AVAYA

Avaya Solution & Interoperability Test Lab

Application Notes for Status Solutions SARA with Avaya IP Office – Issue 1.0

Abstract

These Application Notes describe the configuration steps required to integrate Status Solutions SARA with Avaya IP Office. Status Solutions provides innovative situational awareness solutions – including SARA (Situational Awareness and Response Assistant) – for life safety assurance, security monitoring, environmental awareness and mass notification. Dedicated to customer satisfaction, Status Solutions is a growing company with expertise in computer telephony integration and the development and delivery of monitoring and notification tools that mitigate risk. With Status Solutions' unique applications, key individuals, select personnel groups or entire populations can be made aware of any situation, whether emergency or non-emergency, occurring in a single facility or across an entire enterprise.

SARA is an automated alerting system and awareness engine that sends voice alerts via telephone. SARA monitors external equipment at a facility and provides a single point of alarm management for enhanced alerting and reporting. SARA interfaces to 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.

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Solution & Interoperability Test Lab Application Notes
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1. Introduction

These Application Notes describe the configuration steps required to integrate Status Solutions SARA with Avaya IP Office. Status Solutions provides innovative situational awareness solutions – including SARA (Situational Awareness and Response Assistant) – for life safety assurance, security monitoring, environmental awareness and mass notification. Dedicated to customer satisfaction, Status Solutions is a growing company with expertise in computer telephony integration and the development and delivery of monitoring and notification tools that mitigate risk. With Status Solutions' unique applications, key individuals, select personnel groups or entire populations can be made aware of any situation, whether emergency or non-emergency, occurring in a single facility or across an entire enterprise.

SARA is an automated alerting system and awareness engine that sends voice alerts via telephone. SARA monitors external equipment at a facility and provides a single point of alarm management for enhanced alerting and reporting. SARA interfaces to Avaya IP Office as a SIP endpoint.

SARA supports various alert call types including alarm alerts, quick messages, and reminders. Refer to [2] for additional information. During the compliance testing, external devices were not connected and monitored by SARA. The focus of the compliance testing was on sending alerts to a telephone using SIP when a simulated alarm was triggered. However, simulated alerts function are processed the same as external device inputs."

2. General Test Approach and Test Results

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.

The feature test cases were performed manually. Various alert types, such as Quick Messages, Alert Calls, and Reminders were sent to an alert device, including local stations and PSTN.

The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet cable to the SARA server and by rebooting the server.

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.   The feature testing focused on verifying the following functionality on Status Solutions SARA:

- SIP registration with IP Office.
- Quick message calls to local stations and PSTN.
- Reminder calls to local stations and PSTN.
- Alert calls to local stations and PSTN.
- Verification of proper alert call status in reports.
- Verification of alert call retries if a prior alert call was unsuccessful (e.g., no answer) and alert call was not acknowledged by alert device.

The serviceability testing focused on verifying the ability of SARA to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet cable and rebooting the server.

2.2. Test Results

All test cases passed.

2.3. Support

Contact Status Solutions SARA Support Hotline at (866) 846-7272 option 4 for technical support. The Status Solutions website is http://www.statussolutions.com.

3. Reference Configuration

In the compliance testing, the Avaya IP Office users have telephone extensions in the range of 600xx and Status Solutions SARA was assigned extensions 61000 and 61001. SARA registered with Avaya IP Office using SIP extensions.
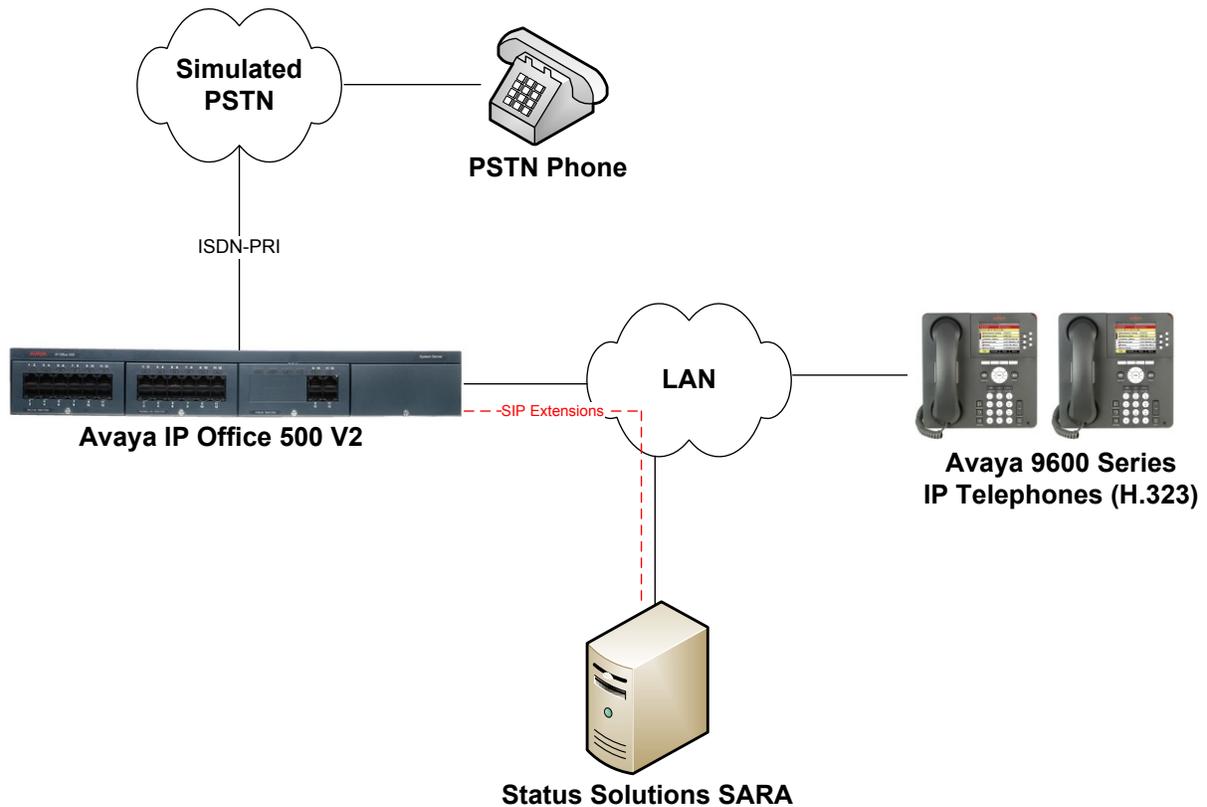
Figure 1: Status Solutions SARA with Avaya IP Office using SIP Registration

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	8.0 (16)
Avaya 9600 Series IP Telephones	3.1 SP 2 (H.323)
Status Solutions SARA	4.0 (Build 07:4176M)

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 extension
- Administer SIP user

Note: Call routing to the PSTN is outside the scope of these Application Notes.

