



## **Avaya Solution & Interoperability Test Lab**

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# **Application Notes for snom m3 IP DECT Phone with Avaya IP Office – Issue 1.0**

### **Abstract**

These Application Notes describe the configuration steps required for snom m3 IP DECT phone to interoperate with Avaya IP Office. The snom m3 is a SIP-based cordless telephone that integrates with Avaya IP Office as a SIP endpoint.

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 required for snom m3 IP DECT phone to interoperate with Avaya IP Office. The snom m3 is a SIP-based cordless telephone that integrates with Avaya IP Office as a SIP endpoint.

## 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, MWI, DTMF, do not disturb and call forwarding unconditional short code scenarios.

The serviceability testing focused on verifying the ability of snom m3 to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet cable to the device.

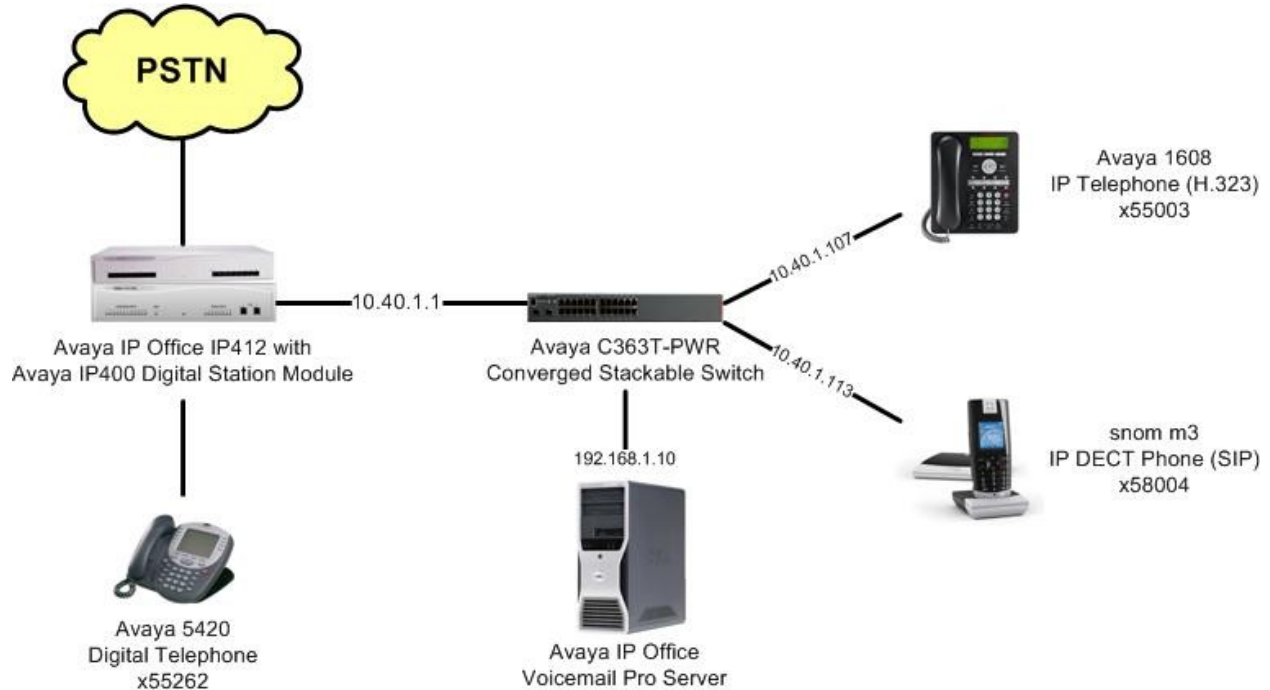
## 1.2. Support

Technical support on snom m3 can be obtained through the following:

- **Phone:** (978) 998-7882
- **Web:** <http://www.snom.com>.

## 2. Reference Configuration

**Figure 1** below shows the configuration used for the compliance testing. The Avaya IP Office Voicemail Pro was used to provide voicemail functionality.



**Figure 1: snom m3 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 1608 IP Telephone (H.323)	1.21
Avaya 5420 Digital Telephone	NA
snom m3 IP DECT Phone (SIP)	2.02

