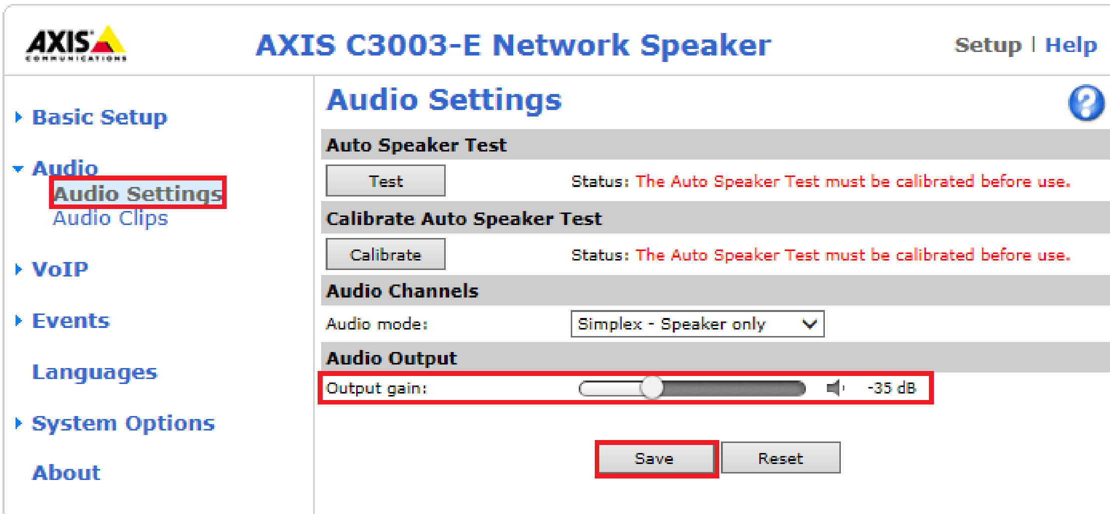
Open a web session to the IP address of the Axis speaker, enter the proper credentials and click on **OK**.



Please refer to Axis Communications documentation listed in **Section 9** of these Application Notes for further information about the Axis speaker configuration. The following sections cover specific settings concerning SIP and the connection to IP Office.

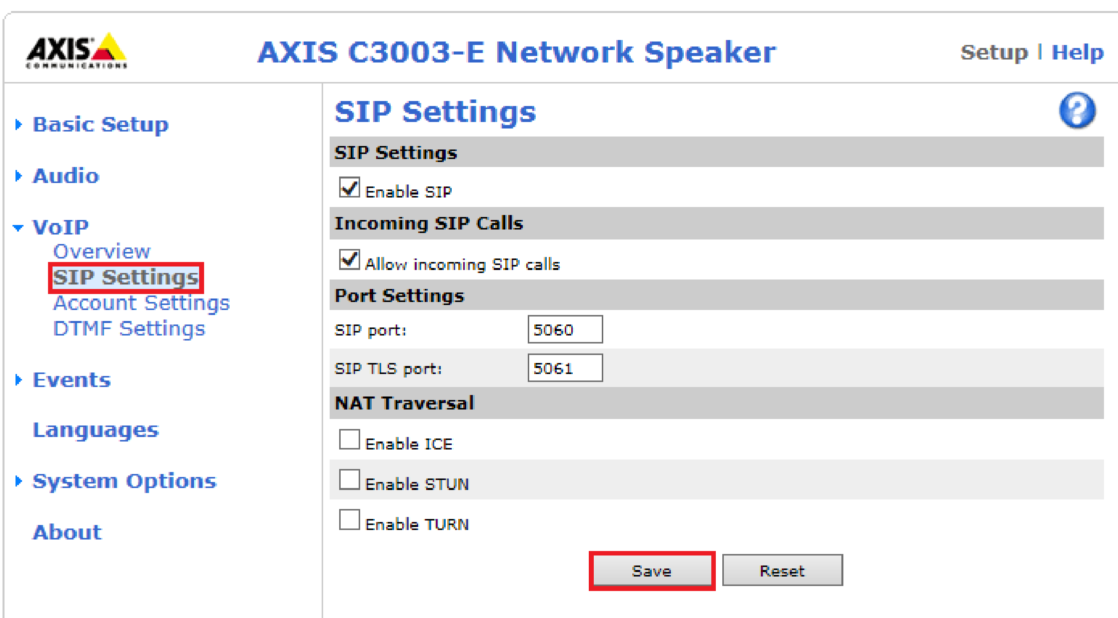
6.1. Audio Settings

Although the audio settings are not relevant to the SIP connection with IP Office it is important as it governs the volume from the speaker and so it is shown below how to adjust this under **Audio → Audio Settings**.



