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Avaya Solution & Interoperability Test Lab

Application Notes for Valcom VE6025 Application Server Pro with Avaya IP Office Server Edition – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Valcom VE6025 Application Server Pro to interoperate with Avaya IP Office Server Edition.

Valcom VE6025 Application Server Pro is an E911 notification solution that uses the SysLog interface from Avaya IP Office to provide monitoring and notification of emergency calls.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as any 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.

TLT; Reviewed:
SPOC 3/22/2016

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1. Introduction

These Application Notes describe the configuration steps required for Valcom VE6025 Application Server Pro to interoperate with Avaya IP Office Server Edition.

Valcom VE6025 Application Server Pro (VE6025) is an E911 notification solution that uses the SysLog interface from Avaya IP Office to provide monitoring and notification of emergency calls.

The Avaya IP Office Server Edition configuration consisted of two Avaya IP Office systems, a primary Linux server at the Main site and an expansion IP500V2 at the Remote site that were connected via Small Community Network (SCN) trunks.

In the compliance testing, one VE6025 server was deployed. VE6025 used the SysLog interface with the primary IP Office system to monitor users at the Main site, and the SysLog interface with the expansion IP Office system to monitor users at the Remote site.

Upon informed of an emergency call made by an IP Office user via SysLog events, VE6025 sent notification to audio and/or visual alert points that were configured in VE6025. The supported alert points can include led display signage, IP speakers, email notifications, etc. In the compliance testing, an IP speaker was used in each IP Office site for verification of emergency call alerts.

2. General Test Approach and Test Results

The feature test cases were performed manually. Emergency calls were placed manually from various IP Office users to the emulated PSTN.

The serviceability test cases were performed manually by disconnecting and reconnecting the Ethernet connection to the VE6025 server.

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

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the following on VE6025:

- Proper alerting of emergency calls including user location, name, extension, and dialed digits.

- Proper handling of emergency call scenarios involving emergency callers from both IP Office systems, alert points on both IP Office locations, button activation of emergency call, hot desking users, resiliency users, simultaneous emergency callers, and simultaneous notification to all alert points.

The feature testing call flows included emergency calls with all resources within the primary IP Office at the Main site, emergency calls with all resources within the expansion IP Office at the Remote site, as well as emergency calls with resources between the two IP Office systems.

The serviceability testing focused on verifying the ability of VE6025 to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet connection to the VE6025 server.

2.2. Test Results

All test cases were executed and verified. The following were observations on VE6025 from the compliance testing.

- By design, when an emergency call involved the SCN trunk to reach the PSTN, then a SysLog emergency call event was reported by each involved IP Office system. In addition, the SysLog emergency call event reported by the IP Office system with the PSTN trunk connection included the SCN trunk information. VE6025 can be configured with a separate filter for announcement of such event if desired.

- In the compliance testing, one successful SysLog emergency call event was received and broadcasted by VE6025 for an emergency call from a user on the primary IP Office system, and two from a user on the expansion IP Office system.

2.3. Support

Technical support on VE6025 can be obtained through the following:

- **Phone:**   (800) 825-2661
- **Email:**   support@valcom.com

3. Reference Configuration

The IP Office Server Edition configuration used in the compliance testing consisted of a primary Linux server at the Main site, and an expansion IP500V2 at the Remote site, with SCN trunks connectivity between the two systems. Each IP Office system has connectivity to the PSTN, for testing cross systems PSTN scenarios.

The detailed administration of IP Office resources is not the focus of these Application Notes and will not be described. As shown in **Figure 1** below, one VE6025 server was deployed with SysLog connection to the primary IP Office system and to the expansion IP Office system.

In the compliance testing, an IP speaker was used in each IP Office site for broadcast alert of all emergency calls, regardless of where the emergency call originated.
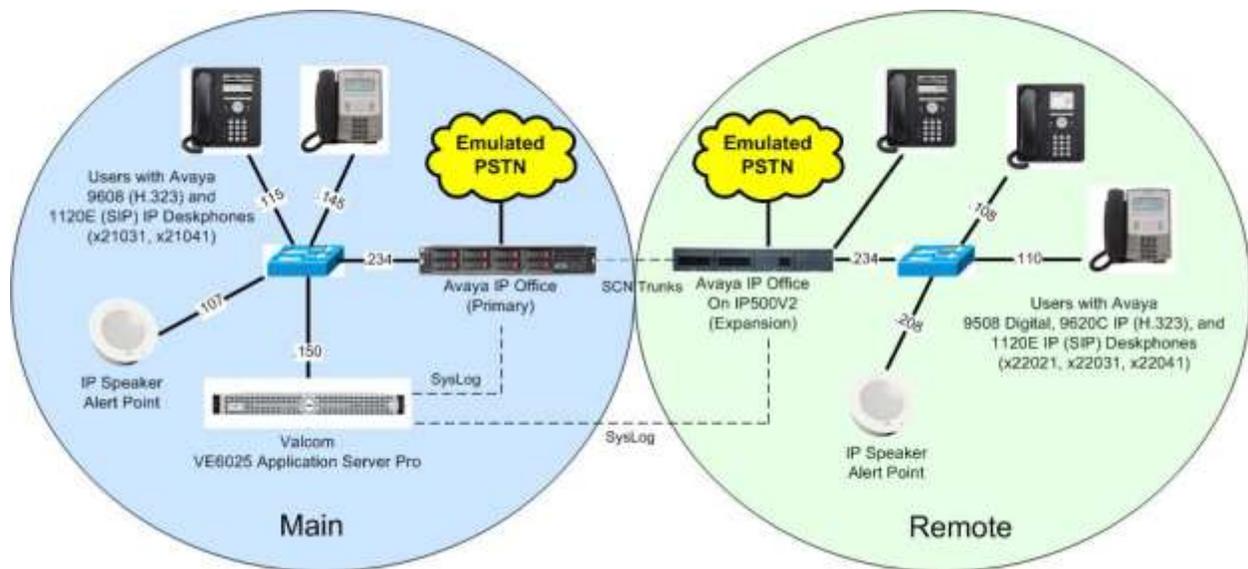
Figure 1: Compliance Testing Configuration

