Avaya Solution & Interoperability Test Lab

Application Notes for ClearOne MAX IP and MAXAttach IP with Avaya IP Office – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for ClearOne MAX IP and MAXAttach IP to interoperate with Avaya IP Office. ClearOne MAX IP and MAXAttach IP are SIP-based VoIP tabletop conferencing phones that integrate with Avaya IP Office as SIP endpoints.

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 for ClearOne MAX IP and MAXAttach IP to interoperate with Avaya IP Office. ClearOne MAX IP and MAXAttach IP are SIP-based VoIP tabletop conferencing phones that integrate with Avaya IP Office as SIP endpoints.

The ClearOne MAX IP consists of a base and a conferencing pod, whereas the MAXAttach IP consists of a base and up to four conferencing pods that are daisy chained together. Regardless of the number of conferencing pods, each ClearOne MAXAttach IP is configured as one SIP endpoint on Avaya IP Office.

1.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing included registration, basic call, display, hold/reconnect, conference, media shuffling, G.711, G.729, G.723, DTMF, do not disturb and call forwarding unconditional short code scenarios.

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

1.2. Support

Technical support on ClearOne MAX IP and MAXAttach IP can be obtained through the following:

- **Phone:** (800) 283-5936
- **Email:** tech.support@clearone.com

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2. Reference Configuration

As shown in **Figure 1** below, the ClearOne MAXAttach IP used in the compliance testing had two conferencing pods daisy chained together, and call control can be performed from either conferencing pods.

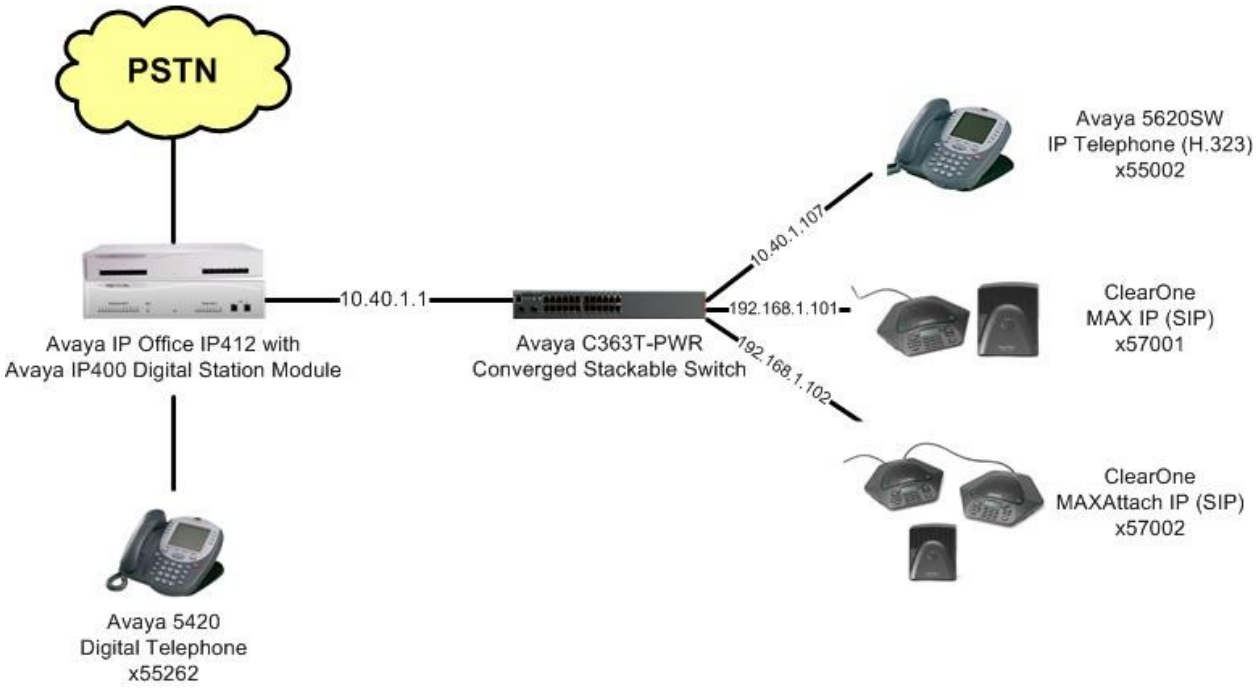

Figure 1: ClearOne MAX IP and MAXAttach IP with Avaya IP Office

3. Equipment and Software Validated

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

Equipment	Software
Avaya IP Office IP412	5.0 (4)
Avaya 5610 IP Telephone	8.016
Avaya 5420 Digital Telephone	NA
ClearOne MAX IP • Base Firmware Version • Pod Firmware Version	 03-05-07 11-03-05
ClearOne MAXAttach IP • Base Firmware Version • Pod Firmware Version	 03-05-07 11-03-05

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4. Configure Avaya IP Office

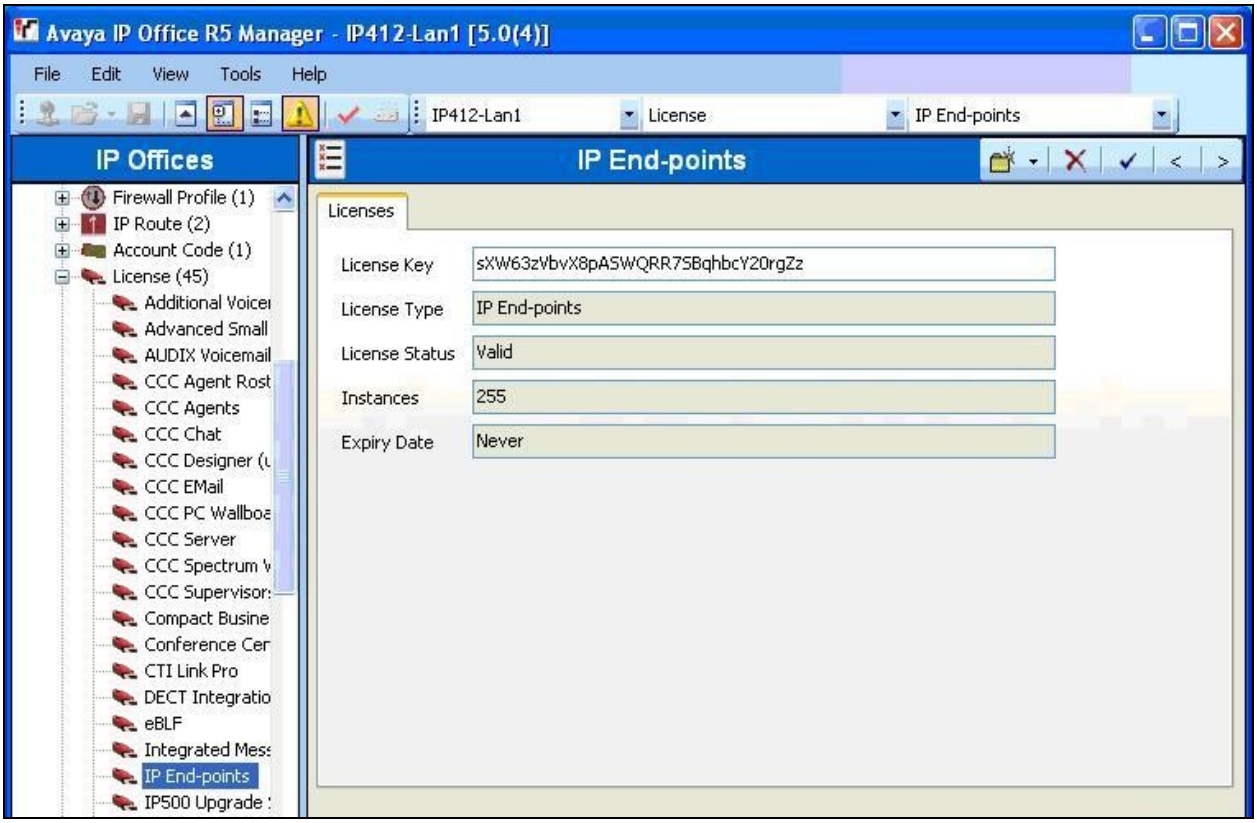
This section provides the procedures for configuring Avaya IP Office. The procedures include the following areas:

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

4.1. Verify IP Office License

From a PC running the Avaya IP Office Manager application, select **Start > Programs > IP Office > Manager** to launch the Manager application. Select the proper 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 > IP End-points** to display the **IP End-points** screen in the right pane. Verify that the **License Status** is "Valid".



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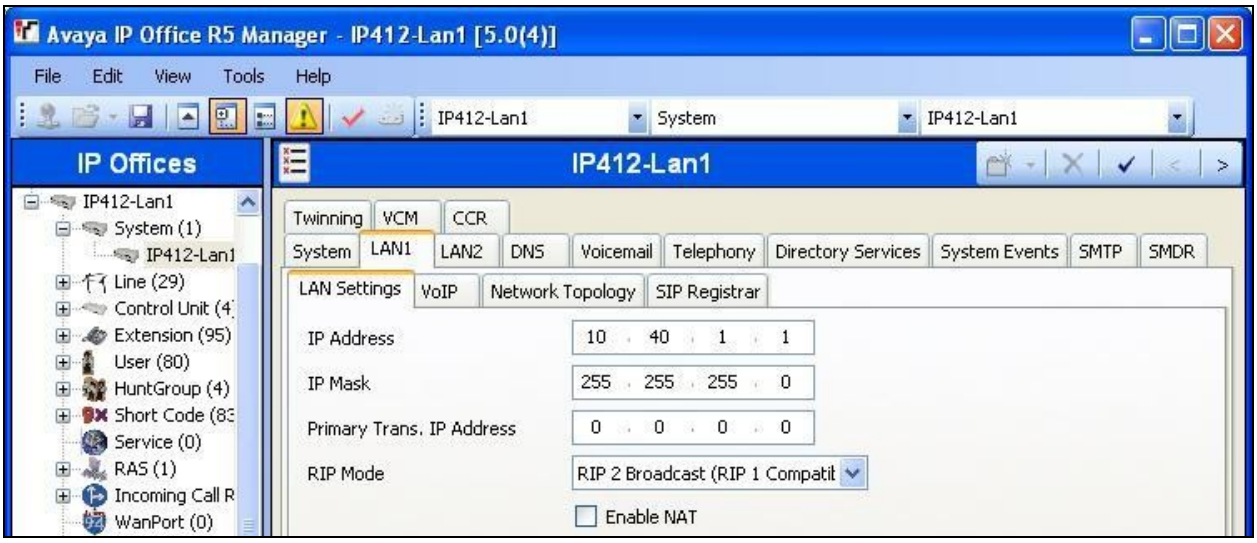
4.2. Obtain LAN IP Address

From the configuration tree in the left pane, select **System** to display the **IP412-Lan1** 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 ClearOne. Note that IP Office can support SIP extensions on the LAN1 and/or LAN2 interfaces, and the compliance testing used the LAN1 interface.



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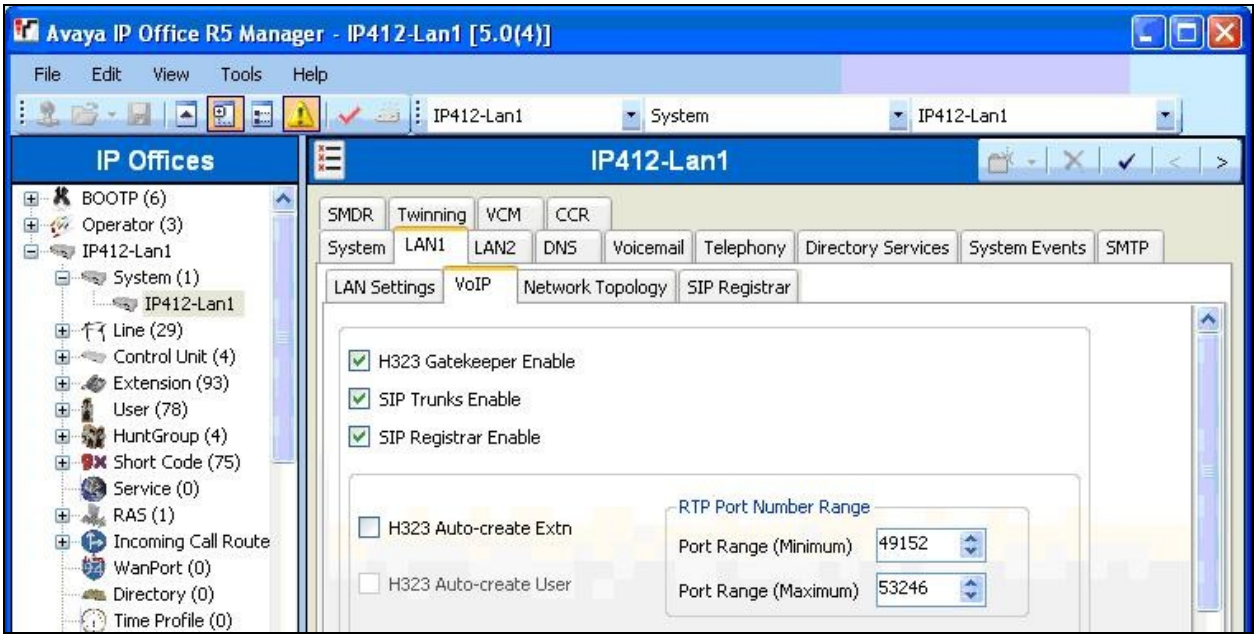
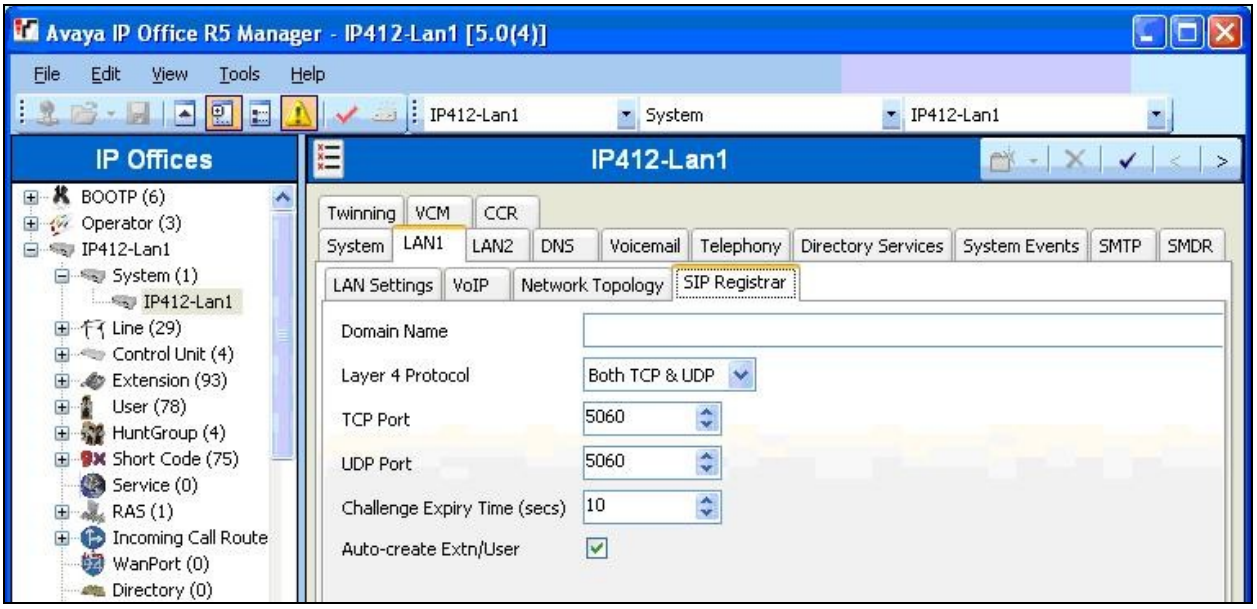
4.3. Administer SIP Registrar