5.1. 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 R8 Manager** screen is displayed. From the configuration tree in the left pane, select **Licence → 3rd Party IP Channels** to display the license screen in the right pane. Verify that the **Licence Status** is "Valid".
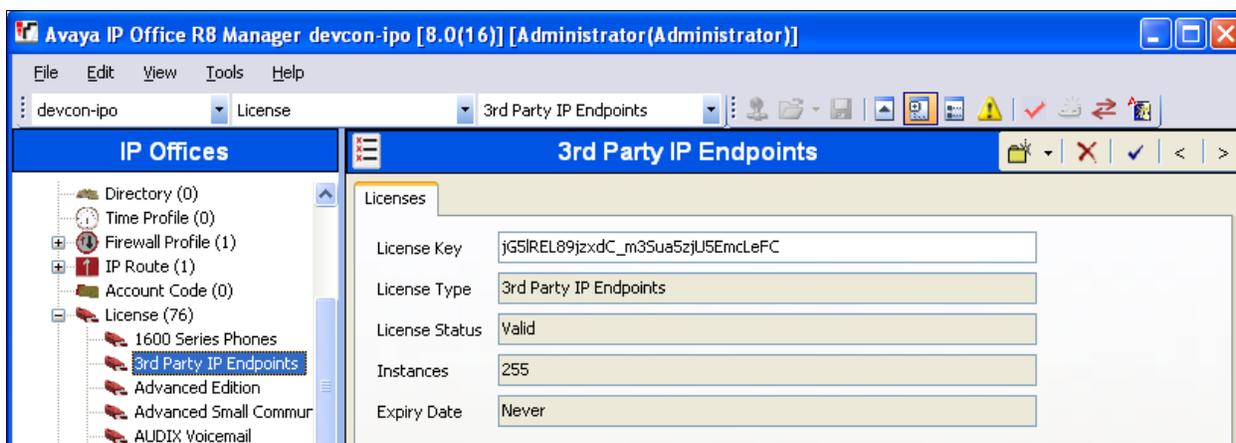
5.2. Obtain LAN IP Address

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 SARA.
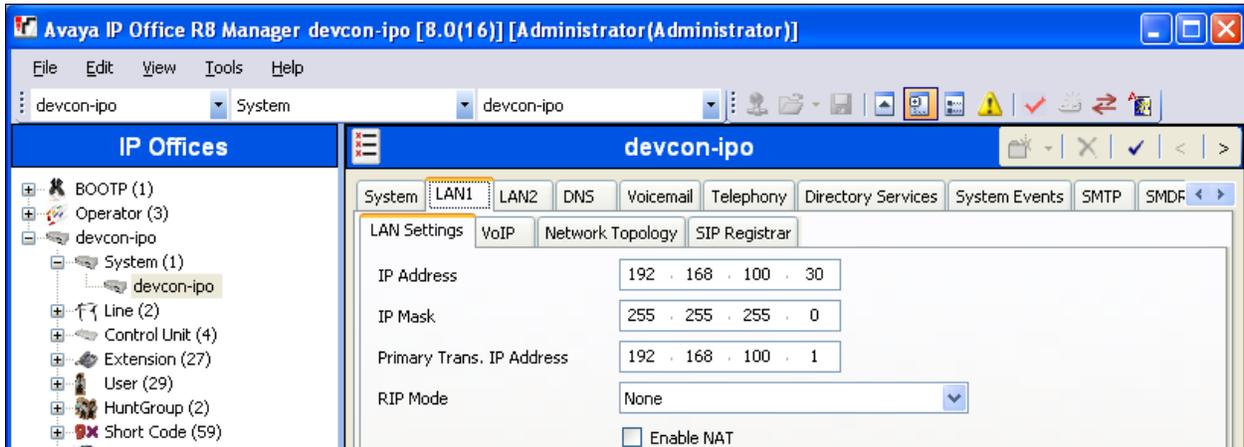
5.3. Administer SIP Registrar

