Avaya Solution & Interoperability Test Lab

Application Notes for Valcom VIP-172L IP Intercom with Avaya Communication Manager using Avaya SIP Enablement Services – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for the Valcom VIP-172L IP Intercom device to successfully interoperate with Avaya Communication Manager using Avaya SIP Enablement Services. The Valcom VIP-172L IP Intercom is a SIP-based doorphone/intercom device that integrates with Avaya Communication Manager 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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1. Introduction

These Application Notes describe the configuration steps required for the Valcom VIP-172L IP Intercom device to successfully interoperate with Avaya Communication Manager using Avaya SIP Enablement Services (SES). Valcom VIP-172L IP Intercom is a SIP-based doorphone/ intercom that integrates with Avaya Communication Manager as a SIP endpoint and registers to Avaya SES.

When the call button is pressed on the Valcom VIP-172L IP Intercom, the device initiates a call to the preconfigured destination that resides on Avaya Communication Manager, and provides hands-free two-way communication.

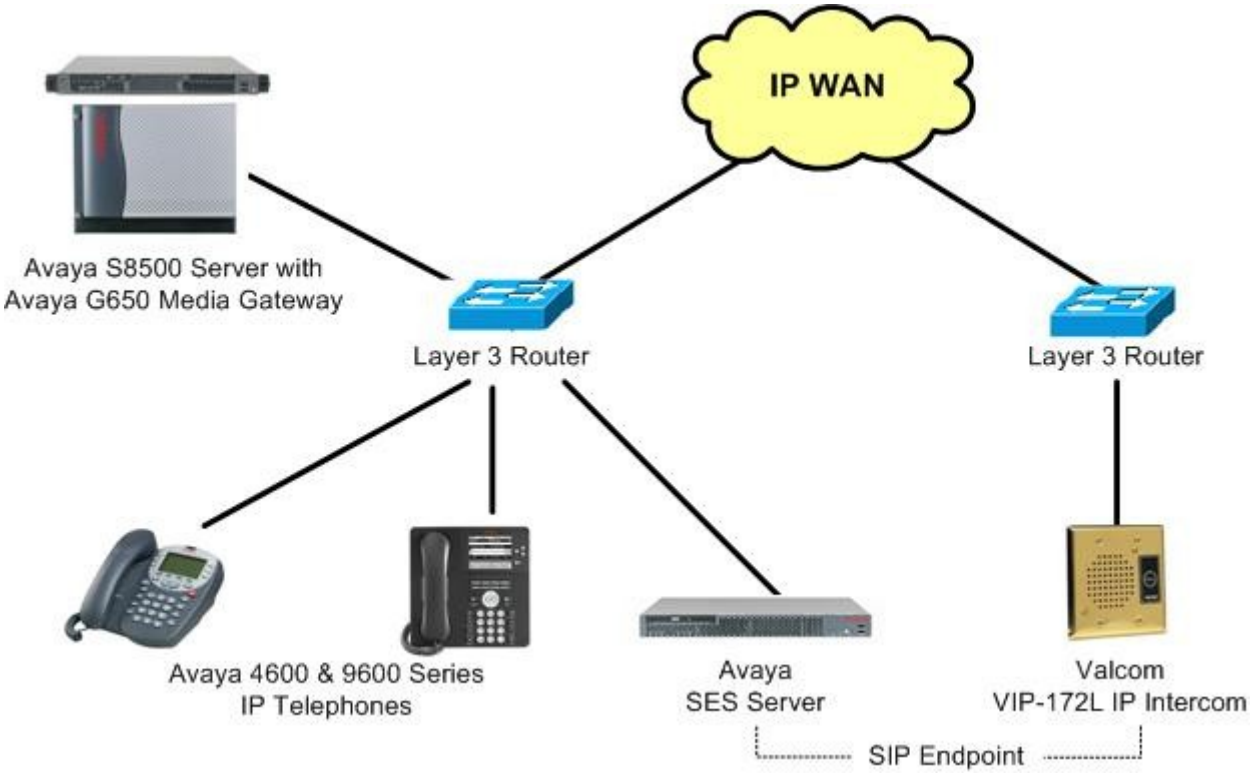

Figure 1: Valcom VIP-172L IP Intercom with Avaya Communication Manager using Avaya SES

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2. Equipment and Software Validated

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

Equipment	Software
Avaya S8500 Server	Avaya Communication Manager 5.0, R015x.00.0.825.4
Avaya G650 Media Gateway • TN799DP C-LAN Circuit Pack	 HW13 FW021
Avaya SIP Enablement Services	5.0, SES-5.0.0.0-825.31
Avaya 4600 Series IP Telephones (H.323)	2.9
Avaya 9600 Series IP Telephones (SIP)	2.2
Valcom VIP-172L IP Intercom	2.08-1.12
Valcom VIP-102B IP Solutions Setup Tool	2.1.0.0

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3. Configure Avaya Communication Manager

The detailed administration of basic connectivity between Avaya Communication Manager and Avaya SES is not the focus of these Application Notes and will not be described. For administration of basic connectivity to Avaya SES, refer to the appropriate documentation listed in **Section 10**. This section provides the procedures for the following:

- Verify Avaya Communication Manager License
- Administer SIP station

3.1. Verify Avaya Communication Manager License

Log into the System Access Terminal (SAT) to verify that the Avaya Communication Manager license has proper permissions for features illustrated in these Application Notes. Use the "display system-parameters customer-options" command to verify that there is sufficient capacity for SIP stations by comparing the **Maximum Off-PBX Telephones - OPS** field value with the corresponding value in the **USED** column. The difference between the two values needs to be greater than or equal to the desired number of Valcom VIP-172L IP Intercom devices.

```
display system-parameters customer-options                    Page   1 of  11
                              OPTIONAL FEATURES

     G3 Version: V15                            Software Package: Standard
       Location: 1                           RFA System ID (SID): 1
       Platform: 12                          RFA Module ID (MID): 1

                                                          USED
                                Platform Maximum Ports: 3200  234
                                     Maximum Stations: 2400  173
                                Maximum XMOBILE Stations: 0     0
                    Maximum Off-PBX Telephones - EC500: 0     0
                    Maximum Off-PBX Telephones -   OPS: 100   6
                    Maximum Off-PBX Telephones - PBFMC: 0     0
                    Maximum Off-PBX Telephones - PVFMC: 0     0
                    Maximum Off-PBX Telephones - SCCAN: 0     0

        (NOTE: You must logoff & login to effect the permission changes.)
```


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3.2. Administer SIP Station

Add a SIP station for each Valcom VIP-172L IP Intercom device by using the "add station n" command, where "n" is an available extension number. Enter the following values for the specified fields, and retain the default values for the remaining fields. Note that there is no need to set the security code, as this will be administered on the Avaya SES server.

- **Port:** Enter "X" to indicate no hardware associated with the station.
- **Name:** Enter a descriptive name.

```
add station 68209                                          Page   1 of   5
                                  STATION

Extension: 68209                      Lock Messages? n              BCC: 0
     Type: 6408D+                     Security Code:                 TN: 1
     Port: X                        Coverage Path 1:                COR: 1
     Name: Valcom VIP-172L          Coverage Path 2:                COS: 1
                                    Hunt-to Station:
STATION OPTIONS
                                         Time of Day Lock Table:
             Loss Group: 2          Personalized Ringing Pattern: 1
           Data Module? n                     Message Lamp Ext: 68209
       Speakerphone: 2-way                Mute Button Enabled? y
    Display Language: english

         Survivable COR: internal              Media Complex Ext:
  Survivable Trunk Dest? y                          IP SoftPhone? n
```

For each SIP station, specify that calls to the station be routed to Avaya SES by using the "change off-pbx-telephone station-mapping n" command, where "n" is the station extension. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Application:** Enter "OPS" to indicate off-PBX station.
- **Phone Number:** Same digits from the **Station Extension** field.
- **Trunk Selection:** The existing trunk group to reach Avaya SES, in this case "1".
- **Config Set:** An existing configuration set to be used for the off-pbx call treatment.

```
change off-pbx-telephone station-mapping 68209                 Page   1 of   2
                 STATIONS WITH OFF-PBX TELEPHONE INTEGRATION

 Station        Application Dial   CC  Phone Number      Trunk       Config
 Extension                  Prefix                      Selection   Set
 68209            OPS           -     68209              1          1
                                -
```


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4. Configure Avaya SIP Enablement Services

This section provides the procedures for configuring Avaya SIP Enablement Services (SES). The procedures include the following areas:

- Launch SES administration interface
- Administer users

4.1. Launch SES Administration Interface

Access the SES web interface by using the URL "http://ip-address/admin" in an Internet browser window, where "ip-address" is the IP address of the SES server. Log in with the appropriate credentials.

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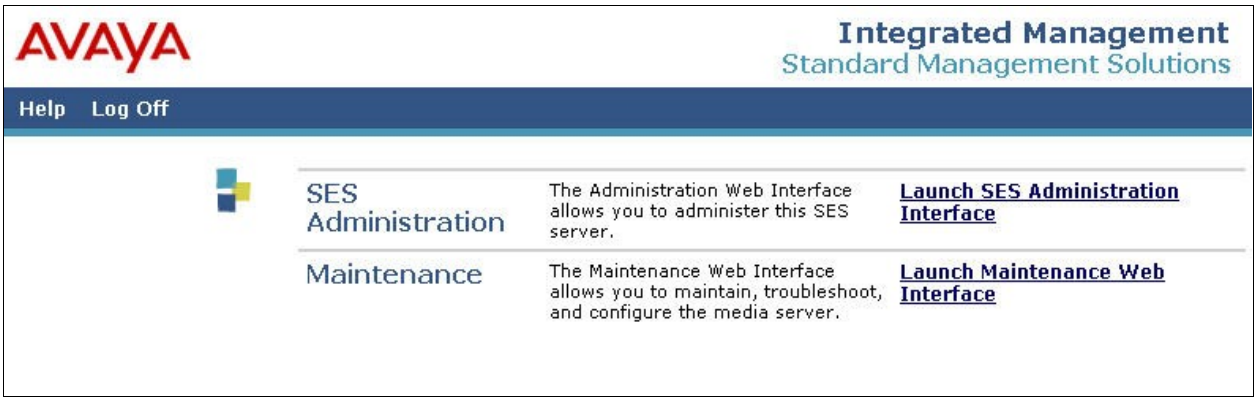
In the subsequent screen, select **Launch SES Administration Interface**.