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Main Site	
Avaya IP Office Server Edition (Primary) in Virtual Environment	9.1.400.137
Avaya 9608 IP Deskphone (H.323)	6.6029
Avaya 1120E IP Deskphone (SIP)	4.4.18.0
Valcom VE6025 Application Server Pro on CentOS	4.6.1-201512171727-f61977c 6.3
Remote Site	
Avaya IP Office on IP500V2 (Expansion)	9.1.400.137
Avaya 9620C IP Deskphones (H.323)	3.250A
Avaya 1120E IP Deskphone (SIP)	4.4.18.0
Avaya 9508 Digital Deskphone	NA

Compliance Testing is applicable when the tested solution is deployed with a standalone IP Office 500 V2 and also when deployed with IP Office Server Edition in all configurations.

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5. Configure Avaya IP Office

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

- Administer systems
- Administer common locations
- Administer extensions
- Administer ARS
- Administer locations with emergency ARS
- Administer short codes

Note that the emergency call configuration presented in these Application Notes represents the sample used in the compliance test, and that the actual configuration can vary based on customer needs. For more information on emergency call configuration, see reference [2].

5.1. Administer Systems

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

From the configuration tree in the left pane, select **Solution → IPO2-IPOSE → System**, where **IPO2-IPOSE** is the name of the primary IP Office system. The system screen for the primary IP Office system is displayed in the right pane.

Select the **System Events** tab, followed by the **Alarms** sub-tab in the right pane, and click **Add** to add a new alarms entry.
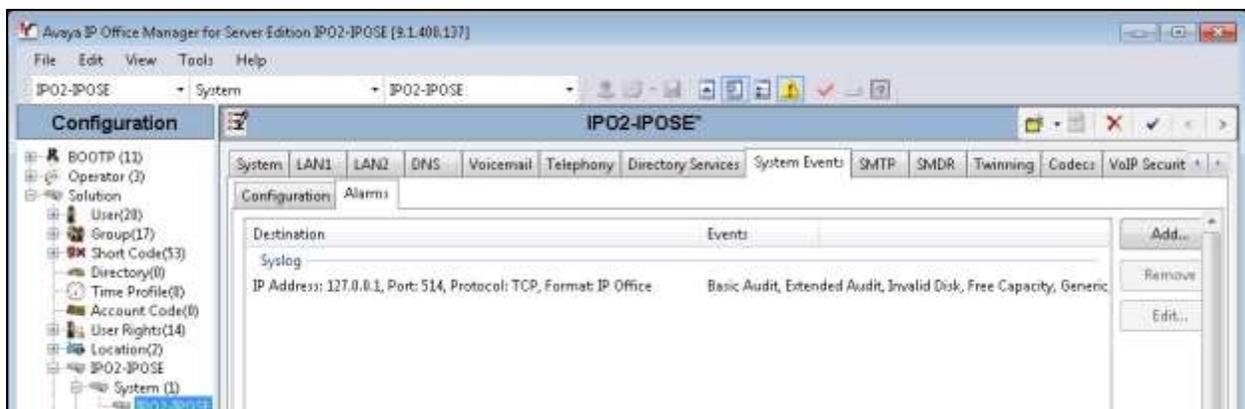
The screen is updated with new parameters, as shown below. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Destination:** "Syslog"
- **IP Address:** IP address of the VE6025 server.
- **Port:** An available port, in this case "515".
- **Protocol:** "TCP"
- **Format:** "IP Office"
- **Events:** Scroll down and select "Emergency Calls".
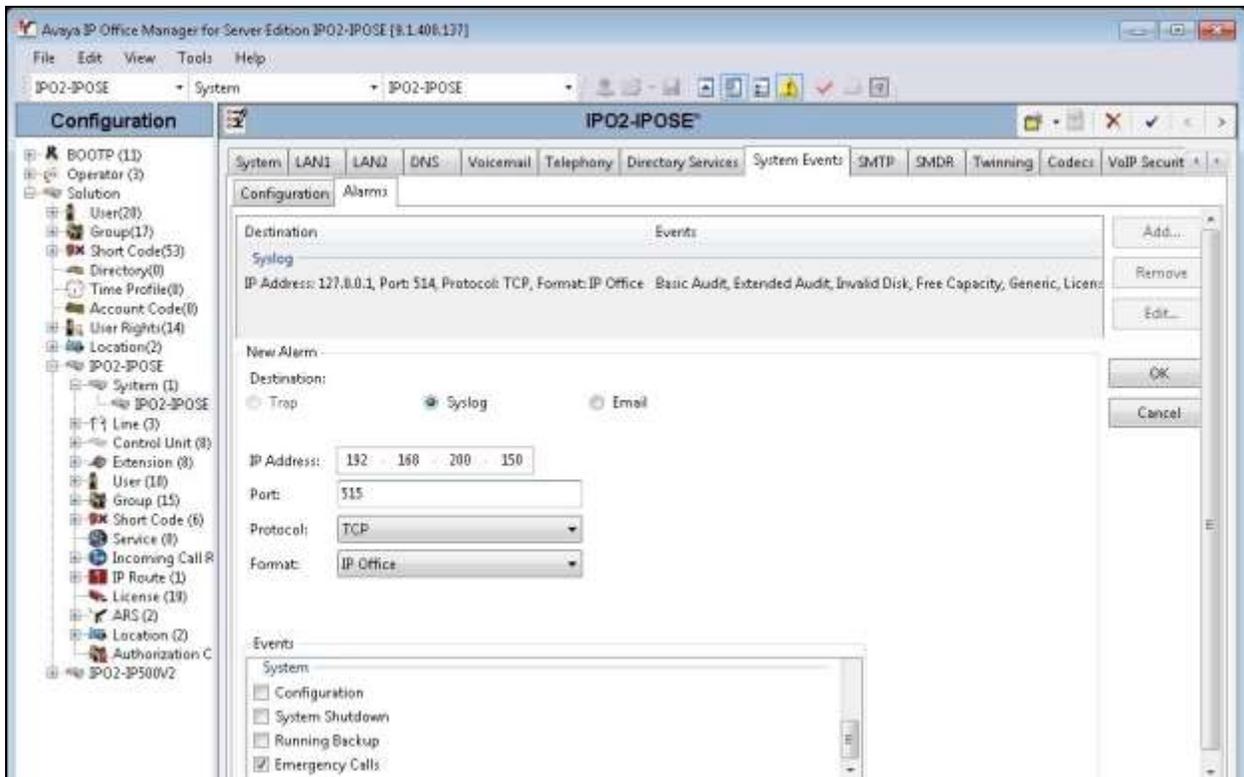
Repeat this section to add a new alarm entry for the expansion IP Office system, in this case **IPO2-IP500V2**. The screenshot below shows the new alarm entry that was added.
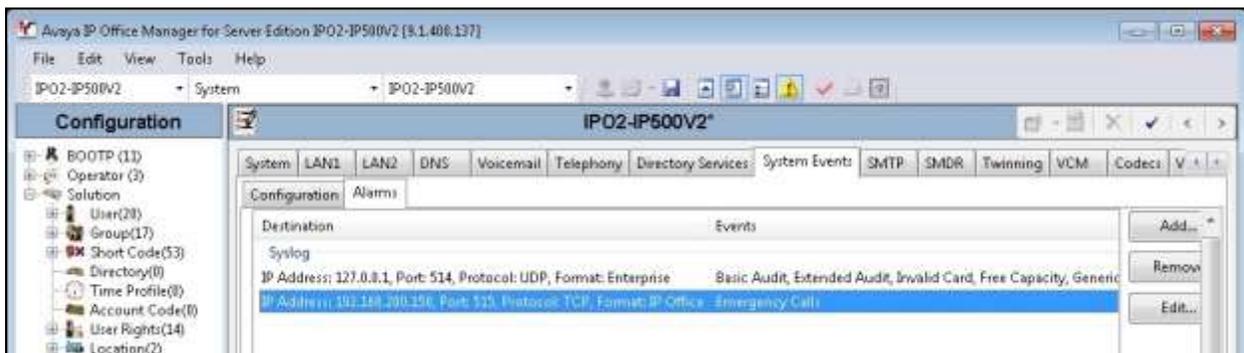
5.2. Administer Common Locations