## 4. Configure Avaya IP Office

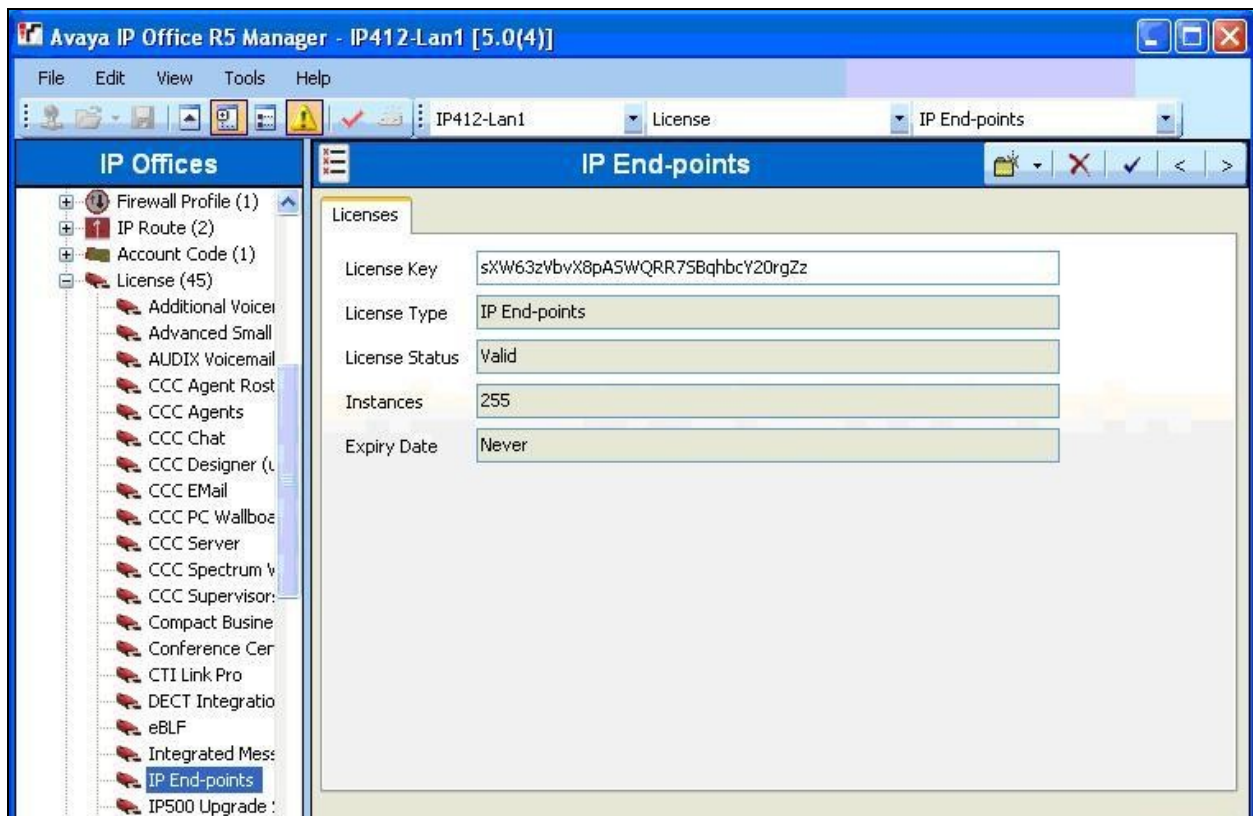
This section provides the procedures for configuring Avaya IP Office. The procedures include the following areas:

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

### 4.1. Verify IP Office License

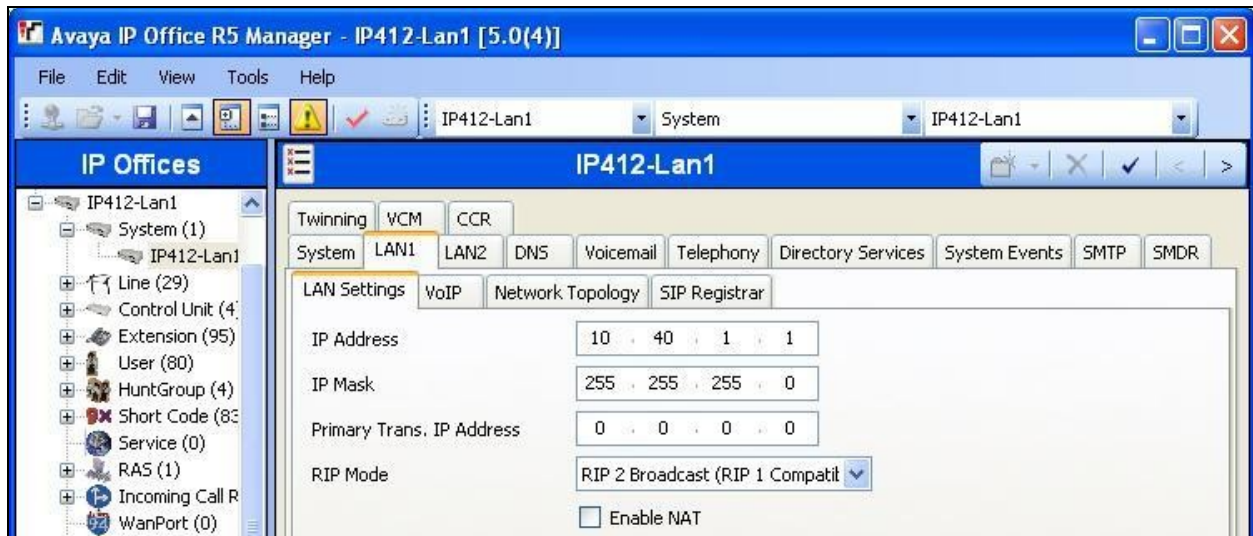
From a PC running the Avaya IP Office Manager application, select **Start > Programs > IP Office > Manager** to launch the Manager application. Select the proper IP Office system, and log in with the appropriate credentials.

