

Avaya Solution & Interoperability Test Lab

Application Notes for Valcom PagePro SIP Paging Gateway with Avaya Aura[®] Communication Manager R6.3 and Avaya Aura[®] Session Manager R6.3 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for the Valcom PagePro SIP Paging Gateway to successfully interoperate with Avaya Aura[®] Communication Manager R6.3 and Avaya Aura[®] Session Manager R6.3. The Valcom PagePro SIP Paging Gateway is a SIP-based paging device that integrates with Avaya Aura[®] Communication Manager and Avaya Aura[®] Session Manager as a SIP endpoint.

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

1. Introduction

These Application Notes describe the configuration steps required for the Valcom PagePro SIP Paging Gateway (PagePro IP VIP-201A) device to successfully interoperate with Avaya Aura[®] Communication Manager and Avaya Aura[®] Session Manager. The Valcom PagePro IP SIP Paging Gateway is a SIP-based paging device that integrates with Avaya Aura[®] Communication Manager and Avaya Aura[®] Session Manager as a SIP endpoint and registers to Avaya Aura[®] Session Manager.

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 interoperability compliance test plan included feature and serviceability test cases. The feature testing covered SIP registration, basic calls, simultaneous calls, media shuffling, and audio codec negotiation. Various SIP access numbers for the Valcom PagePro IP SIP Paging Gateway device were dialed to test connection to the proper speaker groups. The serviceability testing focused on verifying the ability of the Valcom PagePro IP SIP Paging Gateway to recover from adverse conditions, such as disconnecting and reconnecting the Ethernet cable to the device.

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

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

The serviceability test cases were performed manually by disconnecting and reconnecting the LAN cables to the Valcom PagePro IP SIP Paging Gateway device.

2.2. Test Results

All applicable test cases were executed successfully.

2.3. Support

Technical support for Valcom can be obtained through the following: Phone: (800) VALCOM1 Email: support@valcom.com Avaya customers may obtain documentation and support for Avaya products by visiting <u>http://support.avaya.com</u>. Alternatively, in the United States, (866) GO-AVAYA (866-462-8292) provides access to overall sales and service support menus.

3. Reference Configuration

The Valcom PagePro IP SIP Paging Gateway can register with Session Manager 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 SIP access numbers, the device answers the call and automatically establishes a one-way communication with a preconfigured group of IP speakers associated with the access number. In the compliance testing, the following Valcom IP Speakers were used as the preconfigured destinations for the access numbers:

- Talkback IP Speaker VIP-160A.
- Intercom IP Speaker VIP-172AL.
- Talkback IP Speaker VIP-148AL.
- One-way IP Speaker VIP-120A.

Eight SIP endpoints are used for the PagePro IP VIP-201A access numbers to register to Session Manager:

- 30111 associated to Paging Group 100.
- 30112 associated to Paging Group 200.
- 30113 associated to Paging Group 300.
- 30114 associated to Paging Group 400.
- 30115 associated to Paging Group 500.
- 30116 associated to Paging Group 100 and 200.
- 30117 associated to Paging Group 100 and 300.
- 30118 associated to Paging Group 100 and 400.

One Avaya 9630 H.323 phone (30001) with physical phone registers to Communication Manager.

One Avaya 9630G SIP phone (30101) with physical phone registers to Session Manager.

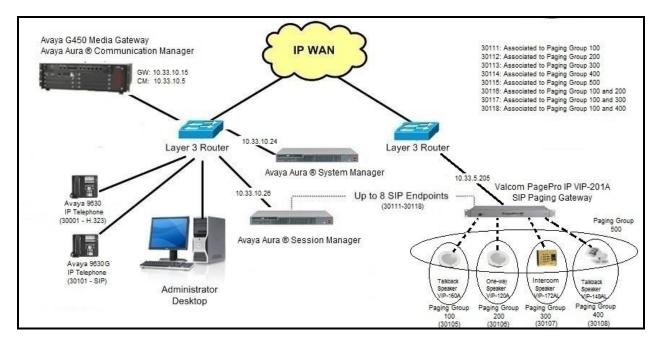


Figure 1- Valcom PagePro IP SIP Paging Gateway with Avaya Aura[®] Communication Manager and Avaya Aura[®] Session Manager

4. Equipment and Software Validated

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

Equipment	Software
Avaya Aura [®] Communication Manager	6.3.8
running on Avaya S8300 Server	(03.0.124.0-21588 (SP8))
Avaya G450 Media Gateway	
MM711AP Analog	FW096, HW46
MM712AP Digital	FW014, HW10
• MM710AP	FW020, HW05
Avaya Aura [®] Session Manager	6.3.7
running on Avaya S8800 Server	(6.3.7.0.637008)
	6.3.9
Avaya Aura [®] System Manager	(Build No 6.3.0.8.5682 - 6.3.8.4417)
running on Avaya S8800 Server	(Software Update Revision No:
	6.3.9.1.2538)
Avaya 9630G IP Telephone - Avaya one-X [®]	
Deskphone SIP Edition	2.6.6.0
Avaya 9630 IP Telephone - Avaya one-X [®] Deskphone	
H.323 Edition	3.2
Valcom PagePro IP SIP Paging Gateway (VIP-201A)	3.18.4
Valcom VIP-172AL - IP Intercom Flush MT Stainless Steel	3.18.6
Valcom VIP-148AL - IP Talkback Horn Grey	3.18.6
Valcom VIP-160A - IP Talkback 8" Ceiling Speaker	3.18.6
Valcom VIP-120A - IP One-way Speaker	3.18.6
Valcom VIP-102B IP Solutions Setup Tool	6.1