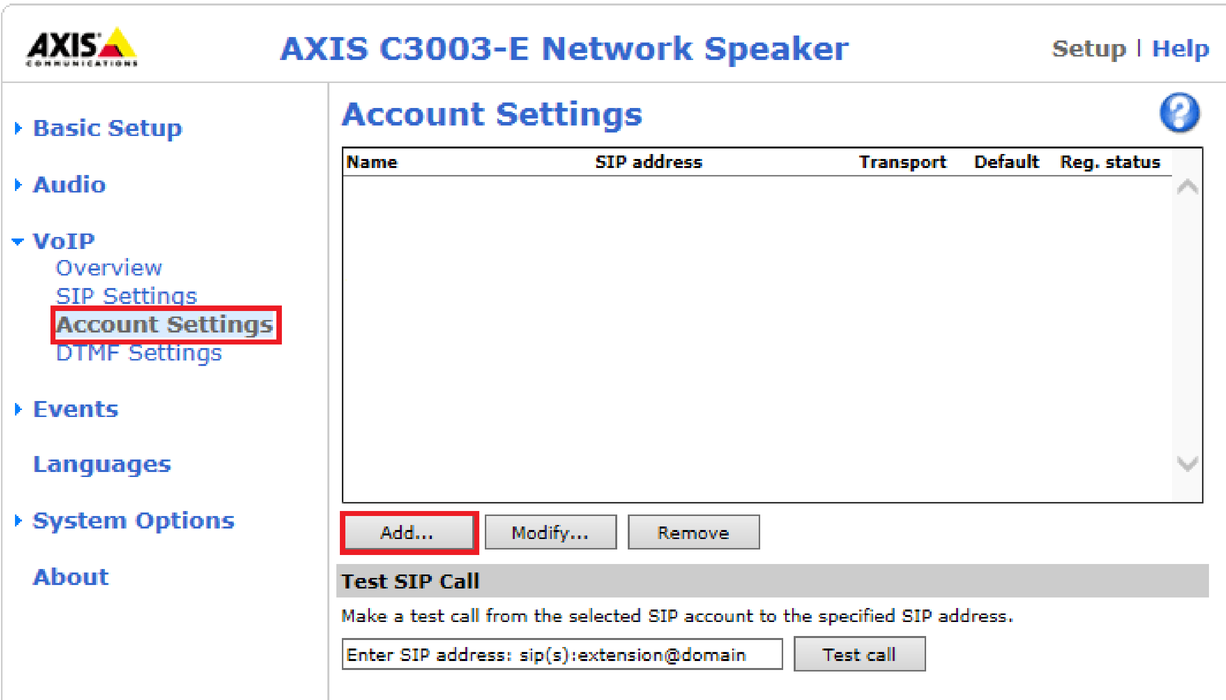
6.2. Configure SIP Settings

Click on **VoIP → SIP Settings** in the left window, in the main window ensure that **Enable SIP** is ticked under **SIP Settings** and **Allow incoming SIP calls** under **Incoming SIP Calls**. Under **Port Settings** select the SIP ports that are to be used and click on **Save** once all is configured correctly.



