Avaya Solution & Interoperability Test Lab

Application Notes for Valcom PagePro IP with Avaya IP Office – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Valcom PagePro IP to successfully interoperate with Avaya IP Office. The Valcom PagePro IP is a SIP-based paging device that integrates 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 the Valcom PagePro IP to successfully interoperate with Avaya IP Office. The Valcom PagePro IP is a SIP-based paging device that integrates with Avaya IP Office as SIP endpoints.

1.1. Interoperability Compliance Testing

The interoperability compliance test plan included feature and serviceability test cases.

The feature testing covered SIP registration, basic calls, simultaneous calls, display verification, media shuffling, and audio codec negotiation. Various SIP access numbers for the Valcom PagePro IP device were dialed to test connection to the proper speaker groups.

The serviceability testing focused on verifying the ability of the Valcom PagePro IP to recover from adverse conditions, such as disconnecting and reconnecting the Ethernet cable to the device, and rebooting Avaya IP Office.

1.2. Support

Technical support for Valcom can be obtained through the following:

- **Phone:** (800) VALCOM1
- **Email:** support@valcom.com

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2. Reference Configuration

The Valcom PagePro IP can register with Avaya IP Office as eight separate SIP endpoints (access numbers), providing up to eight zones of SIP-based paging. When a call is placed to one of the access numbers, the device answers the call and automatically establishes a one-way communication path with a preconfigured group of IP speakers and/or analog speakers/gateways associated with the access number. During compliance testing, the following Valcom Talkback IP Speakers were used as the preconfigured destinations for the access numbers:

- VIP-148L
- VIP-160
- VIP-172L
- VIP-422
- VIP-431-DS

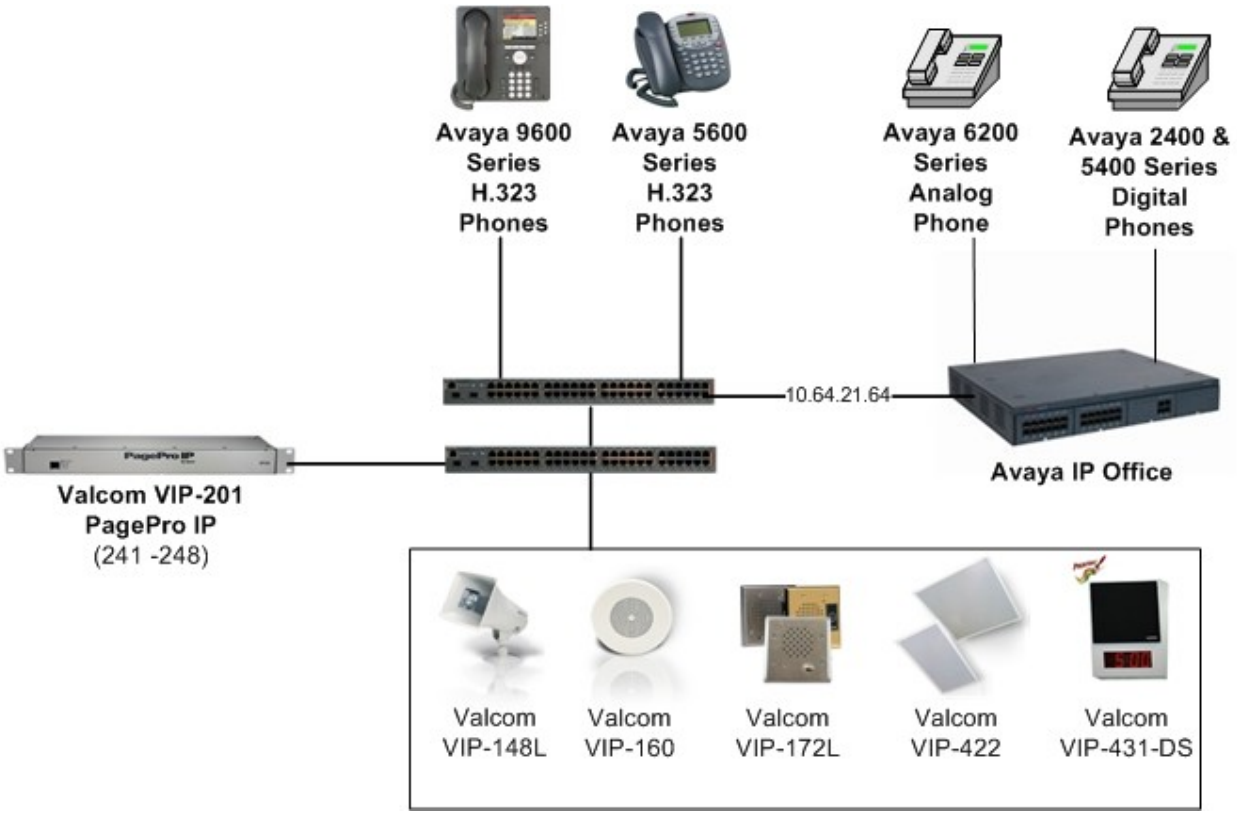

Figure 1: Valcom PagePro IP with Avaya IP Office

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3. Equipment and Software Validated

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

Equipment	Software
Avaya IP Office 500	6.0 (8)
Avaya IP Office 500 Phone Expansion Module Analog POTS 30 V2	6.0 (8)
Avaya IP Office Manager (Windows PC)	6.0 (8)
Avaya 5610SW IP Telephone (H.323)	2.9.1
Avaya 9620 IP Telephone (H.323)	3.002
Avaya 2420 Digital Telephone	R6 Firmware
Avaya 5420 Digital Phone	R6 Firmware
Avaya 6210 Analog Telephone	n/a
Valcom PagePro IP • VIP-201	2.17
Valcom Talkback IP Speakers • VIP-148L • VIP-160 • VIP-172L • VIP-422 • VIP-431-DS	2.17