From the configuration tree in the left pane, right-click on **Solution → Location**, and select **New** from the pop-up list to add a new common location.

For **Location Name**, enter a desired name for the primary IP Office system, in this case "Thorton". Retain the default values in the remaining fields.
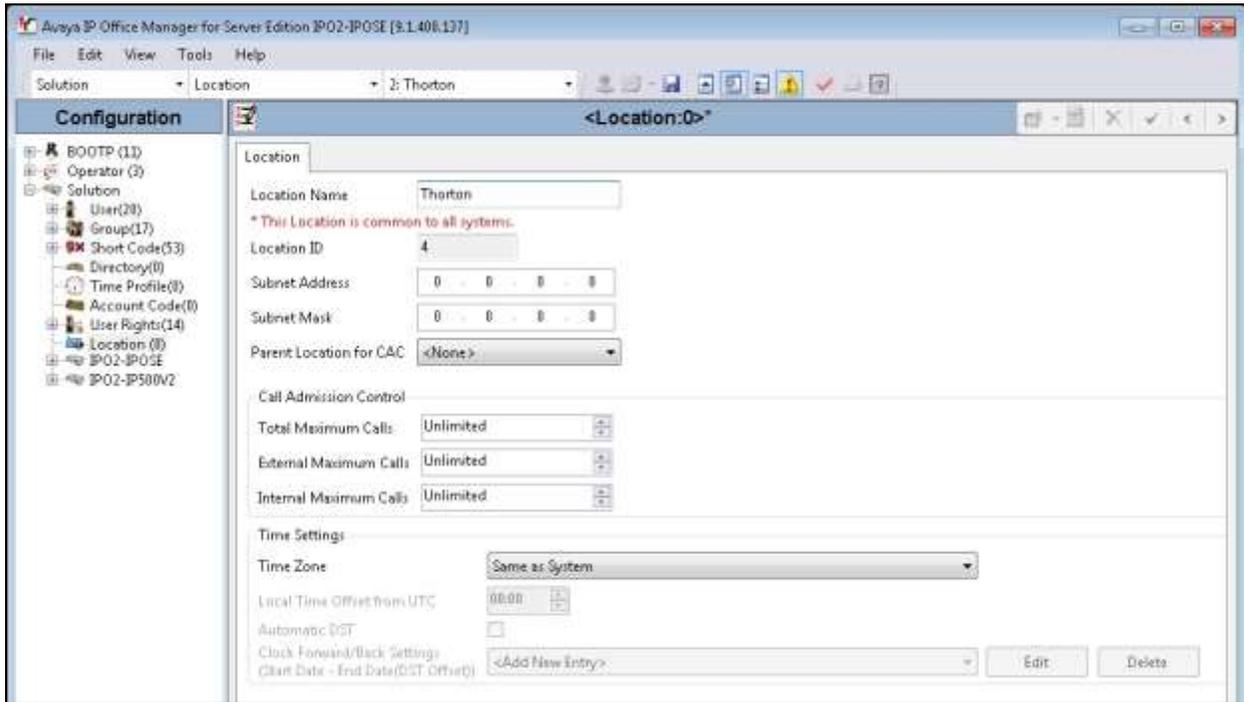