6.3. Configure Account

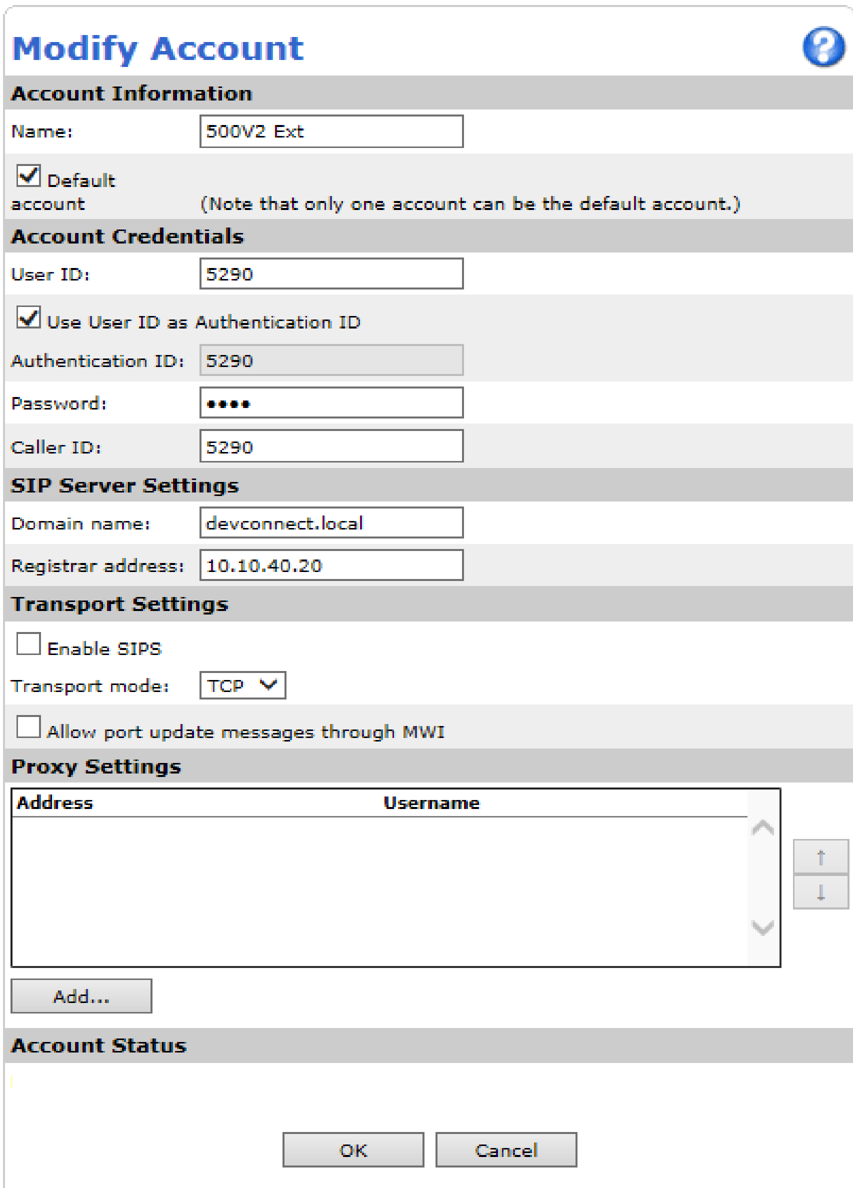
Click on **Account Settings** under **VoIP** in the left window. Click on the **Add** button in the main window.



Enter the following details under the **General** tab:

- **Name:** Enter a suitable name for the SIP account.
- **User ID**: Enter the SIP user number configured in **Section 5.3**.
- **Password**: Enter the password for the SIP user created in **Section 5.3**.
- **Caller ID**: This should be the extension number created in **Section 5.3**.
- **Domain Name**: The domain as per **Section 5.2**, the IP Office telephony domain.
- **Registrar address**: The IP address of the IP Office, as per **Section 5.2**.
- **Transport mode** This can be UDP, **TCP** or TLS, all three protocols were tested and work correctly with IP Office.

Click on **OK** to save the configuration.