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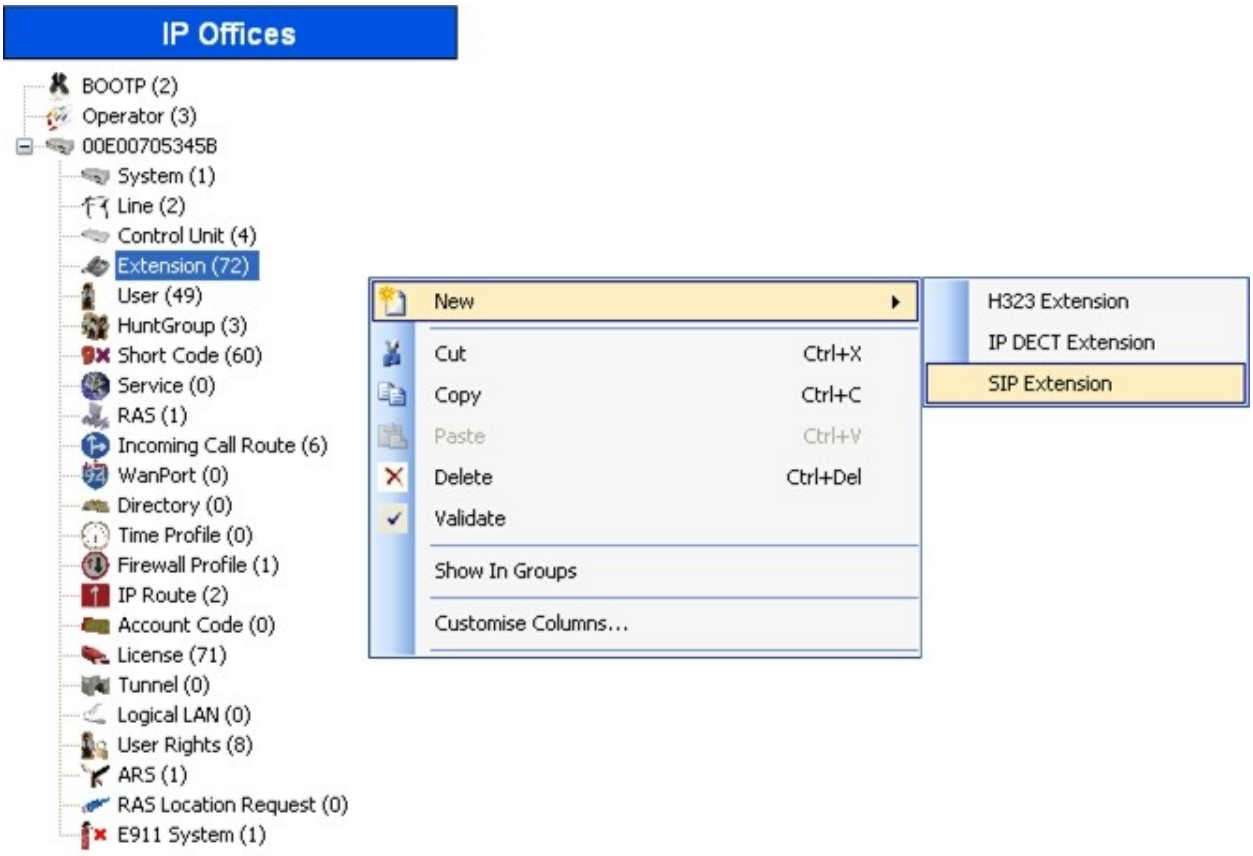
4. Configure Avaya IP Office

This section describes the steps required to configure SIP extensions and users on IP Office.

IP Office is configured via the IP Office Manager program. Log into the IP Office Manager PC and select **Start → Programs → IP Office → Manager** to launch the Manager application. Log into the IP Office Manager application using the appropriate credentials.

4.1. Administer Extensions

Create an extension for a Valcom Talkback IP Speaker. Right-click on **Extension** in the left panel menu and select **New → SIP Extension**.



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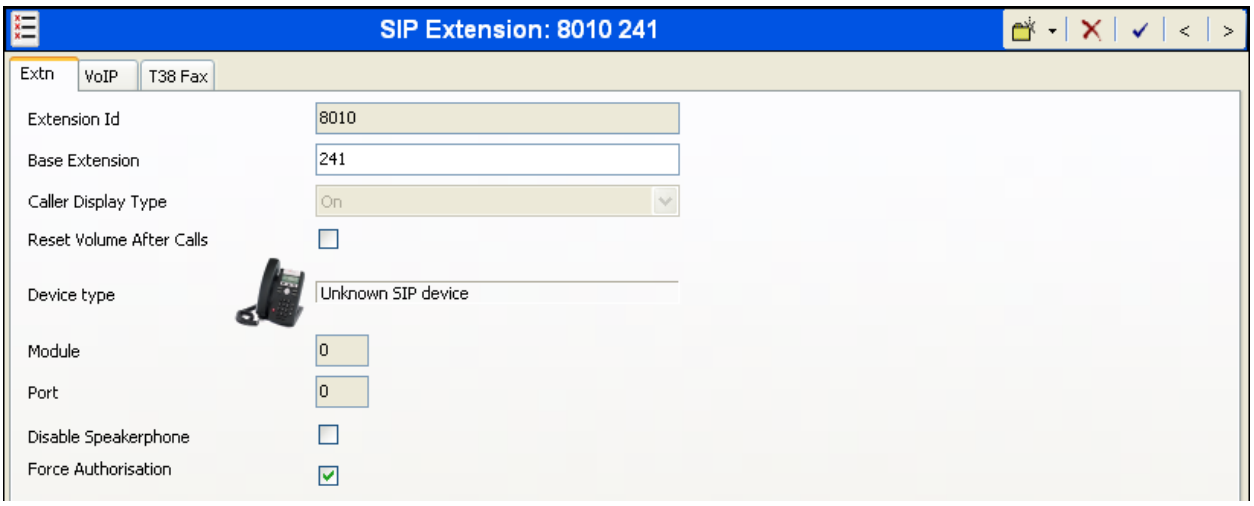
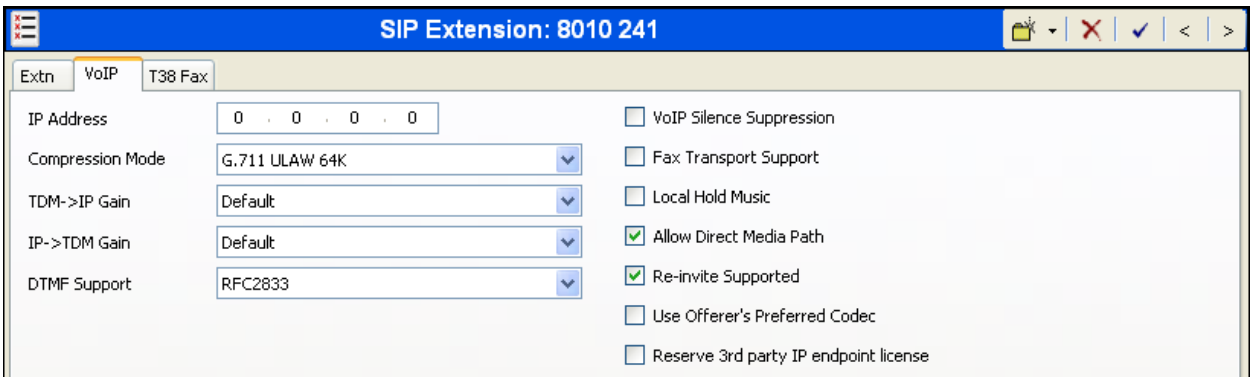
On the **Extn** tab, enter a valid **Base Extension**.