5. Configure Avaya Aura® Communication Manager

The detailed administration of basic connectivity between Communication Manager and Session Manager is not the focus of these Application Notes and will not be described. For administration of basic connectivity Communication Manager and Session Manager, refer to the appropriate documentation listed in **Section 12**. This section provides the procedures for the following:

- Verify Avaya Aura[®] Communication Manager License.
- Administer IP codec set.
- Administer IP network region.

5.1. Verify Avaya Aura[®] Communication Manager License

Log into the System Access Terminal (SAT) to verify that the 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 SIP access numbers for the Valcom PagePro IP VIP-201A device.

```
Page 1 of 11
display system-parameters customer-options
                               OPTIONAL FEATURES
    G3 Version: V16
                                               Software Package: Enterprise
      Location: 1
                                             RFA System ID (SID): 1
      Platform: 28
                                             RFA Module ID (MID): 1
                                                            USED
                               Platform Maximum Ports: 65000 186
                                Maximum Stations: 41000 27
                            Maximum XMOBILE Stations: 41000 0
                   Maximum Off-PBX Telephones - EC500: 41000 0
                   Maximum Off-PBX Telephones - OPS: 41000 15
                   Maximum Off-PBX Telephones - PBFMC: 41000
                                                             0
                   Maximum Off-PBX Telephones - PVFMC: 41000
                                                             0
                   Maximum Off-PBX Telephones - SCCAN: 0
                                                              0
                        Maximum Survivable: Processors: 313
                                                             Ω
        (NOTE: You must logoff & login to effect the permission changes.)
```

Figure 2 - Avaya Aura[®] Communication Manager License for Feature

5.2. Administer IP Codec Set

Use the "change ip-codec-set n" command, where "n" is an existing codec set number that will be used for integration with Valcom. Enter the G.711 codec in the **Audio Codec** field. Note that the Valcom PagePro IP SIP Paging Gateway device only supports the G.711MU codec.

```
change ip-codec-set 1 Page 1 of 2

IP Codec Set

Codec Set: 1

Audio Silence Frames Packet

Codec Suppression Per Pkt Size(ms)

1: G.711MU n 2 20

2:
```

Figure 3 - Avaya Aura[®] Communication Manager Codec

5.3. Administer IP Network Region

Use the "change ip-network-region n" command, where "n" is the existing network region used for integration with Valcom. Set Codec Set: 1 (Defined in Section 5.2). Enable the Intraregion IP-IP Direct Audio, Inter-region IP-IP Direct Audio, and IP Audio Hairpinning fields, as shown below.

For ease of compliance testing, the same network region was used for the Avaya endpoints. If the network configuration uses a different network region for the Avaya endpoints, then **Page 3** can be used to specify which codec set to use for calls between regions.

```
change ip-network-region 1
                                                               Page 1 of 20
                              TP NETWORK REGION
 Region: 1
            Authoritative Domain: bvwdev7.com
Location: 1
   Name: procr
                              Stub Network Region: n
MEDIA PARAMETERS
                               Intra-region IP-IP Direct Audio: yes
     Codec Set: 1
                             Inter-region IP-IP Direct Audio: yes
  UDP Port Min: 2048
                                          IP Audio Hairpinning? y
  UDP Port Max: 3329
DIFFSERV/TOS PARAMETERS
Call Control PHB Value: 46
       Audio PHB Value: 46
       Video PHB Value: 26
802.1P/Q PARAMETERS
Call Control 802.1p Priority: 6
       Audio 802.1p Priority: 6
       Video 802.1p Priority: 5
                                     AUDIO RESOURCE RESERVATION PARAMETERS
H.323 IP ENDPOINTS
                                                       RSVP Enabled? n
 H.323 Link Bounce Recovery? y
Idle Traffic Interval (sec): 20
  Keep-Alive Interval (sec): 5
           Keep-Alive Count: 5
```

Figure 4 - Avaya Aura[®] Communication Manager IP Network Region

6. Configure Avaya Aura[®] Session Manager

This section provides the procedures for configuring Avaya Aura[®] Session Manager. The procedures covered in this section are the following:

- Launch Avaya Aura[®] Session Manager interface.
- Administer users.

6.1. Launch Avaya Aura[®] Session Manager Interface

Configuration of Session Manager is accomplished by accessing the browser-based GUI of System Manager, using the URL "https://<ip-address>/SMGR", where "<ip-address>" is the IP address of System Manager. Log in using the appropriate credentials with **User ID** and **Password**. Click **Log On** button.