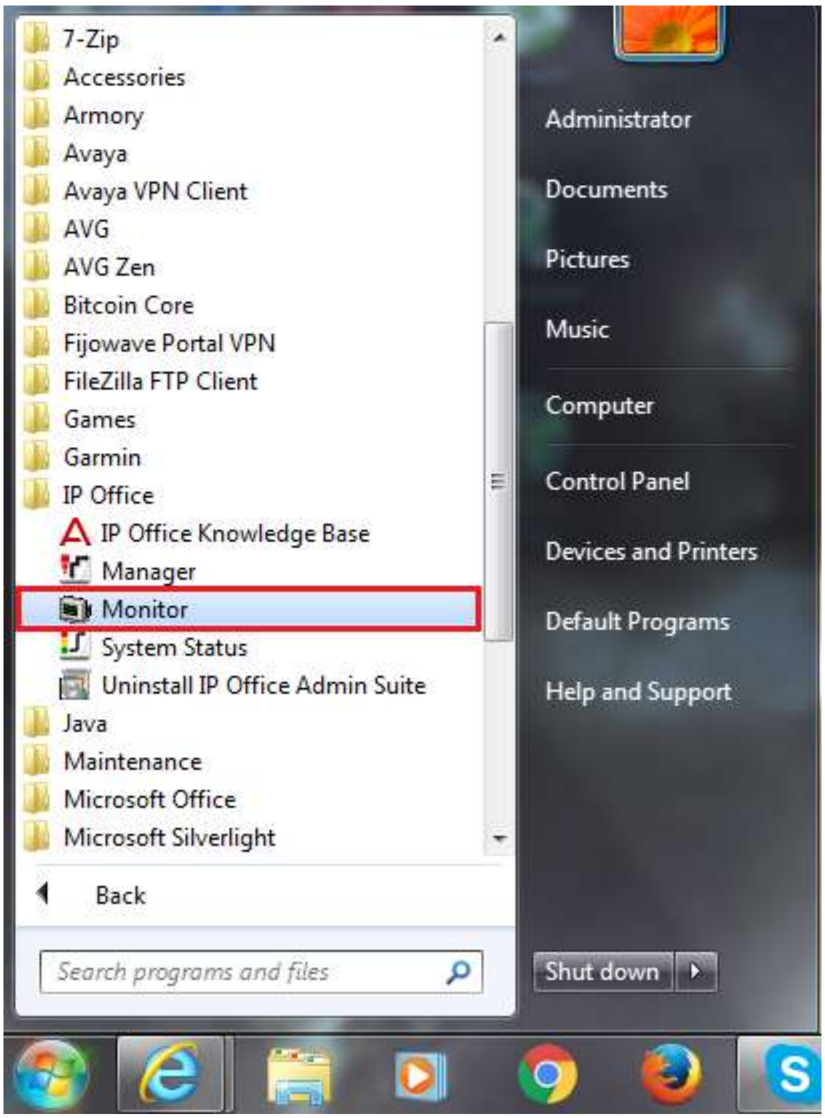


7. Verification Steps

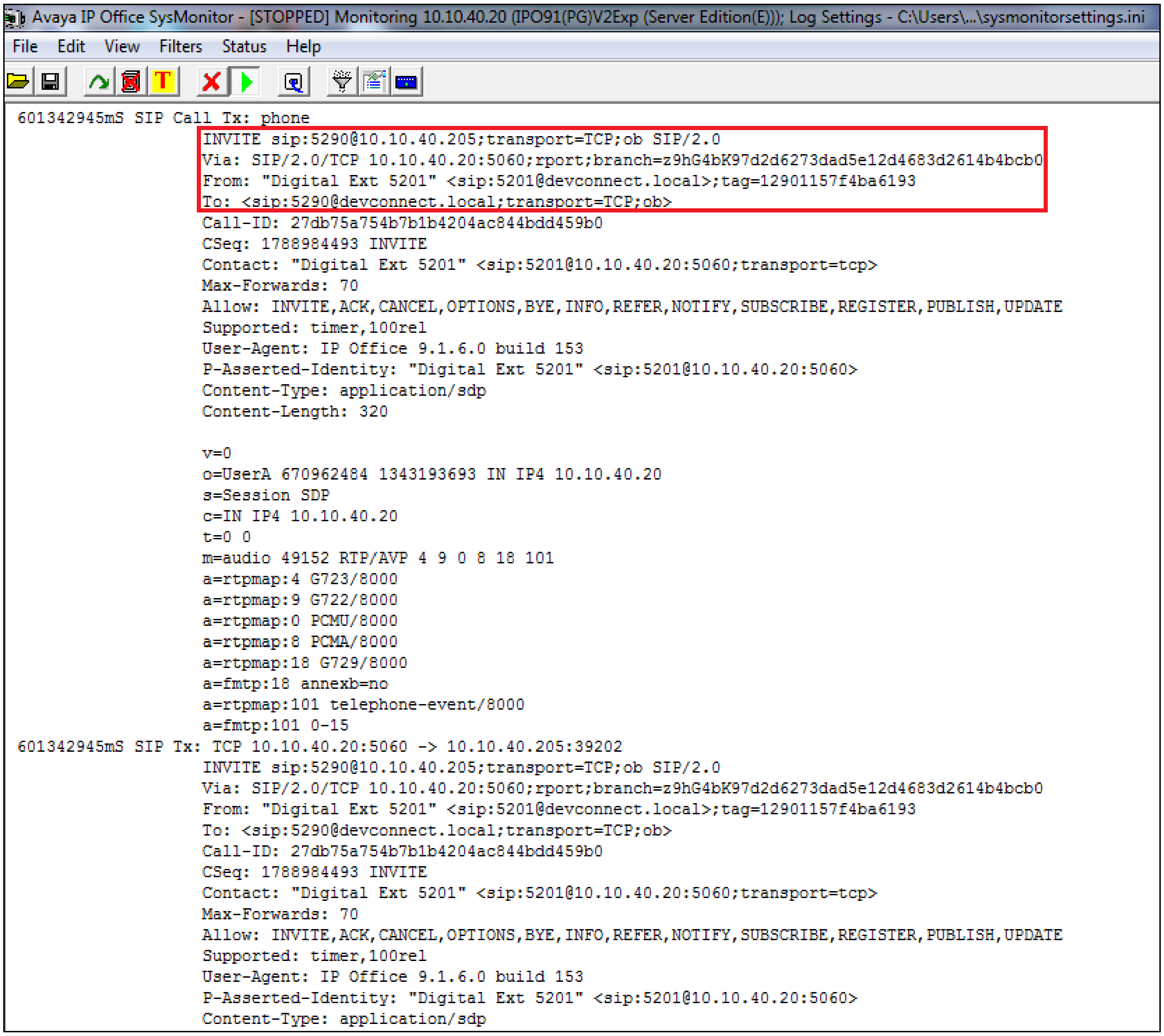
Making a call to the Axis speaker and hearing voice is the ultimate verification that the product works and is connected and configured correctly. The steps below can also be taken to ensure that the Axis speaker is registered correctly with IP Office and some monitoring tips to see that this is the case.