On the **VoIP** tab, select **G.711 ULAW 64K** for **Compression Mode** and **RFC2833** for **DTMF Support**.



Click the **OK** button on the bottom of the screen (not shown).

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4.2. Administer Users

Create a user for a Valcom Talkback IP Speaker. Right-click **User** from the left panel and select **New**.

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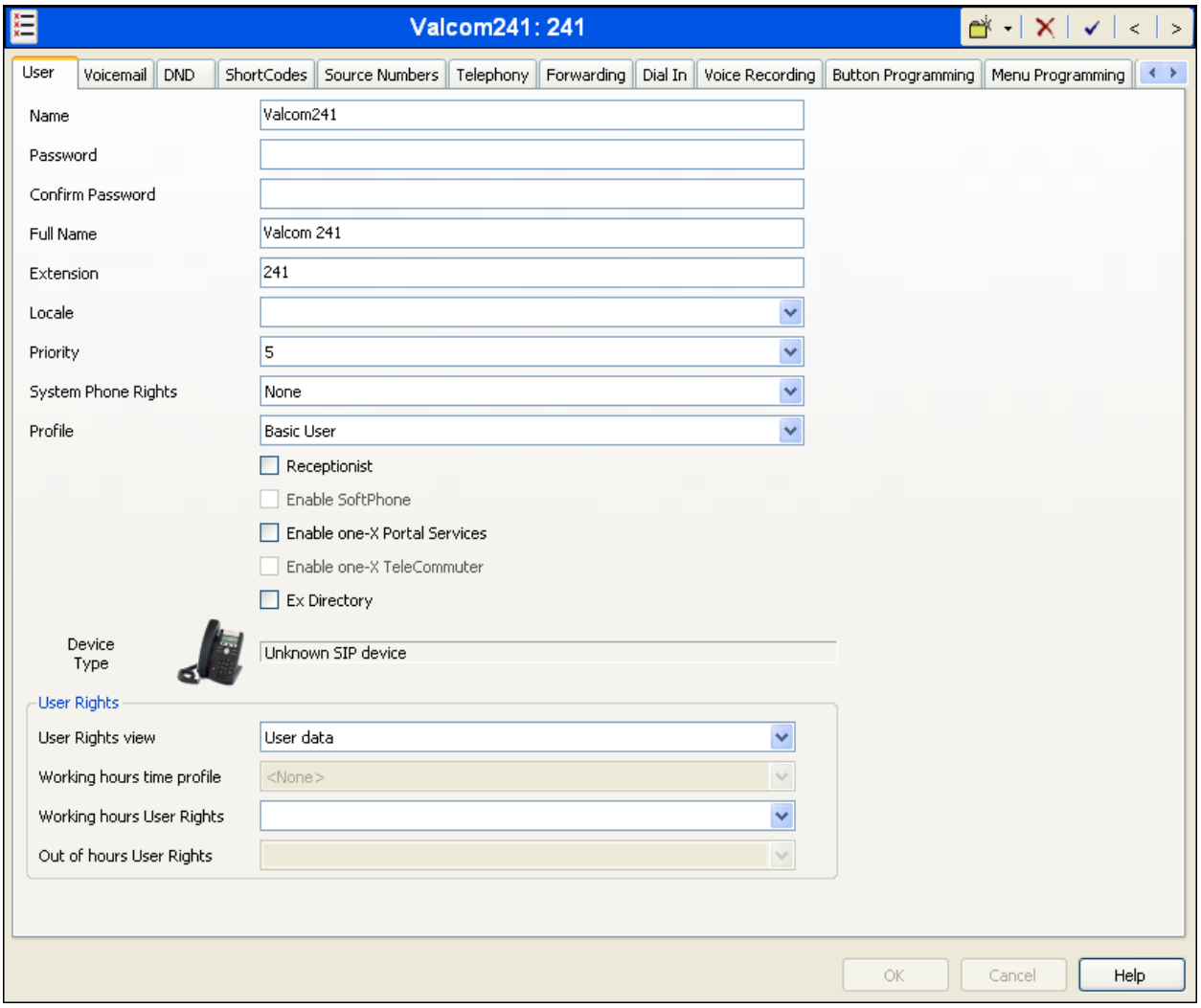
Under the **User** tab, enter the values below for the specified fields, and retain the default values in the remaining fields.

- **Name** Enter a desired name.
- **Full Name** Enter a descriptive name.
- **Extension** Enter the extension configured in **Section 4.1**.