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”.



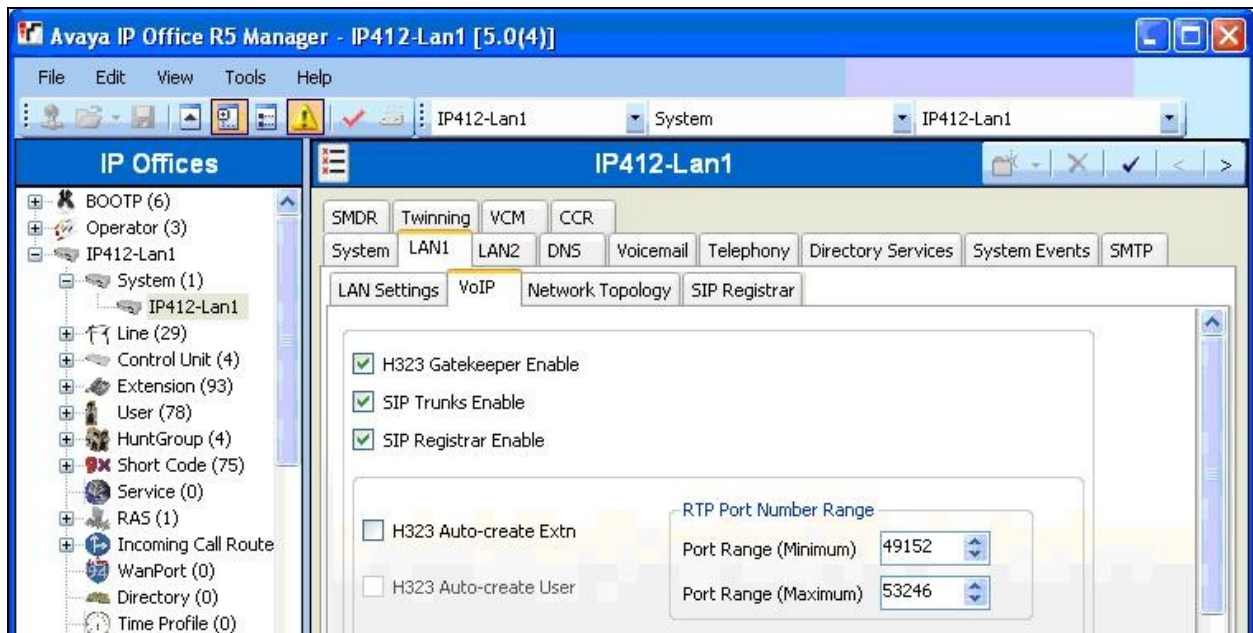
## 4.2. Obtain LAN IP Address

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 snom. Note that IP Office can support SIP extensions on the LAN1 and/or LAN2 interfaces, and the compliance testing used the LAN1 interface.