7.1. Verify Registration from IP Office

Open IP Office **Monitor** as shown below.



Once connected to the desired IP Office information on SIP calls and registrations will be shown (as long as the correct filter is applied for SIP messaging (not shown)). Below is an example of a message being displayed when a call is made from IP Office **Digital Ext 5201** to the speaker extension **5290**.

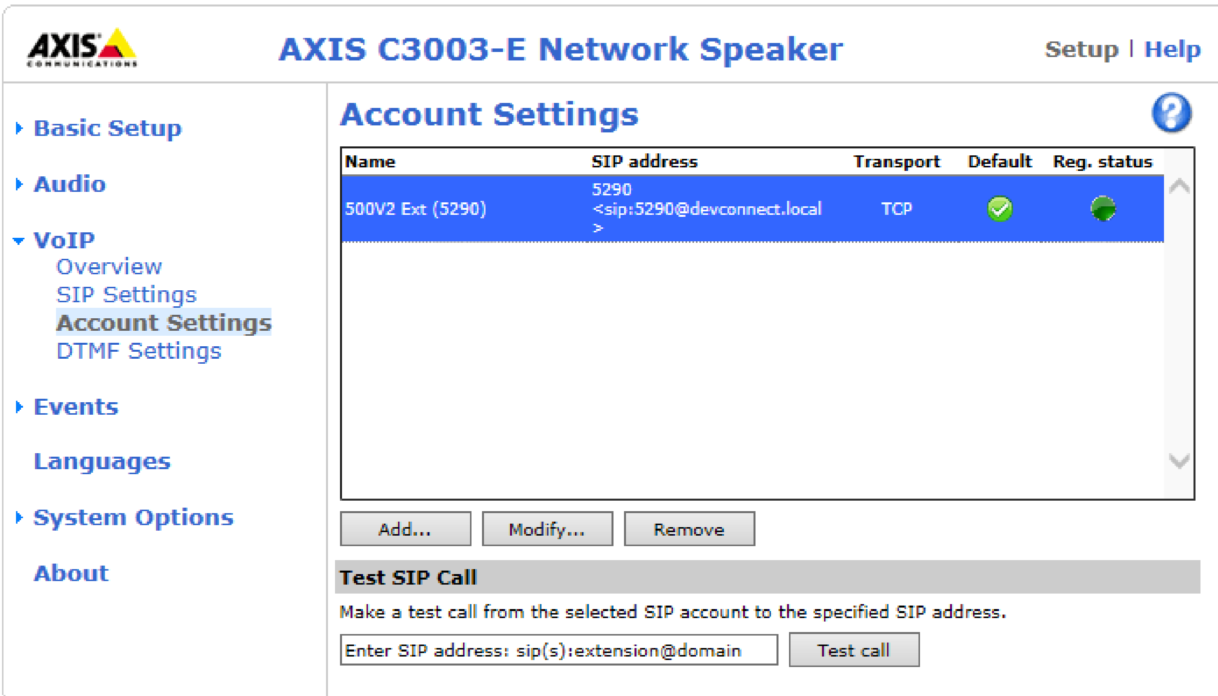



```
601342945mS SIP Call Tx: phone
                   INVITE sip:5290@10.10.40.205;transport=TCP;ob SIP/2.0
                   Via: SIP/2.0/TCP 10.10.40.20:5060;rport;branch=z9hG4bK97d2d6273dad5e12d4683d2614b4bcb0
                   From: "Digital Ext 5201" <sip:5201@devconnect.local>;tag=12901157f4ba6193
                   To: <sip:5290@devconnect.local;transport=TCP;ob>
                   Call-ID: 27db75a754b7b1b4204ac844bdd459b0
                   CSeq: 1788984493 INVITE
                   Contact: "Digital Ext 5201" <sip:5201@10.10.40.20:5060;transport=tcp>
                   Max-Forwards: 70
                   Allow: INVITE,ACK,CANCEL,OPTIONS,BYE,INFO,REFER,NOTIFY,SUBSCRIBE,REGISTER,PUBLISH,UPDATE
                   Supported: timer,100rel
                   User-Agent: IP Office 9.1.6.0 build 153
                   P-Asserted-Identity: "Digital Ext 5201" <sip:5201@10.10.40.20:5060>
                   Content-Type: application/sdp
                   Content-Length: 320

                   v=0
                   o=UserA 670962484 1343193693 IN IP4 10.10.40.20
                   s=Session SDP
                   c=IN IP4 10.10.40.20
                   t=0 0
                   m=audio 49152 RTP/AVP 4 9 0 8 18 101
                   a=rtpmap:4 G723/8000
                   a=rtpmap:9 G722/8000
                   a=rtpmap:0 PCMU/8000
                   a=rtpmap:8 PCMA/8000
                   a=rtpmap:18 G729/8000
                   a=fmtp:18 annexb=no
                   a=rtpmap:101 telephone-event/8000
                   a=fmtp:101 0-15
601342945mS SIP Tx: TCP 10.10.40.20:5060 -> 10.10.40.205:39202
                   INVITE sip:5290@10.10.40.205;transport=TCP;ob SIP/2.0
                   Via: SIP/2.0/TCP 10.10.40.20:5060;rport;branch=z9hG4bK97d2d6273dad5e12d4683d2614b4bcb0
                   From: "Digital Ext 5201" <sip:5201@devconnect.local>;tag=12901157f4ba6193
                   To: <sip:5290@devconnect.local;transport=TCP;ob>