The **Top** screen is displayed next.

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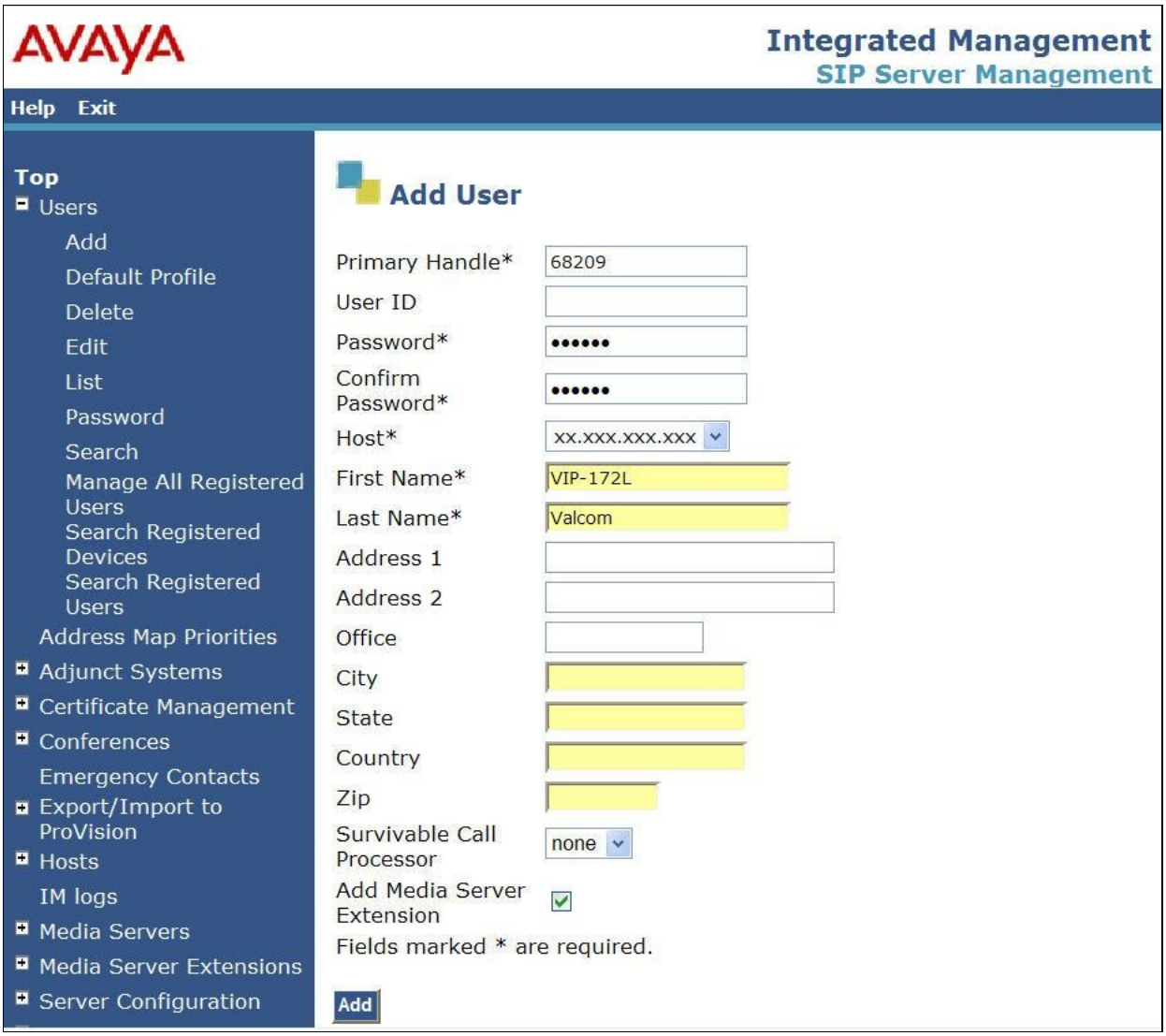
4.2. Administer Users

Select **Users > Add** from the left pane to display the **Add User** screen. Enter the following values for the specified fields, and retain the default values in the remaining fields. Note that the host IP address is masked in the screen shot below for privacy. Click on **Add** at the bottom of the screen to submit these changes.

- **Primary Handle:** The extension of the SIP station from **Section 3.2**.
- **Password:** Enter a desired password.
- **Confirm Password:** Re-enter the same password.
- **Host:** Select the applicable host.
- **First Name**: A descriptive first name.
- **Last Name:** A descriptive last name.
- **Add Media Server Extension:** Check the box.



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The **Continue** screen is displayed next. Click on the **Continue** button.

The **Add Media Server Extension** screen is displayed. This screen is used to associate a user with a media server extension on Avaya Communication Manager. Enter the following values for the specified fields. Click on **Add** to submit these changes.

- **Extension:** The extension of the SIP station from **Section 3.2**.
- **Media Server:** Select the appropriate media server, in this case "cmremote1".

