

zoomphone

Configuration Guide for Snom M500

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Revision History

| Version | Date | Author | Change |
|---------|------------|-----------------|--------------------------------|
| 1.0 | 06/13/2023 | Bindu Pondugula | Created document for Snom M500 |

DUT and Zoom Software Versions

| | Equipment | Software Version |
|-------------------------|--------------------------|------------------|
| Snom(Device under test) | M500(BASE) | 1.11.1 |
| Snom(Device under test) | M55(CORDLESS) | 1.11.1 |
| Zoom | Zoom Desktop application | 5.14.0(13888) |
| Zoom | Zoom Mobile application | 5.14.7(8043) |

Features Supported by Snom M500

- Multiple Line Keys
- Multiple Users per Device
- Custom Time Format and Zone
- Sync time with NTP server
- Enable or disable phone web admin portal
- TLS and SRTP
- Make and Receive Calls
- Inbound and Outbound Call via Opus codec negotiation
- Call Hold and Resume
- Long Duration call
- SIP Session Timer
- Call Waiting
- DND
- Call Forward Always
- Call Forward No Answer
- Call Forward Busy
- Blind/Cold Transfer
- Consultative/Warm Transfer
- 3-party Conference
- Voicemail
- Call History
- Auto Receptionist IVR

- Call Park/Retrieve

1. Overview

This document outlines the configuration best practices for the Snom M500 as Zoom generic SIP phone.

2. Configuration Steps - Zoom Web Portal

This section provides instructions on how to configure Snom M500 in Zoom Web Portal

This section is mainly for adding phone devices M500 and assign Zoom users to the devices

Prerequisites:

- Zoom Phone account: a valid Zoom Phone subscription is required in order to assign to a Snom M500 endpoint.
- Zoom approval for provisioning of Snom M500 as Generic SIP devices. Administrators should contact Zoom Account Executive to start an approval process

Login to Zoom Web portal at <https://zoom.us/>.

The following Zoom SIP Device configurations are included in this section

1. **Create Zoom Users**
2. **Add Device**

1. Create Zoom Users

Zoom Users are created in order to login to Zoom clients on desktop or mobile, it can also be assigned to SIP Device. The steps for creating a user are as follows:

1. Navigate to **Admin -> User Management > Users**. Click **+ Add Users** to create new Zoom users. “A pop-up window will appear titled “Add Users”. Fill out the pop-up with the desired user info and select ‘Add’.

The screenshot shows the Zoom Admin console interface. On the left, the 'ADMIN' menu is expanded to 'User Management' and then 'Users'. The main content area displays a list of users with columns for Email/Name ID, First Name, and a checkbox. A pop-up window titled 'Add Users' is overlaid on the right. The pop-up contains the following fields and options:

- Add users with their email addresses**: A text input field containing 'kishore@tekvision.com'.
- User Type**: Radio buttons for Basic, Licensed (selected), and On-Prem.
- Meeting**: A dropdown menu showing 'Meeting (9 available)'.
- Large Meeting**: A checkbox labeled 'Large Meeting (500 participants) (20 available)'.
- Zoom Webinars**: A checkbox labeled 'Zoom Webinars (500 attendees) (18 available)'.
- Department**: A dropdown menu showing 'Managed'.
- Manager**: A dropdown menu showing 'Kishore'.
- Job Title**: A text input field containing 'Engineer'.
- Location**: A text input field containing 'Pano'.
- Buttons**: 'Add' and 'Cancel' buttons at the bottom right.

Figure 1 : Add Users

2. A Zoom activation email is sent to the email address used in creating the user, follow the instruction to activate the zoom account.
3. Navigate to **Phone System Management > Users & Rooms**. Click **Add**