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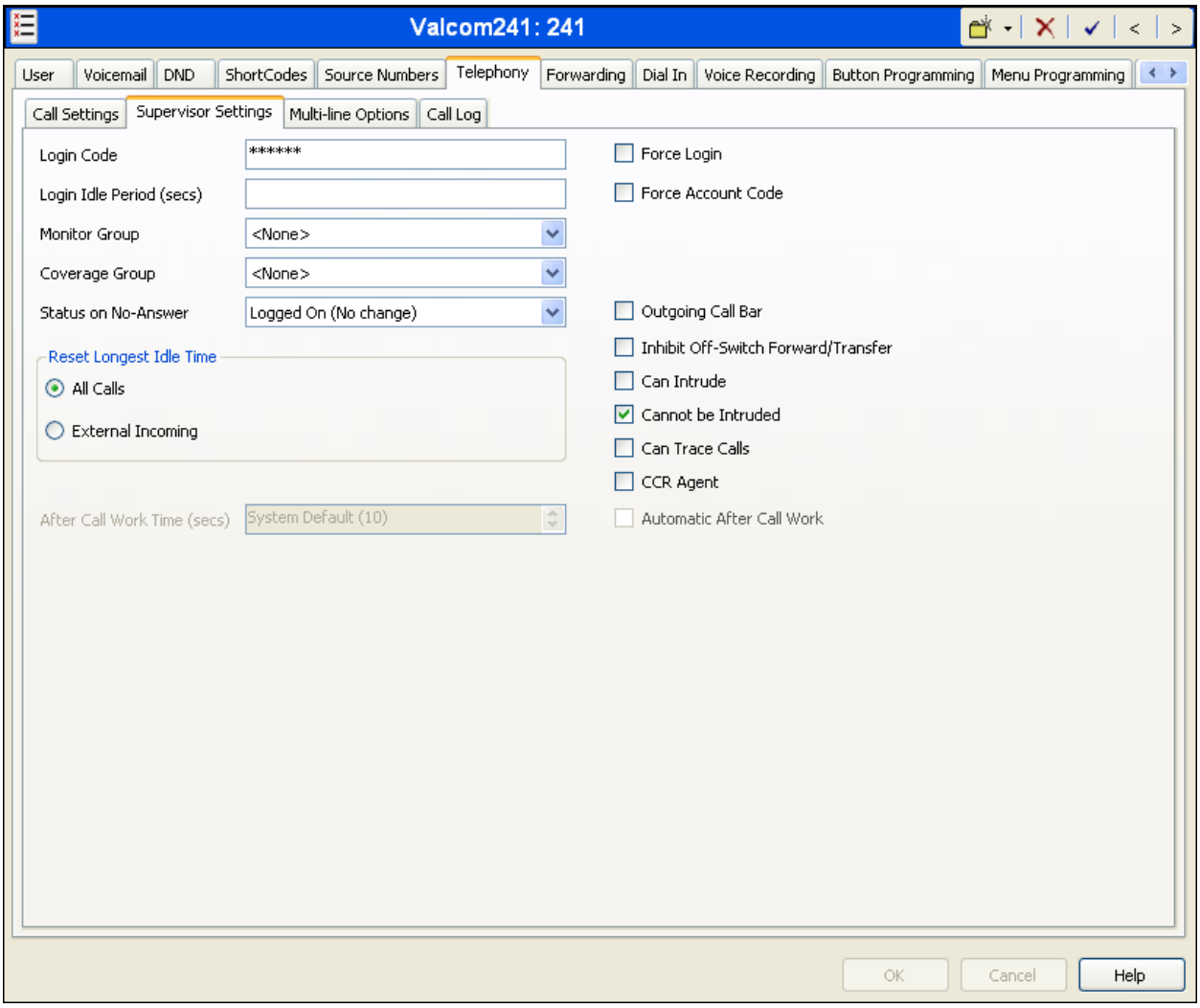
Under the **Telephony → Supervisor Settings** tab, enter a value for the specified field below, and retain the default values in the remaining fields.

- **Login Code** Enter the desired login code.



Click the **OK** button on the bottom of the screen and repeat the procedures in **Sections 4.1** and **4.2** for each of the eight access numbers configured on the Valcom PagePro IP in **Section 5**.

After making the changes, click **File → Save Configuration** to push the changes to the IP Office system and have them take effect. Changes will not take effect until this step is completed.
**** NOTE ** This may cause a reboot of Avaya IP Office causing service disruption.**

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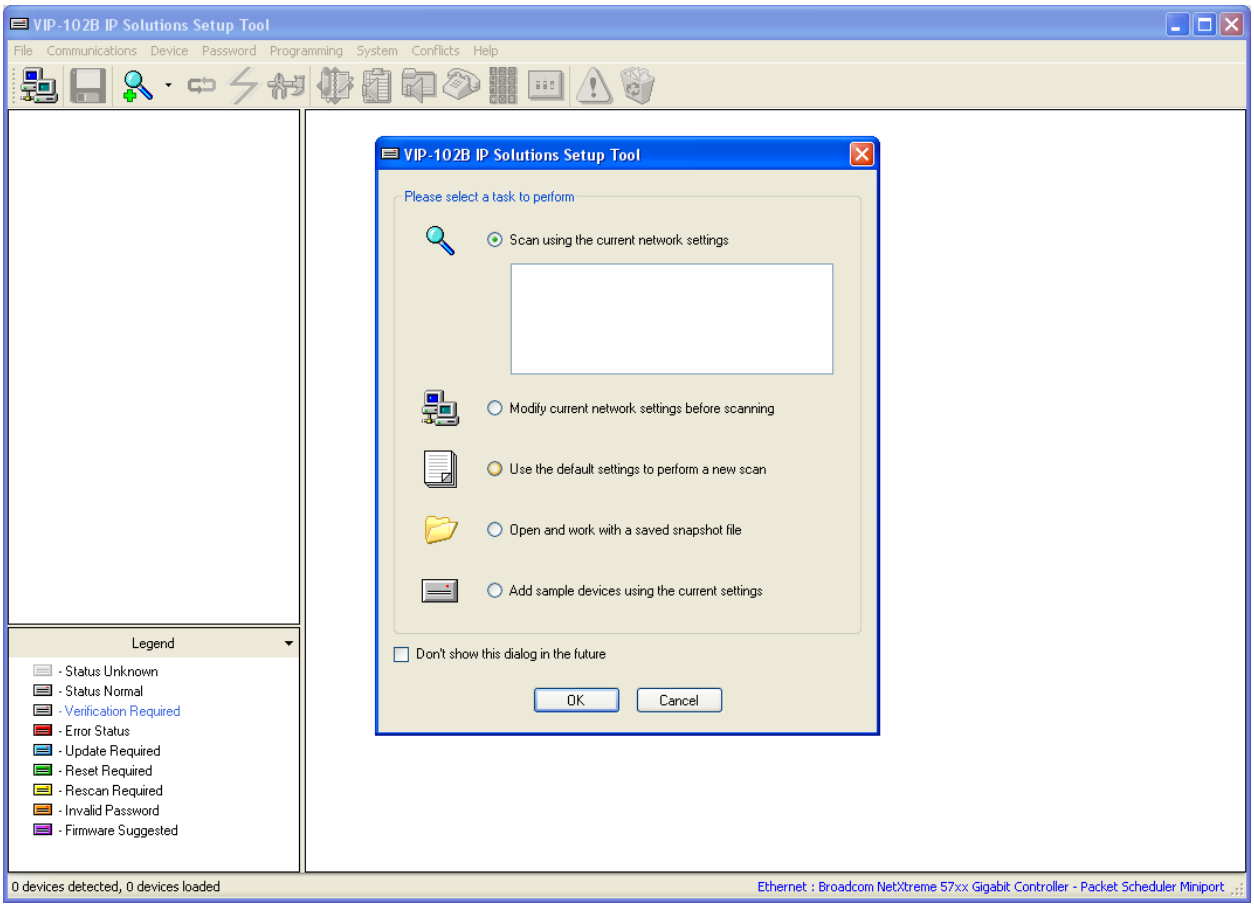
5. Configure Valcom PagePro IP

