Abstract

These Application Notes describe the configuration steps required for Algo 8180 SIP Audio Alerter to interoperate with Avaya IP Office Server Edition. Algo 8180 SIP Audio Alerter 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 8180 SIP Audio Alerter to interoperate with Avaya IP Office Server Edition. Algo 8180 SIP Audio Alerter is a SIP-based device that can register with IP Office as two separate SIP endpoints, one for loud ringing and one for voice paging.

For loud ringing, Algo 8180 SIP Audio Alerter 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 8180 SIP Audio Alerter is accomplished via the Mobile internal twining feature.

For voice paging, Algo 8180 SIP Audio Alerter can auto-answer an incoming call and allow the caller to broadcast audio over the Algo 8180 SIP Audio Alerter.

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 8180 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, 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 8180 SIP Audio Alerter 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 8180 and Avaya phones (H.323, SIP, and digital) cannot be transferred by Avaya phone to SIP phone. This feature is currently not supported on Algo 8180.

2.3. Support
Technical support on Algo 8180 SIP Audio Alerter 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 Algo 8180 SIP Audio Alerter. The 8180 SIP Audio Alerter communicated with IP Office through Avaya switch with Power over Ethernet (PoE) and registered with Avaya IP Office as SIP endpoint. The PRI T1 trunk was also configured to connect from IP Office to PSTN for test cases off-net via PRI T1 trunk.

Figure 1: Test Configuration Diagram
The following table indicates the IP addresses that were assigned to the systems in the test configuration diagram:

<table>
<thead>
<tr>
<th>Description</th>
<th>IP Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP Office Primary Server Edition</td>
<td>10.10.97.110</td>
</tr>
<tr>
<td>IP Office 500V2 Expansion</td>
<td>10.10.97.230</td>
</tr>
<tr>
<td>Avaya SIP and H323 Endpoint</td>
<td>10.33.5.30-10.33.5.36</td>
</tr>
<tr>
<td>Algo 8180 SIP Audio and Alert</td>
<td>10.33.5.50</td>
</tr>
</tbody>
</table>

4. Equipment and Software Validated

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

<table>
<thead>
<tr>
<th>Equipment/Software</th>
<th>Release/Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avaya IP Office Primary Server Edition running on Virtual Environment</td>
<td>11.0.0.2.0 Build 23</td>
</tr>
<tr>
<td>Avaya IP Office 500v2 Expansion</td>
<td>11.0.0.2.0 Build 23</td>
</tr>
<tr>
<td>Avaya IP Office DIG DCPx16 V2</td>
<td>11.0.0.2.0 Build 23</td>
</tr>
<tr>
<td>Avaya IP Office Manager</td>
<td>11.0.0.2.0 Build 23</td>
</tr>
<tr>
<td>Avaya 96x1 Series IP Deskphones (H.323)</td>
<td>Version 6.6604</td>
</tr>
<tr>
<td>Avaya 1140E IP Deskphones (SIP)</td>
<td>SIP1140e Ver. 04.04.23.00</td>
</tr>
<tr>
<td>Avaya Communicator for Windows</td>
<td>2.1.4.0</td>
</tr>
<tr>
<td>Avaya Equinox™ for Windows</td>
<td>3.4.4.45.14</td>
</tr>
<tr>
<td>Avaya J129 SIP Deskphone</td>
<td>3.0.0.16</td>
</tr>
<tr>
<td>Algo 8180 SIP Audio Alerter</td>
<td>Firmware Version</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>Kernel Version</td>
</tr>
<tr>
<td></td>
<td>1.5</td>
</tr>
</tbody>
</table>

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”.

![Configuration Panel](image-url)

*Image: Configuration panel showing the License area with 3rd Party IP Endpoints verified.*
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 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 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.
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 “4309”. 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.
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 Algo 8180 extension from Section 5.4. Remember these values as they will be needed to register Algo 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 8180 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.
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 “4301”.

![Configuration Tree and User Information]

- Name: Extr4301
- Password: **********
- Confirm Password: **********
- Unique Identity: 
- Conference PIN: 
- Confirm Audio: 
- Conference PIN: 
- Account Status: Enabled
- Full Name: SIP 4301
- Extension: 4301
- Email Address: 
- Locale: 
- Priority: 5
- System Phone Rights: None
- Profile: Basic User
- Receptionist
- Enable Softphone
Select the **Mobility** tab, and check **Internal Twinning**. For Twinned Handset, 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 extension 4308 will be acting like secondary extension of the extension 4301 which is configured as primary and direct call to the secondary will always get busy. This is design intend of Internal Twinning feature in IP Office. In order to place direct call to Algo loud ringing extension, do not configure it twinned with a deskphone.
6. Configure 8180 SIP Audio Alerter

This section provides the procedures for configuring Algo 8180 SIP Door Phone. The procedures include the following areas.

6.1. Launch Web Interface

Access the 8180 SIP Audio Alerter web-based interface by using the URL “http://ip-address” in an Internet browser window, where “ip-address” is the IP address of the 8180 Audio Alerter. The IP address of the 8180 can be spoken by using combination buttons in the bottom of the 8180. The Welcome to the Algo 8180 SIP Audio Alerter Control Panel screen is displayed, as shown below. Log in using the appropriate credentials.
6.2. Administer Algo 8180

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.
- **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 Section 5.5.
- Enter the Authentication Extension and ID and password for the Page.
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.
7. Verification Steps
This section provides the tests that can be performed to verify proper configuration of Avaya IP Office and Algo 8180 SIP Audio Alerter.

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 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 8180 ring and page in the list.
7.2. Verify Algo 8180 SIP Alerter

From the Algo 8180 SIP Audio Alerter web-based interface, select **Status** from the top menu. Verify that **SIP Registration** displays “Successful” in the **SIP Registration** as shown below.

![8180G2 SIP Audio Alerter Control Panel]

**Welcome to the Algo 8180G2 SIP Audio Alerter Control Panel**

Setting up your SIP Audio Alerter:

**Step 1: Configure your SIP Audio Alerter**
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 SIP Audio Alerter (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 SIP Audio Alerter (Optional)**
Please register your product using the link below:

http://www.algosolutions.com/register

Registration ensures your access to the latest upgrades to this product and important service notices.
The following tests were conducted to verify the solution between the Algo 8180 and Avaya IP Office.

- Verify that the incoming call to the twinning extension on the IP Office rings the 8180 and the 8180 stops ringing if the twinning extension answers the call
- Verify that the incoming call to the 8180 Page is automatically answered with clear audio path
- Verify that the telephone that places the incoming call to the 8180 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 8180 goes into an idle state when the call is completed
- Verify that the 8180 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 8180 SIP Audio Alerter 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, with some exceptions outlined in Section 2.2.
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/


Additional Avaya IP Office documentation can be found at:

http://marketingtools.avaya.com/knowledgebase/

Product documentation for the Algo 8180 SIP Audio Alerter products may be found at:

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