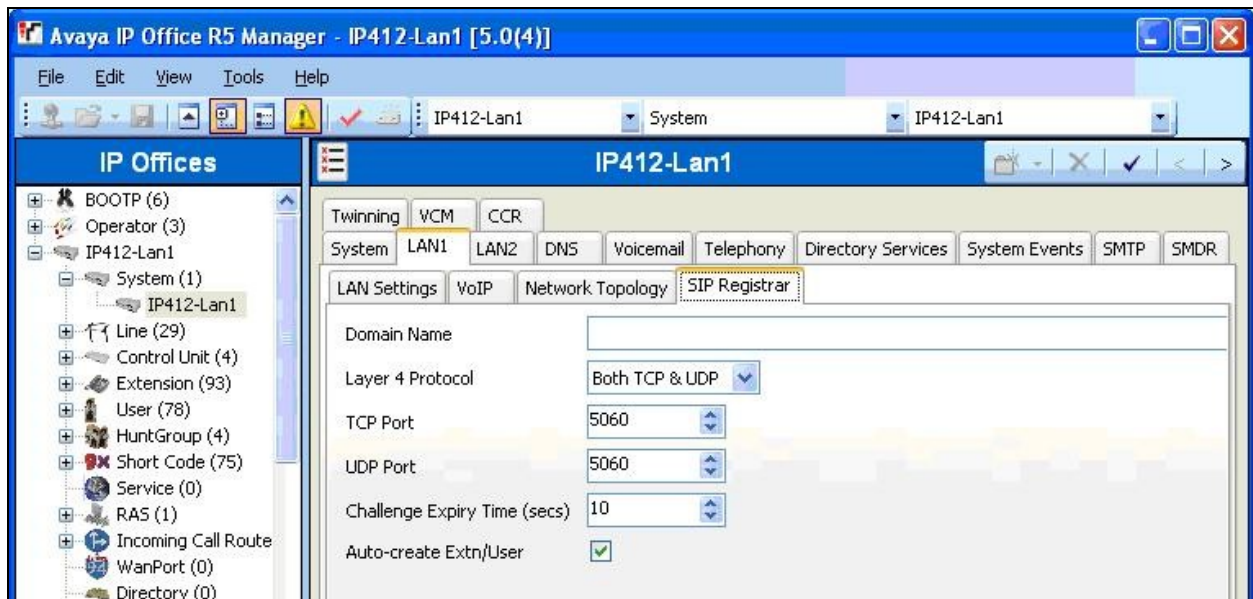


### 4.3. Administer SIP Registrar

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



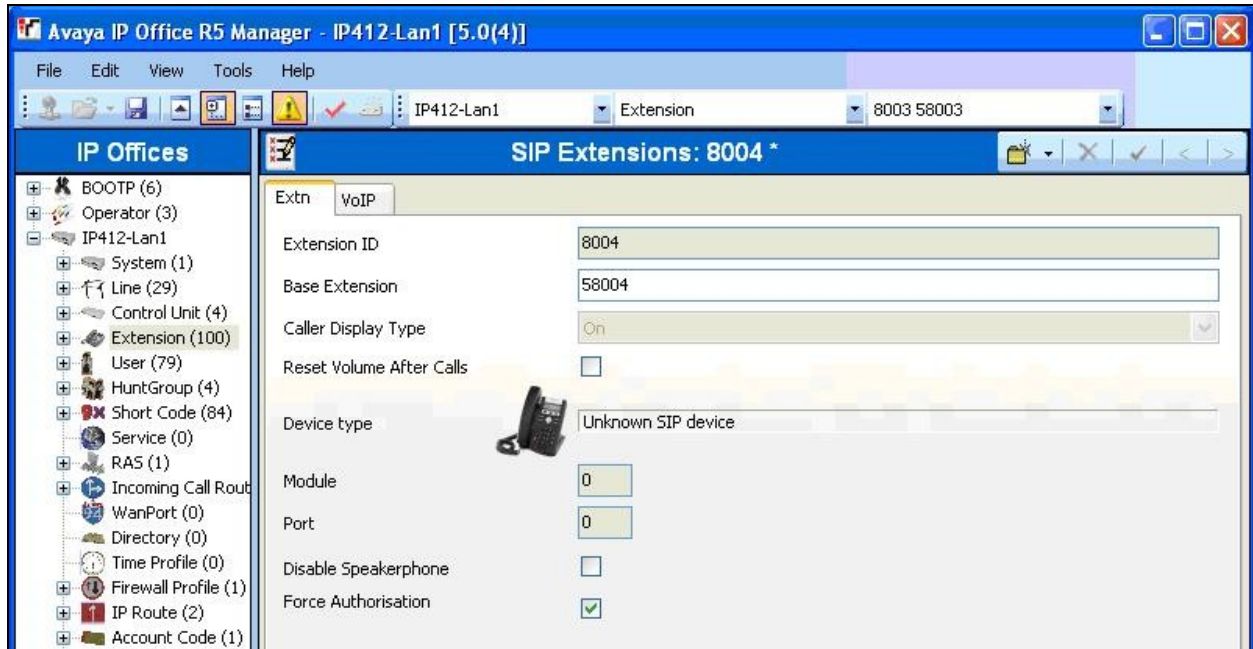
Select the **SIP Registrar** sub-tab, and enter a valid **Domain Name** for SIP endpoints to use for registration with IP Office. In the compliance testing, the **Domain Name** was left blank, so the SIP endpoints used the LAN IP address for registration.