This section provides the procedures for configuring Valcom PagePro IP. The information shown is the minimum for configuring the Valcom device. Complete configuration details may be found in the Valcom documentation listed in **Section 9**. The procedures include the following areas:

- Launch setup tool
- Administer properties
- Administer network
- Administer group membership
- Administer SIP

5.1. Launch Setup Tool

From a PC running the Valcom VIP-102B IP Solutions Setup Tool application, select **Start → All Programs → Valcom IP Solutions → VIP-102B IP Solutions Setup Tool**. The **VIP-102B IP Solutions Setup Tool** screen is displayed. Retain the default values and click **OK** to scan for Valcom devices.



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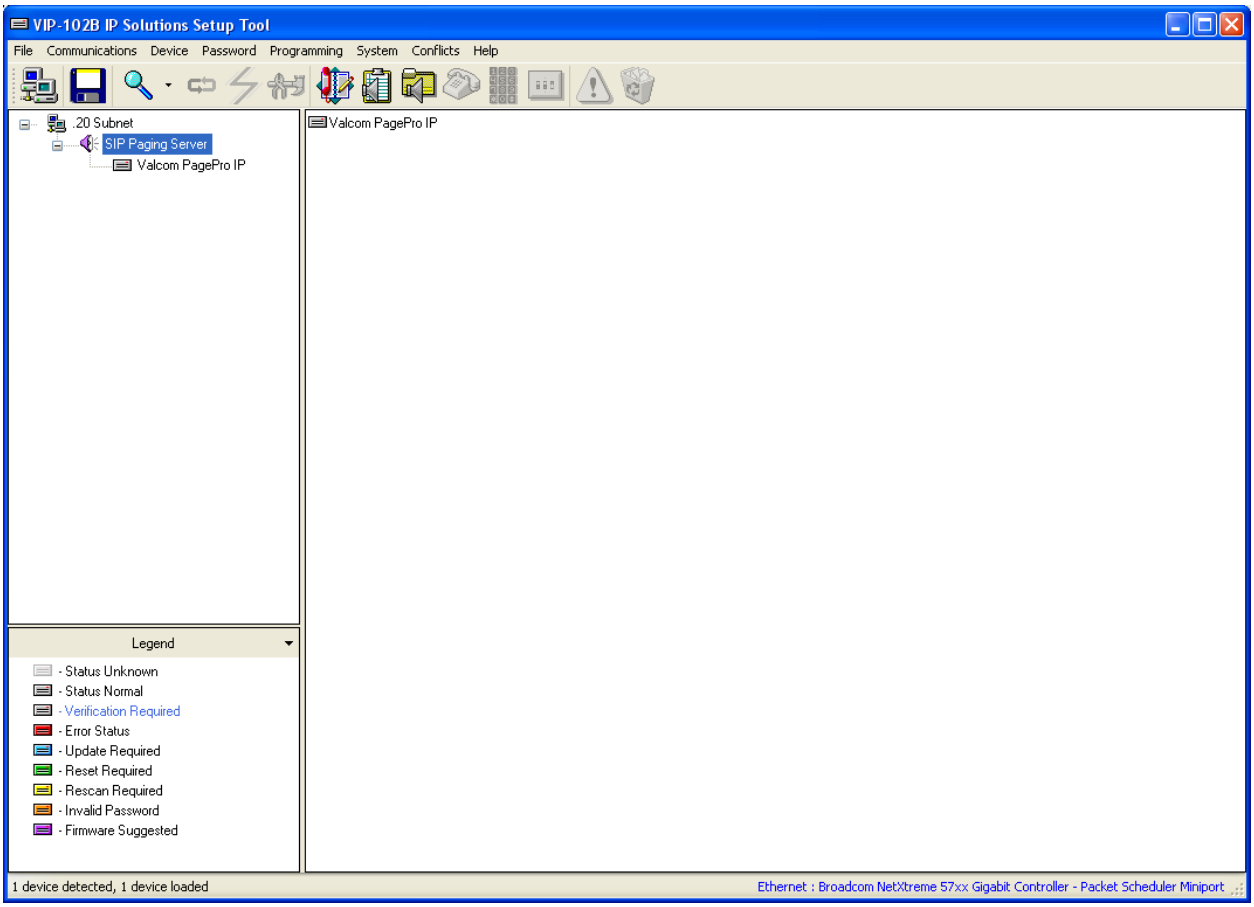
At the conclusion of the scan, the **VIP-102B IP Solutions Setup Tool** screen is updated with the discovered Valcom PagePro IP as shown below.



