



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Algo 8301 SIP Paging Adapter Version 1.0.14 with Avaya IP Office Server Edition Solution Release 9.1.4 - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Algo 8301 SIP Paging Adapter to interoperate with Avaya IP Office Server Edition Solution. Algo 8301 SIP Paging Adapter is a SIP-based device that can register with Avaya IP Office as two separate SIP endpoints, one for loud ringing and one for voice paging.

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 Algo 8301 SIP Paging Adapter to interoperate with Avaya IP Office Server Edition Solution. Algo 8301 SIP Paging Adapter is a SIP-based device that can register with Avaya IP Office as two separate SIP endpoints, one for loud ringing and one for voice paging.

For loud ringing, Algo 8301 SIP Paging Adapter can be configured to ring whenever the associated desk phone receives an incoming call. The loud ringing is useful for users that require louder ringing than what is available from the desk phone. The simultaneous ringing at the desk phone and Algo 8301 SIP Paging Adapter is accomplished via the Avaya IP Office Mobility feature.

For voice paging, Algo 8301 SIP Paging Adapter can auto-answer an incoming call and allow the caller to broadcast audio over the Algo 8301 SIP Paging Adapter.

The IP Office Server Edition Solution that consists of a primary Server Edition in Virtual Environment and an expansion 500V2. Algo 8301 was registered as SIP users to both the primary Server Edition and the expansion 500V2.

2. General Test Approach and Test Results

The feature test cases were performed manually. Calls were manually placed to the loud ringing and voice paging extensions, with call controls such as hold/resume, unattended, attended transfer and conference performed from the caller.

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 loud ringing feature testing included registration, internal and external caller, interactions with the voice paging extension, and interactions with desk phone features such as coverage, call forwarding, and do not disturb. The voice paging feature testing included registration, media shuffling, G.722, internal and external caller, interactions with the loud ringing extension, and interactions with caller actions such as drop, hold/reconnect, blind/attended transfer, and blind/attended conference.

The serviceability testing focused on verifying the ability of Algo 8301 Paging Adapter to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet cable to the device.

2.2. Test Results

The objectives outlined in **Section 2.1** were verified. All test cases passed, the following observations were made during the compliance testing:

- The call between Algo 8301 Page and Avaya phones (H.323, SIP, and digital) cannot be transferred in blind and attended mode by Avaya phone to Avaya SIP phone 1140E. The transfer uses REFER method which is not supported by Algo 8301 in the current release.

2.3. Support

Technical support on Algo 8301 SIP Paging Adapter can be obtained through the following:

- Phone: + 1 604 454 3792
- Web: <http://www.algosolutions.com/support>
- Email: support@algosolutions.com

3. Reference Configuration

Figure 1 illustrates the test configuration used during the compliance testing between the Avaya IP Office and Algo 8301 SIP Paging Adapter. The Algo 8301 communicated with IP Office through Avaya switch and registered with Avaya IP Office as two separate SIP endpoints, and the extensions used for the testing: one for Voice Paging and one for Loud Ringer. The IP Office Server Edition Solution that consists of a primary Server Edition in Virtual Environment and an expansion 500V2. The PRI T1 trunk was also configured to connect from IP Office 500V2 expansion to PSTN for test cases off-net via PRI T1 trunk.