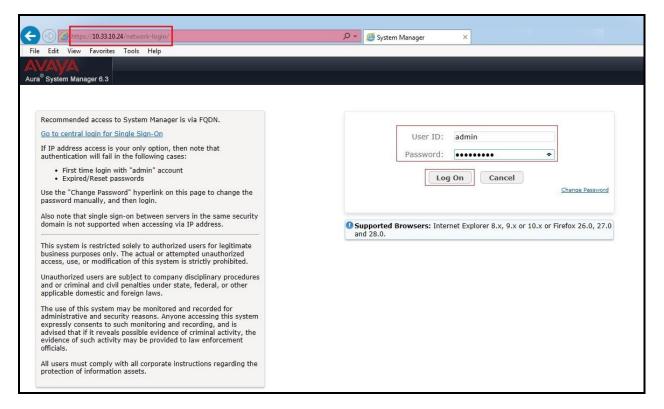


Figure 5 - Avaya Aura[®] Session Manager Log On

The initial screen shown below is then displayed. Click on **User Management** in the **Users** column to bring up the **User Management Menu** screen (in **Figure 7**).

Users	s Elements	Q, Services
Administrators Directory Synchronization Groups & Roles	Collaboration Environment Communication Manager Communication Server 1000	Backup and Restore Bulk Import and Export Configurations
User Management User Provisioning Rule	Conferencing IP Office Meeting Exchange Messaging	Events Geographic Redundancy Inventory Licenses
	Presence Routing	Replication Reports
	Session Manager Work Assignment	Scheduler Security Shutdown
		Software Management Templates Tenant Management

Figure 6 - Avaya Aura[®] Session Manager Log On Menu

6.2. Administer Users

The User Management Menu screen is shown below. Select User Management \rightarrow Manage Users from the left pane to display the User Management screen (in Figure 8).

System Manager 6.3			🖌 Log off a
e User Management	×		
ser Management	Home / Users / Us	er Management	
Manage Users	User Man	agement	
Public Contacts	User Man	agement	
Shared Addresses			
System Presence	Sub Pages		
ACLS	Action	Description	Help
Communication	Manage Users	Provides a central user administration to create, view, modify, and delete user profiles. Also, you can manage communication profiles, roles, and groups for users.	Users management
Profile Password	Public Contacts	Create, view, edit, and delete the public contacts that can be shared by all users in the enterprise.	Public Contacts management
Policy	Shared Addresses	Configure and manage common addresses that can be specified for one or more users in the enterprise.	Shared Addresses management
	System Presence ACLs	Configure and manage Presence access rules for users.	Presence ACLs management
	Communication Profile Password Policy	Configure and manage policy for communication profile password for users.	Communication profile password policy

Figure 7 – User Management Menu

The User Management screen is shown below. Select New to create a new user.

ome User Management	×	
User Management	Home / Users / User Management / Manage Users	
Manage Users	He	elp ?
Public Contacts		
Shared Addresses	User Management	
System Presence		
LUN AND MILES		
ACLs		
Communication	Users	
	Users Wiew Vedit Operate Operate More Actions • Advanced Search	•
Communication Profile Password		1000

Figure 8 – User Management

Enter the following values for the specified fields, and retain the default values in the remaining fields. Click on **Commit** at the top of the screen to submit these changes.

Note: Repeat this section to create a SIP user for each SIP endpoint to register to Session Manager. For the compliance testing, nine SIP users and extensions were administered.

Under **Identity**:

- Last Name: Enter the last name of the user (e.g. Valcom).
- First Name: Enter the first name of the user (e.g. 30111).
- Login Name: Enter the unique system login given to the user. It is formatted as username@domain (e.g. 30111@bvwdev7.com) and it is used to create the user's primary handle.
- Authentication Type: is as **Basic** to let the user's login authenticated by an Avaya Authentication Server.
- **Password**: Enter the password used to log into System Manger.
- **Confirm Password**: Re-enter the above password.
- Localized Display Name: Enter the localized display name of the user.
- **Endpoint Display Name**: Enter the full text name of the user represented in ASCII to support displays that cannot handle localized text.
- Language Preference: Select the user's preferred written or spoken language.
- **Time Zone:** Select the preferred time zone of the user.

Click **Commit** button to save the changes.

New User Profile		Commit & Continue Commit Cancel
Identity * Communication Profile Members	ship Contacts	
User Provisioning Rule 💩		1
User Provisioning Rule:	✓	
Identity 🔹		
* Last Name:	Valcom	
Last Name (Latin Translation):		
* First Name		
First Name (Latin Translation):		
Middle Name:		
Description		
* Login Name:	30111@bvwdev7.com	
* Authentication Type:	Basic	
Password	•••••	
Confirm Password	••••••	
Localized Display Name:	30111-LD	
Endpoint Display Name:	30111-ED	
Title		
Language Preference:	English (Canada)	
Time Zone:	(-5:0)Eastern Time (US & Canada)	
Employee ID:		
Department		
Company:		

Figure 9 – New User - Identity

Under **Communication Profile** → **Communication Profile**:

- **Communication Profile Password**: Enter password for user to log into System Manager.
- **Confirm Password**: Re-enter the above password.

Click **Commit** button to save the changes.

ew User Pro	file		Co	ommit & Continue
dentity * Comm	unication Profile	lembership Contacts		
Communicatio	n Profile 🔹			
	Communication Profile P Confirm P	assword: •••••		
Name	Done SCance]		
Primary				
Select : None				
		* Name: Primary		
		Default :		
Co	mmunication Add	ess 💌		
0	New //Edit OP	ete		
	Туре	Handle	Domain	
4	No Records found			>
				/

Figure 10 – New User – Communication Profile

Under Communication Profile \rightarrow Communication Address, select New to create a new user's primary handle.