Select the **VoIP** sub-tab. Make certain 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** was left blank, so the SIP endpoints used the LAN IP address for registration.



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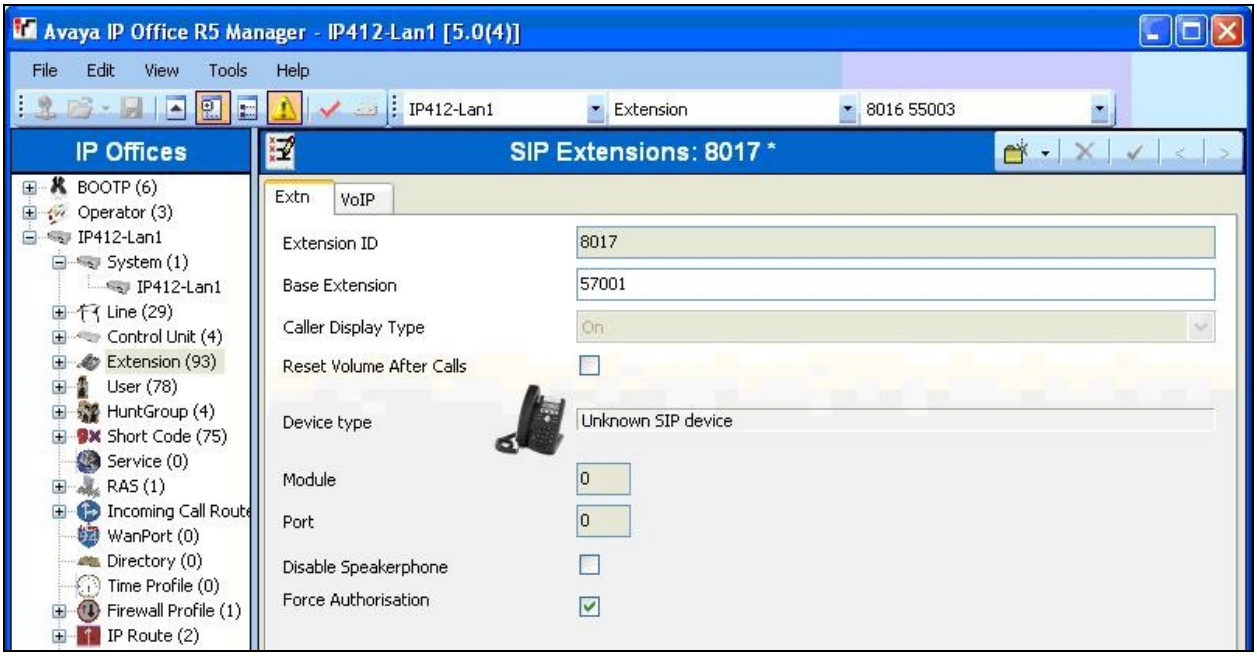
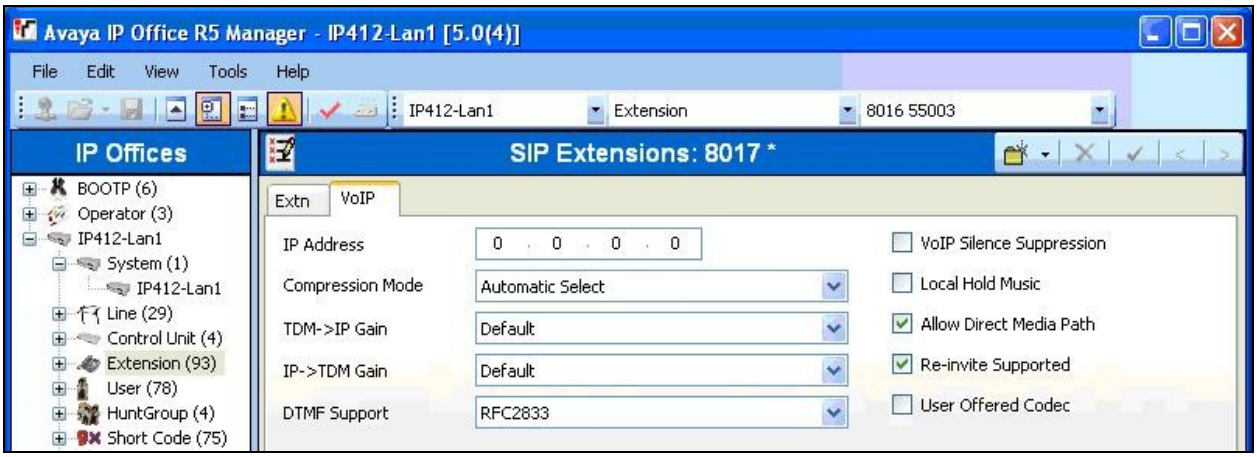
4.4. Administer SIP Extensions

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 **Base Extension**, and retain the default check in the **Force Authorisation** field 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 ClearOne MAX IP and MAXAttach IP. In the compliance testing, two SIP extensions with base extensions of "57001" and "57002" were created.