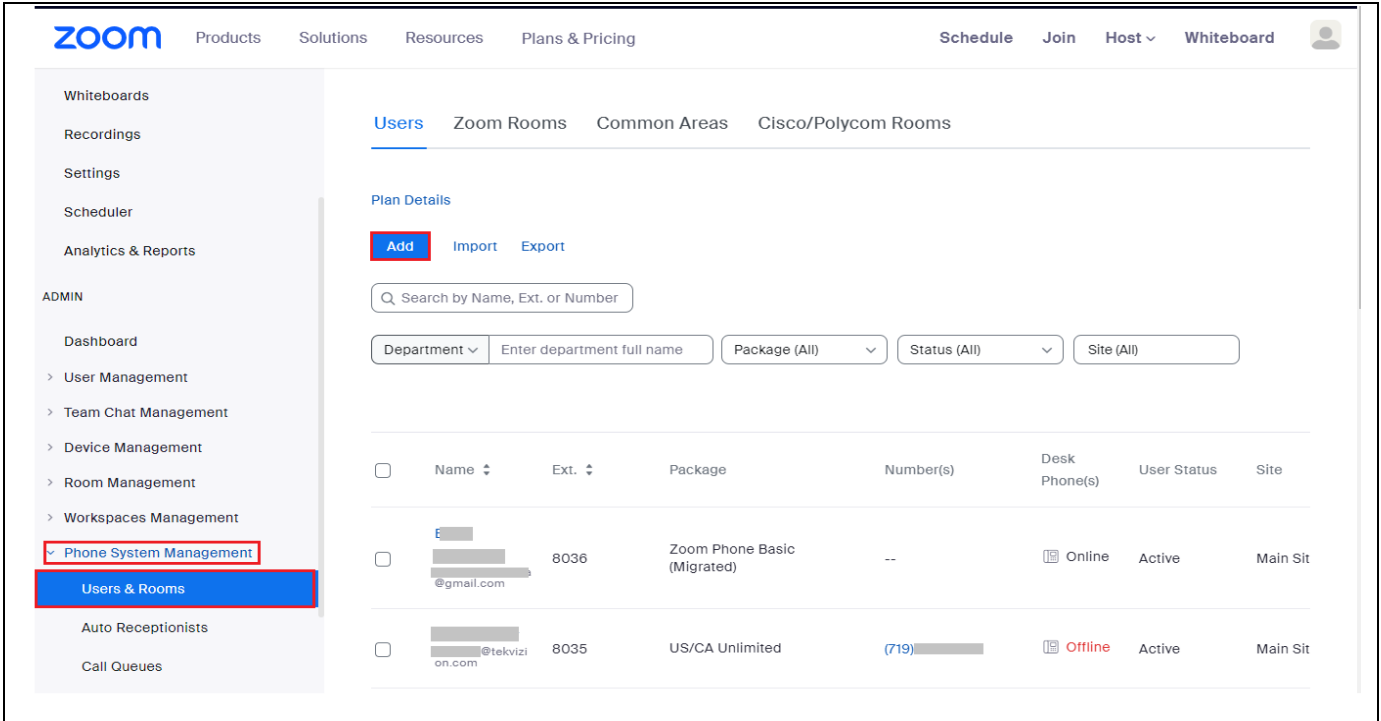


Figure 2 : Add Users and Room

4. Click **Choose** beside Users and when the pop-up window opens, select the proper user and **Confirm**

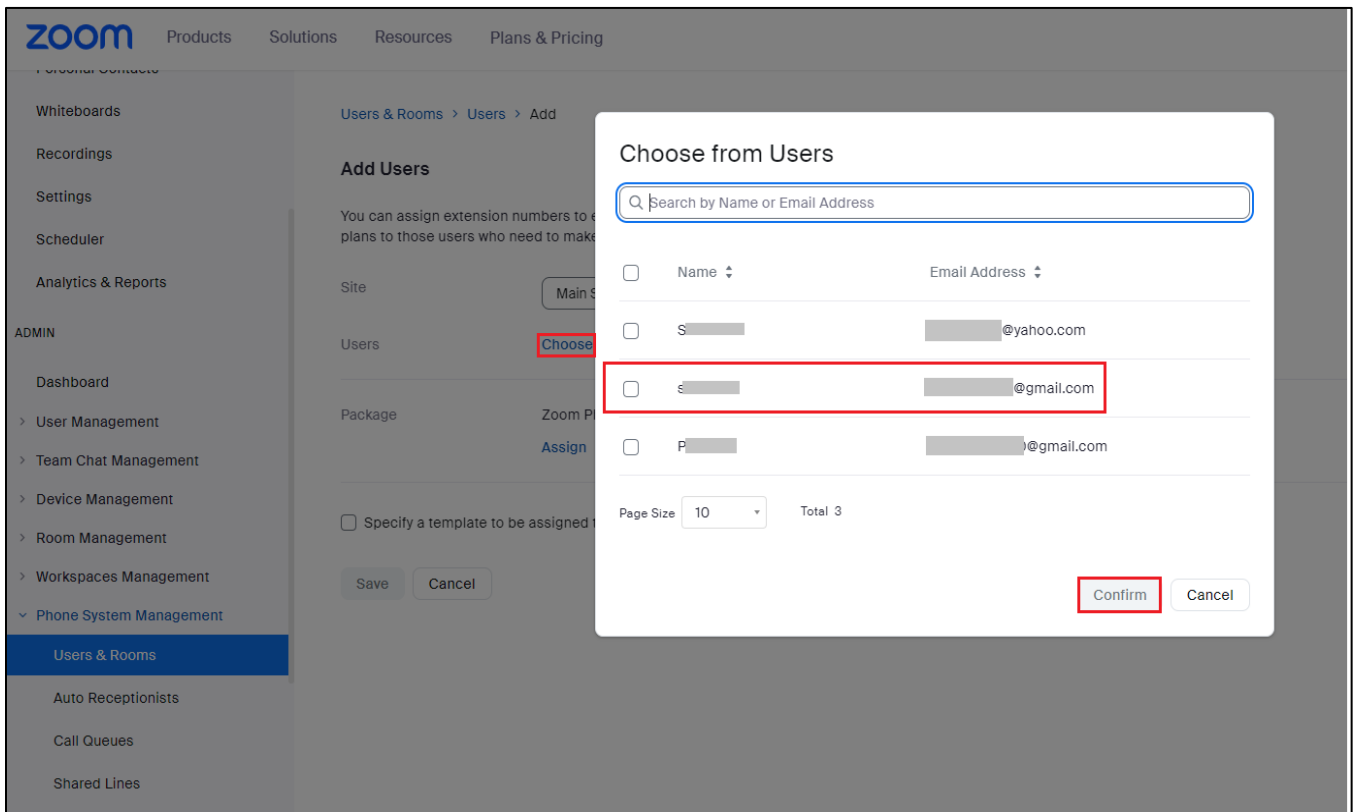


Figure 3 : Choose user

- Click **Assign** beside Package and in a new window, select proper Calling plan. **US/CA Unlimited Calling Plan** was picked up, click **Save** to complete adding users under Phone System Management

The screenshot shows the Zoom Admin console interface. On the left is a navigation menu with sections for PERSONAL and ADMIN. The 'Phone System Management' section is expanded, and 'Users & Rooms' is selected. The main content area is titled 'Add Users' and contains the following fields:

- Site:** Main Site
- Users:** Choose
- Package:** Zoom Phone Basic (Migrated) with an **Assign** button highlighted in red.