- Type: Select Avaya SIP.
- **Fully Qualified Address**: Enter the extension and select the appropriate domain for the user. This setting will be used for Authentication Name and Realm in **Section 7.4**.
- Click **Add** button to add a new handle.

Click **Commit** button to save the changes.

ew User	Profile				Commit & C	ontinue Commit Cance
dentity *	Communication Prof	ile Membershij	p Contacts			
Commun	ication Profile 💩					
	Communication	Profile Password:	••••			
	C	onfirm Password: •	•••••			
@New 0	😄 Delete 🛛 📔 Done 🗍	Cancel				
Name		Curren				
Prima						
Select : None	e					
		* Name: P	rimary			
			2			
		Default .	57.570			
	Communicatio	n Address 💌				
	New /Edit	Oelete				
	Туре	1	Handle	1	Domain	
	No Records four	nd				>
						/
			Type: Avaya SIP	<u> </u>		
		* Fully Qualified A	Address: 30111	@ bvwdev7.	com	
						Add Cancel

Figure 11 – New User – Communication Address

Under Communication Profile, check Session Manager Profile option:

- SIP Registration → Primary Session Manager: Select the Session Manager instance that should be used as the home server for the currently displayed Communication Profile.
- Application Sequences → Origination Sequence: Select an Application Sequence that will be invoked when calls are routed from this user.
- Application Sequences → Termination Sequence: Select an Application Sequence that will be invoked when calls are routed to this user.
- Call Routing Settings → Home Location: Select the Home Location of this user.

Click **Commit** button (not shown) to save the changes.

	Primary Session Manager			Primary	Secondary	Maximum
		SM63	~	18	0	18
L				<		>
S	econdary Session Manager	(None)	~			
	Survivability Server	(None)	~			
٩	1ax. Simultaneous Devices	1 🗸				
Maxi	ock New Registration When mum Registrations Active? ion Sequences					
	Origination Sequence	SEQ_SP3CM63	~			
	Termination Sequence	SEQ_SP3CM63	~			
	Termination bequence	h				
Call Rout	ting Settings					
Call Rout		Belleville	~			

Figure 12 – New User – Session Manager Profile

Under Communication Profile, check CM Endpoint Profile option:

- System: Select the Communication Manager on which the endpoint exists.
- **Profile Type**: Select **Endpoint**.
- Extension: Enter the extension of the endpoint that you want to associate with this user.
- Click **Endpoint Editor** button to edit the endpoint.

CM Endpoint Profile ®		23
* System	EM_SP3CM63	~
* Profile Type	Endpoint	~
Use Existing Endpoints		
* Extension	Q.30111 Endpoint	Editor
* Template	9620SIP_DEFAULT_CM_6_3	~
Set Type		
Security Code		
Port	IP	
Voice Mail Number		
Preferred Handle	(None)	~
Enhanced Callr-Info display for 1-line phones		
Delete Endpoint on Unassign of Endpoint from User or on Delete User		
Override Endpoint Name and Localized Name		

Figure 13 – New User – CM Endpoint Profile

The Valcom SIP endpoints were defined using the template for the Avaya 9620 SIP phone during compliance testing. Enter the following values for the specified fields, and retain the default values in the remaining fields.

- Template: Select 9620SIP_DEFAULT_CM_6_3.
- Security Code: Enter the desired security code for this endpoint. This security code will be used for the secret in Section 7.4.
- Click **Done** button to complete.

Click **Commit & Continue** button (not shown) to save the changes.

							Done Ca Save As Templ
System	1	EM_SP3CM6	3		Extension	30111	
Template	9	620SIP_DEFA	AULT_CM_6_3	-	Set Type	9620SIP	
Port	J	IP			Security Code	•••••	
Name	L	Valcom,3011	.1				
General Options (G) * Button Assignment (B)	Feature O Group Me	ptions (F) embership (N	Site Data (S)			ed Call Fwd (E)	
General Options (G) * Button Assignment (B) * Class of Restriction (C	Feature O Group Me COR)	ptions (F) embership (M	Site Data (S)		* Class Of Service (COS)	1	
General Options (G) * Button Assignment (B) * Class of Restriction (C	Feature O Group Me COR)	ptions (F) embership (N 1 30111	Site Data (S)		* Class Of Service (COS)		
General Options (G) * Button Assignment (B) * Class of Restriction (C * Emergency Location E	Feature O Group Me COR)	ptions (F) embership (M 30111 1	Site Data (S)		* Class Of Service (COS)	1	
General Options (G) * Button Assignment (B) * Class of Restriction (C * Emergency Location E * Tenant Number	Feature O Group Me COR)	ptions (F) embership (N 1 30111	Site Data (S)		 Class Of Service (COS) Message Lamp Ext. 	1 30111	
General Options (G) * Button Assignment (B) * Class of Restriction (C * Emergency Location E * Tenant Number * SIP Trunk	Feature O Group Me COR)	ptions (F) embership (M 30111 1	Site Data (S)		 Class Of Service (COS) Message Lamp Ext. Type of 3PCC Enabled 	1 30111	

Figure 14 – New User – Edit Endpoint

From the User Management screen (Figure 8), select User Management \rightarrow Manage Users to display the list of nine SIP endpoint users created.