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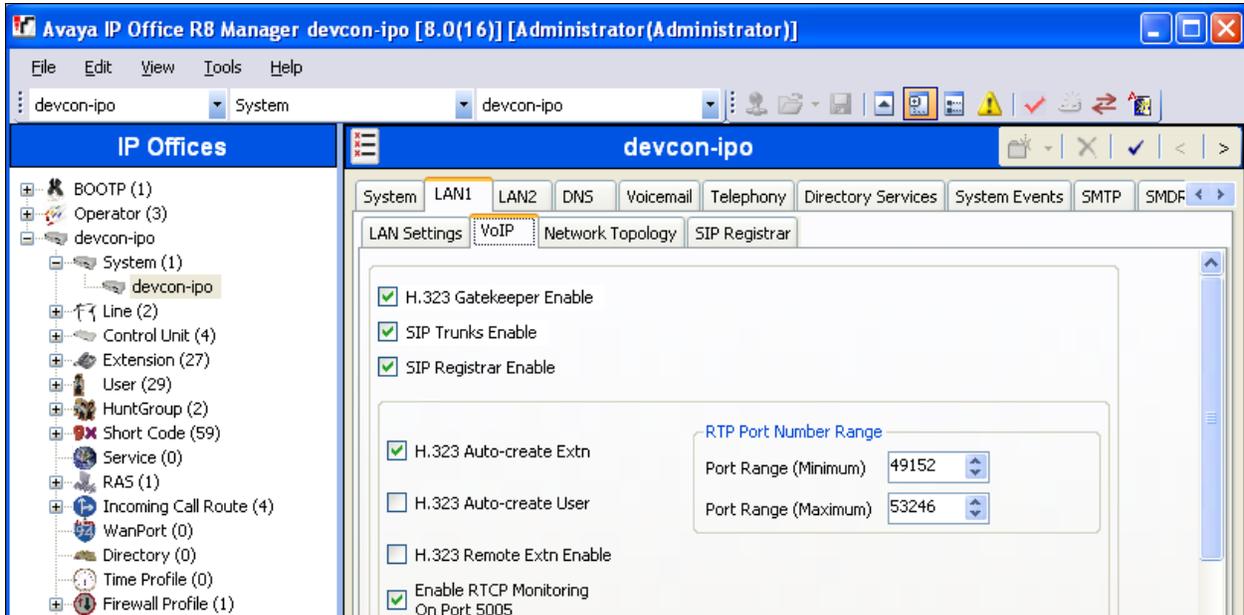
Select the **SIP Registrar** sub-tab and enter a valid **Domain Name**. In the compliance testing, the **Domain Name** field was left blank so the LAN IP address was used.
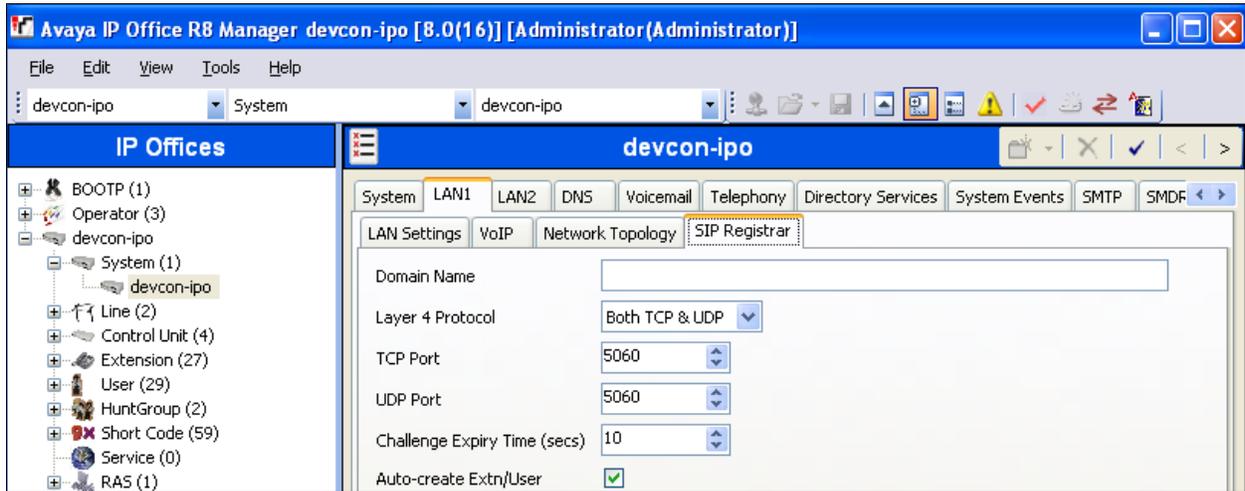
5.4. Administer SIP Extension

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. Uncheck the **Force Authorization** field so that SIP authentication is not required when SARA registers with IP Office. Currently, SARA does not support SIP registration with a password. In this example, SARA was assigned extension *61000*.
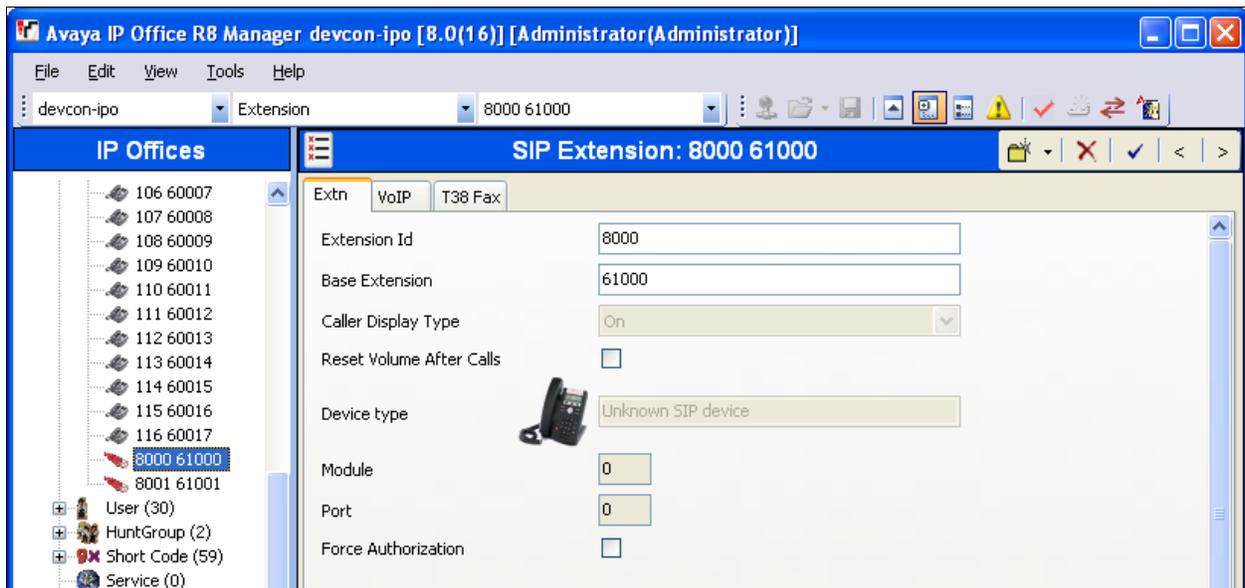
Select the **VoIP** tab and retain the default values in all fields.
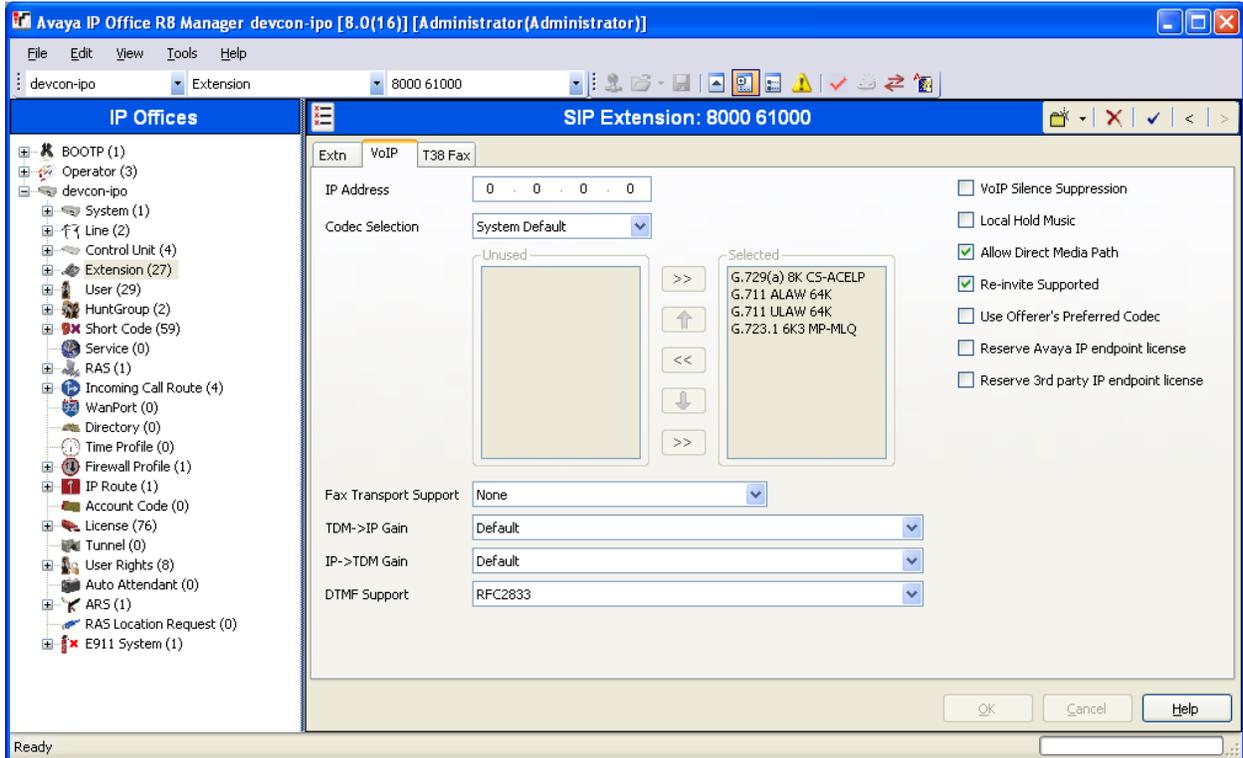
Repeat these steps for additional SARA SIP extensions.