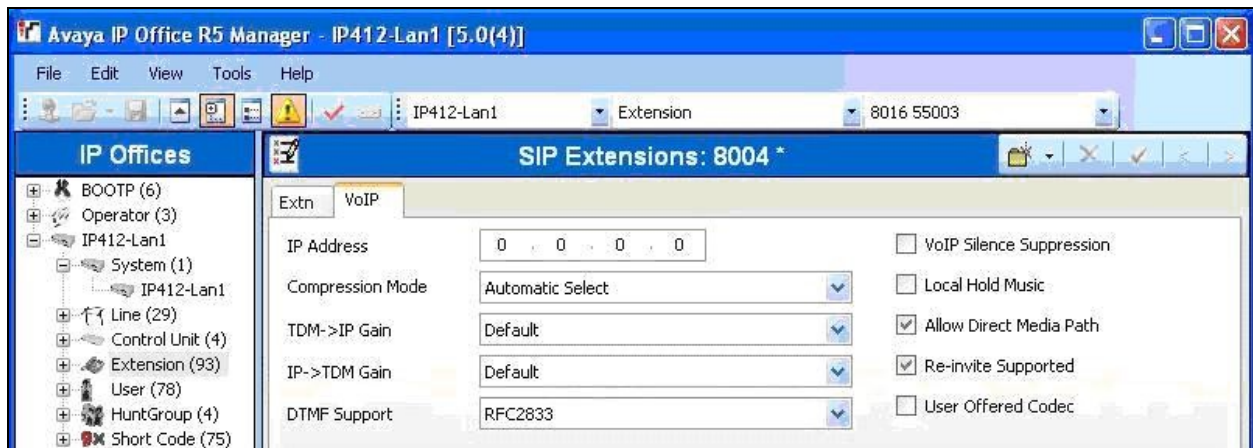
## 4.4. Administer SIP Extensions

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.



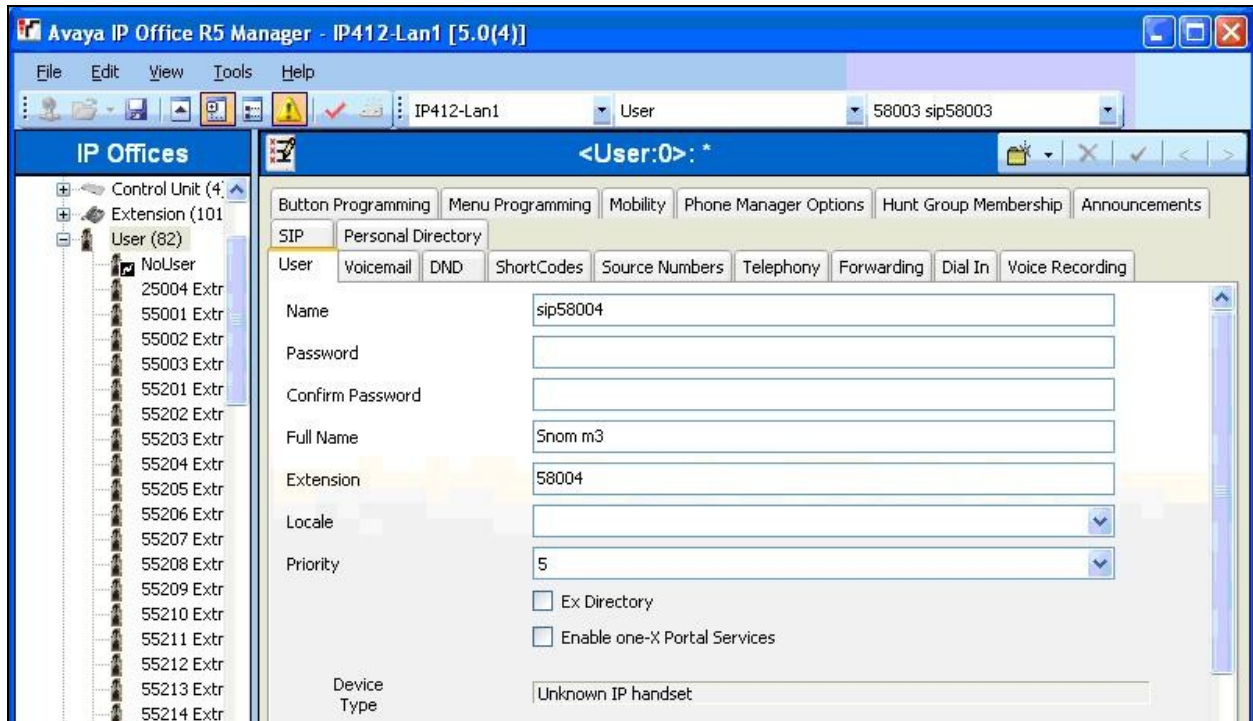
Select the **VoIP** tab, and retain the default values in all fields.

Repeat this section to add a new SIP extension for each snom m3. In the compliance testing, one SIP extension with base extension of “58004” was created.