Repeat this section to add a common location for the expansion IP Office system, in this case "Basking Ridge". The left pane of the screenshot below shows the two common locations that were added.
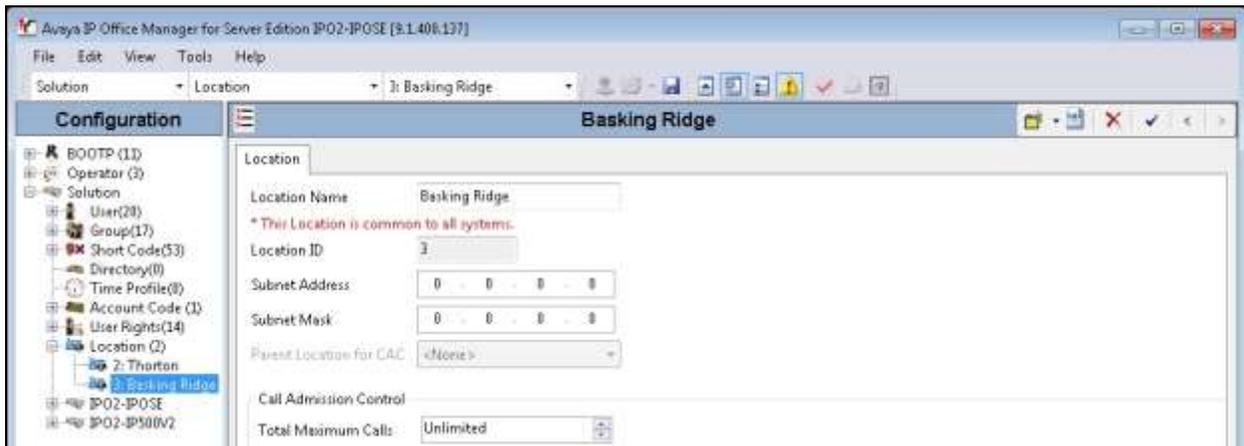
5.3. Administer Extensions

From the configuration tree in the left pane, expand and select the first entry under **Solution →
IPO2-IPOSE → Extension**, where **IPO2-IPOSE** is the name of the primary IP Office system.

For **Location**, select the location for the primary IP Office system from **Section 5.2**. Repeat the
same location assignment for all extension entries in the primary IP Office system.
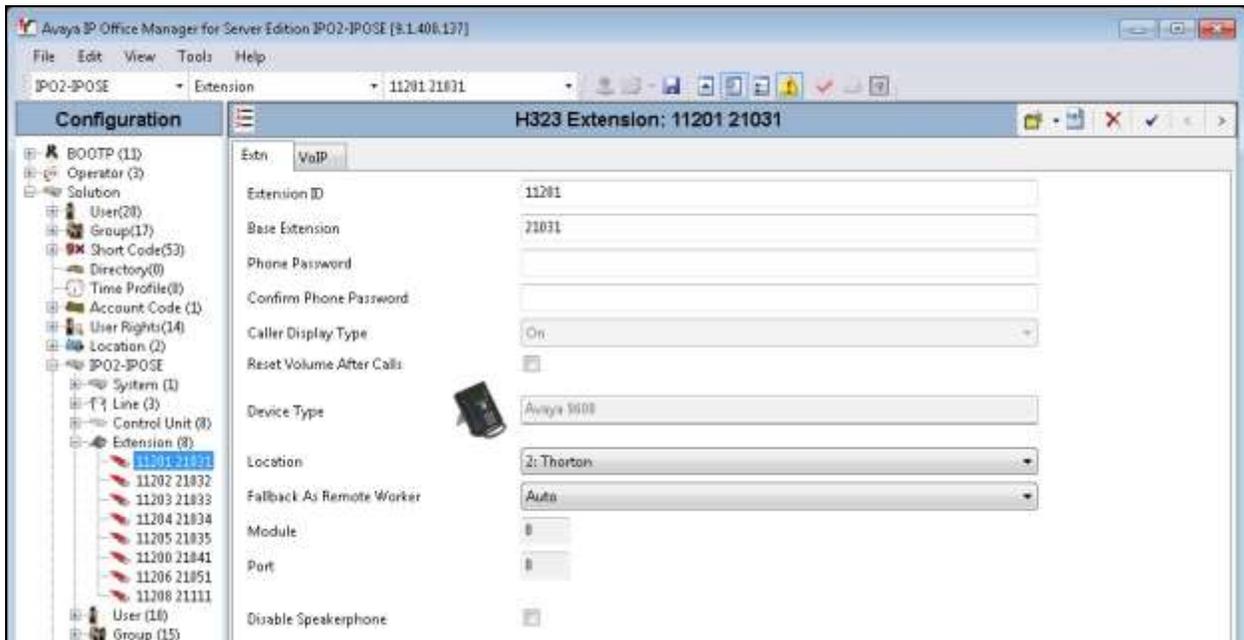