System Manager 6.3							d on at December 4, 2014 8:4
e User Management	×						
ser Management	Home / Users / Use	r Management /	Manage Users				
Manage Users				0			Help
Public Contacts				<u>_</u>			
Shared Addresses							
System Presence	User Mana	gement					
ACL5							
Communication							
Communication Profile Password	Users						
Profile Password	Users	🗿 New 😂	Duplicate 🛛 😂 Delete	More Actions -			Advanced Search •
Profile Password			Duplicate Oelete	More Actions			
Profile Password	(View) / Edit		Duplicate Oclete	More Actions Login Name	SIP Handle	Last Login	Advanced Search • Filter: Enable
Profile Password	19 Items 🍣 Sho	w 15 🗸			SIP Handle 30101	Last Login	
	19 Items & Sho	w 15 🗸 First Name	Display Name	Login Name		Last Login	
Profile Password	19 Items & Sho Last Name Valcom	W 15 V First Name 30101	Display Name Valcom, 30101	Login Name 30101@bvwdev7.com	30101	Last Login	
Profile Password	View / Edit 19 Items & Sho Last Name Valcom Valcom	w 15 V First Name 30101 30111	Display Name Valcom, 30101 Valcom, 30111	Login Name 30101@bvwdev7.com 30111@bvwdev7.com	30101 30111	Last Login	
Profile Password	19 Items 2 Sho Last Name Valcom Valcom	w 15 V First Name 30101 30111 30112	Display Name Valcom, 30101 Valcom, 30111 Valcom, 30112	Login Name 30101@bwwdev7.com 30111@bwwdev7.com 30112@bwwdev7.com	30101 30111 30112	Last Login	
Profile Password	19 Items & Sho Last Name Valcom Valcom Valcom	w 15 V First Name 30101 30111 30112 30113	Display Name Valcom, 30101 Valcom, 30111 Valcom, 30112 Valcom, 30113	Login Name 30101@bvwdev7.com 30111@bvwdev7.com 30112@bvwdev7.com 30113@bvwdev7.com	30101 30111 30112 30113	Last Login	
Profile Password	View / Edit 19 Items & Sho Last Name Valcom Valcom Valcom Valcom Valcom	w 15 V First Name 30101 30111 30112 30113 30114	Display Name Valcom, 30101 Valcom, 30111 Valcom, 30112 Valcom, 30113 Valcom, 30114	Login Name 30101@bvwdev7.com 30111@bvwdev7.com 30112@bvwdev7.com 30113@bvwdev7.com 30114@bvwdev7.com	30101 30111 30112 30113 30114	Last Login	
Profile Password	19 Items & Sho Last Name Valcom Valcom Valcom Valcom Valcom Valcom	w 15 V First Name 30101 30111 30112 30113 30114 30115	Display Name Valcom, 30101 Valcom, 30111 Valcom, 30112 Valcom, 30113 Valcom, 30114 Valcom, 30115	Login Name 30101@bvwdev7.com 30111@bvwdev7.com 30112@bvwdev7.com 30114@bvwdev7.com 30115@bvwdev7.com	30101 30111 30112 30113 30114 30115	Last Login	

Figure 15 – List of SIP endpoint users

7. Configure Valcom PagePro IP SIP Paging Gateway

This section provides the procedures for configuring the Valcom PagePro IP SIP Paging Gateway device. The specific model used for testing was a VIP-201A. The information shown is the minimum for configuring the Valcom device. Complete configuration details may be found in the Valcom documentation listed in **Section 12**. The procedures covered in this section are the following:

- Launch setup tool.
- Administer properties.
- Administer network.
- Administer SIP.

7.1. Launch Setup Tool

From a PC running the Valcom VIP-102B IP Solutions Setup Tool application, select Start \rightarrow All Programs \rightarrow Valcom IP Solutions \rightarrow VIP-102B IP Solutions Setup Tool (not shown). The VIP-102B IP Solutions Setup Tool screen is displayed. Retain the default values and click OK to scan for Valcom devices.

VIP-102B IP Solutions Setup Tool	
File Communications Device Password Programming System Conflicts	Help
♣ ▶ ☴ 옷 · ☞ ⁄ @ @ @ @ /	
Job Information	
	VIP-102B IP Solutions Setup Tool Please select a task to perform
Legend	Open and work with a saved snapshot file Of Add sample devices using the current settings On the show this dialog in the future OK Cancel



At the conclusion of the scan, the **VIP-102B IP Solutions Setup Tool** screen is updated with the discovered Valcom devices:

- One-way IP Speaker VIP-120A device, shown below as VIP-120A.
- Talkback IP Speaker VIP-148AL device, shown below as VIP-148AL.
- Talkback IP Speaker VIP-160A device, shown below as **VIP-160A**.
- Talkback IP Speaker VIP-172AL device, shown below as VIP-172AL.
- PagePro IP VIP-201A (SIP Paging Server) device, shown below as VIP-201A.

Click **Continue** to add these new devices.