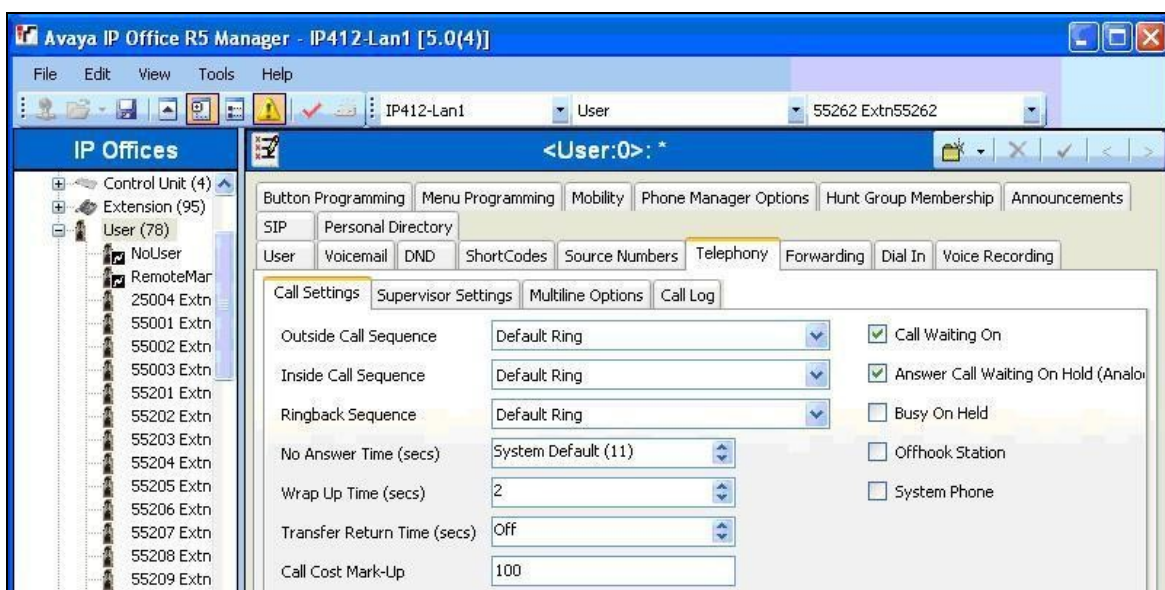


## 4.5. Administer SIP Users

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 base extension from **Section 4.4**.



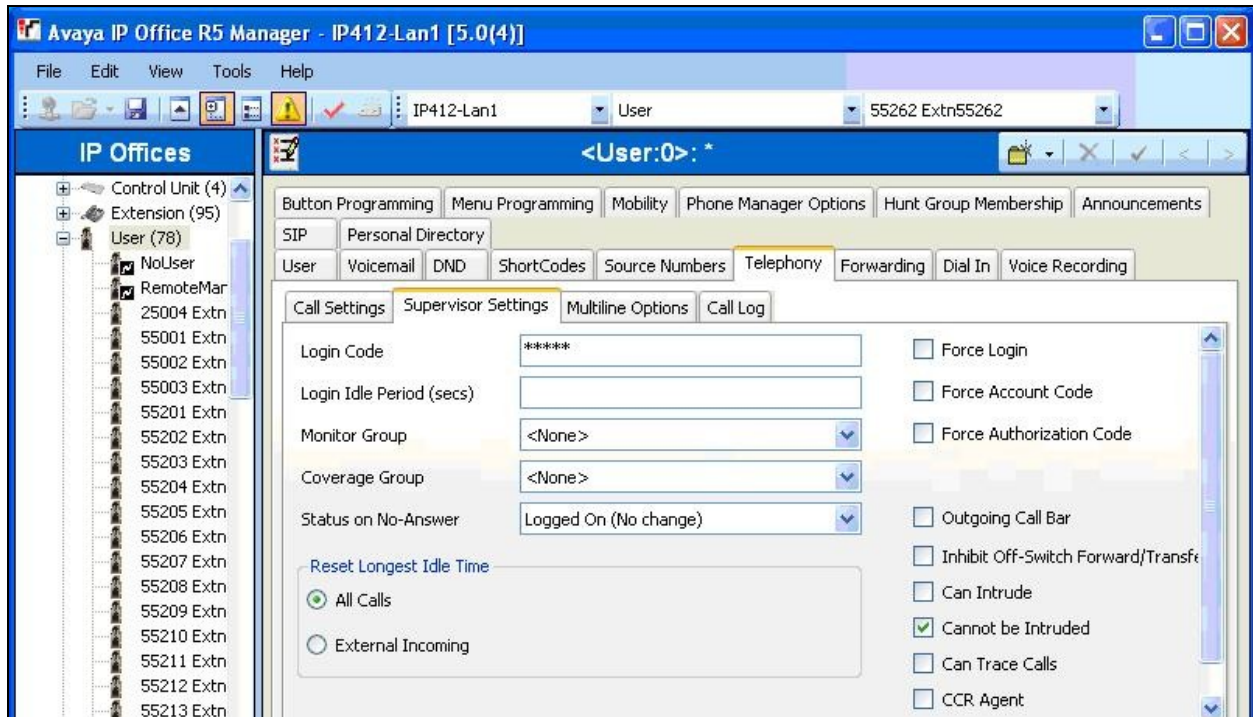
Select the **Telephony** tab, followed by the **Call Settings** sub-tab. Check the **Call Waiting On** field, as shown below.





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, one user with a name of “sip58004” was created.



## 5. Configure snom m3

This section provides the procedures for configuring snom m3. The procedures include the following areas:

- Launch web interface
- Administer advanced settings
- Administer identity

Prior to configuration, follow the procedures in [2] to manually set or obtain the IP address of snom m3.