5.5. Administer SIP User

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 in **Section 5.4**. The **Name** field specifies the username that will be used by SARA.
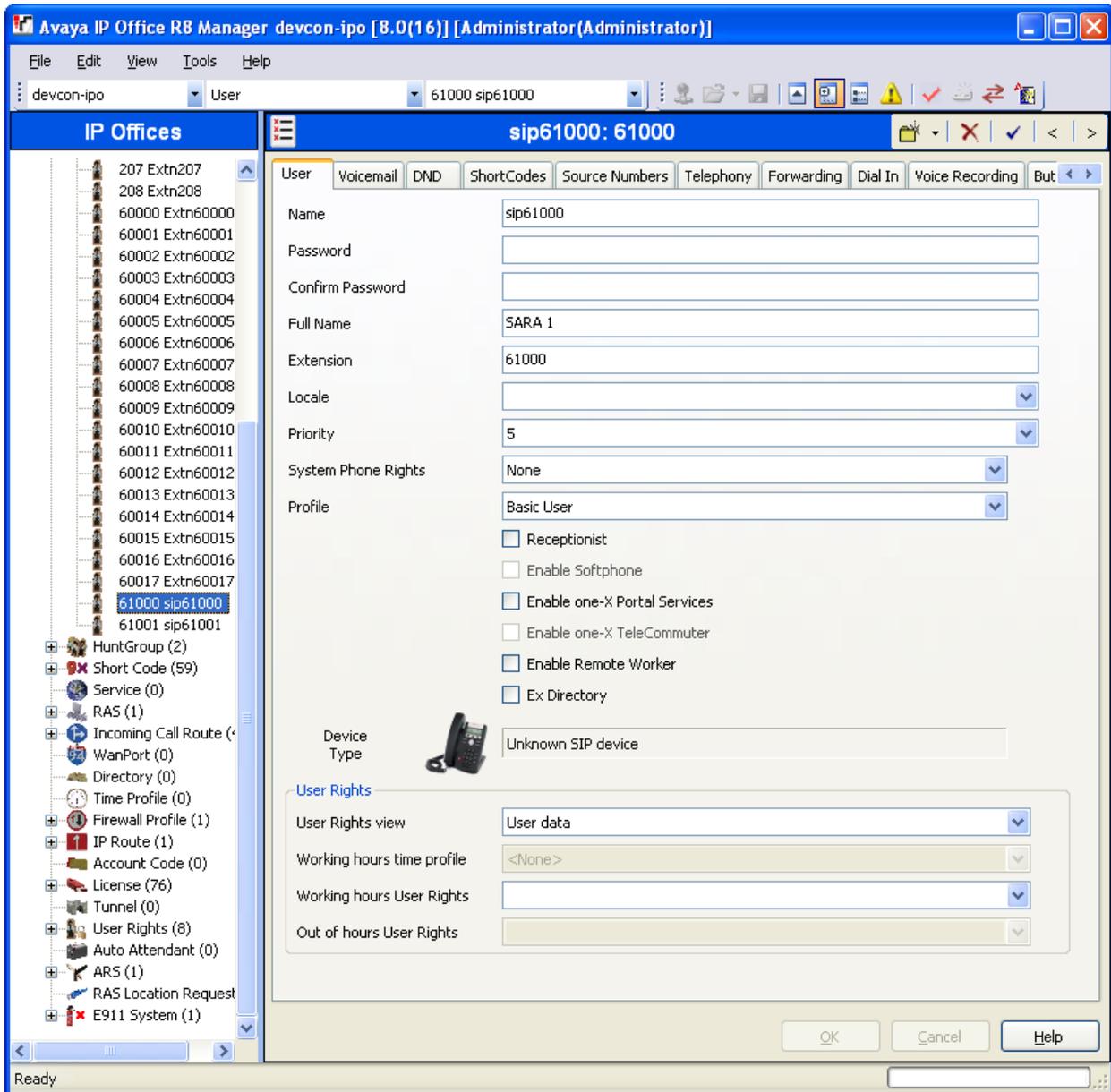
Select the **Telephony** tab followed by the **Call Settings** sub-tab. Note that the default settings were used.