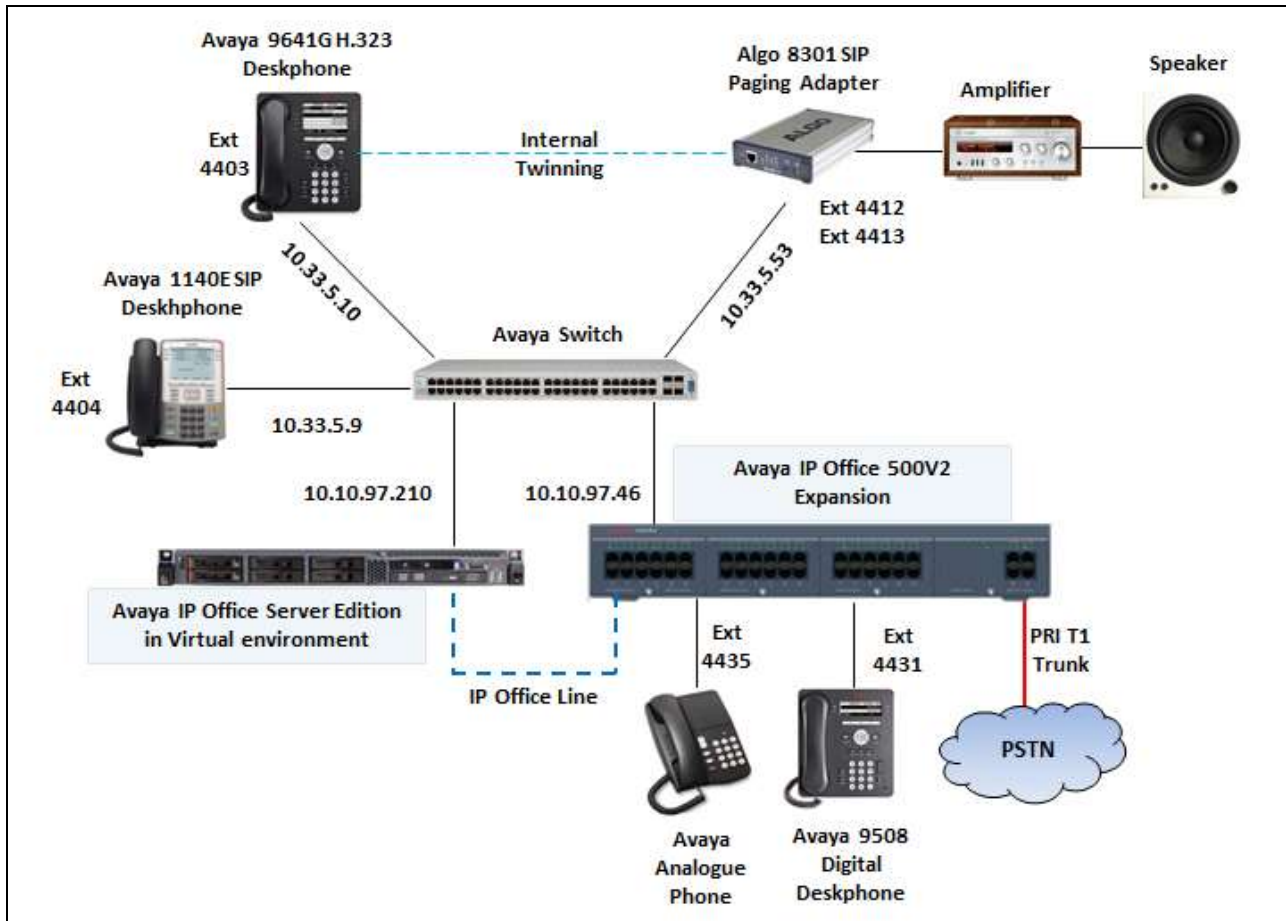


Figure 1: Test Configuration Diagram

4. Equipment and Software Validated

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

Equipment	Software
Avaya IP Office Server Edition in Virtual Environment	9.1.4 Build 137
Avaya IP Office 500V2 Expansion	9.1.4 Build 137
Avaya H.323 9641G IP Deskphone	6.6029
Avaya H.323 1608 IP Deskphone	1.380B
Avaya 1140E SIP Phone	4.4.23
Avaya 9508 Digital Phone	0.55
Avaya Analog Phone	-
Algo 8301 Paging Adapter Firmware Version	1.0.14
Base Version	r1.2
System Version	r1.2

5. Configure Avaya IP Office

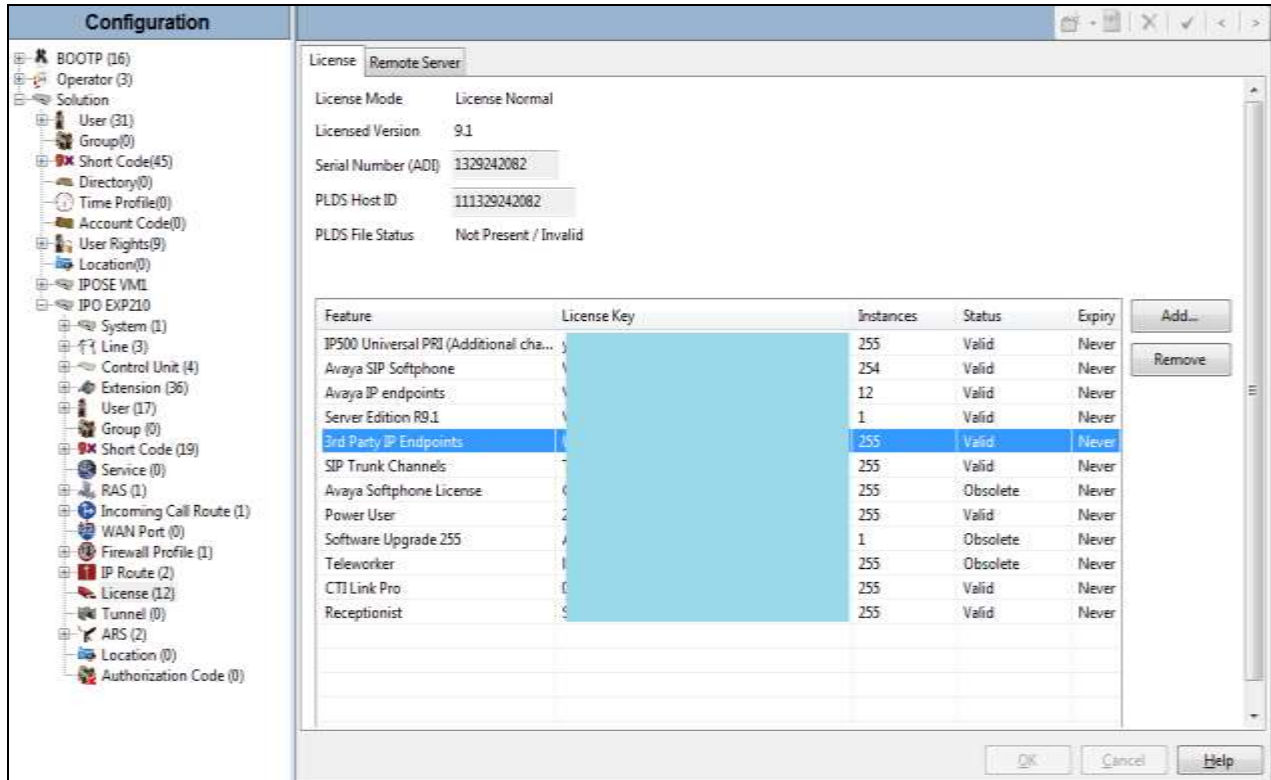
This section provides the procedures for configuring Avaya IP Office. The procedures include the following areas:

- Verify IP Office license.
- Obtain LAN IP address.
- Administer SIP registrar.
- Administer SIP extensions.
- Administer SIP users.
- Administer Internal Twinning.