### 5.1. Launch Web Interface

Access the snom m3 web-based interface by using the URL “http://ip-address” in an Internet browser window, where “ip-address” is the IP address of snom m3. Log in with the appropriate credentials.

The **Welcome** screen is displayed, as shown below.

**snom m3**

**Operation**

- Home
- Directory

**Setup**

- Identity 1
- Identity 2
- Identity 3
- Identity 4
- Identity 5
- Identity 6
- Identity 7
- Identity 8
- Advanced
- Telephony Settings

**Status**

**Welcome**

Please select a configuration page in the index pane on left

**System Information:**

Phone Type:	snom-m3-SIP
MAC-Address:	0004132A309C
IP-Address:	10.40.1.113
Firmware-Version:	snom-m3-SIP/02.02//30-Apr-09 12:47
Firmware-URL:	<a href="http://provisioning.snom.com/m3/firmware/">http://provisioning.snom.com/m3/firmware/</a>

**SIP Identity Status:**

Identity 1 Status:	@	Not in use
Identity 2 Status:	@	Not in use
Identity 3 Status:	@	Not in use
Identity 4 Status:	@	Not in use
Identity 5 Status:	@	Not in use
Identity 6 Status:	@	Not in use
Identity 7 Status:	@	Not in use
Identity 8 Status:	@	Not in use

## 5.2. Administer Advanced Settings

Select **Setup > Advanced** from the left navigation to display the **Advanced Settings** screen. Update the desired parameters to reflect the network configuration.

In the compliance testing, **IP address**, **Netmask**, and **Default gateway** parameters were updated, as shown below.

Scroll down the screen and click **SAVE CHANGES** (not shown).

**snom m3**

**Operation**

- Home
- Directory

**Setup**

- Identity 1
- Identity 2
- Identity 3
- Identity 4
- Identity 5
- Identity 6
- Identity 7
- Identity 8
- Advanced
- Telephony Settings

**Status**

**Advanced Settings:**

**Network:**

DHCP:

IP Address:  Write as AAA.BBB.CCC.DDD

Netmask:  Write as AAA.BBB.CCC.DDD

Default gateway:  Write as AAA.BBB.CCC.DDD

DNS Server 1:  Write as AAA.BBB.CCC.DDD

DNS Server 2:  Write as AAA.BBB.CCC.DDD

**DHCP Settings:**

Boot Server:

Boot Server Option:

Boot Server Option Type:

**VLAN Settings:**

VLAN Id:

VLAN User Priority:

### 5.3. Administer Identity

Select **Setup > Identify 1** from the left navigation to display the **Configuration Identity 1** screen. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Display Name:** A desired string for the phone display.
- **Account:** The SIP base extension from **Section 4.4**.
- **Password:** The SIP user login code from **Section 4.5**.
- **Registrar:** The LAN IP address from **Section 4.2**.
- **Authentication Username:** The SIP user name from **Section 4.5**.

For the **Account Mailbox Number** field, enter “x@y”, where “x” is the existing short code for the Voicemail Node on Avaya IP Office, and “y” is the LAN IP address from **Section 4.2**.

Scroll down the screen and click **Save**, followed by **Reboot** (not shown).



snom m3	
<b>Configuration Identity 1</b>	
Server is local:	Yes
Display Name:	Snom m3
Account:	58004
Password:	••••••
Account Name:	
Account Mailbox Name:	
Account Mailbox Number:	*96@10.40.1.1
Registrar:	10.40.1.1
Outbound Proxy:	
Authentication Username:	sip58004
Server Port:	5060
Outbound Proxy Port:	5060
Re-registration time:	600

## **6. General Test Approach and Test Results**

The feature test cases were performed manually. Calls were manually established between snom m3 with Avaya H.323, Avaya Digital, or PSTN endpoints, and call controls such as hold and conference were performed from snom m3.

The serviceability test cases were performed manually by disconnecting and reconnecting the LAN cables to snom m3.

All test cases were executed.

The one observation from the compliance testing is that Avaya IP Office can successfully activate Do Not Disturb, but sends back 503 Service Unavailable for Do Not Disturb activation requests.