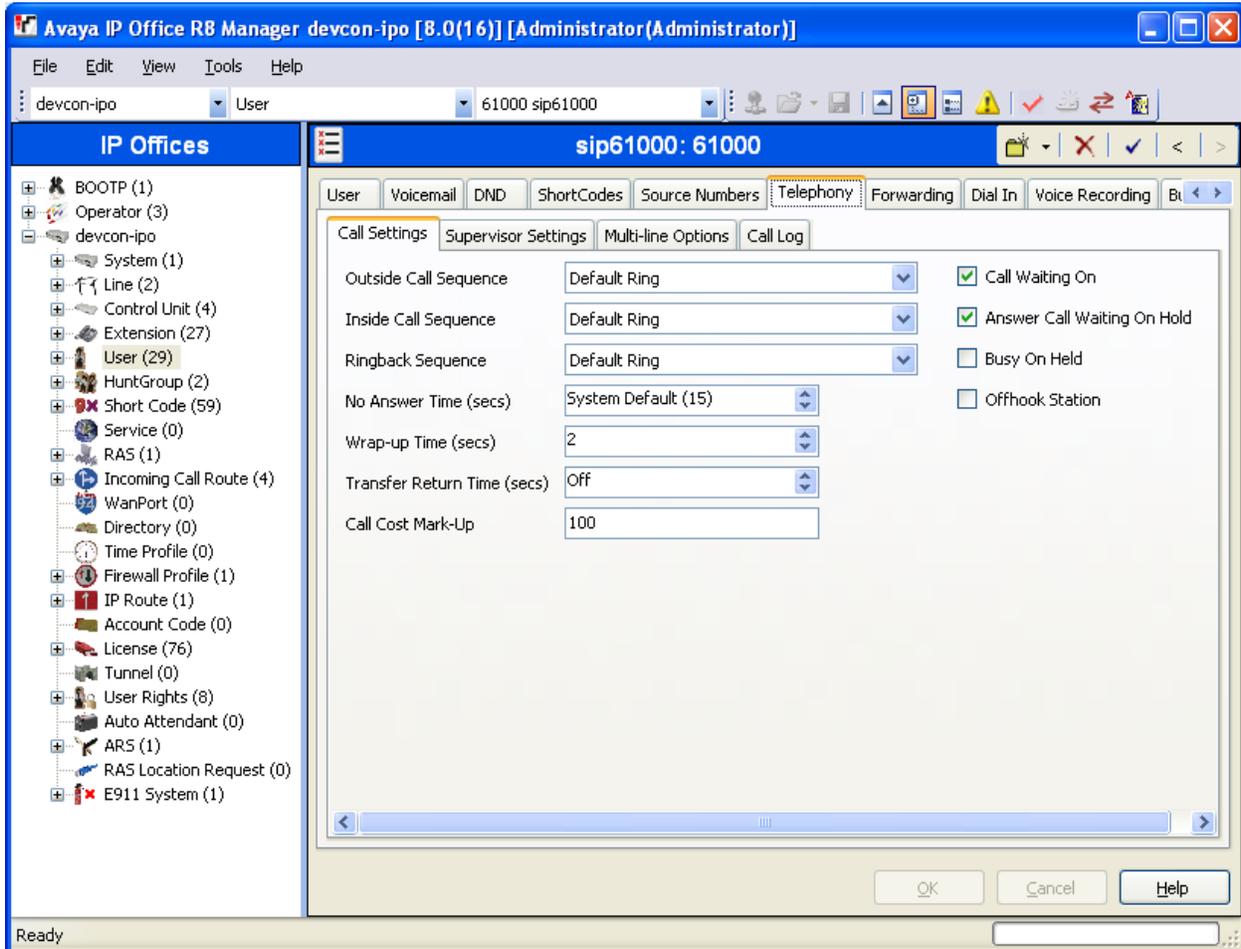
Select the **Supervisor Settings** tab and enter a desired **Login Code**. The **Login Code** should be left blank since SARA does not currently support SIP registration with a password.
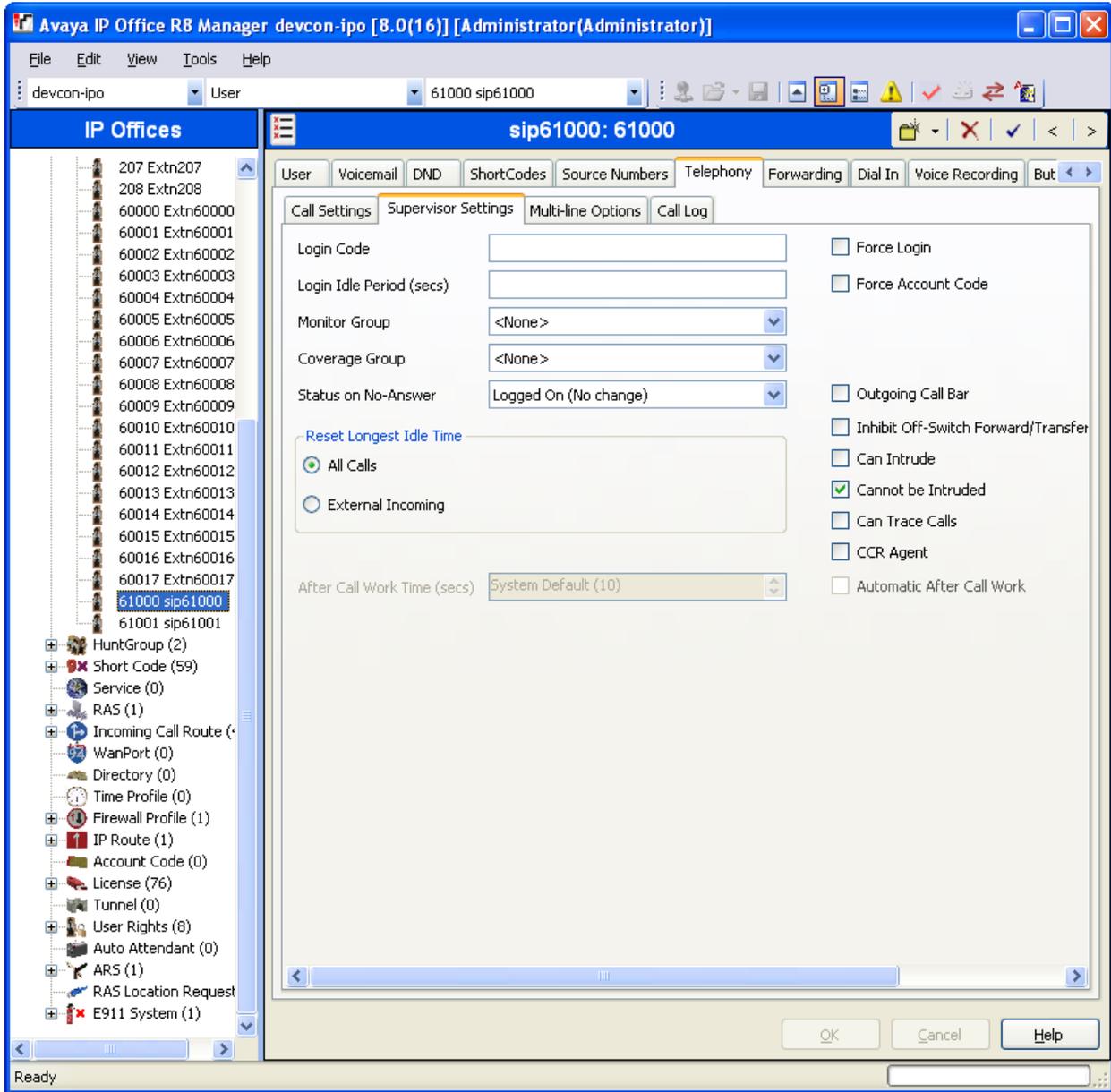
Repeat these steps for additional SARA SIP users.