5.1. Verify IP Office License

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

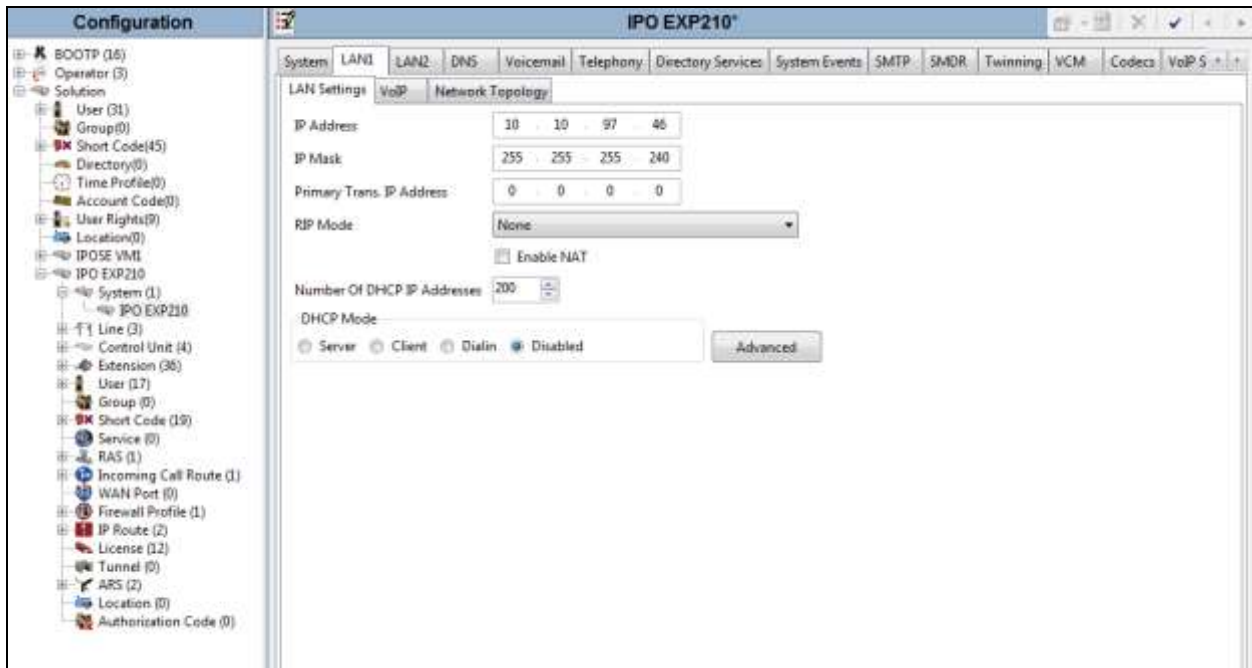
The **Avaya IP Office Manager** screen is displayed. From the configuration tree in the left pane, select **License**, the list of license displayed in the right panel. Verify that the **3rd Party IP Endpoints** status is “Valid”.



Feature	License Key	Instances	Status	Expiry
IP500 Universal PRI (Additional cha...		255	Valid	Never
Avaya SIP Softphone		254	Valid	Never
Avaya IP endpoints		12	Valid	Never
Server Edition R9.1		1	Valid	Never
3rd Party IP Endpoints		255	Valid	Never
SIP Trunk Channels		255	Valid	Never
Avaya Softphone License		255	Obsolete	Never
Power User		255	Valid	Never
Software Upgrade 255		1	Obsolete	Never
Teleworker		255	Obsolete	Never
CTI Link Pro		255	Valid	Never
Receptionist		255	Valid	Never