                   Call-ID: 27db75a754b7b1b4204ac844bdd459b0
                   CSeq: 1788984493 INVITE
                   Contact: "Digital Ext 5201" <sip:5201@10.10.40.20:5060;transport=tcp>
                   Max-Forwards: 70
                   Allow: INVITE,ACK,CANCEL,OPTIONS,BYE,INFO,REFER,NOTIFY,SUBSCRIBE,REGISTER,PUBLISH,UPDATE
                   Supported: timer,100rel
                   User-Agent: IP Office 9.1.6.0 build 153
                   P-Asserted-Identity: "Digital Ext 5201" <sip:5201@10.10.40.20:5060>
                   Content-Type: application/sdp
```

7.2. Verify Registration from AXIS C3003-E Network Horn Speaker

Log in to the speaker as per **Section 6**. Navigate to **VoIP → Account Settings** in the left window and the registration information should be displayed in the main window as shown below. The green lights show a successful registration of **5290**. Test call can be made from each account to a specific phone number using the **Test SIP Call** at the bottom of the screen.



If there is an issue with a call to the Axis speaker then there are logs that can be accessed that may show some further information on where the issue may lie. Navigate to **System Options → Support → Logs & Reports** in the left window and from the main window select **View Server Report** under the **Reports** section also the System Log is available as shown below.

8. Conclusion

These Application Notes describe the configuration steps for provisioning the AXIS C3003-E Network Horn Speaker from Axis Communications AB to interoperate with Avaya IP Office Server Edition and IP Office 500 V2 expansion R9.1. Please refer to **Section 2.2** for test results and observations.

9. Additional References

This section references documentation relevant to these Application Notes. The Avaya product documentation is available at http://support.avaya.com where the following documents can be obtained.

Product documentation for Avaya products may be found at http://support.avaya.com.

[1] Avaya IP Office R9.1 Manager 10.1, Document Number 15-601011
[2] Avaya IP Office R9.1 Doc library

Technical information for the AXIS C3003-E Network Horn Speaker can be obtained from:

Axis Communications AB
Tel: +46 46 272 18 00
Fax: +46 46 13 61 30
http://www.axis.com/global/en/learning-and-support

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.