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Avaya Solution & Interoperability Test Lab

Application Notes for Algo 8190S SIP Classroom Speaker Version 3.1.3 and with Avaya IP Office Server Edition Release 11- Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Algo 8190S SIP Classroom Speaker to interoperate with Avaya IP Office Server Edition. Algo 8190S SIP Classroom Speaker is a SIP-based device that can register with Avaya IP Office as a SIP endpoint for public address (PA) voice paging, ringing and emergency alerting.

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 Algo8190S SIP Classroom Speaker to interoperate with Avaya IP Office Server Edition. The Algo 8190S SIP Classroom Speaker is a SIP-based device that can register with IP Office for public address (PA) voice paging, ringing and emergency alerting.

The Algo 8190S SIP Classroom Speaker supports multiple SIP extensions which behave differently – RING,PAGE and EMERGENCY ALERT. One or multiple may be used depending on the application. If the RING extension is called the 8190S will not answer. Instead, it will flash a light pattern and play a tone until the inbound call stops ringing. Typically the RING extension is programmed as part of a hunt group so that it receives a ring signal simultaneously with one or more devices. The simultaneous ringing at the desk phone and the Algo 8190S SIP Classroom Speaker is accomplished via the Mobile internal twinning feature.

If the PAGE extension is called, the Algo 8190S SIP Classroom Speaker will auto-answer and allow paging over its internal speaker. When the 8190S answers it will play a configurable tone to the caller so they know when they can begin speaking.

In the compliance testing, Avaya IP Office Server Edition system consists of Avaya IP Office Primary Linux running on Virtualized Environment and a 500V2 Expansion.

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.

Avaya recommends our customers implement Avaya solutions using appropriate security and encryption capabilities enabled by our products. The testing referenced in this DevConnect Application Note included the enablement of supported encryption capabilities in the Avaya products only (private network side). Readers should consult the appropriate Avaya product documentation for further information regarding security and encryption capabilities supported by those Avaya products.

Support for these security and encryption capabilities in any non-Avaya solution component is the responsibility of each individual vendor. Readers should consult the appropriate vendor-supplied product documentation for more information regarding those products.

For the testing associated with this Application Note, the interface between Avaya systems and the Algo 8190S did not include use of any specific encryption features as requested by Algo.

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, 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 the 8190S SIP Classroom Speaker 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.

2.3. Support

Technical support on Algo 8190S SIP Classroom Speaker can be obtained through the following:
- Phone: + 1 604 454 3792
- Web: http://www.algosolutions.com/support/support.html
- Email: support@algosolutions.com

3. Reference Configuration

Figure 1 illustrates the test configuration used during the compliance testing between the Avaya IP Office and 8190S SIP Classroom Speaker. The 8190S SIP Classroom Speaker communicates with IP Office through Avaya switch with Power over Ethernet (PoE) and registered with Avaya IP Office as SIP endpoint. The SIP trunk was also configured to connect from IP Office to SIP Service Provider for test cases off-net via PSTN.
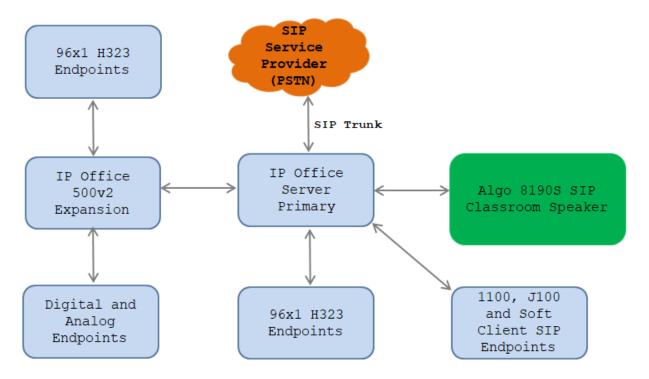
Figure 1: Test Configuration Diagram

The following table indicates the IP addresses that were assigned to the systems in the test configuration diagram:

Description	IP Address
IP Office Primary Server Edition	10.33.1.110
IP Office 500V2 Expansion	10.33.1.55
Avaya SIP and H323 Endpoint	10.33.5.30-10.33.5.36
Algo 8190S SIP Classroom Speaker	172.16.199.10

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya	
Avaya IP Office Primary Server Edition running on Virtual Environment	11.0.4.1.0 Build 11
Avaya IP Office 500v2 Expansion	11.0.4.1.0 Build 11
Avaya IP Office DIG DCPx16 V2	11.0.4.1.0 Build 11
Avaya IP Office Manager	11.0.4.1.0 Build 11
Avaya 96x1 Series IP Deskphones (H.323)	Version 6.6604
Avaya 1140E IP Deskphones (SIP)	SIP1140e Ver. 04.04.23.00
Avaya IX Workplace for Windows	3.7.4.22.1
Avaya J129 SIP Deskphone	4.0.3.1
Algo 8190S SIP Classroom Speaker	3.1.3

Note: Compliance Testing is applicable when the tested solution is deployed with a standalone IP Office 500v2 and also when deployed with all configurations of IP Office Server Edition.
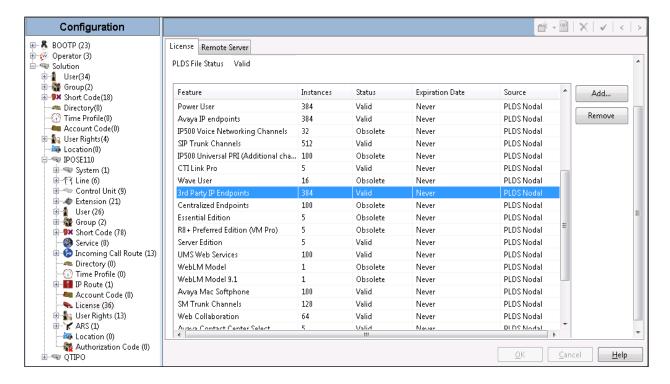
5. Configure Avaya IP Office

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
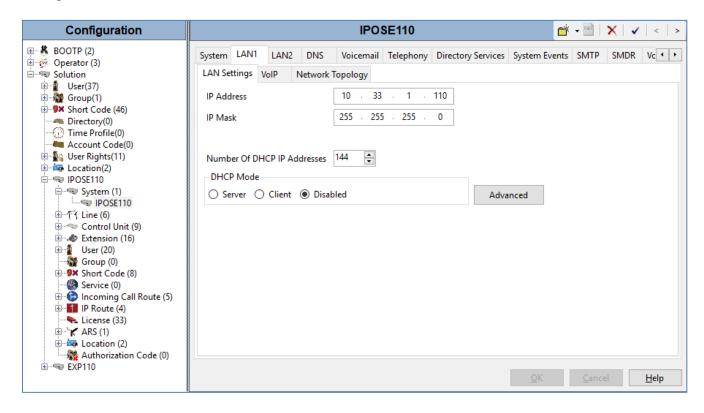- Administer Internal Twinning

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".
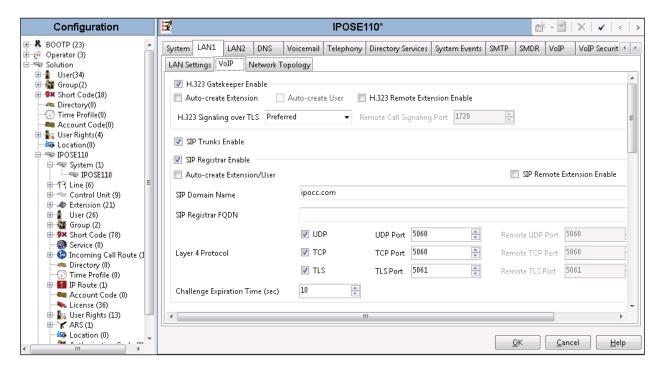
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5.2. Obtain LAN IP Address