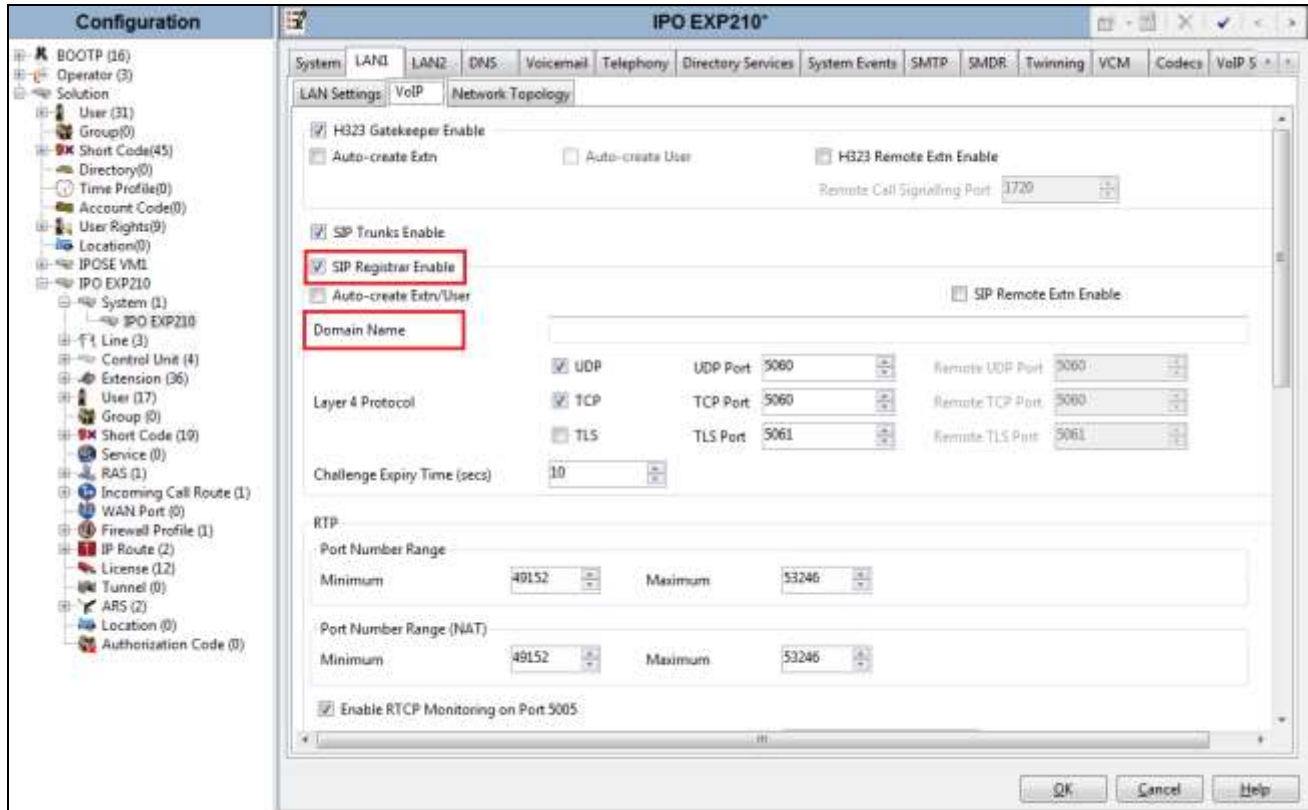
5.2. Obtain LAN IP Address

From the configuration tree in the left pane, select **System** to display the **IPO EXP210** screen in the right pane. Select the **LAN1** tab, followed by the **LAN Settings** sub-tab in the right pane. Make a note of the IP Address, which will be used later to configure Algo. Note that IP Office can support SIP extensions on the LAN1 and/or LAN2 interfaces, and the compliance testing used the LAN1 interface.



5.3. Administer SIP Registrar

Select the **VoIP** sub-tab. Make certain that **SIP Registrar Enable** is checked, as shown below. Enter a valid **Domain Name** for SIP endpoints to use for registration with IP Office. In the compliance testing, the **Domain Name** was left blank, so the SIP endpoints used the LAN IP address for registration.



