Configure the MCD 5.0 for use with the Algo 8028 SIP Doorphone

SIP CoE 12-4940-00207
Overview

This document provides a reference to Mitel Authorized Solutions Providers for configuring the Mitel 3300 ICP to host the Algo 8028 SIP Doorphone. 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>June 21, 2012</td>
<td>Interop with Mitel 3300 11.0.1.26 and Algo 8028 SIP Doorphone</td>
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</tbody>
</table>

Interop Status

The Interop of the Algo 8028 SIP Doorphone has been given a Certification status. This device will be included in the SIP CoE Reference Guide. The status the Algo 8028 SIP doorphone achieved is:

![COMPATIBLE]

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 Algo 8028 SIP doorphone and the 3300 ICP.

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Variant</th>
<th>Software Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitel</td>
<td>3300 ICP – Mxe Platform</td>
<td>11.0.1.26</td>
</tr>
<tr>
<td>Mitel</td>
<td>MBG – Teleworker</td>
<td>V7.0.15.0</td>
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<tr>
<td>Mitel</td>
<td>5330 SIP Sets</td>
<td>SIP (05.00.00.18)</td>
</tr>
<tr>
<td>Mitel</td>
<td>5320 IP Sets</td>
<td>Minet (5.00.00.18)</td>
</tr>
<tr>
<td>ALGO</td>
<td>8028 SIP Doorphone</td>
<td>Firmware: 1.7  Kernel: r3</td>
</tr>
<tr>
<td>GE</td>
<td>Wireline Analog Set</td>
<td>n/a</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 as to how a device can be configured in a customer environment and how the Algo 8028 doorphone was configured in our test environment.

We recommend that the Algo 8028 doorphone is configured in Device Based mode. You will configure the Device Based mode in the SIP Device Capabilities Form as described in this section.

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.

3300 ICP Configuration Notes

The following steps show how to program a 3300 ICP to connect with the Algo 8028 doorphone.

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 3300 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 3300 ICP Programming

- The SIP signaling connection uses UDP on Port 5060.
Licensing and Option Selection – SIP Licensing

Ensure that the 3300 ICP is equipped with enough IP Users licenses for the connection of SIP end points. This can be verified within the License and Option Selection form. See Figure 1.

Figure 1 – License and Option Selection
Multiline IP Set Configuration

On the Mitel 3300 ICP, a SIP device can be programmed either in the User Configuration form or the Multiline IP Set Configuration form and are programmed as a “Generic SIP Phone”. Enterprise Manager can also be used to provision where this application is installed.

The User PIN is the SIP authentication password and the Number is the Directory Number (DN is a telephone number). The Number and User PIN must match the information in the Algo 8028 doorphone’s settings. All other field names should be programmed according to the site requirements or left at default. See an example in Figure 2.

Figure 2 – Multiline IP Set Configuration
Class of Service Assignment

The Class of Service Options form is used to create or edit the Class of Service and specify its options. Classes of Service, identified by Class of Service numbers, are referenced by the Station Attributes form for the SIP device.

Many different options may be required for your site deployment, but the options below are required to be changed from the default for a Generic SIP Device to work with the 3300 ICP. (See example in Figure 3)

Under General tab:

Navigate to section Campon and ensure:

- Auto Campon Timer is **blanked (no value)**

Navigate to section HCI and ensure:

- HCI/CTI/TAPI Call Control Allowed set to **Yes**
- HCI/CTI/TAPI Monitor Allowed set to **Yes**

Navigate to section Trunk and ensure:

- Public Network Access via DPNSS set to **Yes**

![Figure 3 – Class of Service](image-url)
SIP Device Capabilities

This form provides configuration options that can be applied to various types of SIP devices. The association between the SIP device and the form is similar to how the Class of Service options work. The SIP Device Capabilities number provides a SIP profile that can be applied to particular SIP devices to allow for alternate capabilities as recommended through the Mitel interop process.

In the SIP Device Capabilities form, program a SIP Device Capabilities Number for the Algo 8028 doorphone. Ensure that “Replace System based with Device based In-Call Features” is set to ‘Yes’.

Figure 4 – SIP Device Capabilities - Basic
Only one parameter was changed for SDP Options. See Figure 5 for details.

*Figure 5 – SIP Device Capabilities – SDP Options*

By default, Algo 8028 doorphone supports Reliable Provisional Responses. So, when this feature is required, you can enable it under Signaling and Header Manipulation tab. See Figure 6 for details.
Figure 6 – SIP Device Capabilities – Signaling and Header Manipulation
Settings for the Timers are an important part for the SIP devices configuration. Set Registration Period, Subscription Period, and Session Timer according to the site requirements. Ensure that the time periods for Registration and Subscription are matching those configured in Algo 8028 doorphone. See an example in Figure 7.