From the configuration tree in the left pane, select System to display the **IPOSE110** 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 the Algo 8190S endpoint. Note that IP Office can support SIP extensions on the LAN1 and/or LAN2 interfaces, and the compliance testing used the LAN1 interface.
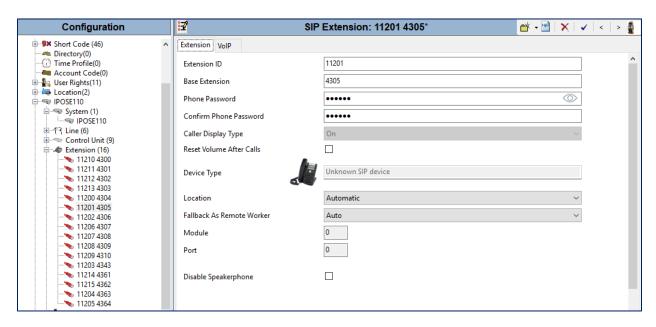
5.3. Administer SIP Registrar

Select the **VoIP** sub-tab. Make certain that **SIP Registrar Enable** is checked, as shown below. Enter a valid sip domain name for SIP endpoints to use for registration with IP Office. In the compliance testing, the sip domain name **ipocc.com** was used so the SIP endpoints used the sip domain name for registration.
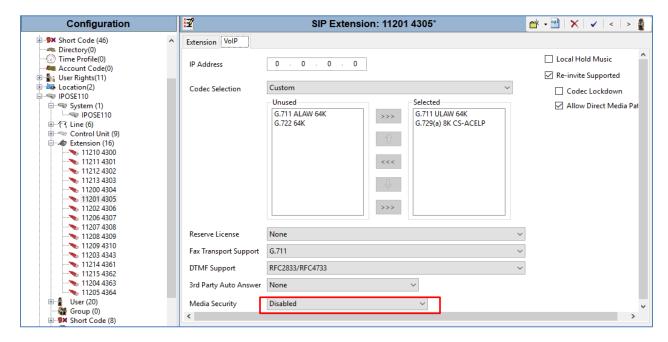
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5.4. Administer SIP Extensions

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 SIP door extension "**4305**", enter password in the **Phone Password** and **Confirm Phone Password** fields and retain the default values in the remaining fields.
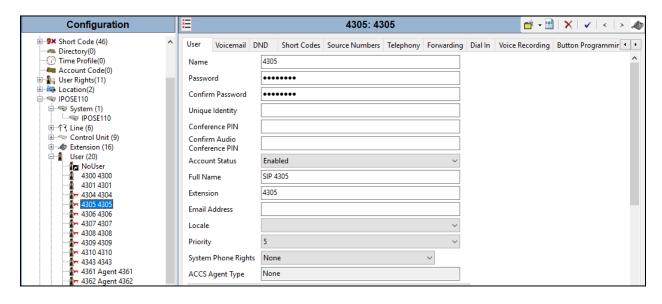

Select the **VoIP** tab, select **Disabled** in the **Media Security** field and retain other fields at default values. Repeat this section to add additional SIP extensions as desired.
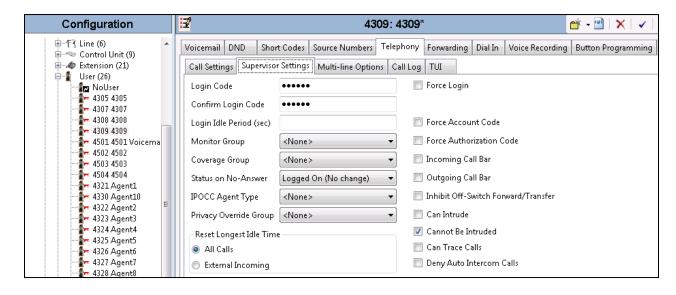
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5.5. Administer SIP User