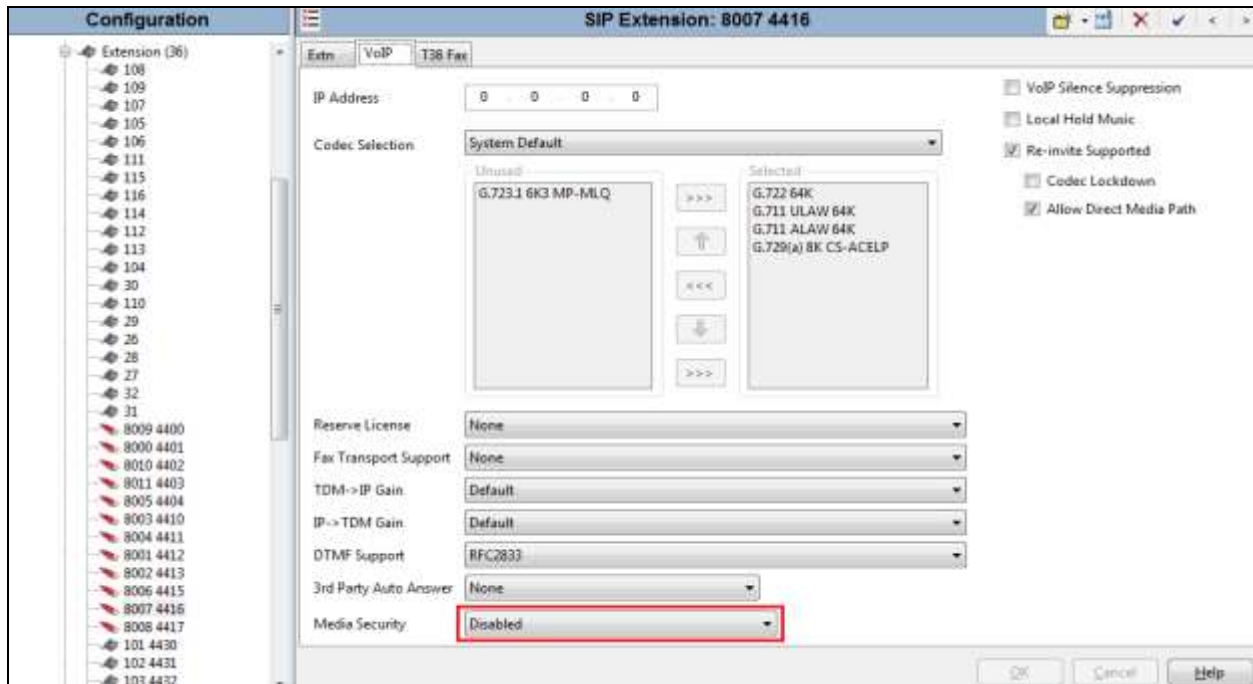
5.4. Administer SIP Extensions

From the configuration tree in the left pane, right-click on **Extension** and select **New → SIP Extension** from the pop-up list to add a new SIP extension. For **Base Extension**, enter the loud extension “**4416**”. Retain the default values in the remaining fields.



Select the **VoIP** tab, select **Disable** in the **Media Security** dropdown menu and retain the default values in all fields. Note that Media Security for all Algo SIP extensions needs to be set as “Disabled” to avoid the audio issue.

Repeat this section to configure a voice paging extension **4417**.



5.5. Administer SIP User

From the configuration tree in the left pane, right-click on **User**, and select **New** (not shown) from the pop-up list. Enter desired values for **Name** and **Full Name**. For **Extension**, enter the SIP base extension **4416** from **Section 5.4**.



Select the **Telephony** tab, followed by the **Supervisor Settings** sub-tab, and enter a desired **Login Code**. Repeat this section to add a new user for the voice paging extension from **Section 5.4**. In the compliance testing, user “**Algo 8301 Loud**” was created for loud ringing, and user “**Algo 8301 Page**” was created for voice paging.



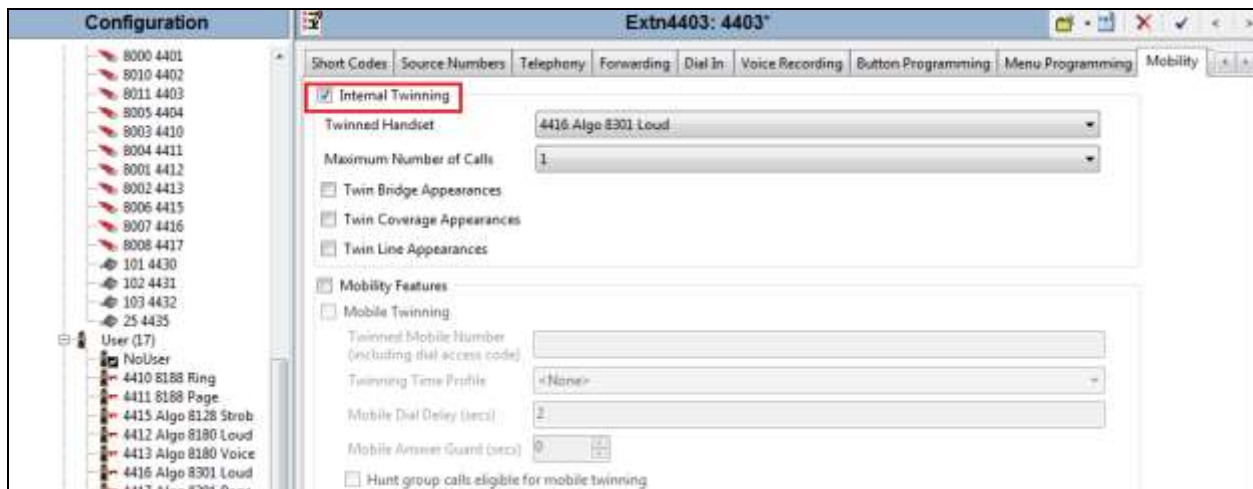
5.6. Administer Internal Twinning

From the configuration tree in the left pane, select the desk phone user that will be associated with the “Algo 8301 Loud” user. In this case, desk phone user “**Extn4403**”.



Select the **Mobility** tab, and check **Internal Twinning**. In the **Twinned Handset** field, select the Algo 8301 Loud user from **Section 5.5**. Retain the default values in the remaining fields.

Note that with the **Internal Twinning** configuration, the Algo extension 4416 will be acting like secondary extension of the extension 4403 which is configured as primary and direct call to the secondary will always get busy. This is design intend of Internal Twining feature in IPO. In order to place direct call to Algo loud extension, do not configure it twinned with a deskphone.



6. Configure 8188 SIP Ceiling Speaker

This section provides the procedures for configuring Algo 8301 SIP Paging Adapter. The procedures include the following areas:

- Launch web interface.
- Administer configuration.

6.1. Launch Web Interface

Access the 8301 Paging Adapter web-based interface by using the URL “http://ip-address” in an Internet browser window, where “ip-address” is the IP address of the 8301 Paging Adapter. The IP address of the 8301 can be spoken by using 1 headset or a speaker that connected to analog output port of the 8301. The **Welcome to the Algo 8301 SIP Paging Adapter Control Panel** screen is displayed, as shown below. Log in using the appropriate credentials.