Repeat this section to assign the applicable location to all extension entries in the expansion IP
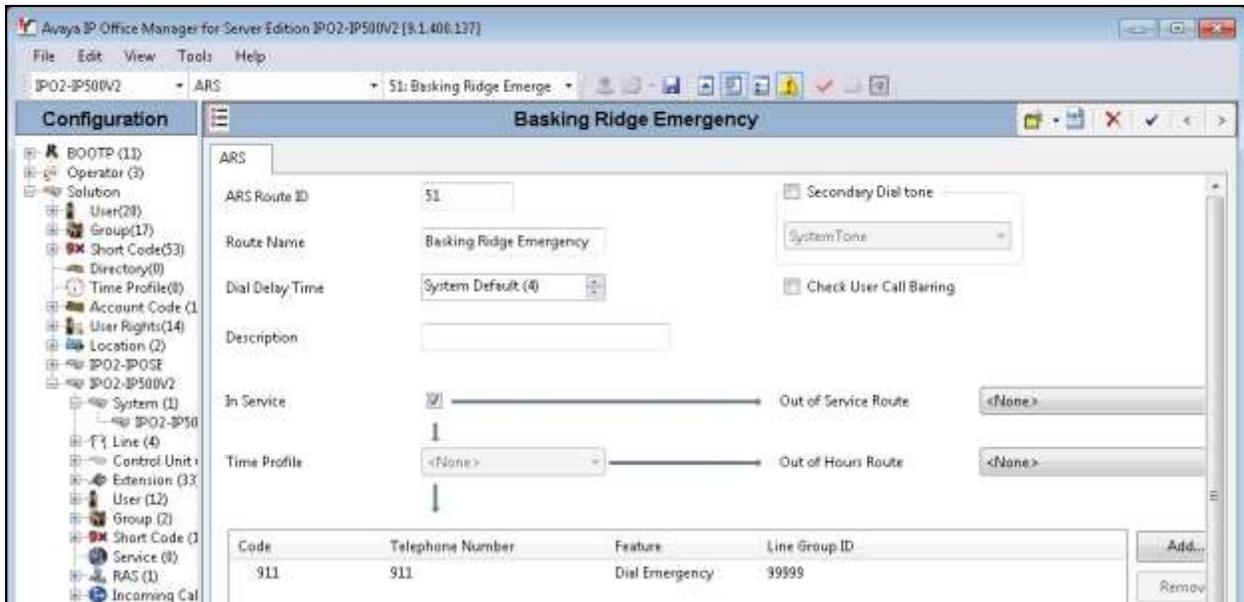Office system, as shown below.
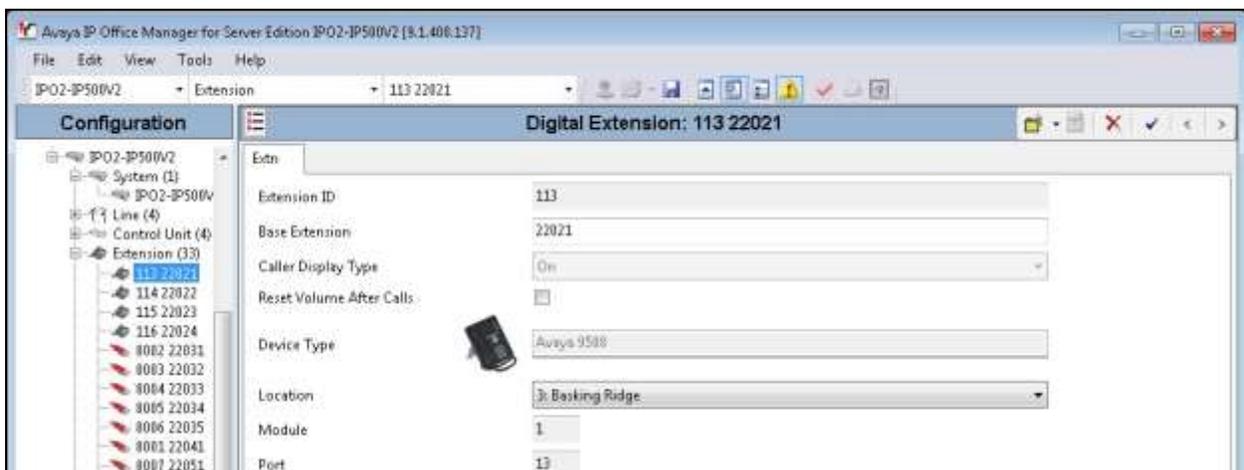
5.4. Administer ARS

From the configuration tree in the left pane, right-click on **Solution → IPO2-IPOSE → ARS**, where **IPO2-IPOSE** is the name of the primary IP Office system, and select **New** from pop-up list to add a new ARS entry for routing of emergency call, if not already defined and routable.

The screenshot below shows the ARS entry added for the primary IP Office system, where **Line Group ID 8** is an existing line for connection to the emulated PSTN.
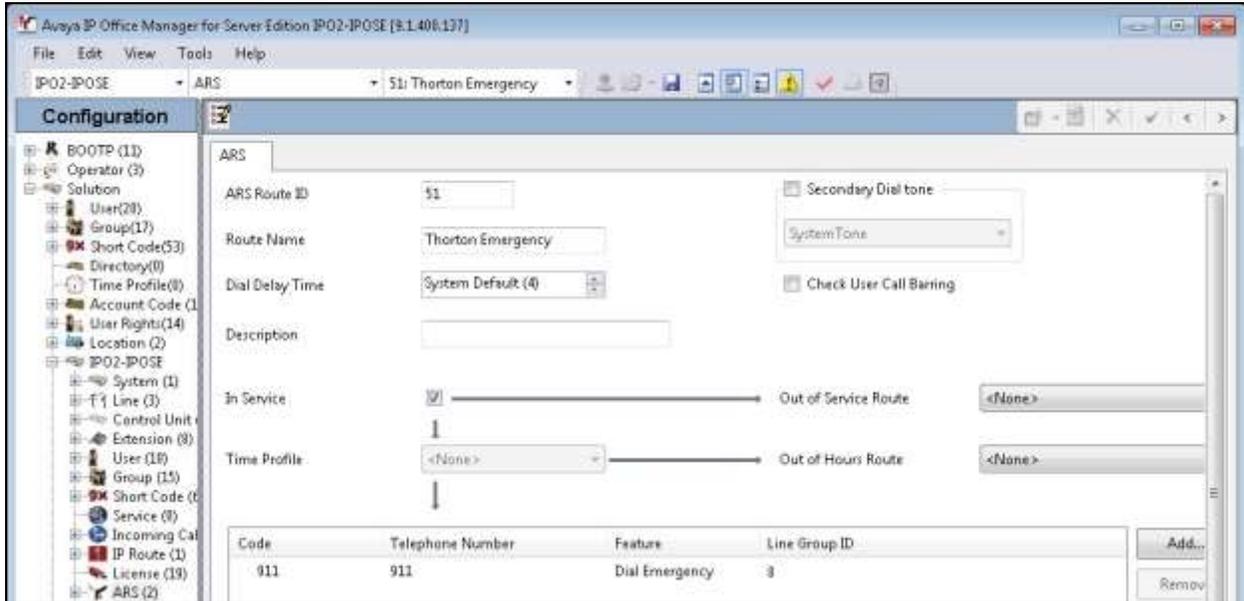

Repeat this section to add an ARS entry for the expansion IP Office system. In the compliance testing, **Line Group ID 99999** is an existing SCN line to the primary IP Office system.