		Please select all	devices that should	be included in the	current system.	
ilter	Results - (5 de	evices visible, 0 devices hidder	1)			
Nam	ie:		IP Address:		Apply F	ilters Clear Filters
Add	Use Defaults	Name	MAC Address	IP Address	Туре	Version
V		VIP-120A	00-D0-5F-01-AE-0E	192.168.6.203	Speaker Plus (OW)	3.18.6
V		VIP-148AL	00-D0-5F-01-AC-CC	192.168.6.203	Speaker Plus (TB)	3.18.6
V		VIP-160A	00-D0-5F-01-96-D5	192.168.6.203	Speaker Plus (TB)	3.18.6
V		VIP-172AL	00-D0-5F-01-8E-18	192.168.6.203	Speaker Plus (TB)	3.18.6
V		VIP-201A	00-D0-5F-01-92-5F	192.168.6.203	SIP Paging Server	3.18.4

Figure 17 – VIP-102B IP Solutions Setup Tool – List of Valcom Devices

7.2. Administer PagePro VIP-201A Properties

Select SIP Paging Server \rightarrow VIP-201A 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 **Hours Offset From UTC** field.

Click **Apply** button to save the changes.

Figure 18 – VIP-201A – Properties

7.3. Administer PagePro VIP-201A Network

Select SIP Paging Server \rightarrow VIP-201A from the left pane to display the configuration tabs in the right pane.

Select the **Network** tab. Enter the proper values for **Static IP Address**, **Subnet Mask**, and **Gateway IP Address** fields for the network configuration (Note: The default Static IP Address is 192.168.6.203). Retain the default values in the remaining fields. Note that the IP addresses are masked and replaced with fictitious IP addresses in the screen below for privacy. Click **Apply** button to save the changes.

INP-102B IP Solutions Setup Tool										
File Communications Device Password Programming System Conflicts Help										
😓 📄 🔚 🗞 - 🖙 🥢 🚧 🕼 🕼 💷 ⚠ 🦓										
Job Information										
Miscellaneous SIP Paging Server VIP-201A	Summary Properties Network Ch	annels Relays Group Membership SIP								
	Host Name:	VIP-201A								
VIP-120A	Domain Name:									
ia∰ Speaker Plus (TB)										
VIP-160A	Use DHCP:									
WIP-172AL	Static IP Address:	10.33.5.205								
	Subnet Mask:	255.255.255.0								
	Gateway IP Address:	10.33.5.1								
	Preferred DNS Server:									
	Alternate DNS Server:									
	Stun Server:									
	Time Server:									
	Continuous Beacon:	3								
	Use Syslog Daemon:									
	Syslog Daemon:									
	oland cannet									
	· · · · · · · · · · · · · · · · · · ·									
	Local Network	Copy Apply Cancel								
Legend 👻										

Figure 19 – VIP-201A – Network

7.4. Administer PagePro VIP-201A SIP

Select SIP Paging Server \rightarrow VIP-201A from the left pane to display the configuration tabs in the right pane.

Select the **SIP** tab to display the **SIP Identity** screen. Enter the following values for the specified fields, and retain the default values for the remaining fields. Each SIP endpoint is related to each of SIP tabs (from tab 1 to tab 8 associated to maximum 8 SIP endpoints).

Select Station for SIP Mode.

Under 1 tab:

- **Phone Number**: The first SIP user primary handle from **Section 6.2**.
- Authentication Name: The first SIP user primary handle from Section 6.2.
- Secret: The first SIP user security code password from Section 6.2.
- **Realm**: The first SIP user domain name from **Section 6.2**.
- Under **SIP Servers**:
- **Primary** → **Server**: The IP address of the Session Manager (Enter 10.33.10.26).
- Primary \rightarrow Port: 5060.
- **Register**: Check this field.
- Audio Groups: Select the desired group(s) of Valcom IP speakers to connect (Check 100 Group 100).

Click **Apply** button to save the changes.

Note: Repeat this section to administer all eight SIP identities which are used for PagePro IP VIP-201A as access numbers (30111 to 30118) to register to Session Manager:

- 30111 associated to Paging Group 100.
- 30112 associated to Paging Group 200.
- 30113 associated to Paging Group 300.
- 30114 associated to Paging Group 400.
- 30115 associated to Paging Group 500.
- 30116 associated to Paging Group 100 and 200.
- 30117 associated to Paging Group 100 and 300.
- 30118 associated to Paging Group 100 and 400.

IVIP-102B IP Solutions Setup Tool							
File Communications Device Password Progr	amming System Conflict	s Help					
🟪 🗟 🔚 🞗 · 🕶 🧲 🚧	1						
Job Information							
Summ	nary Properties Network Ch	annels Relays Grou	up Membership	IP			
					IP Mode: Station		
UIP-201A □€ Speaker Plus (OW)	1 2 3 4	5 6	7 8				
□							
VIP-148AL	Phone Number: 30111						
VIP-160A	Description:	N. MARKING					
UIP-172AL		20111					
	Authentication Name:	30111					
	Secret:	123456					
	Realm:	bvwdev7.com					
	SIP Servers:		Server		Port		
		Primary	10.33.10.26		5060		
		Backup 1			5060		
		Backup 2 Backup 3			5060		
					5060		
		Register:	DNS SRV:				
	Outbound Proxy:			Outbound Port:	5060		
	SIP Port:	5060	1	Idle Timeout (secs)): 0	-	
	RTP Port:	20000	1	Max Call Timer (se	cs): 0	*	
	Night Ring:						
	Pre-Announce Tone:	Store :	and Play: 🕅	P C 1	-		
	Fie-Autourice fone.	Store	anu riay.	Play Count:	1 *		
	Audio Groups:	V 100 - Group 100					
	All	200 - Group 200 300 - Group 300					
		400 - Group 400)				
Legend 👻	None	500 - All Call Gro	oup 500				
- Status Unknown							
- Status Normal							
 Verification Required Error Status 							
- Update Required				Сору	Apply	💥 Cancel	
Reset Required							
🖃 - Rescan Required				45	141		