From the configuration tree in the left pane; right-click on **User tab** and select **New** from the pop-up list. Enter desired values for **Name**. For **Extension**, enter the **4305** extension from **Section 5.4**. Remember these values as they will be needed to register Algo 8190S to IP Office. Enter desired values for **Password** and **Confirm Password**.
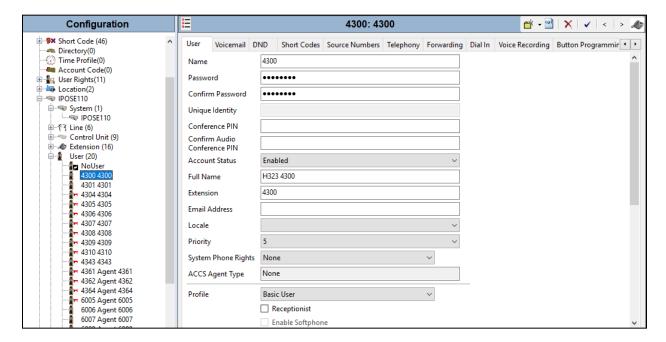

Select the **Telephony** tab, followed by the **Supervisor Settings** sub-tab, and enter a desired **Login Code**. This **Login Code** is needed to register the Algo 8190S to IP Office. Note: if the **Phone Password** in the **Extension** tab in **Section 5.4** is configured, the password in the **Phone Password** must be used for the registration, in case the **Phone Password** is left blank then the code in the **Login Code** is used for the registration. The difference between **Phone Password** and **Login Code** is that the **Phone Password** can combine letter and number while **Login Code** only allows number.

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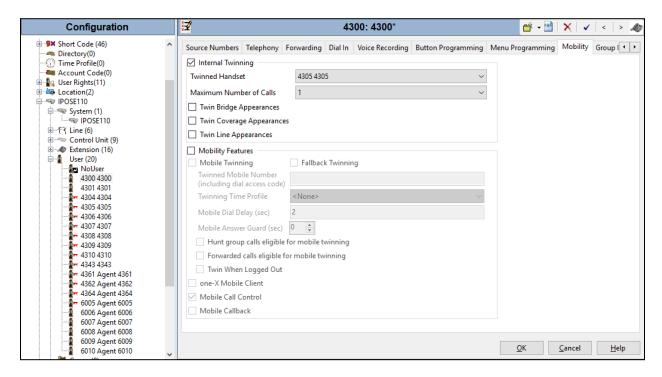
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5.6. Administer Internal Twinning

From the configuration tree in the left pane, select the desk phone user that will be associated with the loud ringing user. In this case, desk phone user "**4300**".

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Select the **Mobility** tab, and check **Internal Twinning**. In the **Twinned Handset** field, select the loud ringing user from **Section 5.5**. Retain the default values in the remaining fields. Note that with the Internal Twinning configuration, the Algo 8190S loud extension 4305 will be acting like secondary extension of the extension 4300 which is configured as primary and direct call to the secondary will always get busy. This is design intend of Internal Twining feature in IP Office. In order to place direct call to the Algo 8190S endpoint's loud ringing extension, do not configure it twinned with a deskphone.
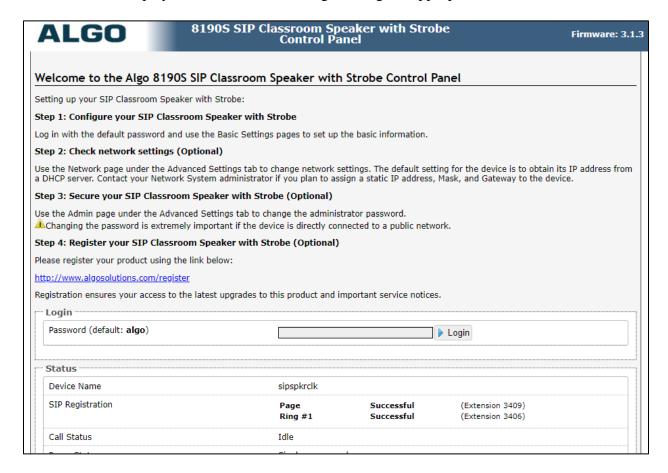
6. Configure Algo 8190S SIP Classroom Speaker