5.5. Administer Locations with Emergency ARS

From the configuration tree in the left pane, under **Solution → IPO2-IPOSE → Location**, expand and select the location entry associated with the primary IP Office system from **Section 5.2**, in this case **Thorton**.

For **Emergency ARS**, select the ARS associated with routing of emergency calls for the primary IP Office system from **Section 5.4**, as shown below.
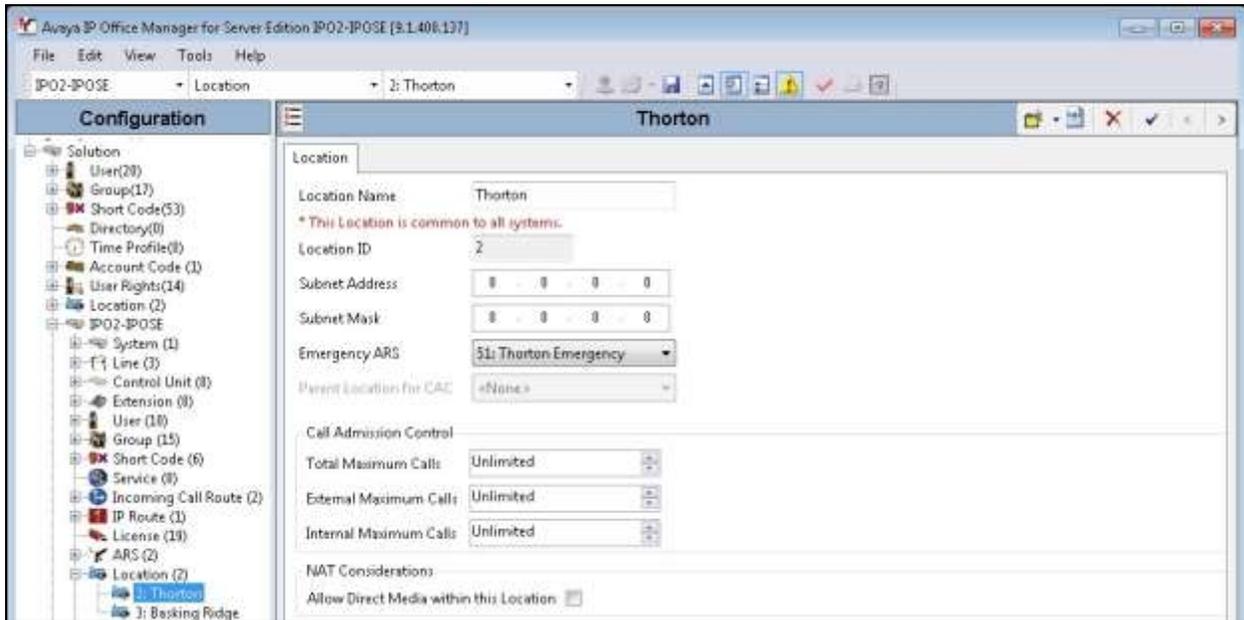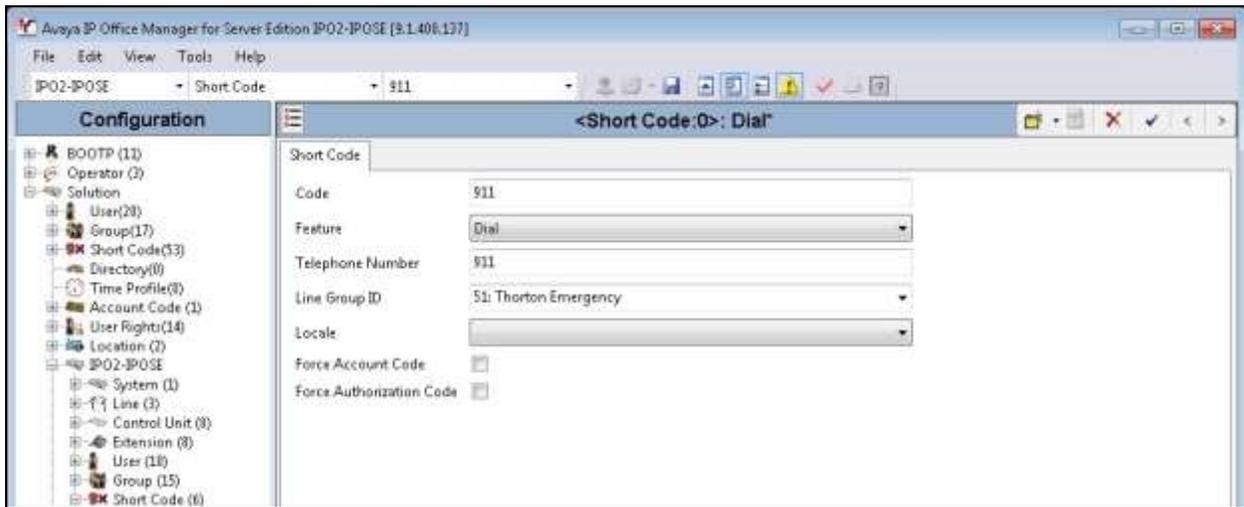