Figure 20 – VIP-201A – SIP

8. Configure Valcom Talkback IP Speaker VIP-160A

This section provides the procedures for configuring the Valcom Talkback IP Speaker VIP-160A. The information shown is the minimum for configuring the Valcom device. Complete configuration details may be found in the Valcom documentation listed in **Section 12**. The procedures covered in this section are the following:

- Administer network.
- Administer group membership.

Note: Repeat this section to administer all four Valcom IP Speakers.

- VIP-160A (30105) associated to Paging Group 100 and 500.
- VIP-120A (30106) associated to Paging Group 200 and 500.
- VIP-172AL (30107) associated to Paging Group 300 and 500.
- VIP-148AL (30108) associated to Paging Group 400 and 500.

8.1. Administer VIP-160A Network

Select **Speaker Plus (TB)** \rightarrow **VIP-160A** from the left pane of the Valcom VIP-102B IP Solutions Setup Tool to display the configuration tabs in the right pane.

Select the **Network** tab. Enter the proper values for **Static IP Address**, **Subnet Mask**, and **Gateway IP Address** fields for the network configuration (Note: The default Static IP Address is 192.168.2.203). Retain the default values in the remaining fields. Note that the IP addresses are masked and replaced with fictitious IP addresses in the screen below for privacy. Click **Apply** button to save the changes.

I VIP-102B IP Solutions Setup Tool									
File Communications Device Password Programming System Conflicts Help									
📲 📄 🔚 ጱ - 🕶 🗲 🐖 雛 🕼 🔤 🗹 🎯									
Job Information									
■ ■ Miscellaneous ■ ■ € SIP Paging Server ■ ■ ♥IP-201A ■ ● Speaker Plus (OW)	Summary Properties Network Ta	ilkback Channels Inputs Relays Group Membership SIP							
VIP-120A	Domain Name:								
⊡									
VIP-160A	Use DHCP:								
UIP-172AL	Static IP Address:	10.33.5.206							
	Subnet Mask:	255.255.255.0							
	Gateway IP Address:	10.33.5.1							
	Preferred DNS Server:								
	Alternate DNS Server:								
	Stun Server:								
	Time Server:								
	Continuous Beacon:								
	Use Syslog Daemon:								
	Syslog Daemon:								
	Local Network	Copy Apply X Cancel							
Legend 👻									

Figure 21 – VIP-160A – Network

8.2. Administer VIP-160A Group Membership

Select **Speaker Plus** (**TB**) \rightarrow **VIP-160A** from the left pane to display the configuration tabs in the right pane.

Select the **Group Membership** tab. Under **Group**, check **100** – **Group 100** and **500** – **All Call Group 500** to make this device to associate to desired groups. Click **Apply** button to save the changes.

IVIP-102B IP Solutions Setup Tool										
File Communications Device Password	Programming System Conflicts Help									
🛃 🗟 🗖 😵 - 🗢 🗲	♣ 📄 🔚 🛠 - ⇔ ∽ ↔ 🕸 🏶 🛍 🖓 🚥 🛆 🤡									
Job Information										
Job Information Miscellaneous VIP-201A VIP-120A VIP-120A VIP-148AL VIP-160A VIP-172AL	Summary Properties Network Talkback Channels Inputs Relays Group SIP Channel : Image: Channel inputs Image: Channel inputs All None Image: Channel : Image: Channel input inpu									
land										
Legend 🔻										

Figure 22 – VIP-160A – Group Membership

9. Update All Valcom Devices

Using the Valcom VIP-102B IP Solutions Setup Tool, click on Communication \rightarrow Update All Devices to update the changes of all devices.

=	Communications Device Passwor	Programming System Conflicts Help					
	Scan All Devices Scan Single Device Scan Missing Devices Scan Selected Devices	Summary Properties Network	k Channels Relays Group Membership SIP				
	Update All Devices						
	Update Single Device	Name:	VIP-201A				
	Update Changed Devices Update Selected Devices	MAC Address:	00-D0-5F-01-92-5F				
	Reset All Devices	IP Address:	10.33.5.205				
	Reset Single Device	Device Type:	SIP Paging Server : SIP Based Paging Server - 1 Analog Output				
	Reset Updated Devices	Channels:					
	Reset Selected Devices	Scan Data Source:	Device - (data is retrieved from the device)				
	Verify Devices	Software Rev:	3.18.4				
	Verify Single Device	Startup Rev:	4.05				
	Network Diagnostics Paging Diagnostics	Platform Rev:	G3-1				
	Send Sample Page						
	View Syslog Messages						
	Program Firmware						
	Upload Device Files						

Figure 23 – Update the changes of all Valcom Devices

The **Reset Required** dialog box will appear as shown below. Click **Yes** to reset the updated devices.