ALGO 8301 Paging Adapter Control Panel Firmware: 1.0.14

Welcome to the Algo 8301 Paging Adapter Control Panel

Setting up your Paging Adapter:

Step 1: Configure your Paging Adapter

Log in with the default password and use the Basic Settings pages to set up the basic information.

Step 2: Check network settings (Optional)

Use the Network page under the Advanced Settings tab to change network settings. The default setting for the device is to obtain its IP address from a DHCP server. Contact your Network System administrator if you plan to assign a static IP address, Mask, and Gateway to the device.

Step 3: Secure your Paging Adapter (Optional)

Use the Admin page under the Advanced Settings tab to change the administrator password.
⚠️ Changing the password is extremely important if the device is directly connected to a public network.

Step 4: Register your Paging Adapter (Optional)

Please register your product using the link below:
<http://www.algosolutions.com/8301reg>

Registration ensures your access to the latest upgrades to this product and important service notices.

Login

Password (default: algo)

Status

Device Name	pagingadapter
SIP Registration	Ring #1 - Successful Page - Successful
Call Status	Idle
Proxy Status	Single proxy mode
Provisioning Status	N/A

6.2. Administer Algo 8301 SIP Paging Adapter

Select **Basic Settings** → **SIP** from the top menu, to display the screen below. Configure the **SIP Settings** section toward the bottom of the screen as desired to match the configuration. Enter the following values for the specified fields, and retain the default values in the remaining fields.

- **Sip Domain (Proxy Server):** The IPO LAN1 IP address from **Section 5.2**.
- **Ring/Alert Mode:** Select **Monitor “Ring” event on the registered SIP extension**.
- **Page Function:** Select **Enabled**.
- **Ring Extension:** Enter the loud ringing SIP base extension from **Section 5.4**.
- **Authentication ID:** Enter the loud ringing SIP user name from **Section 5.5**.
- **Ring Password:** Enter the loud ringing SIP user login code from **Section 5.5**.
- **Page Extension:** Enter the voice paging SIP base extension from **Section 5.4**.
- **Page Auth ID:** Enter the voice paging SIP user name from **Section 5.5**.
- **Page Password:** Enter the voice paging SIP user login code from **Section 5.5**.
- **Different Ports for Extensions:** Select **Disabled**.

The screenshot displays the '8301 Paging Adapter Control Panel' with the 'SIP Settings' section active. The interface includes a top navigation bar with 'Status', 'Basic Settings', 'Advanced Settings', 'System', and 'Logout'. Below this, there are sub-tabs for 'SIP', 'Features', 'Audio', and 'Multicast'. The 'SIP Settings' section contains the following fields and options:

- SIP Domain (Proxy Server):** Text input field containing '10.10.97.46'. A tooltip indicates: 'Default port is 5060. To specify a different port, enter PROXY:PORT, e.g. my_proxy.com:5070, or 192.168.1.10:5080.'
- Ring/Alert Mode:** Radio buttons for 'Monitor "Ring" event on registered SIP extension' (selected) and 'None'.
- Page Function:** Radio buttons for 'Enabled' (selected) and 'Disabled'.
- Ring Extension:** Text input field containing '4416'.
- Authentication ID:** Text input field containing '4416'.
- Authentication Password:** Password input field with masked characters and a show/hide icon.
- Page Extension:** Text input field containing '4417'.
- Authentication ID:** Text input field containing '4417'.
- Authentication Password:** Password input field with masked characters and a show/hide icon.
- Different Ports for Extensions:** Radio buttons for 'Enabled' and 'Disabled' (selected). A tooltip indicates: 'Turn this option on for certain proxies, e.g. Cisco Communication Manager 7, to send ring and page SIP requests through different port numbers.'

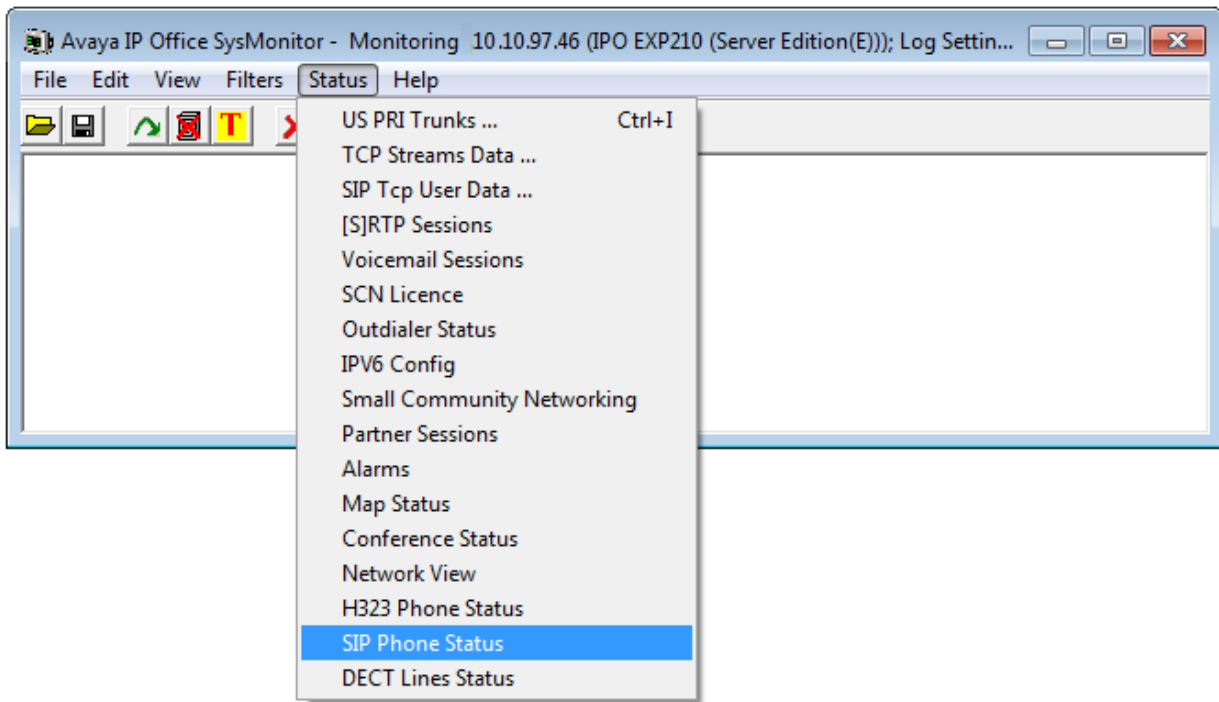
A 'Save' button with a green checkmark is located at the bottom right of the settings area. The footer of the page reads '© Copyright 2015 Algo Communication Products Ltd.'