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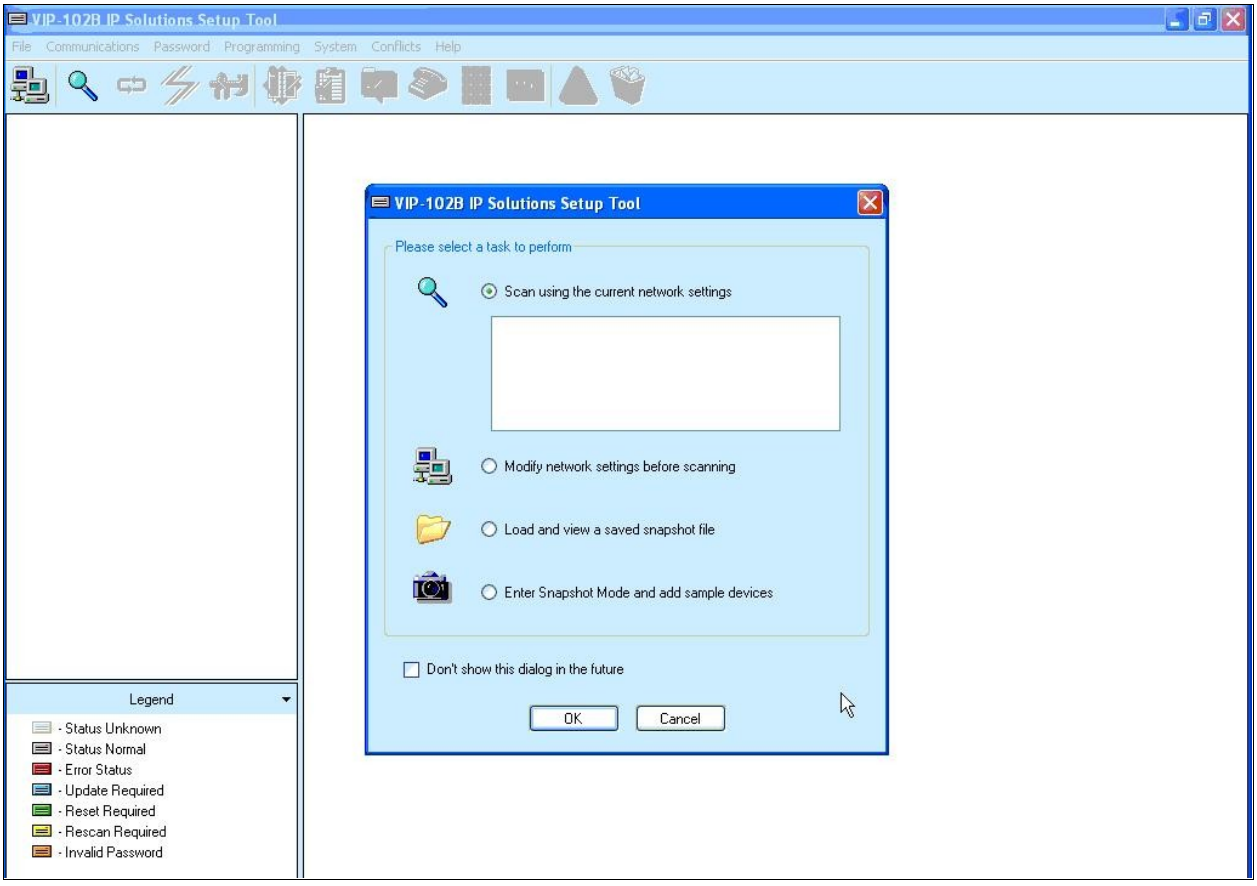
5. Configure Valcom VIP-172L IP Intercom

This section provides the procedures for configuring Valcom VIP-172L IP Intercom. The procedures include the following areas:

- Launch setup tool
- Administer properties
- Administer network
- Administer channels
- 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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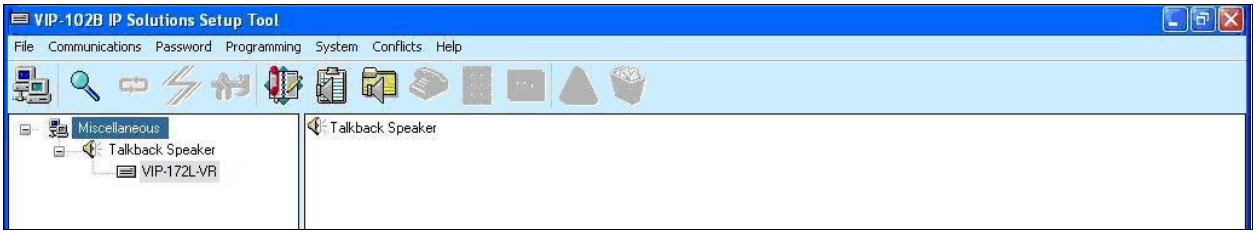
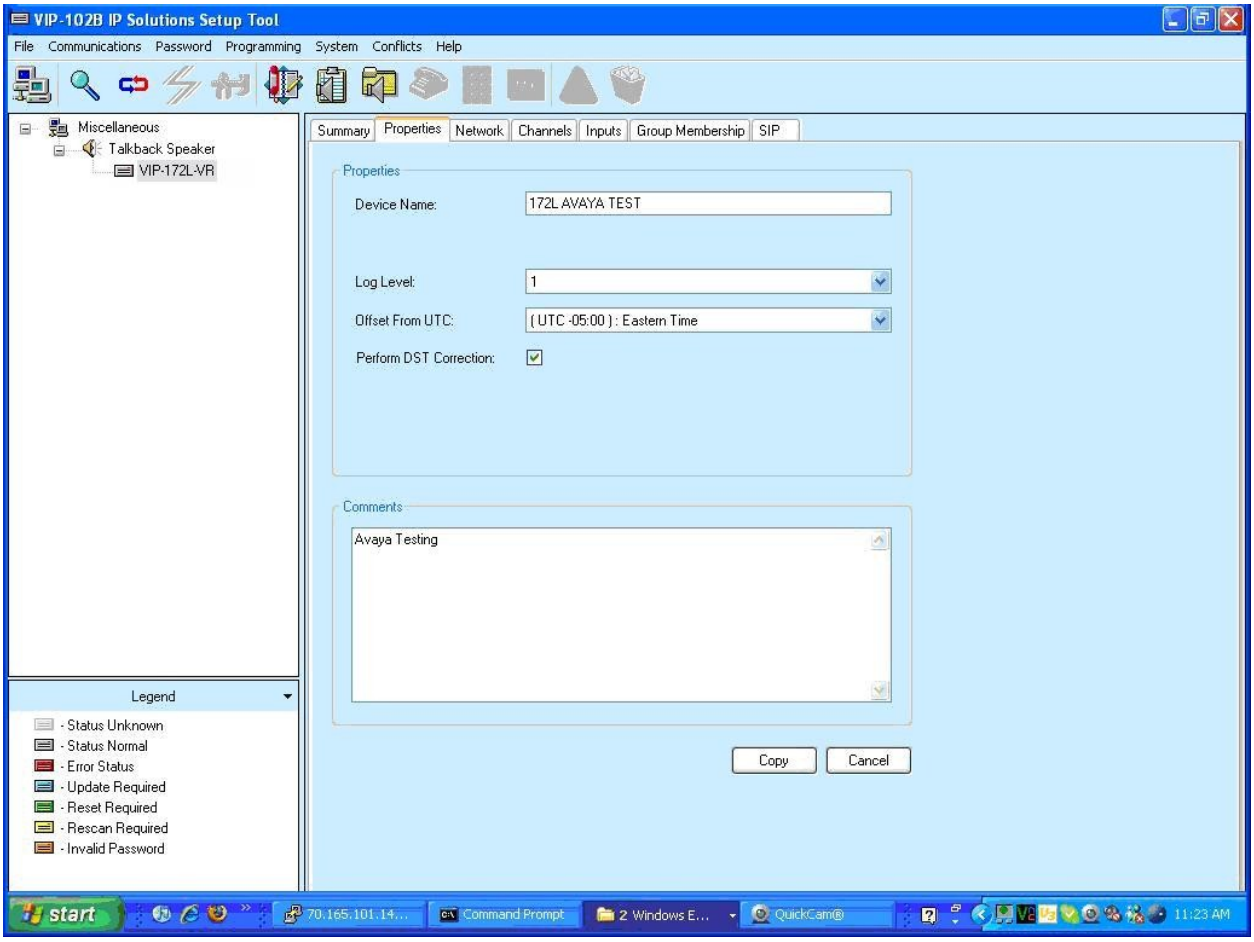
At the conclusion of the scan, the **VIP-102B IP Solutions Setup Tool** screen is updated with the discovered VIP-172L IP Intercom device, shown below as **VIP-172L-VR**.