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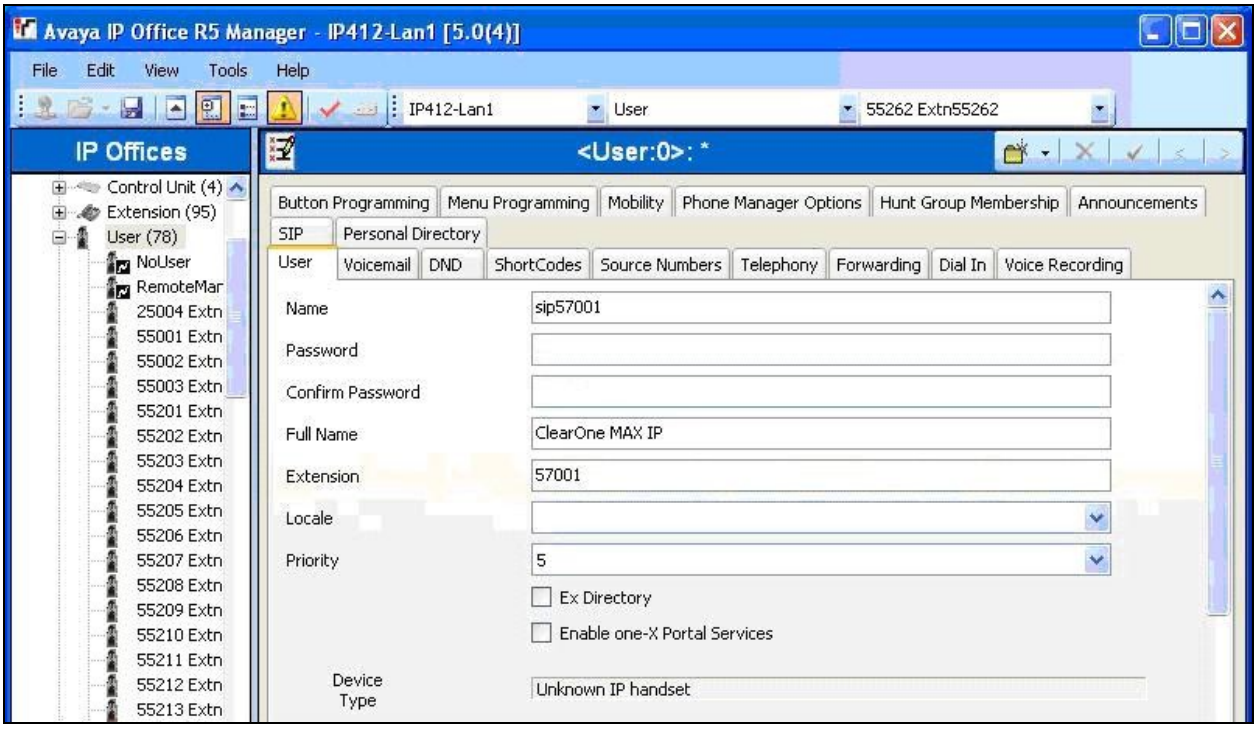
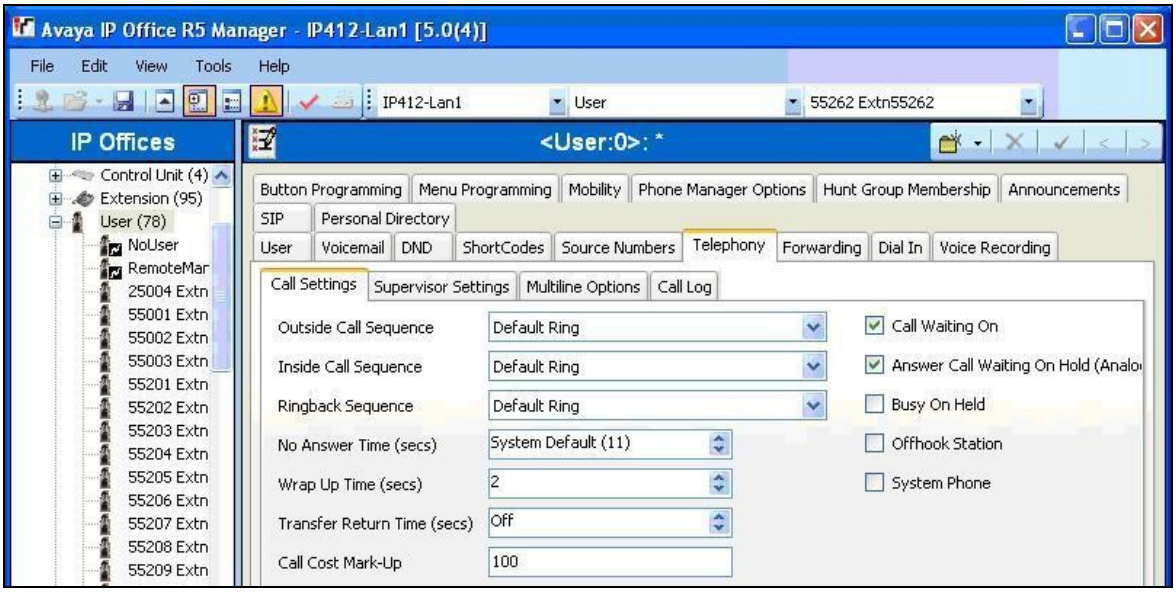
4.5. Administer SIP Users

From the configuration tree in the left pane, right-click on **User**, and select **New** from the pop-up list. Enter desired values for **Name** and **Full Name**. For **Extension**, enter the first SIP extension from **Section 4.4**.



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



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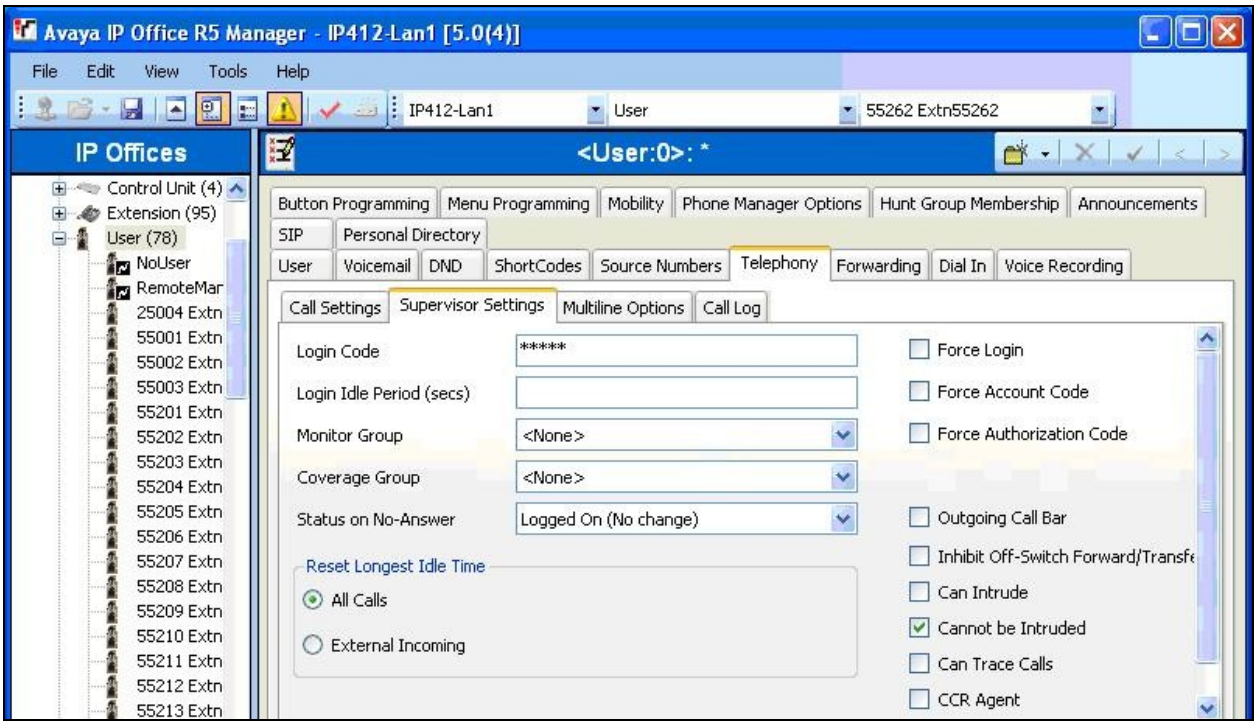
Select the **Supervisor Settings** tab, and enter a desired **Login Code**.