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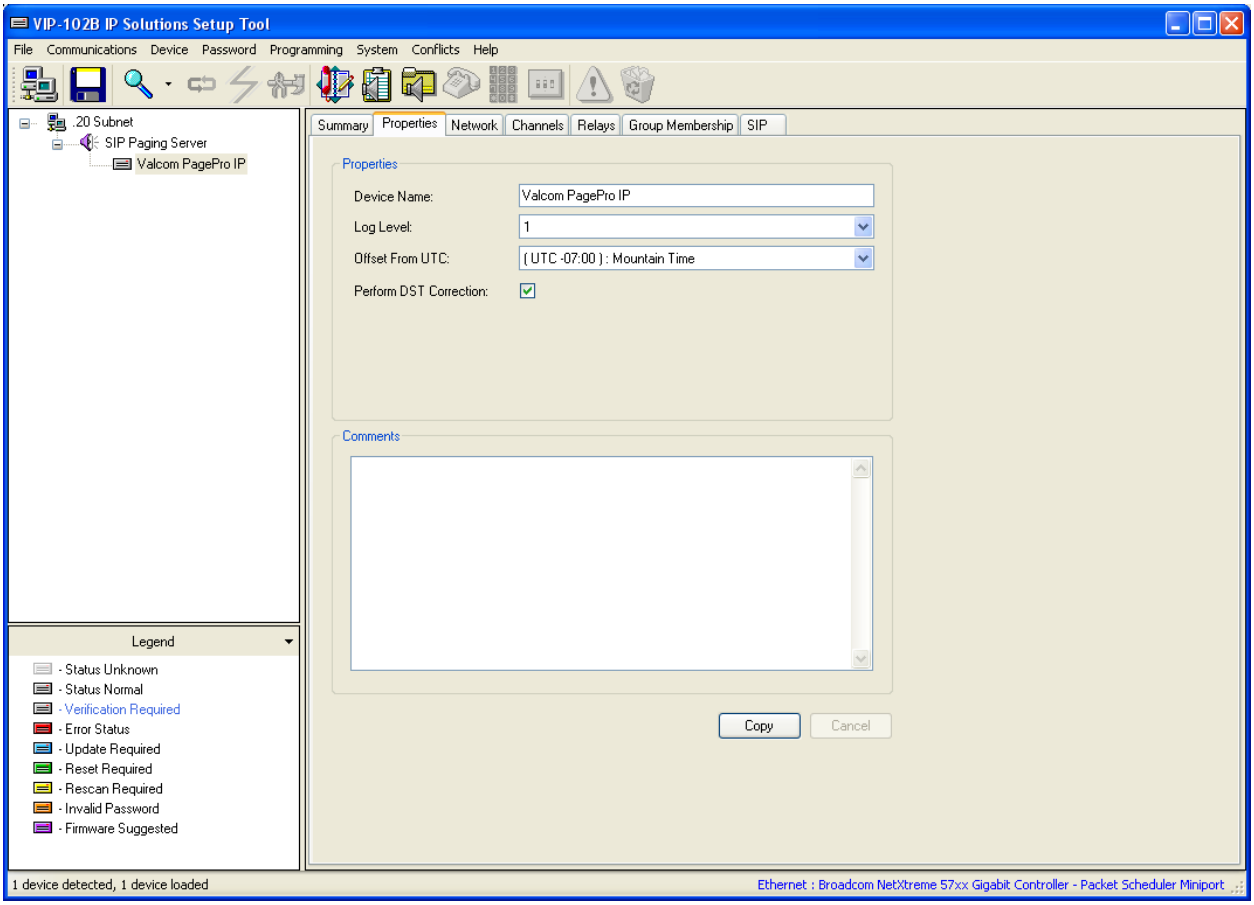
5.2. Administer Properties

Select the Valcom PageProIP from the left pane to display the configuration tabs in the right pane. Select the **Properties** tab, and enter a descriptive **Device Name**. Select the appropriate time zone in the **Offset From UTC** field, and enter any desired **Comments**.



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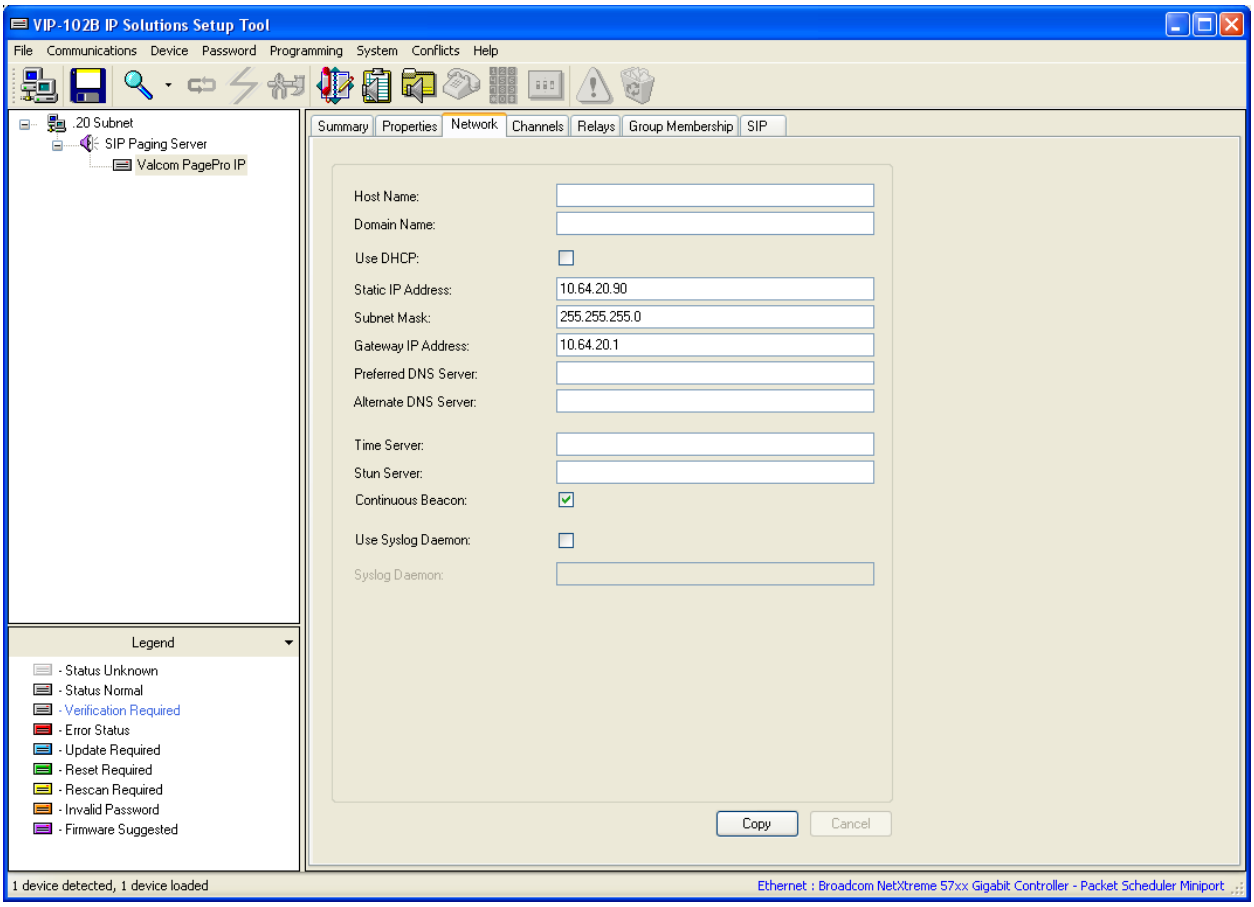
5.3. Administer Network