6. Configure Status Solutions SARA

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

- Configure SIP interface
- Add an alert device

6.1. Configure SIP Interface

Configuration is accomplished by accessing the SARA web admin interface using the URL "http://*<ip-address>*", where *<ip-address>* is the IP address of the SARA server. Log in with the appropriate credentials as shown below.

On the initial screen, select the **Install Setup** tab and navigate to **System Functions → Process Setup** to add and configure the SIP interface.
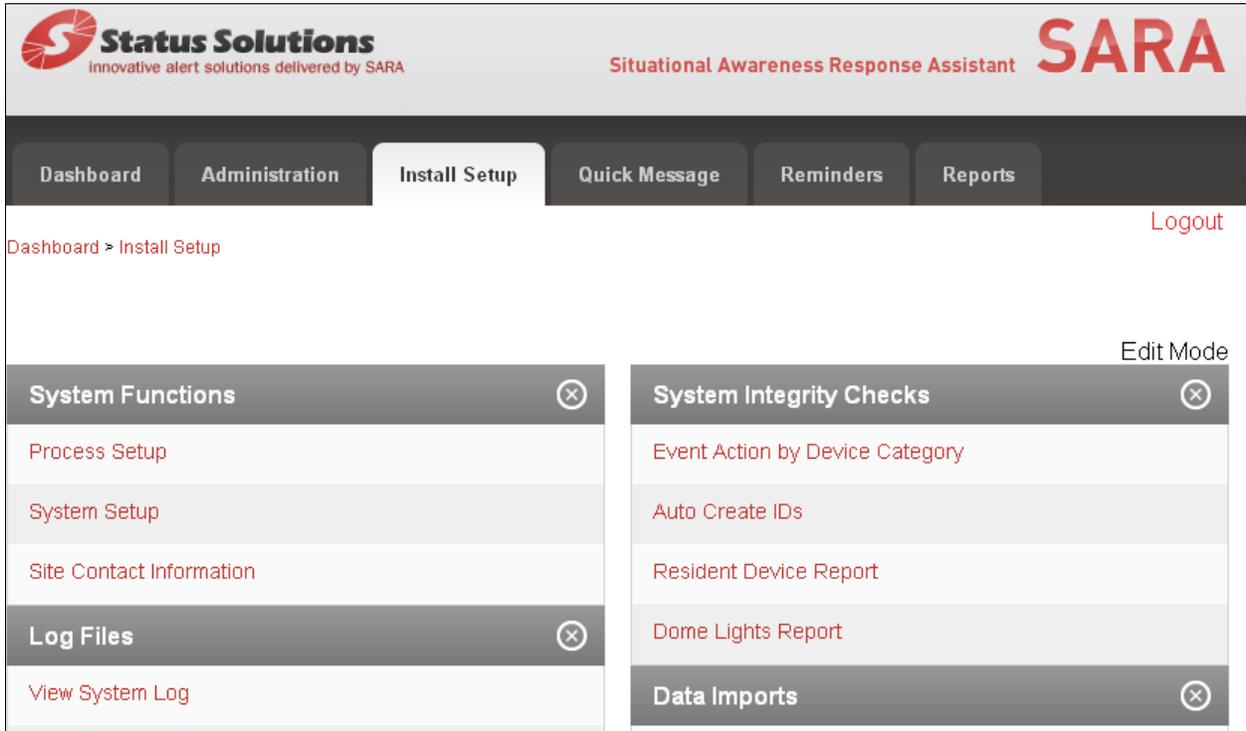
In the next screen, select **Telephony** from the drop-down text box for the **New Interface Type** field. Click **Add Interface**.
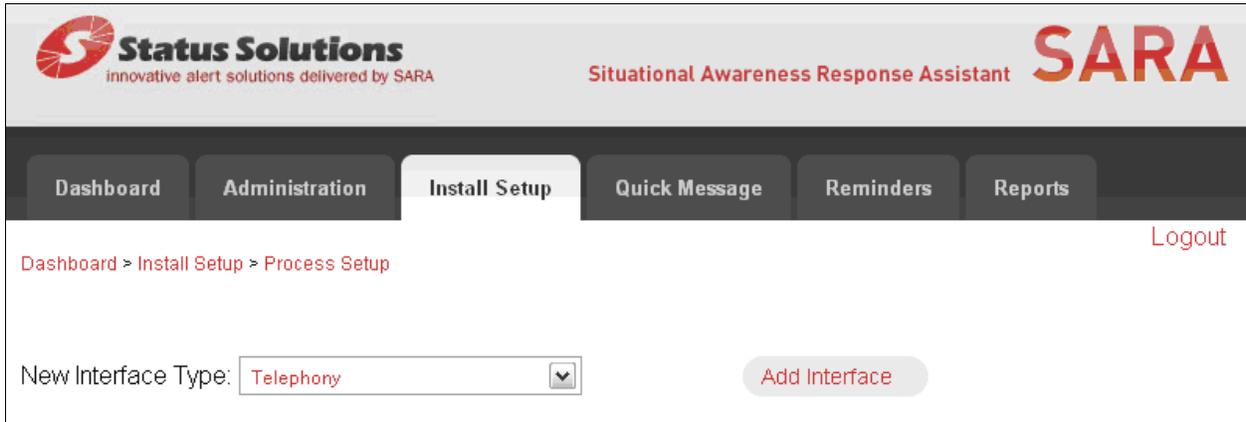
In the **Telephony** screen, enter a descriptive name for the **Interface Name** field. Select the **Start Interface when Service Starts** and **Automatically Create New Devices** checkboxes. Set the **Interface Type** field to *SIP Interface* and the **IP Address of ICON SIP Interface** field to the IP address of IP Office. Lastly, configure the extension range supported by SARA. In this example, two SIP extensions were assigned to SARA, *61000* and *61001*. Submit the form. Restarting the Status Solutions process is also required as mentioned in the following section.