Repeat this section to add a new user for each SIP extension from **Section 4.4**. In the compliance testing, two users with names of "sip57001" and "sip57002" were created.



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5. Configure ClearOne MAX IP and MAXAttach IP

This section provides the procedures for configuring ClearOne MAX IP and MAXAttach IP. The procedures include the following areas:

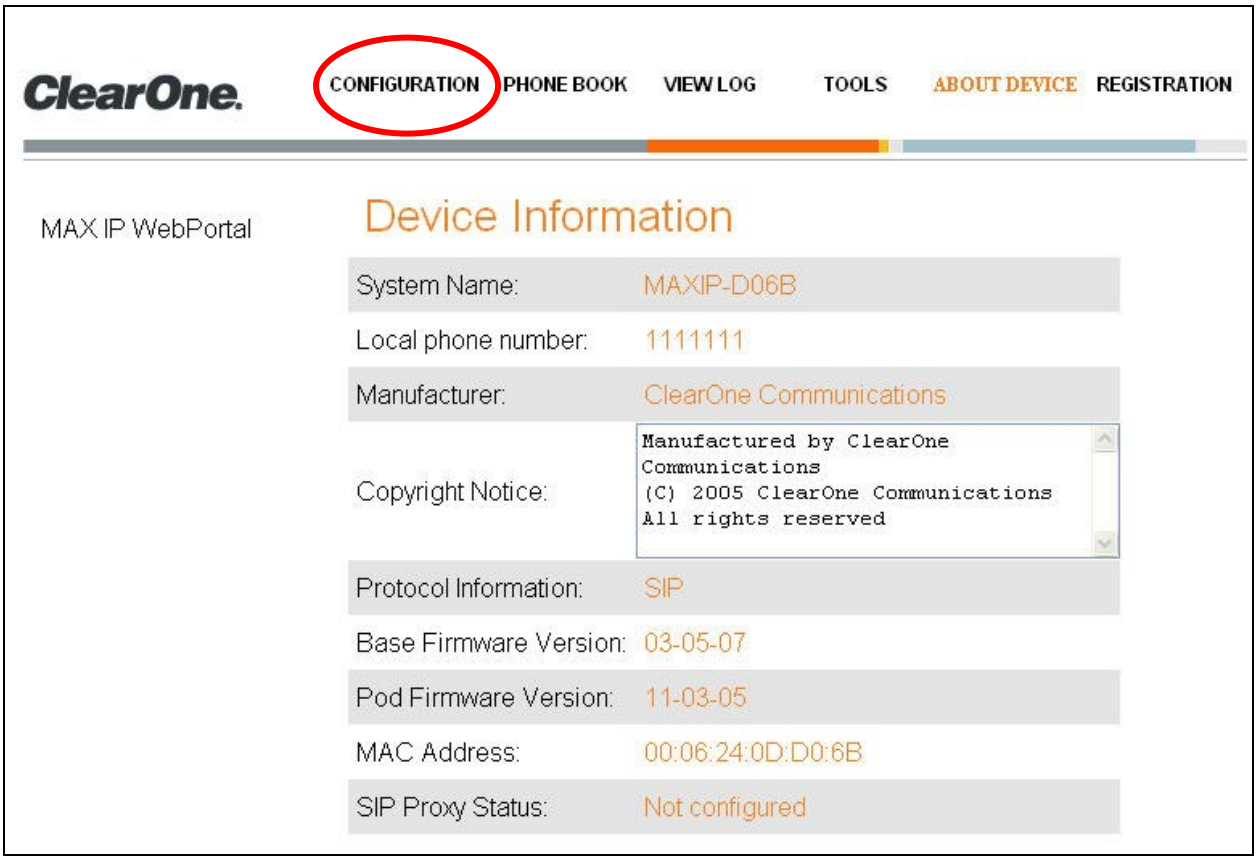
- Launch web interface
- Administer general settings
- Administer network settings
- Administer SIP parameters

Prior to configuration, follow the procedures in [2] to manually set or obtain the IP address of MAX IP and MAXAttach IP. Note that the interface and procedures for configuring MAX IP and MAXAttach IP are exactly the same, therefore follow this section for both MAX IP and MAXAttach IP.

5.1. Launch Web Interface

Access both MAX IP and MAXAttach IP web-based interfaces by using the URL "http://ip-address" in an Internet browser window, where "ip-address" is the IP address of MAX IP or MAXAttach IP. Log in with the appropriate credentials.

The **Device Information** screen is displayed, as shown below. Select **CONFIGURATION**.