5.2. Administer Properties

Select **VIP-172L-VR** 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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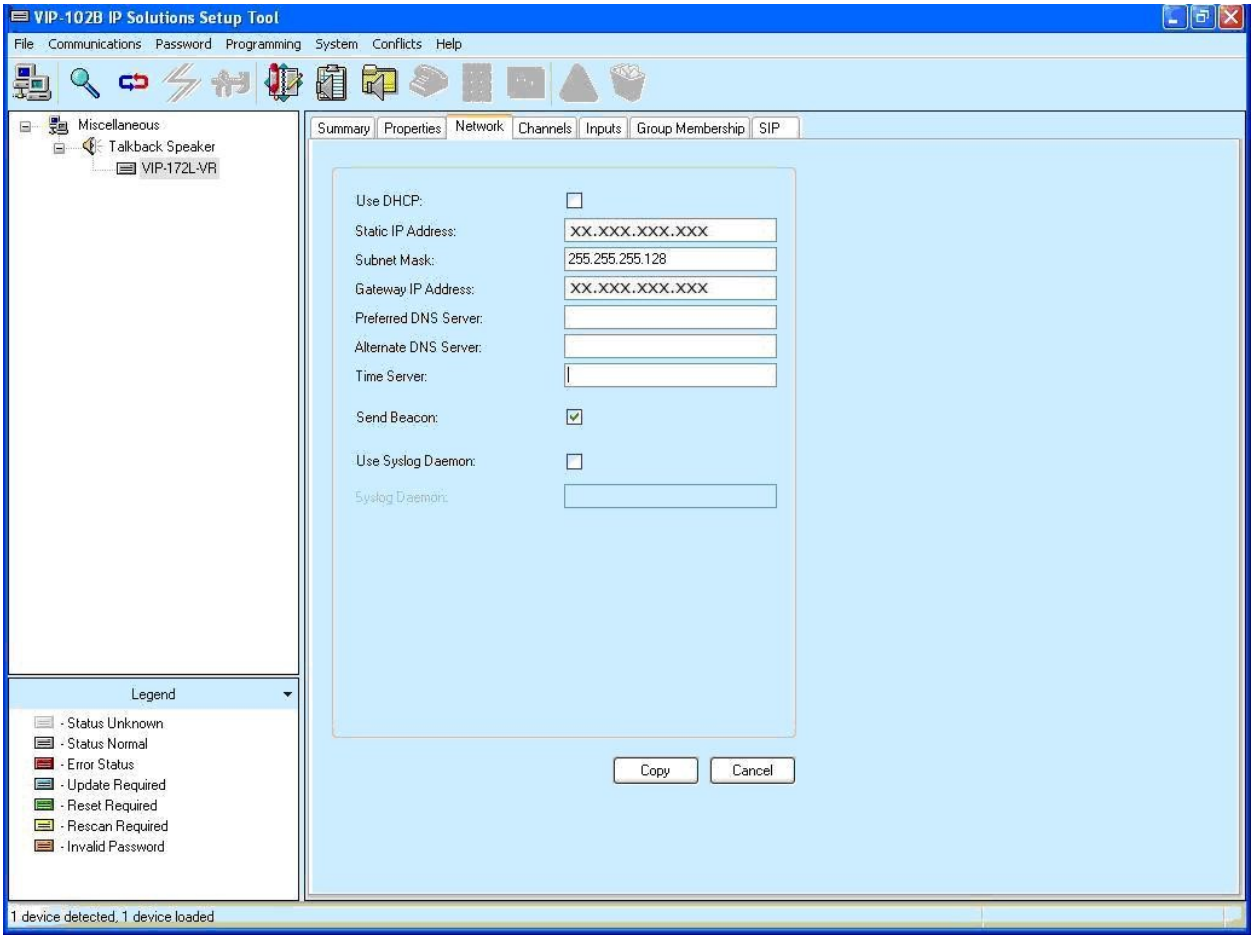
5.3. Administer Network

Select the **Network** tab. Enter the proper values for **Static IP Address**, **Subnet Mask**, and **Gateway IP Address** fields for the network configuration. Retain the default values in the remaining fields. Note that the IP addresses are masked in the screen below for privacy.



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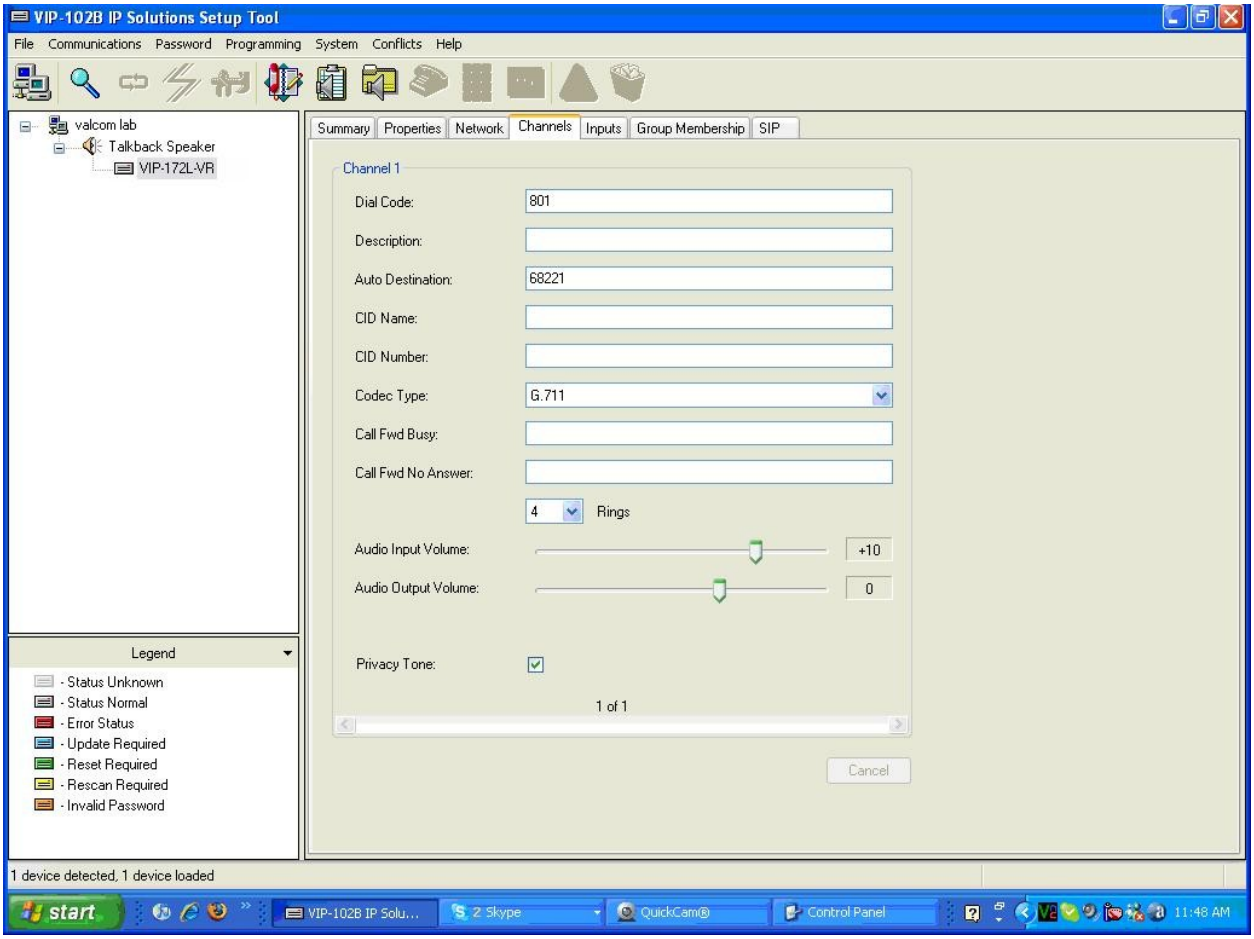
5.4. Administer Channels

