Configure the Mitel 5000 CP for use with an Algo 8180 Audio Alerter
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### ALGO 8180 AUDIO ALERTER CONFIGURATION NOTES

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Overview

This document provides a reference to Mitel Authorized Solutions providers for configuring the Mitel 5000ICP to host the Algo 8180 Audio Alerter. The different devices can be configured in various configurations depending on your VoIP solution. This document covers a basic setup with required option setup.

Interop History

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>March 2011</td>
<td>Initial Interop with Mitel 5000 CP 4.0 Release 30 and the Algo 8180</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Audio Alerter</td>
</tr>
</tbody>
</table>

Interop Status

The Interop of the Algo 8180 Audio Alerter has been given a Certification status. This device will be included in the SIP CoE Reference Guide. The status the Algo 8180 Audio Alerter achieved is:

The most common certification which means the device/service has been tested and/or validated by the Mitel SIP CoE team. Product support will provide all necessary support related to the interop, but issues unique or specific to the 3rd party will be referred to the 3rd party as appropriate.

Software & Hardware Setup

This was the test setup to generate a basic SIP call between the Algo 8180 Audio Alerter SIP device and the 5000 CP.

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Variant</th>
<th>Software Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitel</td>
<td>5000 CP</td>
<td>4.0 release 30</td>
</tr>
<tr>
<td>Algo</td>
<td>8180 Audio Alerter</td>
<td>1.0.16</td>
</tr>
<tr>
<td>Mitel</td>
<td>5340 SIP Sets</td>
<td>7.2.1.5.0.41</td>
</tr>
<tr>
<td>Mitel</td>
<td>5320 IP Sets</td>
<td>1.6.2.3</td>
</tr>
</tbody>
</table>
## Tested Features

This is an overview of the features tested during the Interop test cycle and not a detailed view of the test cases. Please see the SIP Line Side Interoperability Test Pans for detailed test cases.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Feature Description</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Call</td>
<td>Making and receiving a call</td>
<td>☑</td>
</tr>
<tr>
<td>DTMF Signal</td>
<td>Sending DTMF after call setup (i.e. mailbox password)</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Call Hold</td>
<td>Putting a call on hold</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Call Transfer</td>
<td>Transferring a call to another destination</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Call Forward</td>
<td>Forwarding a call to another destination</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Conference</td>
<td>Conferencing multiple calls together</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Redial</td>
<td>Last Number Redial</td>
<td>Not Supported</td>
</tr>
<tr>
<td>MWI</td>
<td>Message Waiting Indication</td>
<td>Not Supported</td>
</tr>
<tr>
<td>T.38 Fax</td>
<td>Fax Messages</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Video</td>
<td>Video Capabilities</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

☑ - No issues found  ✗ - Issues found, cannot recommend to use  ⚠ - Issues found
Device Limitations

This is a list of problems or not supported features when the Algo 8180 Audio Alerter SIP device is connected to the Mitel 5000.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Problem Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Everything but receiving calls</td>
<td>The 8180 Audio Alerter can only receive calls. Calls may be transferred to it and it can be brought into a conference.</td>
</tr>
</tbody>
</table>
Network Topology

This diagram shows how the testing network is configured for reference.

Mitel SIP Interop Network Configuration
Configuration Notes

This section is a description of how the SIP Interop was configured. These notes should give a guideline how a device can be configured in a customer environment and how the Algo 8180 Audio Alerter was configured in our test environment.

For more detailed information on the programming of the Mitel 5000 CP please refer to the Mitel 5000 CP Features and Programming Guide.

Disclaimer: Although Mitel has attempted to setup the interop testing facility as closely as possible to a customer premise environment, implementation setup could be different onsite. YOU MUST EXERCISE YOUR OWN DUE DILIGENCE IN REVIEWING, planning, implementing, and testing a customer configuration.

5000 CP Configuration Notes

The following steps show how to program a 5000 CP to connect with the Algo 8180 Audio Alerter Phone.

Network Requirements

- There must be adequate bandwidth to support the voice over IP. As a guide, the Ethernet bandwidth is approx 85 Kb/s per G.711 voice session and 29 Kb/s per G.729 voice session (assumes 20ms packetization). As an example, for 20 simultaneous SIP sessions, the Ethernet bandwidth consumption will be approx 1.7 Mb/s for G.711 and 0.6Mb/s. Almost all Enterprise LAN networks can support this level of traffic without any special engineering. Please refer to the 5000 Engineering guidelines for further information.
- For high quality voice, the network connectivity must support a voice-quality grade of service (packet loss <1%, jitter < 30ms, one-way delay < 80ms).

Assumptions for the 5000 CP Programming

- The SIP signaling connection uses UDP on Port 5060.
Software License – SIP Licensing

Ensure that the 5000 CP is equipped with enough Category ‘F’ Phones licenses for the connection of SIP end points. This can be verified within the Software License Feature section form.

Figure 1 – Software License
5000 SIP Phone Configuration

To create an extension for the Algo 8180 Audio Alerter:


2. Right-click anywhere in the right pane, and then select Create SIP Phone. The Create SIP Phone Extension dialog box appears.