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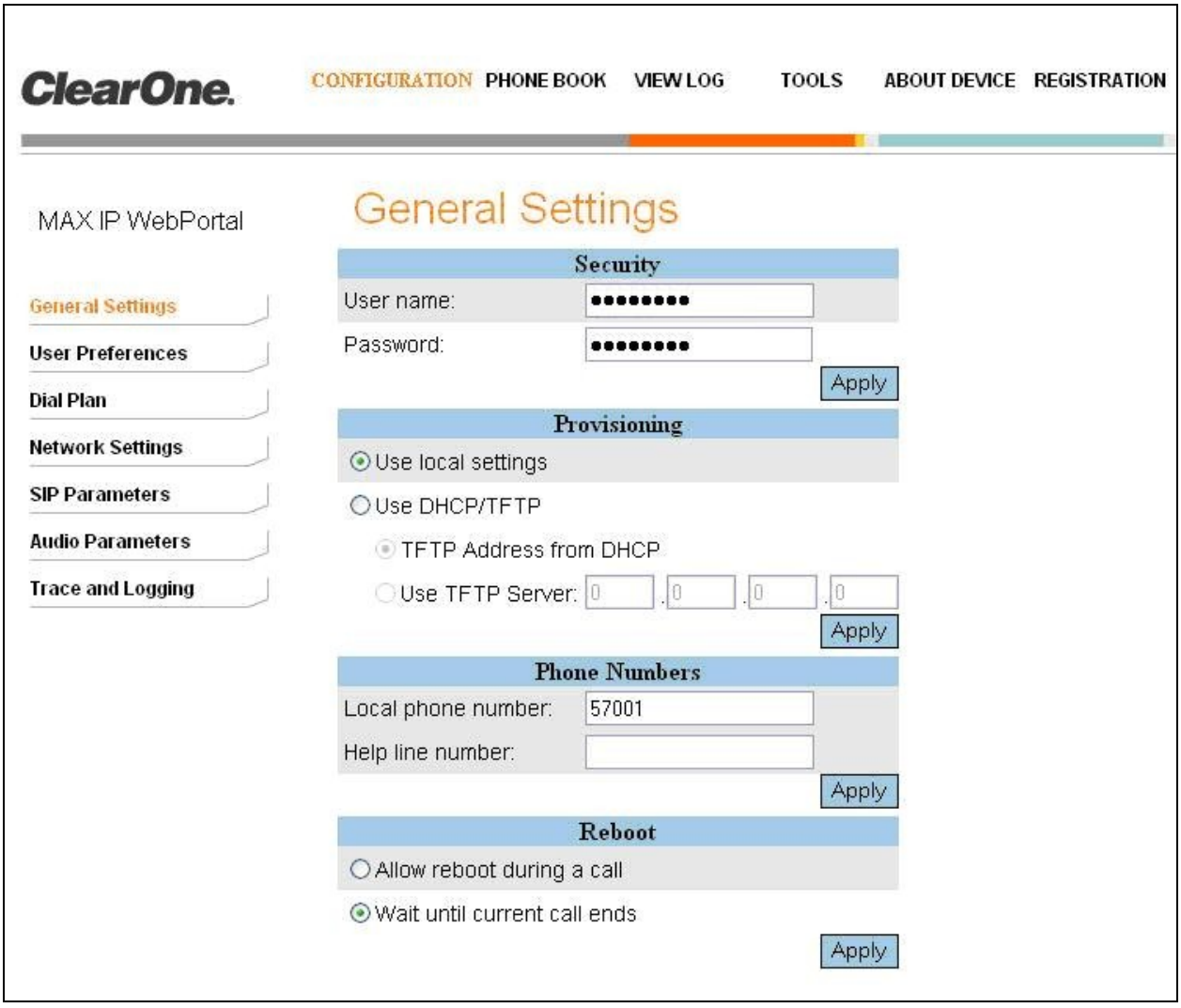
5.2. Administer General Settings

The **General Settings** screen is displayed. In the **Provisioning** section, select the radio button for **Use local settings**, and click **Apply**.

In the **Phone Numbers** section, enter a SIP extension from **Section 4.4**, and click **Apply**.



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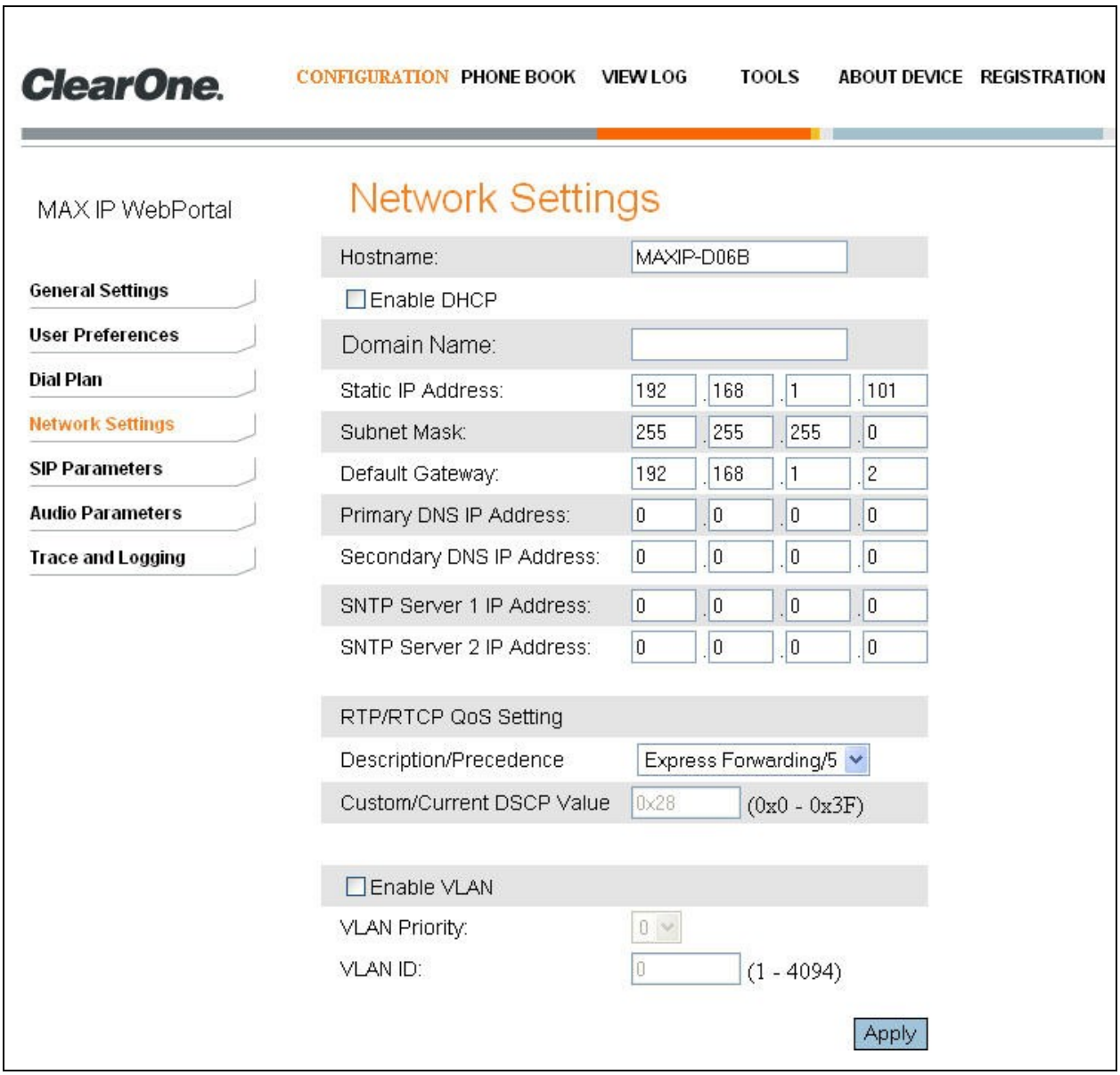
5.3. Administer Network Settings

Select **Network Settings** from the left navigation to display the **Network Settings** screen. Update the desired parameters to reflect the network configuration, and click **Apply**.

In the compliance testing, **Static IP Address**, **Subnet Mask**, and **Default Gateway** parameters were updated, as shown below.