This section provides the procedures for configuring Algo 8190S Classroom Speaker. The

6.1. Launch Web Interface

Access the 8190S SIP Classroom Speaker web-based interface by using the URL "http://ip-address" in an Internet browser window, where "ip-address" is the IP address of the 8190S SIP Classroom Speaker. The **Welcome to 8190S SIP Classroom Speaker with Strobe Control Panel** screen is displayed, as shown below. Log in using the appropriate credentials.
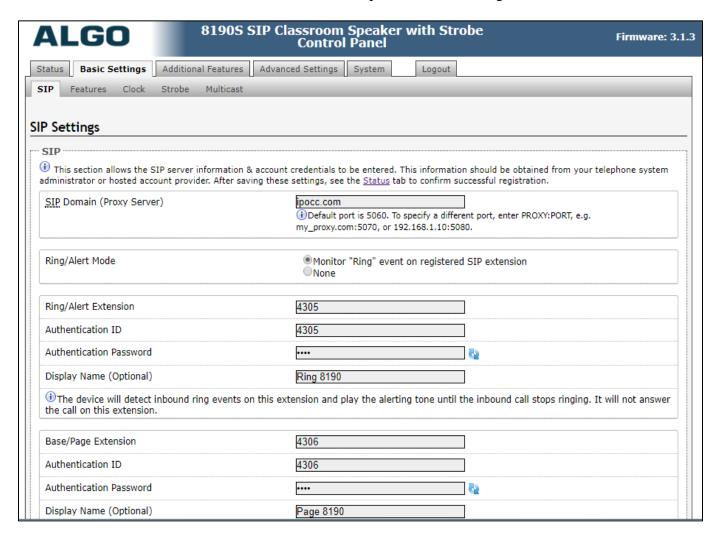

6.2. Administer Algo 8190S

Select **Basic Settings** → **SIP** from the top menu, to display the screen below. Configure the **SIP Account** 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):** Enter the SIP domain name as configured in **Section 5.2**.
- **Ring/Alert Mode:** Select the **Monitor** "Ring" event on registered SIP extension.
- **Ring/Alert Extension:** Enter the SIP user extension as configured in **Section 5.4**.

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- **Authentication ID:** Enter the SIP user name as configured in **Section 5.5**.
- **Authentication password:** Enter the SIP password extension from **Section 5.4** or the SIP user login code from **Section5.5**.
- Enter the Authentication Extension and ID and password for the Page extension.

Navigate to **Advanced Settings** ➔ **Advanced SIP**. The **Advanced SIP** page is displayed, enter the LAN1 IP address of IP Office Primary in the **Outbound Proxy** and keep other values at default.
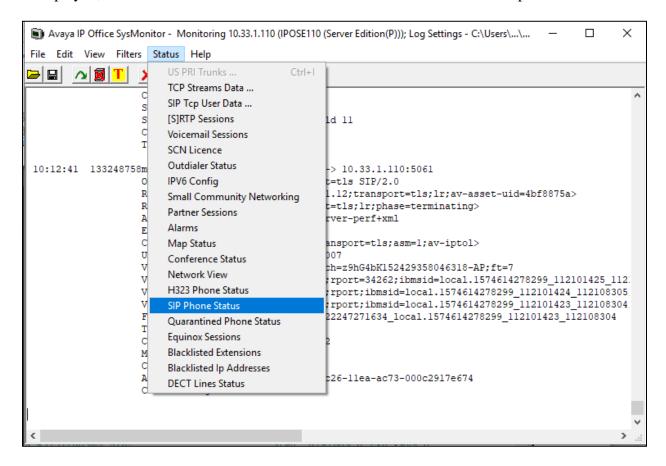
Click on **Save** button to save the configuration.