Select the **Network** tab and enter the appropriate values. During compliance testing, a **Static IP Address**, **Subnet Mask**, and **Gateway IP Address** were populated for the network configuration. The default values in the remaining fields were retained.



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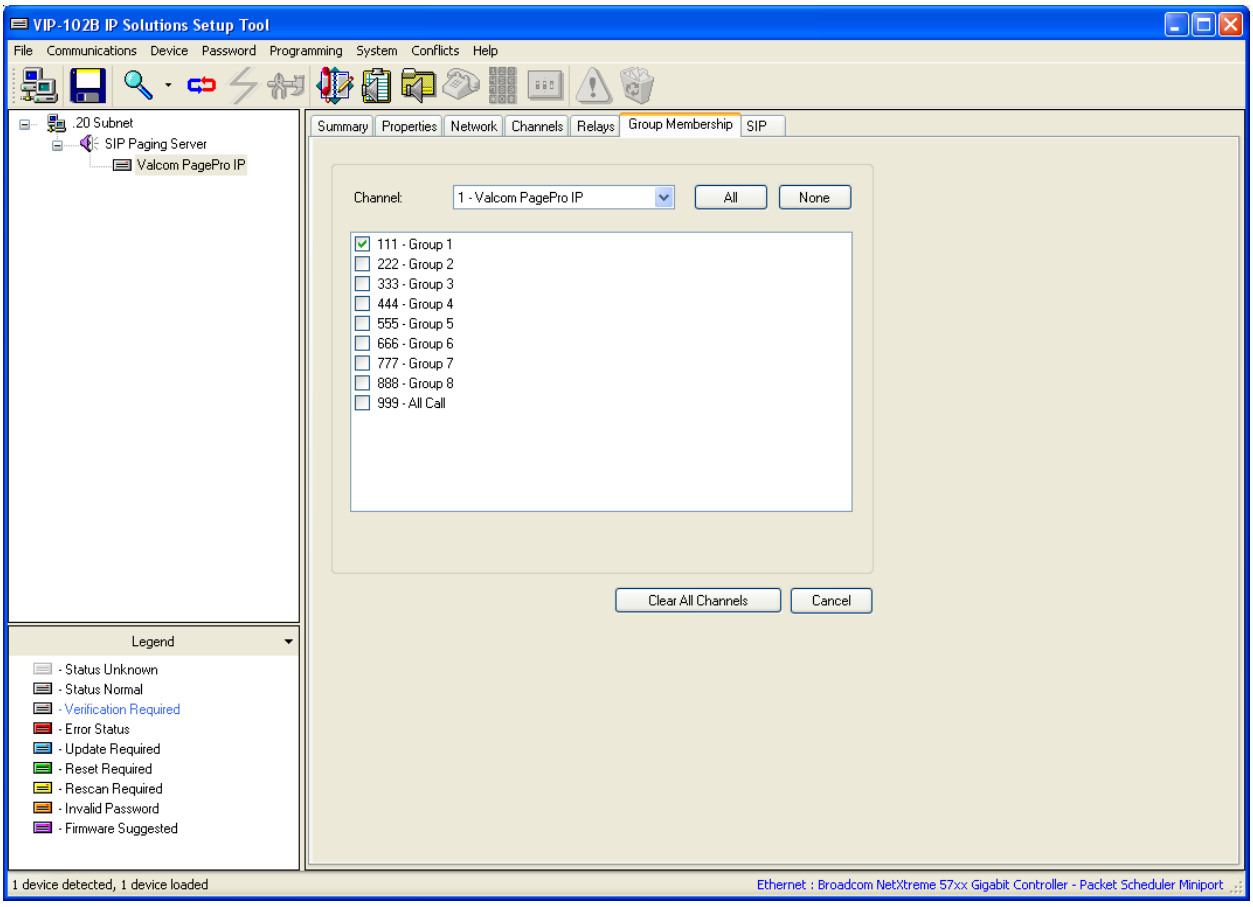
5.4. Administer Group Membership

Select the **Group Membership** tab. Follow the appropriate documentation in **Section 9** to create the applicable speaker groups.