Repeat this section to administer the expansion IP Office system location with the appropriate ARS from **Section 5.4**, as shown below.
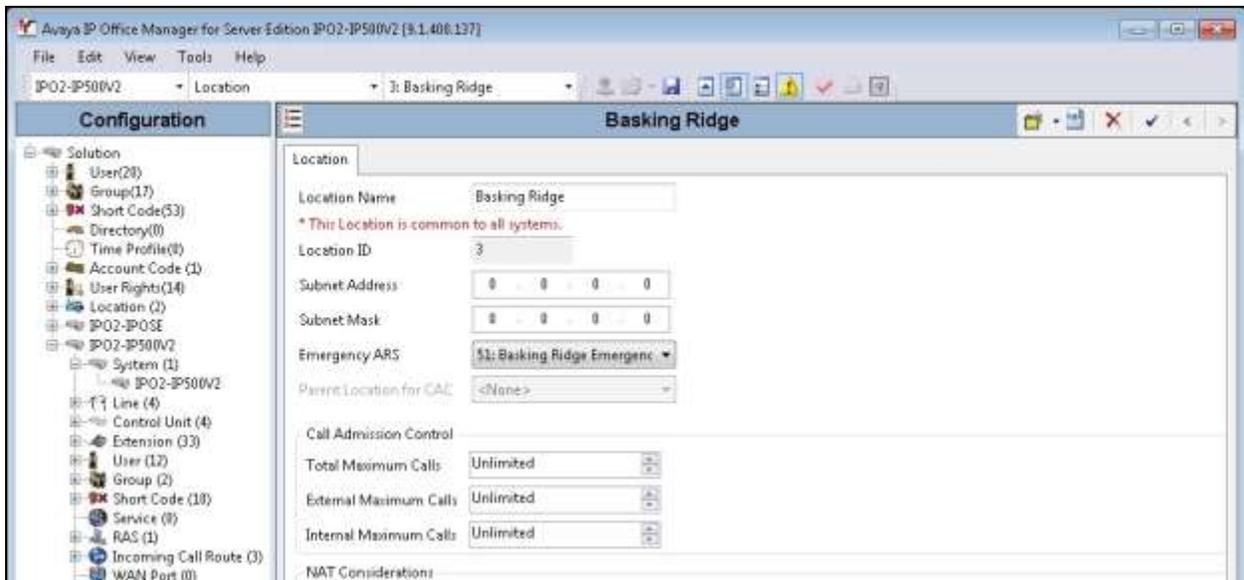
5.6. Administer Short Codes

From the configuration tree in the left pane, right-click on **Solution → IPO2-IPOSE → Short Code**, where **IPO2-IPOSE** is the name of the primary IP Office system, and select **New** from pop-up list to add a new short code for routing of emergency call. In the event that such short code already exists, then select the short code to make modifications. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Code:**   Digits that will be dialed for emergency call, in this case "911".
- **Feature:**   "Dial"
- **Telephone Number:** Applicable number for proper routing of emergency call to PSTN.
- **Line Group ID:**   The applicable ARS entry from **Section 5.4**.

Repeat this section to add or modify similar short code for routing of emergency calls for the expansion IP Office system, as shown below.
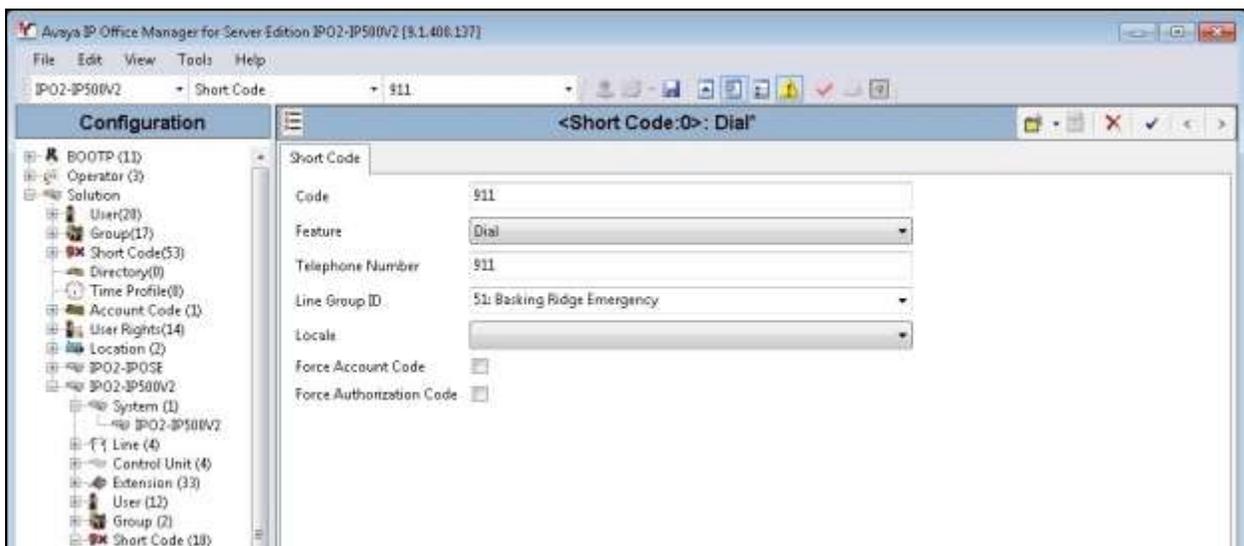
6. Configure Valcom VE6025 Application Server Pro

This section provides the procedures for configuring VE6025. The procedures include the following areas:

- Launch web interface
- Administer audio editor
- Administer event editor
- Administer play list
- Administer text monitors

In the compliance testing, one set of audio file, event, play list, and text monitor was created for monitoring of both IP Office systems. Whenever a user on any IP Office system dials an emergency call, the IP speakers on both IP Office sites will be alerted by VE6025.