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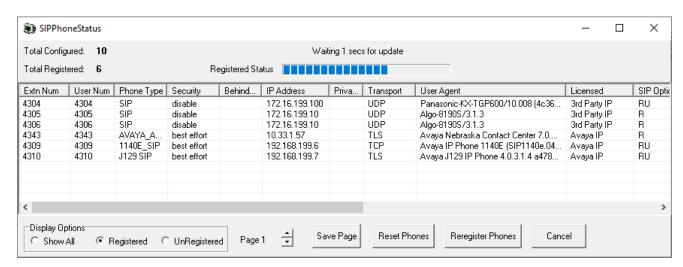15 of 19
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7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya IP Office and Algo 8190S SIP Classroom Speaker.

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.

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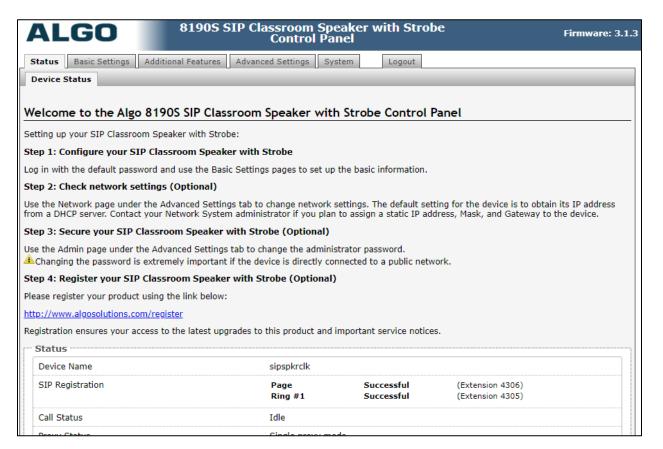
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The **SIPPhoneStatus** screen is displayed and select the **Registered** radio button in the **Display Options** area it displays all SIP users currently register to IP Office. Verify that there are two extensions for the Algo 8190S ring and page in the list.

7.2. Verify Algo 8190S SIP Classroom Speaker

From the Algo 8190S Classroom Speaker web-based interface, select **Status** from the top menu. Verify that **SIP Registration** displays "Successful" in the **SIP Registration** as shown below.

The following tests were conducted to verify the solution between the Algo 8190S and Avaya IP Office.

- Verify that the incoming call to the twinning extension on the IP Office rings the 8190S and the 8190S stops ringing if the twinning extension answers the call
- Verify that the incoming call to the 8190S Page is automatically answered with clear audio path
- Verify that the telephone that places the incoming call to the 8190S 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 8190S goes into an idle state when the call is completed
- Verify that the 8190S re-registers without issues if the Ethernet cable is unplugged and plugged back in

8. Conclusion

These Application Notes describe the procedures required to configure Algo 8190S SIP Classroom Speaker to interoperate with Avaya IP Office Server Edition using as SIP 3rd endpoint. All of the executed test cases have passed and met the objectives outlined in **Section 2.1**.

9. Additional References

This section references the documentation relevant to these Application Notes. Product documentation for Avaya IP Office, including the following, is available at:
http://support.avaya.com/

[1] *Avaya IP Office Platform Solution Description*, Release 11.0, August 2019.
[2] *Avaya IP Office Platform Feature Description*, Release 11.0, August 2019.
[3] *IP Office Platform 11.0 Deploying Avaya IP Office Essential Edition,* Document Number 15-601042, Issue 3, 20 August 2019.
[4] *Administering Avaya IP Office Platform with Manager,* Release 11.0, August 2019.
[5] *IP Office Platform 10.1 Using Avaya IP Office Platform System Status,* Document 15-601758, Issue 1, August 2019.
[6] *IP Office Platform 11.0 Using IP Office System Monitor,* Document 15-601019, Issue 09b, August 2019.

Additional Avaya IP Office documentation can be found at:
http://marketingtools.avaya.com/knowledgebase/

Product documentation for the Algo 8190S SIP Classroom Speaker products may be found at:
http://www.algosolutions.com/products/speakers/8190.html

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