Select the **Channels** tab. For **Auto Destination**, enter the desired destination for the VIP-172L IP Intercom device to reach out to. In the compliance testing, "68221" is an existing station extension on Avaya Communication Manager. Retain the default values in the remaining fields. Note that the Valcom VIP-172L IP Intercom device only supports the G.711 codec.



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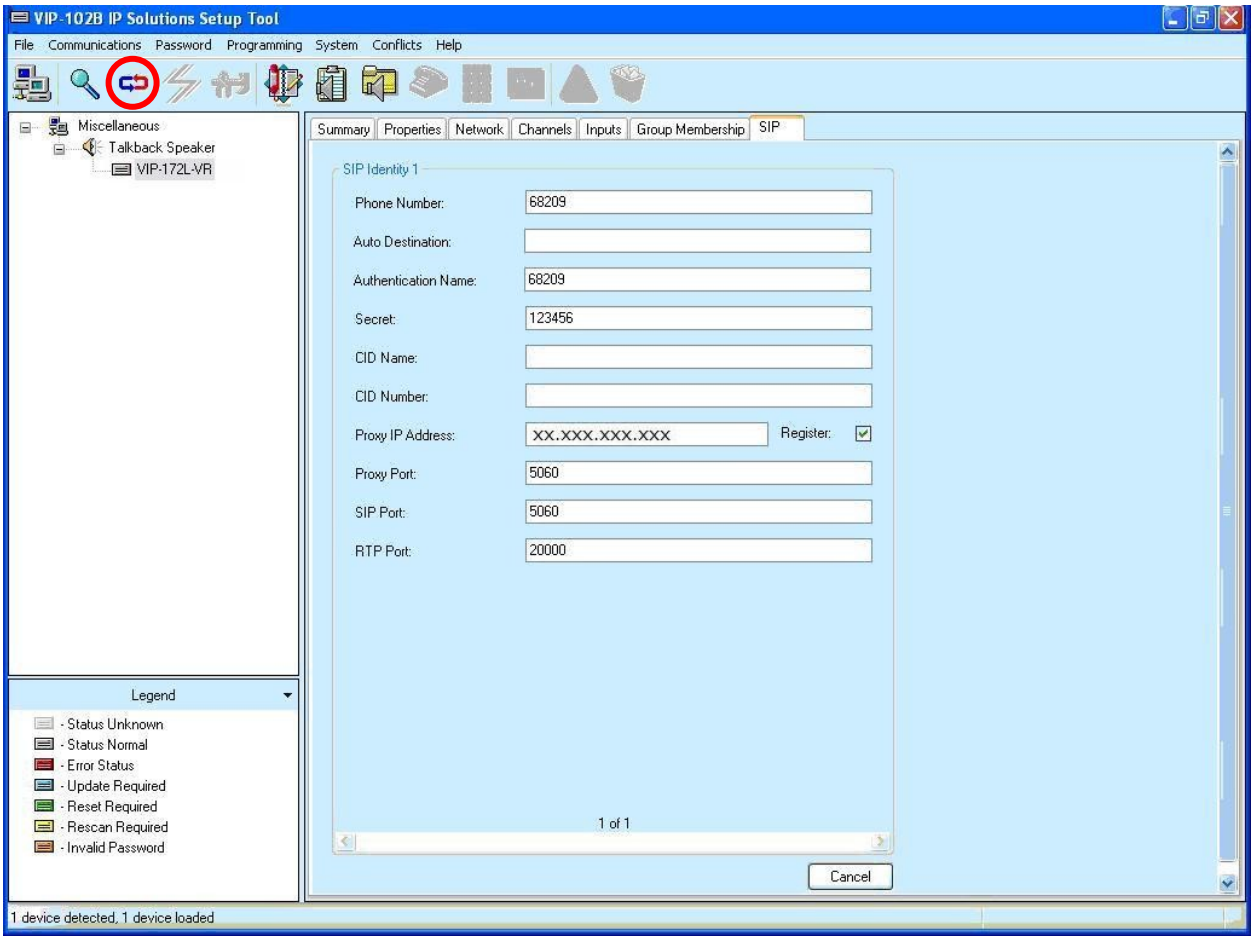
5.5. Administer SIP

Select the **SIP** tab. Enter the following values for the specified fields, and retain the default values for the remaining fields. Note that the IP address is masked in the screen shot below for privacy.