7. Verification Steps

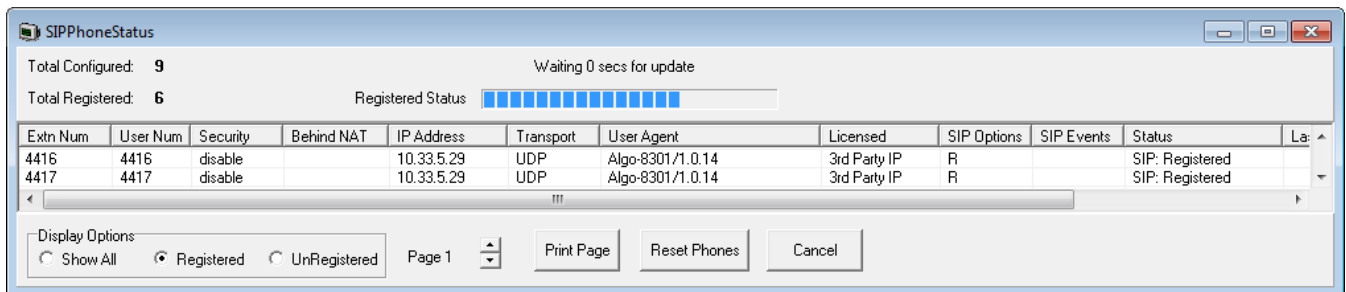
This section provides the tests that can be performed to verify proper configuration of Avaya IP Office and Algo 8301 Paging Adapter.

7.1. Verify Avaya IP Office

From a PC running the Avaya IP Office Monitor application, select **Start → Programs → IP Office → System Monitor** to launch the application. The **Avaya IP Office SysMonitor** screen is displayed, as shown below. Select **Status → SIP Phone Status** from the top menu.