3. Select a starting extension for the phones and the number of extensions.

4. Click OK. The system creates a new SIP Phone Group for each of the Algo 8180 Audio Alerter’s.

The SIP Phone groups are created in a stand-alone configuration by default. The associated SIP Phone Group is displayed in System\Devices and Feature Codes\SIP Peers\SIP Phone Groups.
The Algo 8180 Audio Alerter was configured as displayed below.

**Figure 3 – Algo 8180 Audio Alerter Configuration**

The Password field is for the SIP authentication password and the username is the DN. All other field names should be programmed according to the site requirements or left at default.

**Figure 4 – Password Configuration**
SIP Phone Groups

The Algo 8180 Audio Alerter can register with the 5000 CP and act as local extensions in the system. To support this feature, DB Programming uses “SIP Phone Groups.” A SIP Phone Group contains a common set of properties for registration that can be shared with either a “stand-alone” SIP Phone Group or multiple SIP Phone Group.

![SIP Phone Groups](image)

**Figure 5 – SIP Phone Groups**

**Authentication**

The Algo 8180 Audio Alerter SIP Phone group was configured to use In Bound Authentication:

- **Enable In-Bound Authentication**: If the Enable In-Bound Authentication flag is enabled

For a SIP peer, incoming calls and SIP requests from the SIP peer are authenticated by the 5000 CP.
Figure 6 – SIP Phone Groups Authentication Parameters
MWI

The Message Waiting Indication (MWI) field determines whether the system accepts the MWI. As the Algo 8180 Audio Alerter does not handle MWI, make sure the value is set to No.

From the SIP peer. Verify that the Accept MWI option is set to Yes. To have the system ignore MWI from the SIP peer, change the setting to No. It is set to Yes by default.

Figure 8 – MWI Configuration
**For SIP Phone Groups**

There are two choices:

- **Native**: Used for internal Algo 8180 Audio Alerters (those that do not pass through near-end NAT).
- **NAT**: Used for external Algo 8180 Audio Alerters (those that do pass through near-end NAT)

![Figure 9 – NAT Settings](image)

**Registrations**

You can register Algo 8180 Audio Alerter with the 5000 CP dynamically

- For dynamic registration, the status of a Algo 8180 Audio Alerter is determined by the existence of an active registration in the system for that Algo 8180 Audio Alerter. When a Algo 8180 Audio Alerter registers with the system, its status becomes “Idle” (online) as long
as there is a valid Algo 8180 Audio Alerter (Category F Phones) license available and becomes “Offline” when the registration expires or SIP phone un-registers.

This folder allows you to configure the following settings that are required for registration per-Algo 8180 Audio Alerter Group basis:

• **Address of Record**: Indicates the Address of Record that the SIP peer uses to register with the 5000 CP. This field is for read-only.

• **Registration URI**: Indicates the SIP URI representing the Contact address in the SIP REGISTER request from the SIP peer that created this dynamic binding. This field is for read-only.

• **Registration Call ID**: Indicates the SIP Call ID of the SIP REGISTER request received from the SIP peer that created this dynamic binding. This field is for read-only.

• **Registration Cseq Number**: Indicates the SIP Cseq number of the SIP REGISTER request received from the SIP peer that created this dynamic binding. This field is for read-only.

• **Registration Update Time**: Indicates the timestamp when the SIP REGISTER request was received from the SIP peer and updated the dynamic binding. This field is for read-only.

• **Registration Expire Time**: Indicates the time in seconds to expire this registration since it was last updated. This field is for read-only.

![Figure 10 – Registrations](image)
Call Configuration

Clicking **Call Configuration** takes you to the Call Configuration folder (System\IP-Related Information\Call Configurations\<call configuration number>). When you create a SIP peer without using a template, by default the new SIP peer is added to Call Configuration 1 <Local>.

The following diagram shows call configuration was used with the Algo 8180 Audio Alerter.

![Figure 11 – Call Configuration](image)
Algo 8180 Audio Alerter Configuration Notes

The following steps show how to program the Algo 8180 Audio Alerter to interconnect with the 5000 CP.

1. Connect the Algo 8180 Audio Alerter to a POE switch. The 8180 will get its IP address from a DHCP server. Push the Menu button three times and then the Select button. The IP address will be read out by the 8180.

2. Now you can access the 8180's web configuration page by going to http://x.x.x.x where x.x.x.x is the IP address of the 8180 from step 1.

3. The factory default password for accessing web configuration on the 8180 is “algo”.

4. In the “Config” Section under “SIP”, enter the IP address of the Mitel 5000 in the SIP Domain/Proxy field.

5. Enter the extension number, along with the Auth ID (the same as the extension) and the password previous assigned. Each 8180 can be assigned two numbers; one is strictly an alerter, which will make a noise, the other is a two way intercom. Consult the documentation for complete details on the functionality of the 8180 Audio Alerter.

6. Click on Save Settings.