Note: The following screen has been displayed after it was already configured.

After configuring the SIP interface, restart the **Sip Apps Tomcat6** and **Status Solutions** processes under Windows Services.
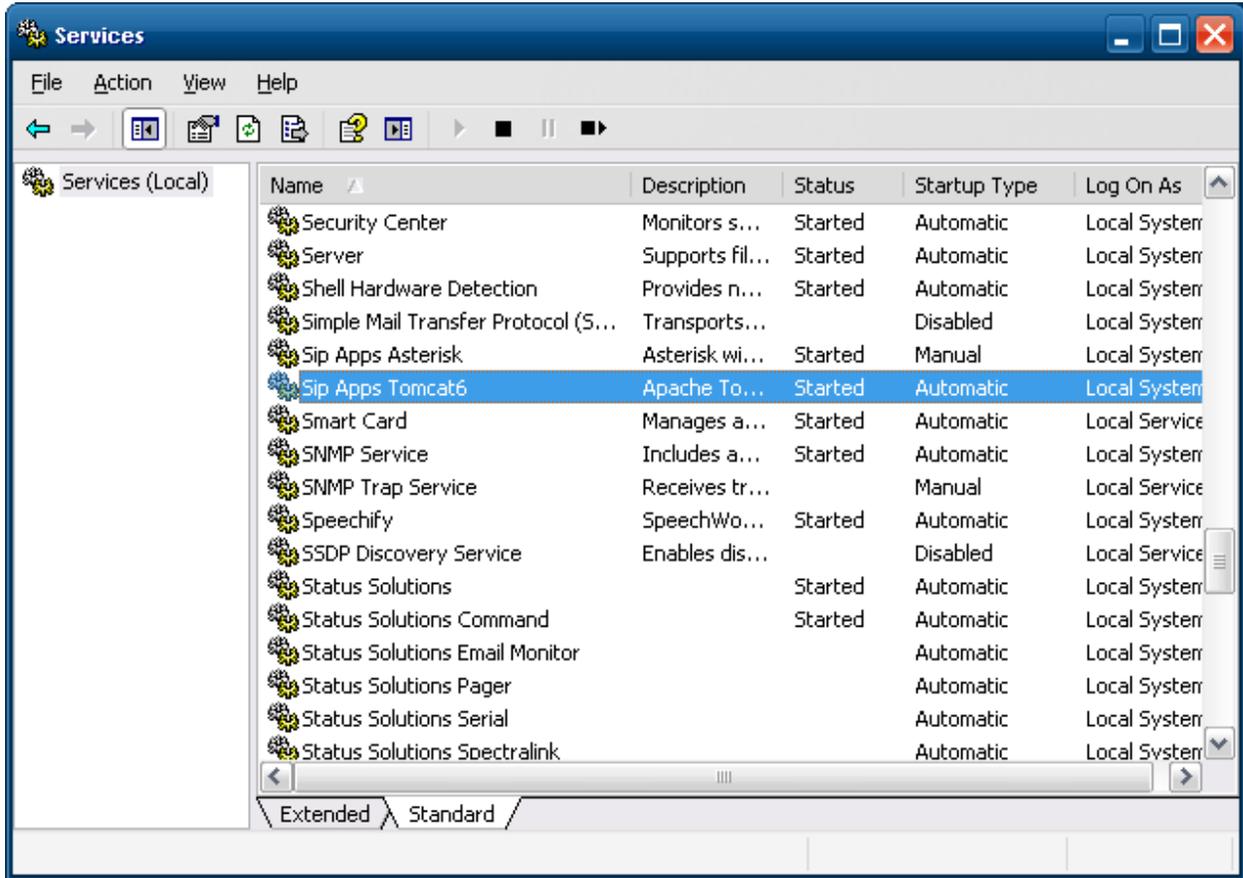
At this point, the SIP interface should be up and connected to IP Office. See **Section 7** for steps to verify the SIP interface status.

6.2. Add an Alert Device

Add an alert device to specify the device that will receive alerts from SARA. Select the **Administration** tab and then navigate to **Device Administration → Alert Devices**.