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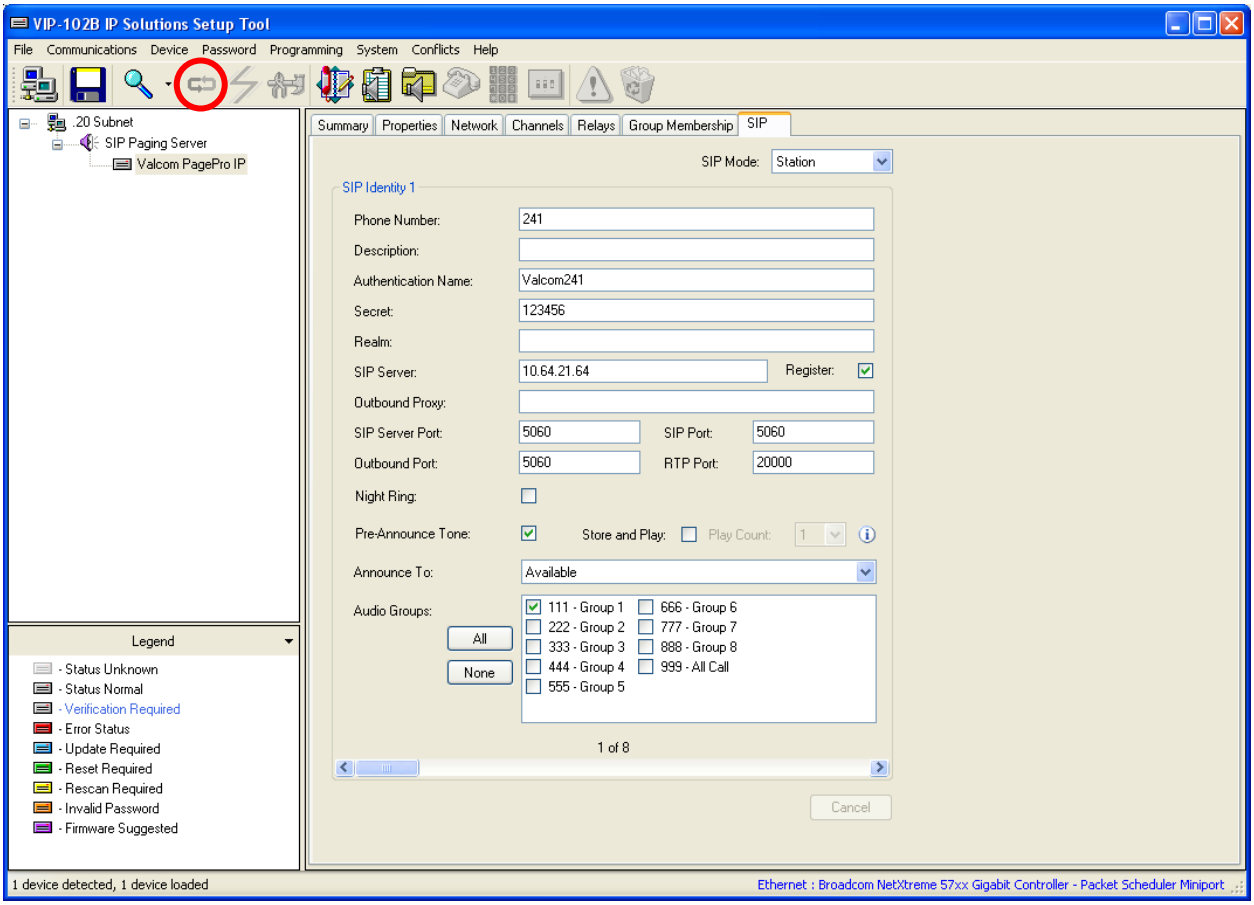
5.5. Administer SIP

Select the **SIP** tab. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Phone Number:** Enter the "Base Extension" from **Section 4.1**.
- **Authentication Name:** Enter the "Name" from **Section 4.2**.
- **Secret:** Enter the "Login Code" from **Section 4.2**.
- **SIP Server:** Enter the IP address of Avaya IP Office.
- **Register:** Check this field.
- **Store and Play:** Check this field if desired (left unchecked below).
- **Audio Groups:** Select the desired group(s) of speakers to connect.

Move the slide toward the bottom of the screen to the right to administer **SIP Identity 2** (not shown), and use the credentials for the second SIP user from **Section 4.2**. Repeat this section to administer all eight SIP identities.



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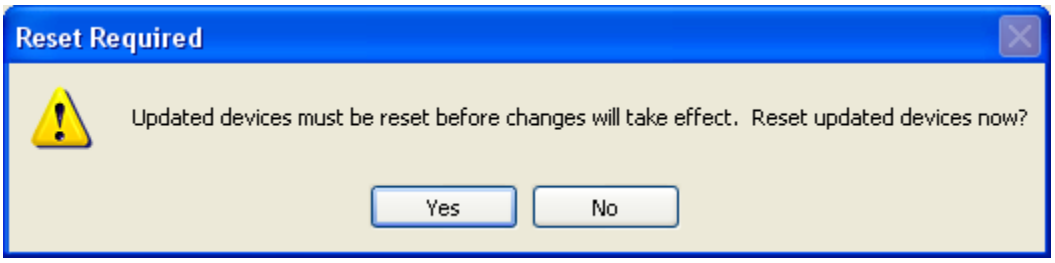
Click on the **Update Changed Devices** icon circled above. The **Reset Required** dialog box will appear as shown below. Click **Yes** to reset the updated devices.



6. General Test Approach and Test Results

The interoperability compliance test included feature and serviceability testing.

The feature testing covered SIP registration, basic calls, simultaneous calls, display verification, media shuffling, and audio codec negotiation. The feature test cases were performed manually. Various access numbers for the Valcom PagePro IP device were dialed to test connection to the proper speaker groups.

The serviceability testing focused on verifying the ability of the Valcom PagePro IP device to recover from adverse conditions, such as disconnecting and reconnecting the LAN cable to the Valcom PagePro IP. Additionally, the Avaya IP Office server was rebooted to verify the Valcom PagePro IP device was able to properly register and function normally after the server recovered.

All feature test cases were executed and passed with the following observations:

- When shuffling (Direct IP-IP Audio) was enabled on Avaya IP Office, calls involving the Valcom devices did not shuffle.

7. Verification Steps

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

7.1. Verify Valcom PagePro IP

Make a call to one of the access numbers for the Valcom PagePro IP device. Verify that the caller hears a pre-announce tone, and is connected to the appropriate speaker group from **Section 5.4** with a one-way talk path.

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8. Conclusion

These Application Notes describe the configuration steps required for Valcom PagePro IP to successfully interoperate with Avaya IP Office.

All feature and serviceability test cases were completed with observations listed in **Section 6**.

9. Additional References

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

1. *IP Office 6.0 Documentation CD - English*, February 2010, available at http://support.avaya.com

2. PagePro IP SIP Based Paging Server documentation is available at http://www.valcom.com

3. Valcom Talkback IP Speaker documentation is available at http://www.valcom.com

4. Valcom VIP-102B IP Solutions Setup Tool Reference Manual is available at http://www.valcom.com

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