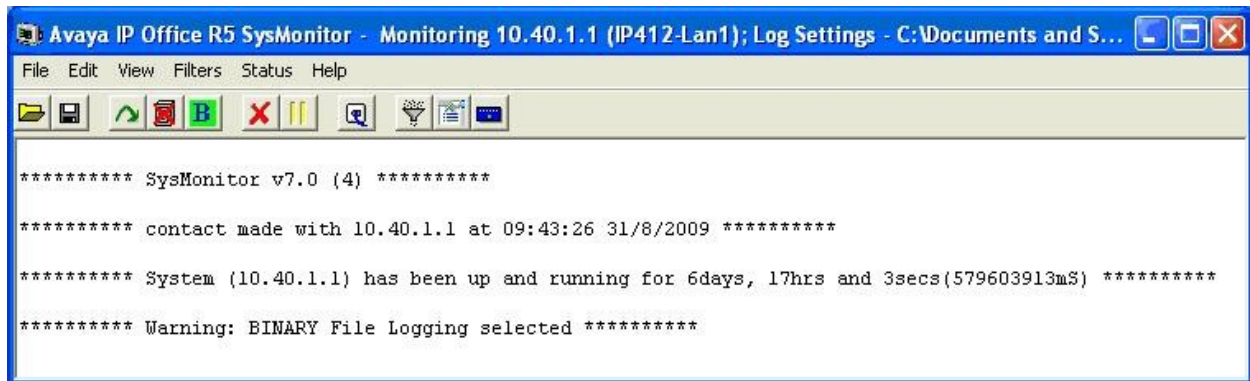


## 7. Verification Steps

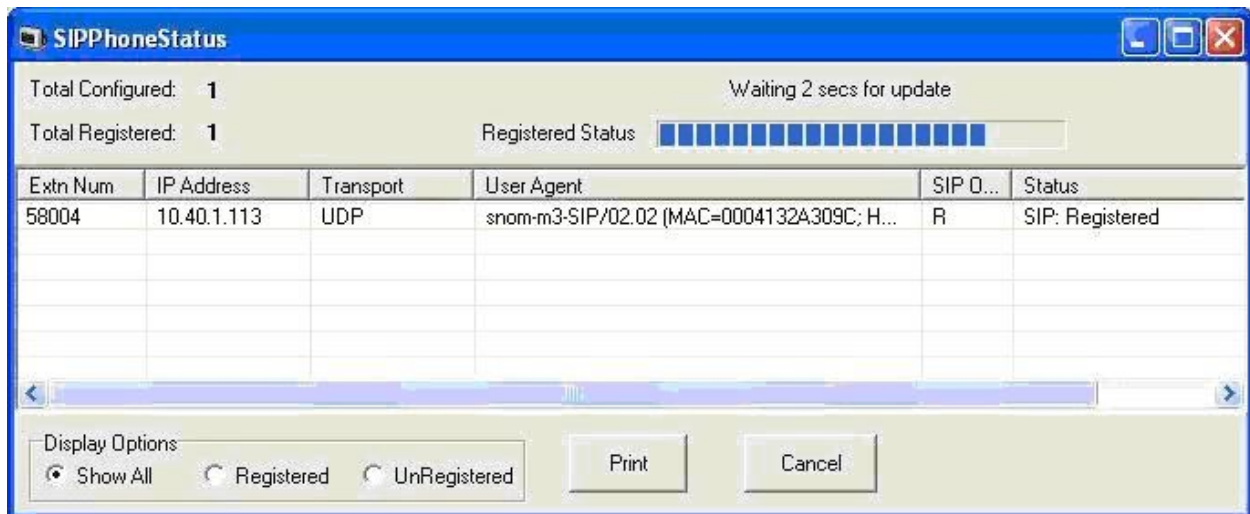
This section provides the tests that can be performed to verify proper configuration of Avaya IP Office and snom m3.

### 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 “snom-m3-SIP”, and the **Status** is “SIP: Registered”, as shown below.



## 7.2. Verify snom m3

Follow the procedure in **Section 5.1** to access the snom m3 web-based interface. Select **Operation > Home** from the left navigation to display the **Welcome** screen. Verify that the **SIP Identity Status** for Identity 1 is “OK”, as shown below.

The screenshot displays the snom m3 web-based interface. The left navigation pane is yellow and contains the following menu items: **Operation** (with sub-items Home and Directory), **Setup** (with sub-items Identity 1 through Identity 8, Advanced, and Telephony Settings), and **Status**. The main content area is light blue and titled **Welcome**. It contains a message: "Please select a configuration page in the index pane on left". Below this message is a white box containing **System Information:** and **SIP Identity Status:**.

System Information:		
Phone Type:	snom-m3-SIP	
MAC-Address:	0004132A309C	
IP-Address:	10.40.1.113	
Firmware-Version:	snom-m3-SIP/02.02//30-Apr-09 12:47	
Firmware-URL:	http://provisioning.snom.com/m3/firmware/	

SIP Identity Status:		
Identity 1 Status:	58004@10.40.1.1	OK
Identity 2 Status:	@	Not in use
Identity 3 Status:	@	Not in use
Identity 4 Status:	@	Not in use
Identity 5 Status:	@	Not in use
Identity 6 Status:	@	Not in use
Identity 7 Status:	@	Not in use
Identity 8 Status:	@	Not in use

## 8. Conclusion

These Application Notes describe the configuration steps required for snom m3 IP DECT phone to successfully interoperate with Avaya IP Office. All feature and serviceability test cases were completed with an observation 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. *snom m3 User Manual*, Version 1.31, available at <http://www.snom.com>.

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