On the next screen, click the **Create a New Alert Device** hyperlink.
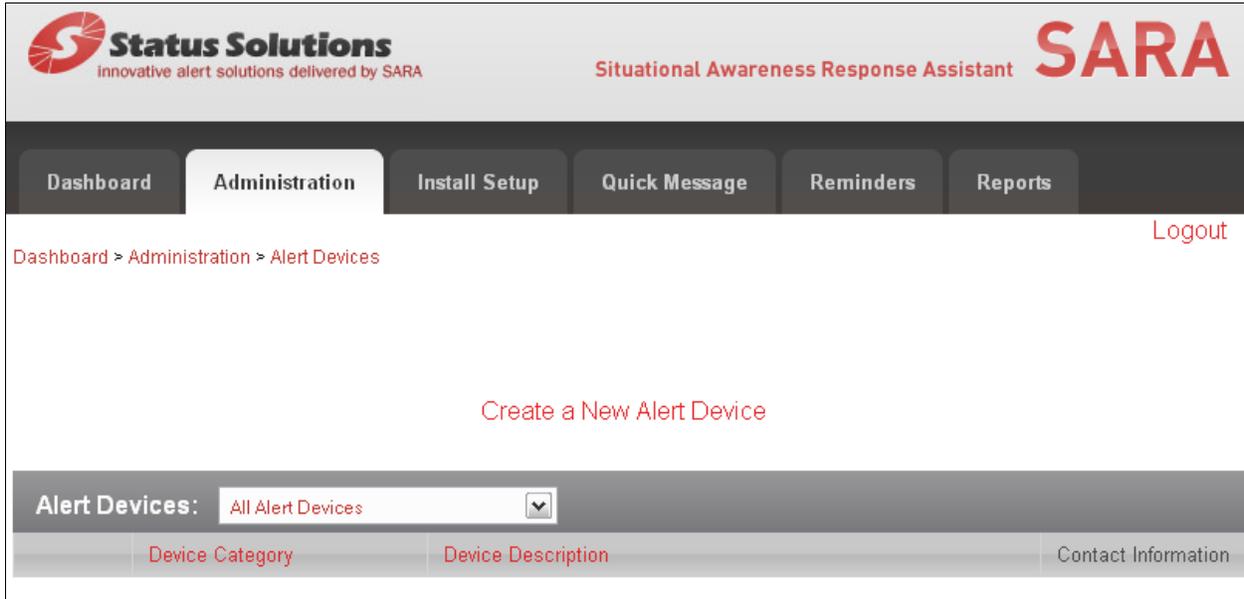
In the **Insert Alert Device** screen, select *SIP Phone Call* from the drop-down text box shown below.
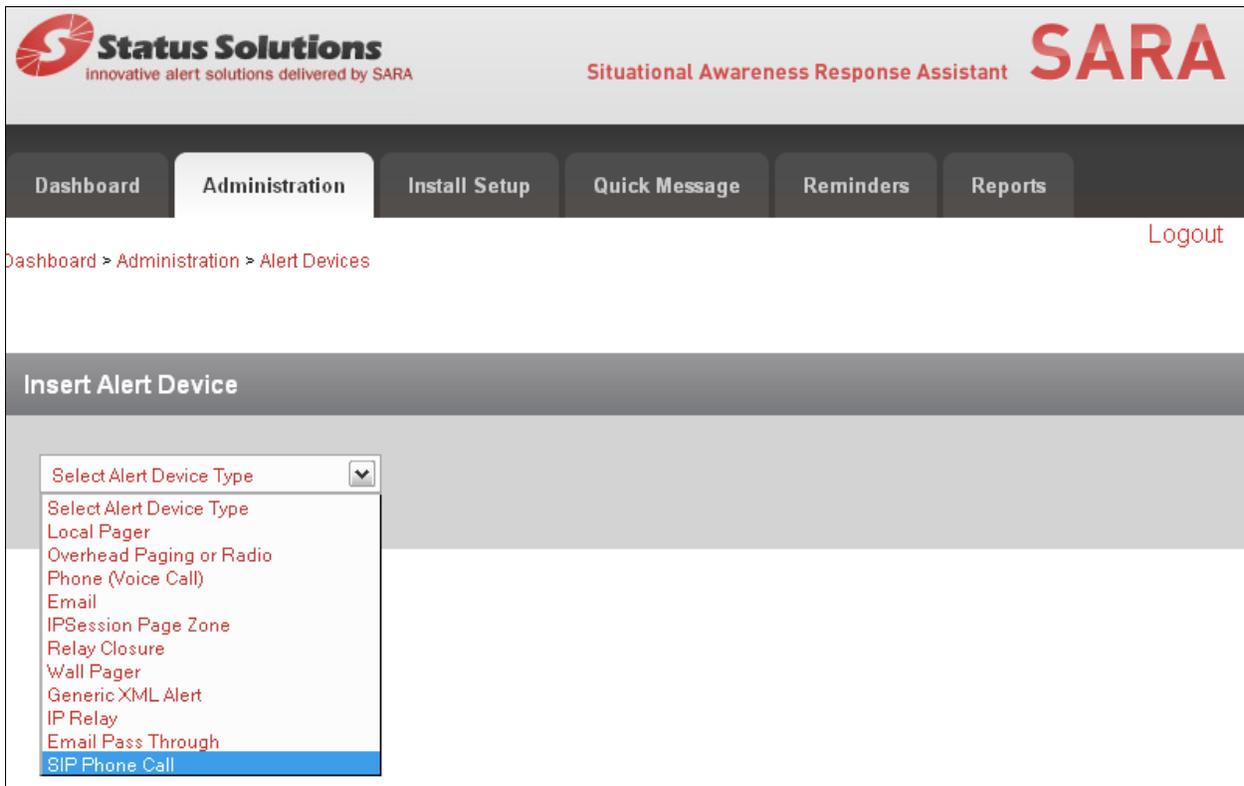
In the subsequent screen, enter a **Description** for the alert device (e.g., *IP Office Test*). Specify the **Telephone** number that should receive the alert (e.g., *60000*, which is a local station). Select the **Restrict calls to this interface** check box and specify *SIP Interface* from the drop-down box. Lastly, specify the retry strategy if an alert call is unsuccessful. In this example, the number of retries was set to *3* and the time interval between retries was set to *10*. For the compliance testing, the time interval of *1* minute between alert retries was also tested and verified. Click **Insert Alert Device** button (not shown).

7. Verification Steps

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

1. From the **Avaya IP Office R8 Manager** screen shown in **Section 5.1**, select **File → Advanced → System Status** to launch the **System Status** application, and log in with the appropriate credentials. The **IP Office System Status** screen is displayed. Expand **Extensions** in the left pane and select the SIP extension.   Verify that the **Current State** is *Idle*.

2. From the SARA web admin interface, navigate to **Reports** ➔ **System Status** and verify that the **SIP Interface** is in the *Connected* state.

Process Name	Start Time	Last Watchdog Check	Status	Interface
init	Mon 03/05 15:54:04	Mon 03/05 17:43:45	OK	
email	Mon 03/05 15:54:07	Mon 03/05 17:43:46	OK	
monitor	Mon 03/05 15:54:07	Mon 03/05 17:43:46	OK	
scheduler	Mon 03/05 15:54:07	Mon 03/05 17:42:38	OK	
alarm	Mon 03/05 15:54:07	Mon 03/05 17:43:47	OK	
quick_msg	Mon 03/05 15:54:07	Mon 03/05 17:43:46	OK	
SIP Interface	Mon 03/05 15:54:32	Mon 03/05 17:43:37	OK	Connected

System Revision 4.0 (Build 07:4176M) Built Wed Feb 22 09:42:18 2012 (RELEASE) started at Mon Mar 05 15:54:00 2012
UI Revision: 4176
System Temperature: 73F

3. Trigger a **Quick Message** as shown below and click the **Send Quick Message** button.

4. Verify that the alert device receives the alert call and hears the announcement. The alert device can acknowledge the call and then hang up.

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5. Check the reports to verify that the appropriate alert call status was logged. Navigate to **Reports → Quick Message Log** as shown below.

6. Check the **Quick Message Log** for the proper status. Click on the **Details** button by the log entry to display additional details.

8. Conclusion

These Application Notes describe the configuration steps required to integrate Status Solutions SARA with Avaya IP Office using SIP registration.   All feature and serviceability test cases were completed and passed.

9. Additional References

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

1. *IP Office 7.0 Documentation CD*, March 2011, available at http://support.avaya.com.
2. *Status Solutions SARA User Guide 4.0.*

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