- **Phone Number:** The SIP user primary handle from **Section 4.2**.
- **Authentication Name:** The SIP user primary handle from **Section 4.2**.
- **Secret:** The SIP user password from **Section 4.2**.
- **Proxy IP Address:** The IP address of the Avaya SES server.
- **Register:** Check this field.

Click on the **Update Changed Devices** icon circled below.



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6. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing included registration, basic call, display, hold/reconnect, conference, transfer, media shuffling, audio codec, and coverage call scenarios.

The serviceability testing focused on verifying the ability of the Valcom VIP-172L IP Intercom device to recover from adverse conditions, such as disconnect and reconnect of the Ethernet cable to the device.

6.1. General Test Approach

The feature test cases were performed manually. The call button was pressed on the Valcom VIP-172L IP Intercom device to test connection to different destinations on Avaya Communication Manager, and manual call controls from the destination were exercised to verify proper feature interactions such as transfer and conference.

The serviceability test cases were performed manually by disconnecting and reconnecting the LAN cables to the Valcom VIP-172L IP Intercom device.

6.2. Test Results

All feature test cases were executed and passed.

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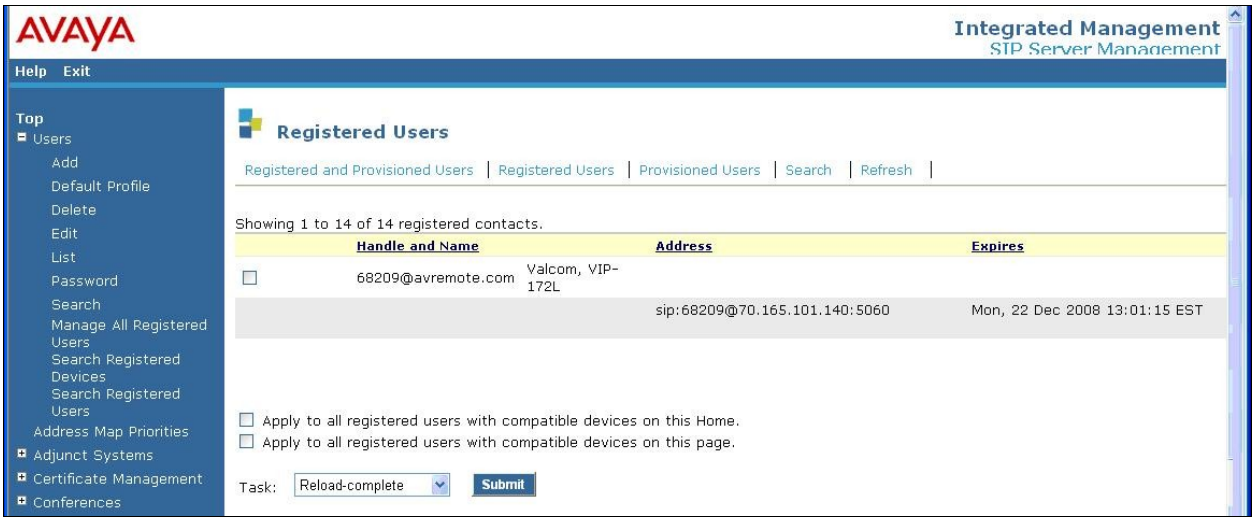
7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Communication Manager, Avaya SES, and Valcom VIP-172L IP Intercom.

7.1. Verify Avaya Communication Manager and Avaya SES

On Avaya SES, verify the registration status of the Valcom VIP-172L IP Intercom by selecting **Users > Search Registered Users** from the left pane. Verify that all SIP stations from **Section 3.2** are listed as registered users.



7.2. Verify Valcom VIP-172L

Press the call button on the Valcom VIP-172L IP Intercom, verify that the auto destination specified in **Section 5.4** is ringing. Answer the call at the destination, and verify that there is connected two-way talk paths.

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8. Support

Technical support on Valcom VIP-172L IP Intercom can be obtained through the following:

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

9. Conclusion

These Application Notes describe the configuration steps required for the Valcom VIP-172L IP Intercom to successfully interoperate with Avaya Communication Manager using Avaya SES.

10. Additional References

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

- *Administrator Guide for Avaya Communication Manager*, Document 03-300509, Issue 4.0, Release 5.0, January 2008, available at http://support.avaya.com.

- *Installing, Administering, Maintaining, & Troubleshooting SIP Enablement Services*, Document 03-600768, Issue 5.0, January 2008, available at http://support.avaya.com.

- *SIP Support in Avaya Communication Manager Running on Avaya S8xxx Servers*, Document 555-245-206, Issue 8, January 2008, available at http://support.avaya.com.

- *IP Talkback DoorPhones/Intercoms*, available at http://www.valcom.com.

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