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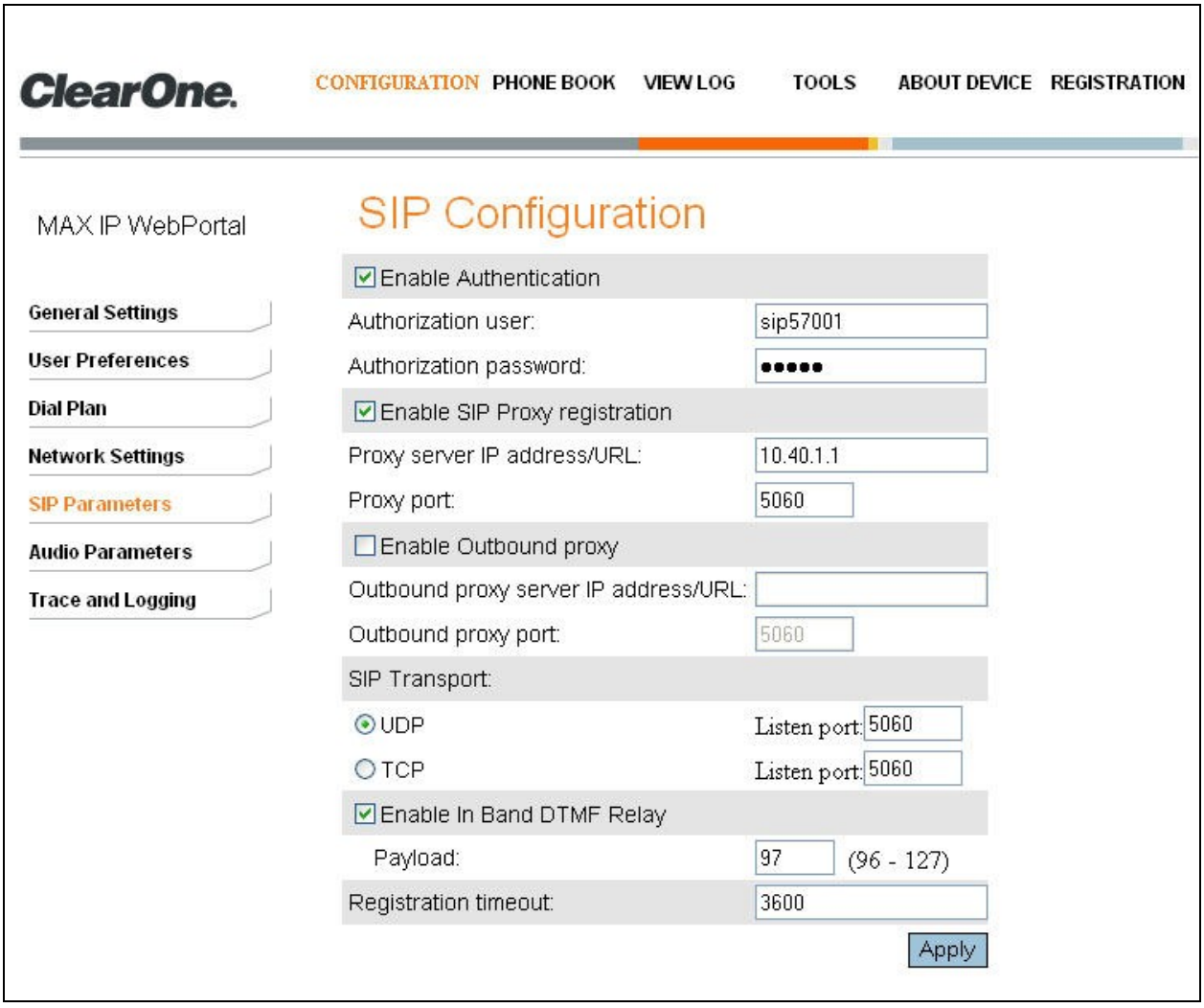
5.4. Administer SIP Parameters

Select **SIP Parameters** from the left navigation to display the **SIP Configuration** screen. Enter the following values for the specified fields, and retain the default values for the remaining fields. Click **Apply**.

- **Enable Authentication:** Check this field.
- **Authorization user:** The SIP user name from **Section 4.5**.
- **Authorization password:** The SIP user login code from **Section 4.5**.
- **Enable SIP Proxy registration:** Check this field.
- **Proxy server IP address/URL:** The LAN IP address from **Section 4.2**.



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6. General Test Approach and Test Results

The feature test cases were performed manually. Calls were manually established between ClearOne MAX IP or MAXAttach IP with Avaya H.323, Avaya Digital, or PSTN endpoints, and call controls such as hold and conference were performed from the conferencing pods. In the case of ClearOne MAXAttach IP, both conferencing pods were used for call control tests.

The serviceability test cases were performed manually by disconnecting and reconnecting the LAN cables to ClearOne MAX IP and MAXAttach IP.

All test cases were executed.

The following are the observations from the compliance testing:

- Any dial string leading with "*" or "#" cannot be dialed from ClearOne MAX IP and MAXAttach IP.

- When long distance dialing is specifically provisioned on ClearOne MAX IP or MAXAttach IP, the prefix can only be set to "81" or "91" via the web-based interface. However, a manual dial plan can be created per [2] to allow for other prefixes.

- ClearOne MAX IP and MAXAttach IP do not support 183 Session Progress, and therefore play ring-back instead of the Avaya IP Office provided confirmation tone associated with short code activation/deactivation.

- Avaya IP Office can successfully activate Do Not Disturb, but sends back 503 Service Unavailable for Do Not Disturb activation requests.

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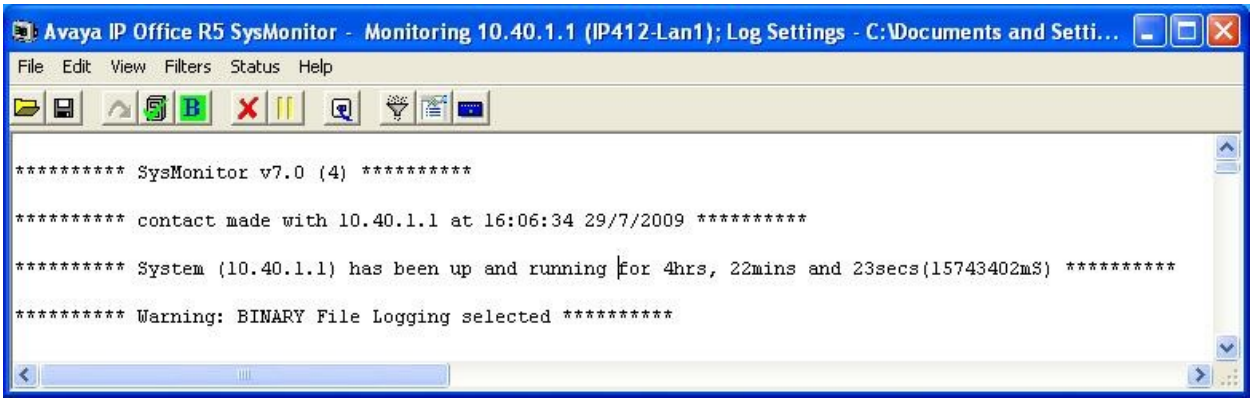
7. Verification Steps