6.1. Launch Web Interface

Access the VE6025 web-based interface by using the URL "http://ip-address" in an Internet browser window, where "ip-address" is the IP address of the VE6025 server. Log in using the appropriate credentials.
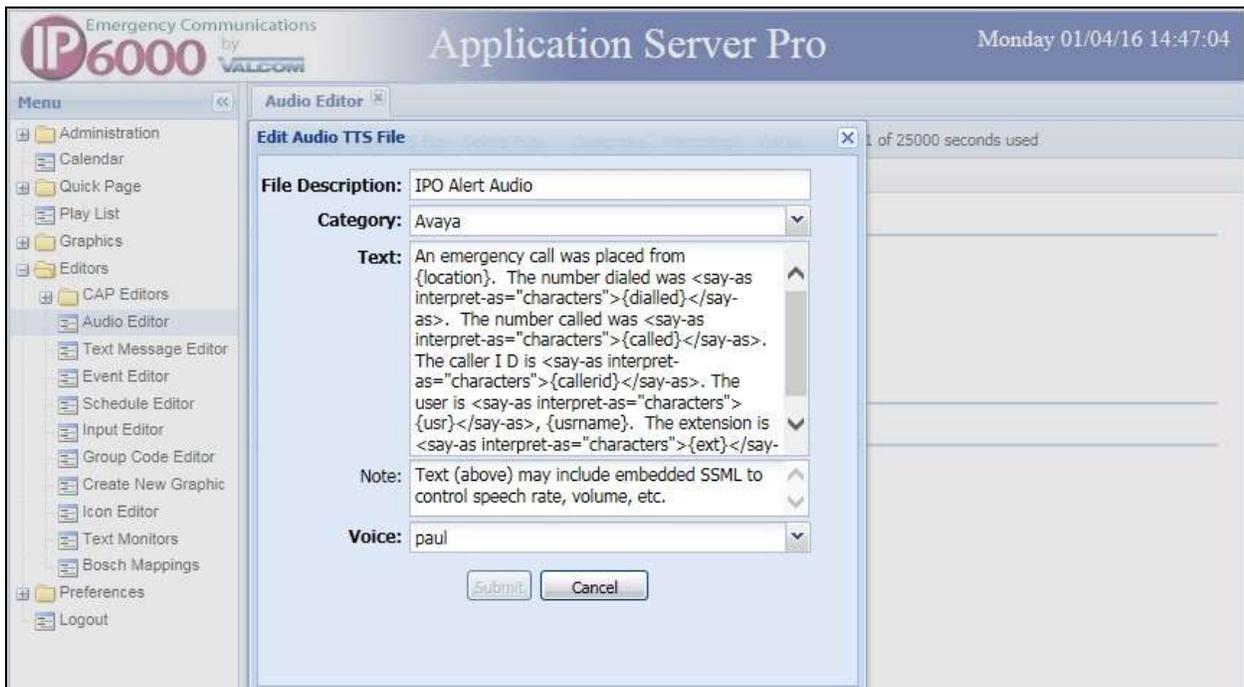
6.2. Administer Audio Editor

Select **Editors** → **Audio Editor** from the left pane to display the **Audio Editor** tab in the right pane. Select **New TTS File**.

The **New Audio TTS File** screen is displayed. For **File Description**, enter a desired description. For **Category**, select an applicable pre-configured category, in this case "Avaya". For **Text**, follow reference [3] to enter desired text to be spoken for emergency call alert. Retain the default values in the remaining fields.

6.3. Administer Event Editor

Select **Editors → Event Editor** from the left pane to display the **Event Editor** tab in the right pane. Select **Create Event**. Select **Audio File** in the subsequent pop-up box (not shown below).

The **Create New Audio File Event** screen is displayed. For **Event Name**, enter a desired name. For **Audio File**, select the audio file from **Section 6.2**. For **Selected Codes**, select desired codes from the **Available Codes** column. Retain the default values in the remaining fields.

In the compliance testing, the "999 Alert All" code entry corresponded to the two IP speakers shown in **Section 3**.

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6.4. Administer Play List

Select **Play List** from the left pane to display the **Play List** tab in the right pane. Select **Create Play List**.

The **Create New Play List** screen is displayed. For **Name**, enter a desired name. For **Event**, select the event name from **Section 6.3**. Retain the default values in the remaining fields.

6.5. Administer Text Monitors

Select **Editors → Text Monitors** from the left pane to display the **Text Monitors** tab in the right pane. Select **Create Text Monitor**.

The **Create New Text Monitor** screen is displayed. For **Name**, enter a desired name. For **Protocol** and **Port**, select and enter the protocol and port values for the primary IP Office system from **Section 5.1** respectively. Select **Add Filter**, as shown below.

The **Create New Filter** screen is displayed. For **Filter,** follow reference [3] to enter a desired filter to match SysLog emergency call events from IP Office. For **Play List Item**, select the play list from **Section 6.4**. For **Command**, select "start", as shown below.

Create additional filters as desired, to match all desired SysLog emergency call events from IP Office, such as the extra event associated with cross-systems emergency calls containing SCN trunk information, and the event associated with failed emergency calls with cause of "No channel", etc. In the compliance testing, only one filter was created for alerting of successful emergency calls.

Repeat this section to create a text monitor for the expansion IP Office system if needed. In the compliance testing, the same protocol and port values were used for both IP Office systems, and therefore only one text monitor was needed.

7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of IP Office and VE6025.

Establish an emergency 911 call from an IP Office user on the Main site with the PSTN.

Verify that the relevant IP speakers from **Section 6.3** received and played a call alert, with alert broadcast containing proper values for parameters such as the user location, name, and extension, as defined in **Section 6.2**.

In the compliance testing, the broadcast associated with an emergency call from an IP Office user 21031 with name "H323 Primary" on the Main site was spoken as "An emergency call was placed from Thorton. The number dialed was 911. The number called was 911. The caller ID is 21031. The user is 21031 H323 Primary. The extension is 21031".

Repeat with an emergency call from an IP Office user on the Remote site, and verify similar results. In the compliance testing, the broadcast associated with an emergency call from an IP Office user 22031 with name of "H323 Expansion" on the Remote site was spoken as "An emergency call was placed from Basking Ridge. The number dialed was 911. The number called was 911. The caller ID is 22031. The user is 22031 H323 Expansion. The extension is 22031".

8. Conclusion

These Application Notes describe the configuration steps required for Valcom VE6025 Application Server Pro to successfully interoperate with Avaya IP Office Server Edition. All feature and serviceability test cases were completed with observations noted in **Section 2.2**.

9. Additional References

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

1. *Administering Avaya IP Office™ Platform with Manager*, Release 9.1.0, Issue 10.03, February 2015, available at http://support.avaya.com.

2. *Making Use of the Emergency Services Access Enhancements in IP Office Release 9.0/9.1*, available at http://support.avaya.com.

3. *IP6000 Emergency Notification System Overview*, rev. 1.10, 2015, available at http://www.valcom.com/documents/VE6024-VE6025SetupManual.pdf.