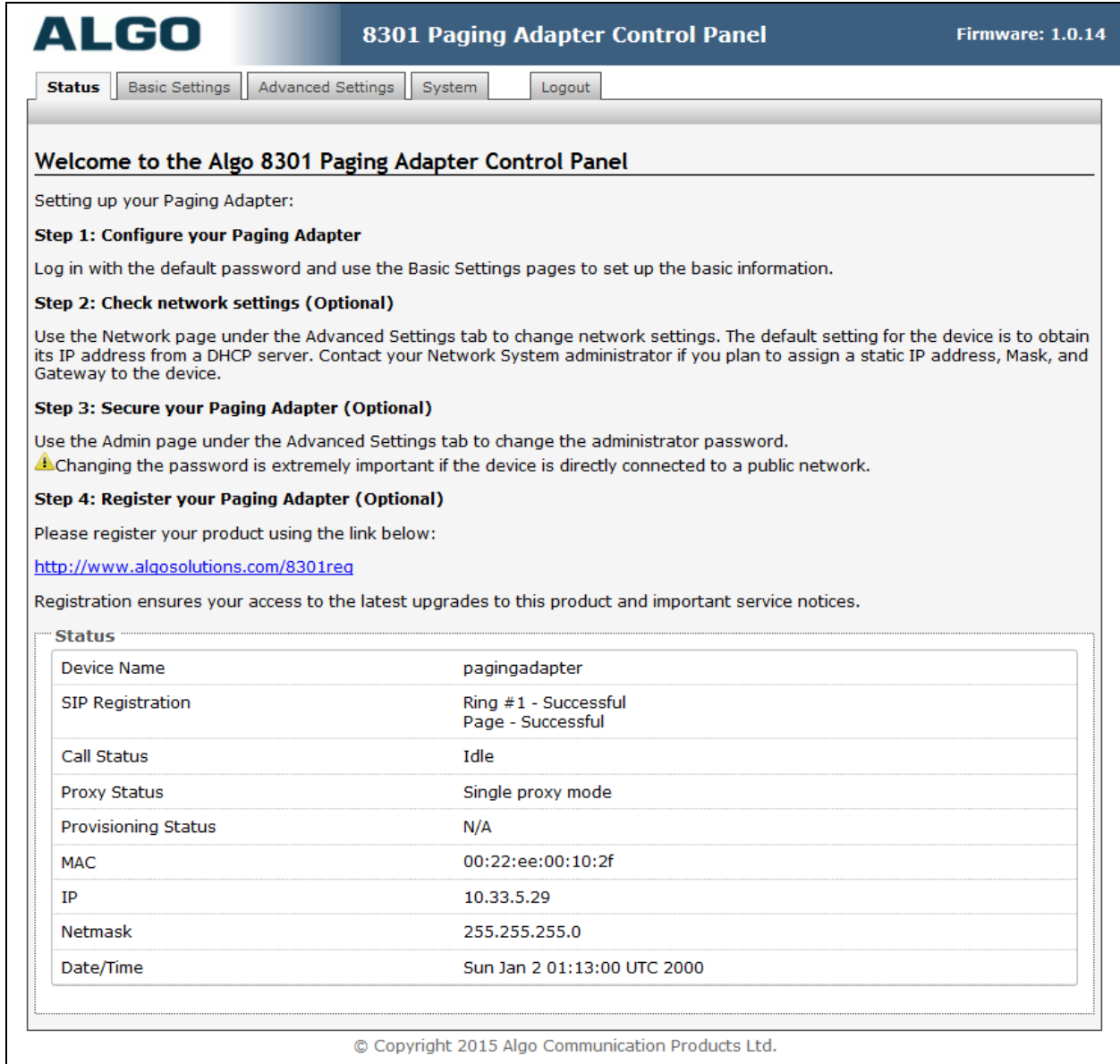


The **SIPPhoneStatus** screen is displayed. Verify that there is an entry for each SIP extension from **Section 5.4**, that the **User Agent** is “Algo-8301/1.0.14”, and that the **Status** is “SIP: Registered”, as shown below.



7.2. Verify Algo 8301

From the Algo 8301 SIP Paging Adapter web-based interface, select **Status** from the top menu. Verify that **SIP Registration** displays “Ring – Successful” and “Page – Successful”, as shown below.



ALGO 8301 Paging Adapter Control Panel Firmware: 1.0.14

Status Basic Settings Advanced Settings System Logout

Welcome to the Algo 8301 Paging Adapter Control Panel

Setting up your Paging Adapter:

Step 1: Configure your Paging Adapter
Log in with the default password and use the Basic Settings pages to set up the basic information.

Step 2: Check network settings (Optional)
Use the Network page under the Advanced Settings tab to change network settings. The default setting for the device is to obtain its IP address from a DHCP server. Contact your Network System administrator if you plan to assign a static IP address, Mask, and Gateway to the device.

Step 3: Secure your Paging Adapter (Optional)
Use the Admin page under the Advanced Settings tab to change the administrator password.
⚠ Changing the password is extremely important if the device is directly connected to a public network.

Step 4: Register your Paging Adapter (Optional)
Please register your product using the link below:
<http://www.algosolutions.com/8301reg>
Registration ensures your access to the latest upgrades to this product and important service notices.

Status

Device Name	pagingadapter
SIP Registration	Ring #1 - Successful Page - Successful
Call Status	Idle
Proxy Status	Single proxy mode
Provisioning Status	N/A
MAC	00:22:ee:00:10:2f
IP	10.33.5.29
Netmask	255.255.255.0
Date/Time	Sun Jan 2 01:13:00 UTC 2000

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The following tests were conducted to verify the solution between the Algo 8301 and Avaya IPO.

- Verify that the incoming call to the twinning extension on the IPO rings the 8301 loud and the 8301 loud stops ringing if the twinning extension answers the call.
- Verify that the incoming call to the 8301 Voice Page is automatically answered with clear audio path.
- Verify that the telephone that places the incoming call to the 8301 Page can do conference, transfer, mute, un-mute and provide busy tone if it is on another call.
- Verify that the solution works with different Avaya clients (e.g. digital, analog, IP etc).
- Verify that 8301 goes into an idle state when the call is completed.
- Verify that the 8301 re-registers without issues if the Ethernet cable is unplugged and plugged back in.

8. Conclusion

These Application Notes describe the configuration steps required to integrate the Algo 8301 SIP Paging Adapter with Avaya IP Office Server Edition Solution. All of the executed test cases have passed and met the objectives outlined in **Section 2.1**, with some exceptions outlined in **Section 2.2**.

9. Additional References

Product documentation for the Avaya IP Office may be found at:

<https://support.avaya.com/css/Products/>

Avaya IP Office Documents:

- [1] Administering Avaya IP Office™ Platform with Manager, Issue 9.1, Issue 10.33, December 2015.
- [2] Deploying Avaya IP Office™ Platform Servers as Virtual Machines, Release 9.1, Issue 03i, November 2015.
- [3] IP Office™ Platform 9.1 Using IP Office System Monitor, Issue 06e, May 2015.

Product documentation for the Algo 8301 SIP Paging Adapter products may be found at:

<http://www.algosolutions.com/8301>

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