The settings on all other tabs of SIP Device Capabilities form remain unchanged, at their default values.

![Figure 7 – SIP Device Capabilities – Timers](image)
Station Attributes

Use the Station Attributes form to assign the previously configured Class of Service and SIP Device Capability number to each of the Algo 8028 doorphones in the 3300 ICP. This form utilizes Range Programming.

Select the Algo 8028 doorphone device number then select Change. Enter the previously configured SIP Device Capability number and Class of Service for Day, Night 1 & Night 2. See an example in Figure 8 below.

Figure 8 – Station Attributes
Algo 8028 doorphone Configuration Notes

The following steps show how to program the Algo 8028 doorphone to interconnect with the 3300ICP.

The configuration settings below are the main reference points and by any means could not be considered as the comprehensive configuration instructions.

We strongly recommend contacting the phones’ manufacturer ALGO Communication Solutions website www.algosolutions.com/8028 for more detailed instructions and manuals.

Accessing Algo 8028 Doorphone

In our test environment, we configured Algo 8028 doorphone through the web interface.

To access the phone via web browser, you first need to know its IP address. By default, Algo 8028 doorphone has DHCP client enabled. You can check the IP address on the doorphone by pressing the call button on the door station; a recorded voice will speak the IP address of the device. Enter this IP address into your PC web browser in order to open the web interface.

- **Note**: The spoken IP address feature is automatically disabled after a SIP server is configured.
- Take a note of IP address assigned to the phone, e.g. 192.168.101.131.

Access the phone using this IP address. The default password is algo.
Welcome to the 8028 SIP Doorphone Control Panel

Please take a minute to set up your 8028 SIP Doorphone:

**Step 1: Configure your 8028 SIP Doorphone**

Log in with the default password algo and use the config page to set up the SIP connection information.

**Step 2: Check network settings (Optional)**

Use the Network section on Config page to change network settings. The default setting for the 8028 SIP Doorphone 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 8028 SIP Doorphone device.

**Step 3: Secure your 8028 SIP Doorphone (Optional)**

Use the Admin section on Config page to change the administrator password.

Changing the password is extremely important if the 8028 is directly connected to a public network.

**Step 4: Register your SIP Audio Alerter (Optional)**

Please register your product using the link below:


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

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**Login**

Password: [Enter password]

Login

**Info**

<table>
<thead>
<tr>
<th>Device Name:</th>
<th>doophone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extension:</td>
<td>1010</td>
</tr>
<tr>
<td>SIP Registration:</td>
<td>Successful</td>
</tr>
<tr>
<td>Call Status:</td>
<td>Idle</td>
</tr>
<tr>
<td>MAC:</td>
<td>00:12:EE:03:00:59</td>
</tr>
<tr>
<td>IP:</td>
<td>192.168.101.131</td>
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<tr>
<td>Netmask:</td>
<td>255.255.255.0</td>
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<tr>
<td>Door Station:</td>
<td>Model 5201 Firmware 2</td>
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</tbody>
</table>

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**Figure 9 – Algo 8028 SIP Doorphone**
Figure 10 – Initial Configuration
Mitel Resiliency Configurations

Resiliency behavior tested as in **Scenario 1**, configure the parameter for Domain server as shown in Figure 11.

In this example, sipint4sipint2 is the FQDN name of the primary 192.168.101.11 SIP Proxy (3300 ICP) using DNS SRV or A records to get the secondary 192.168.101.20 (i.e. Alternative) SIP proxy (3300 ICP).

**NOTE:** Before configuring this parameter, make sure that DNS server correctly resolves the names of the SIP proxy to IP addresses! The order, in which the SIP proxies IP addresses are resolved, is also important! To check it, use the command in command shell:

```
nslookup sipint4sipint2.sipcoe.mitel.com
Server:  ad-sip-interop.sipcoe.mitel.com
Address:  192.168.101.200

Name:    sipint4sipint2.sipcoe.mitel.com
Addresses:  192.168.101.11, 192.168.101.20
```

In this example, **192.168.101.11** is the IP address of primary SIP Proxy (3300 ICP) and **192.168.101.20** is the IP address of the secondary (i.e. Alternative) SIP proxy (3300 ICP).

**NOTE:** Although FQDNs could be set for the primary and secondary PBXs’ addresses, we recommend using of IP addresses. The site’s DNS server can be inaccessible in case of the network failure. That’s why, for better reliability, the use of IP addresses is more preferable.

Do not forget to click OK to submit the settings to Algo 8028 doorphone and click Save Settings to force the phone to reset and load new settings.
Figure 11 – Scenario 1 resiliency