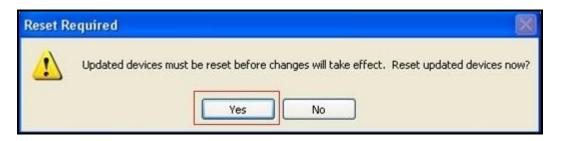


Figure 24 – Reset all Valcom Devices

10. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Communication Manager, Session Manager, and Valcom PagePro IP VIP-201A.

10.1. Verify User Registration

On Session Manager, verify the registration status of the Valcom PagePro IP SIP Paging Gateway device by navigating to **Elements** \rightarrow **Session Manager** \rightarrow **System Status** \rightarrow **User Registrations** using System Manager. Verify that all the users administered in **Section 7.4** are listed as registered users.

ne Session Manager	•														
Session Manager	Home	e / Elements	s / Session Manager / :	System Sta	tus / User	Registrations								C	
Dashboard								Help							
Session Manager		00 00000000000000000000000000000000000	istrations		a w a										
Administration		t rows to sen ration status	d notifications to devices.	Click on Det	ails column fe	or complete									
Communication												Ċ	ustom	tomize 🕨	
Profile Editor	Viev	v • Defa	ult Force Unregister	AST		Reboot Relo	ad • Failback	As of 11:2	DO AM						
Network	VICS	Dela	Force offregister	Notifi	cations:	(ebool	au FallUack	AS 01 11.2	20 AM			Advance	d Sear	ch 🖲	
Configuration	17 It	tems ಿ S	how 15 🔽								Filter: Ena				
Device and Location		Details	Address	First	Last	Actual	IP Address	Remote	Shared	Simult.	AST	Registered			
Configuration		Details	Address	Name	Name	Location	IT Address	Office	Control	Devices	Device	Prim	-	Sur	
Application		Show	30113@bvwdev7.com	30113	Valcom		10.33.5.205			1/1		(AC)			
Configuration		▶ Show	30115@bvwdev7.com	30115	Valcom		10.33.5.205			1/1		(AC)			
System Status		▶ Show	30118@bvwdev7.com	30118	Valcom	555	10.33.5.205			1/1		(AC) (AC)			
SIP Entity		▶ Show	30117@bvwdev7.com	30117	Valcom		10.33.5.205			1/1		(AC)			
Monitoring		►Show	30112@bvwdev7.com	30112	Valcom		10.33.5.205			1/1		(AC)			
Managed		▶ Show	30114@bvwdev7.com	30114	Valcom		10.33.5.205			1/1		(AC)			
Bandwidth Usage		► Show	30101@bvwdev7.com	30101	Valcom		10.33.5.32			1/1	V	(AC)			
Security Module		Show	30111@bvwdev7.com	30111	Valcom		10.33.5.205			1/1					
Status		► Show	30116@bvwdev7.com	30116	Valcom	111	10.33.5.205			1/1		(AC)			
SIP Firewall	<											(AC)		>	
Status Select : All, None											14.4	Page 1	of 2	Þ	
Registration															

Figure 25 -	- User	Registration	Verification
-------------	--------	--------------	--------------

Note: The Avaya 9630G SIP phone (30101) with physical phone was created and registered to Session Manager, however it was not described in this application notes.

10.2. Verify Valcom IP SIP Paging Gateway

Make a call to one of the SIP access number for the Valcom PagePro IP SIP Paging Gateway device, verify that the caller hears a pre-announcement tone, and is connected to the appropriate speaker group from **Section 7.4** with one-way talk path.

11. Conclusion

These Application Notes describe the configuration steps required for the Valcom PagePro IP SIP Paging Gateway to successfully interoperate with Avaya Aura[®] Communication Manager, and Avaya Aura[®] Session Manager.

All feature and serviceability test cases were completed successfully.

12. Additional References

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

- 1. Administering Avaya Aura[®] Communication Manager, Document ID 03-300509, Release 6.3, Issue 8, May 2013
- 2. Administering Avaya Aura[®] Session Manager, Release 6.3, Issue 2, June 2013
- 3. Maintaining and Troubleshooting Avaya Aura[®] Session Manager, Release 6.3, Issue 2, May 2013
- 4. Administering Avaya Aura[®] System Manager, Release 6.3, Issue 2, May 2013
- 5. PagePro IP SIP Based Paging Server documentation is available at http://www.valcom.com
- 6. Valcom Talkback/One-way IP Speaker documentation is available at http://www.valcom.com
- 7. Valcom VIP-102B IP Solutions Setup Tool Reference Manual is available at http://www.valcom.com

©2015 Avaya Inc. All Rights Reserved.

Avaya and the Avaya Logo are trademarks of Avaya Inc. All trademarks identified by \mathbb{R} and TM are registered trademarks or trademarks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. The information provided in these Application Notes is subject to change without notice. The configurations, technical data, and recommendations provided in these Application Notes are believed to be accurate and dependable, but are presented without express or implied warranty. Users are responsible for their application of any products specified in these Application Notes.

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at <u>devconnect@avaya.com</u>.