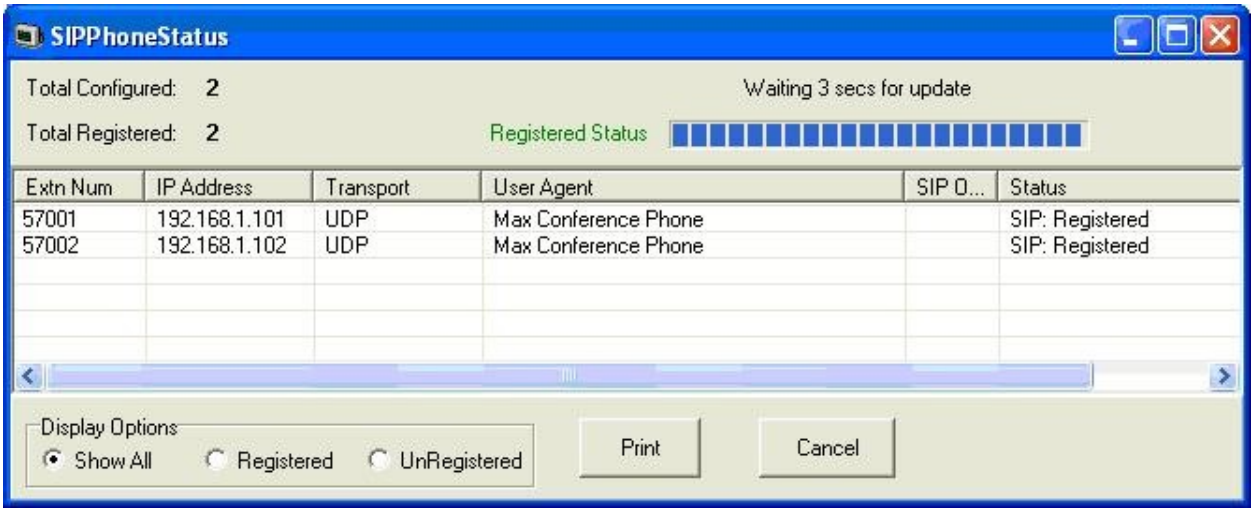
This section provides the tests that can be performed to verify proper configuration of Avaya IP Office and ClearOne MAX IP and MAXAttach IP.

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 R5 SysMonitor** screen is displayed, as shown below. Select **Status > SIP Phone Status** from the top menu.



The **SIPPhoneStatus** screen is displayed. Verify that there is an entry for each SIP extension from **Section 4.4**, and that the **User Agent** is "Max Conference Phone", and the **Status** is "SIP: Registered", as shown below.



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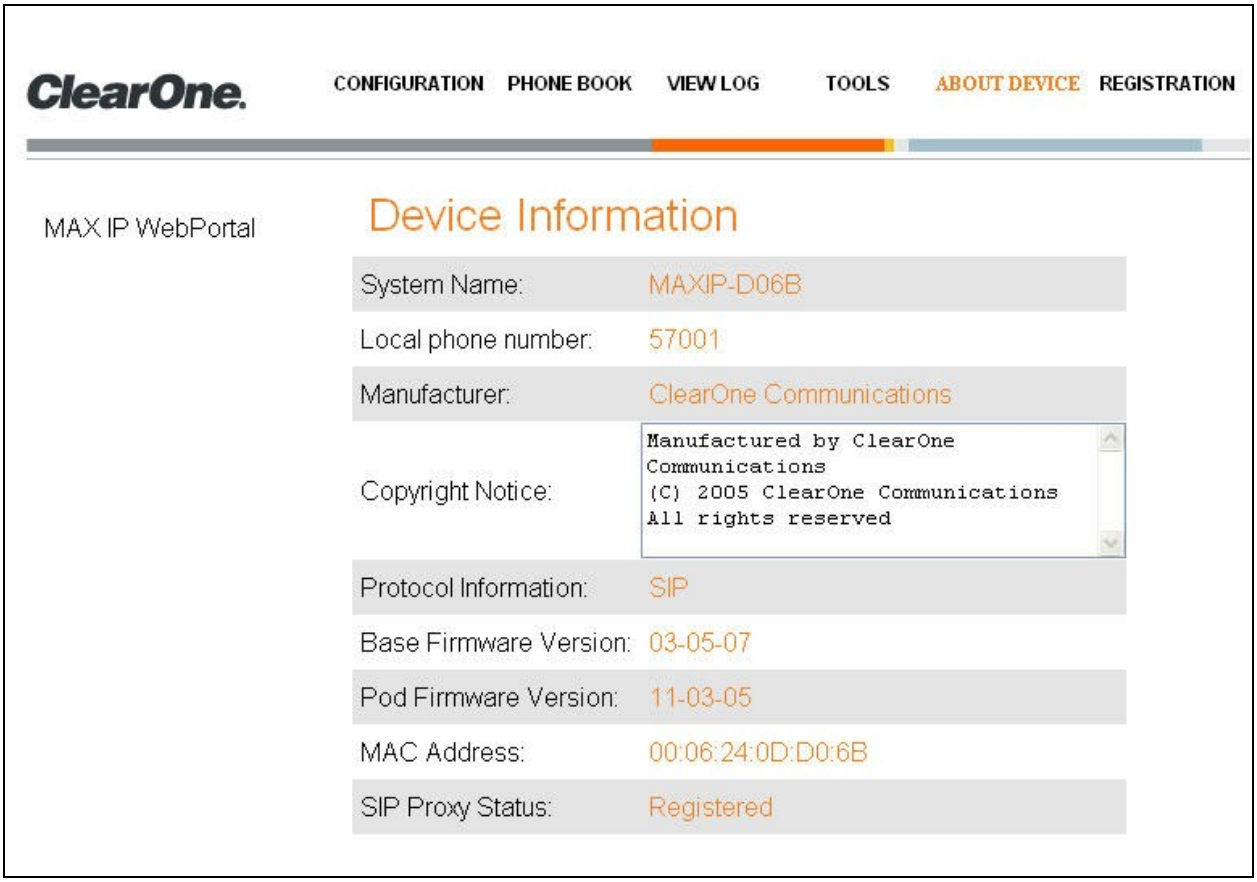
7.2. Verify ClearOne MAX IP and MAXAttach IP

Follow the procedure in **Section 5.1** to access the ClearOne MAX IP and MAXAttach IP web-based interface. The **Device Information** screen is displayed. Verify that the **SIP Proxy Status** is "Registered", as shown below.



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8. Conclusion

These Application Notes describe the configuration steps required for ClearOne MAX IP and MAXAttach IP to successfully interoperate with Avaya IP Office. All feature and serviceability test cases were completed with observations noted in **Section 6**.

9. Additional References

This section references the product documentation relevant to these Application Notes.

1. *IP Office 5.0 Documentation CD*, August 2009, available at http://support.avaya.com.

2. *ClearOne MAX IP Conferencing Phone ADMINISTRATOR's GUIDE*, Part No. 800-158-302, February 2007, available at http://www.clearone.com/support.

3. *ClearOne MAX IP Conferencing Phone USER's GUIDE*, Part No. 800-158-301, February 2007, available at http://www.clearone.com/support.

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