- Specify a template to be assigned to users
- Save** and **Cancel** buttons.

Figure 4 (a): Assign Calling Plan

This screenshot shows the same 'Add Users' page as Figure 4(a), but with the 'Package' dropdown menu open. The dropdown list contains the following options:

- US/CA Unlimited Calling Plan (0 Available) Pro Features - Unlimited Domestic** (highlighted with a red box)
- Zoom Phone Power Pack (20 Available) Power Pack Features

The 'Save' button is also highlighted with a red box. The 'Users' field now shows 'Chosen: 1' with a single user card and a 'Choose' button below it.

Figure 5(b): Assign Calling Plan

6. Click **Assign** and select **Assign Numbers** to the newly added user

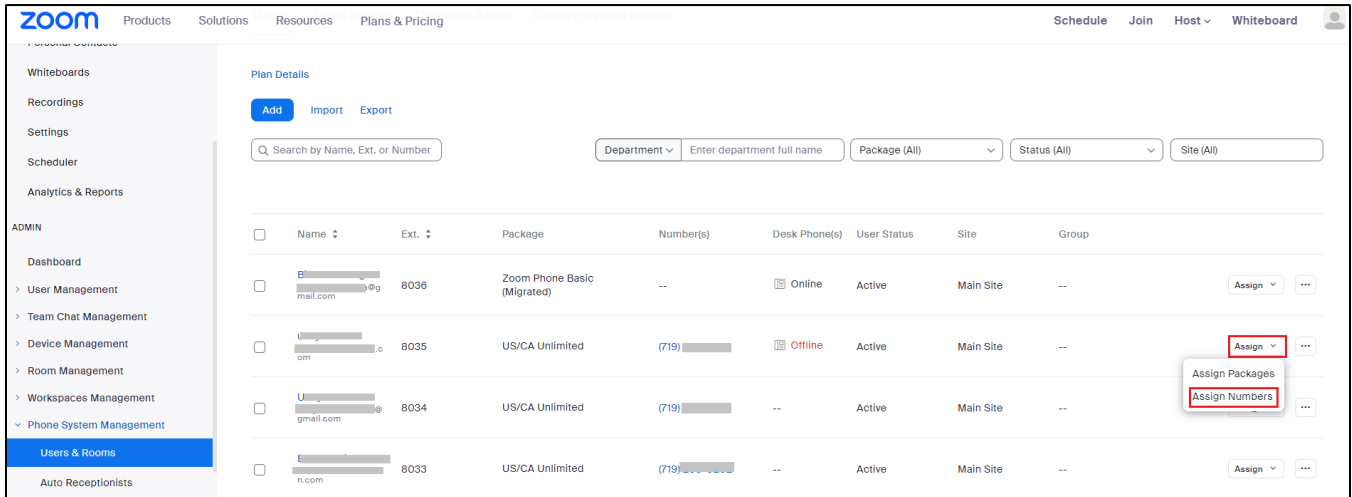


Figure 6 : Assign Numbers

7. Select the desired DID and click **confirm** to assign the DID to the user

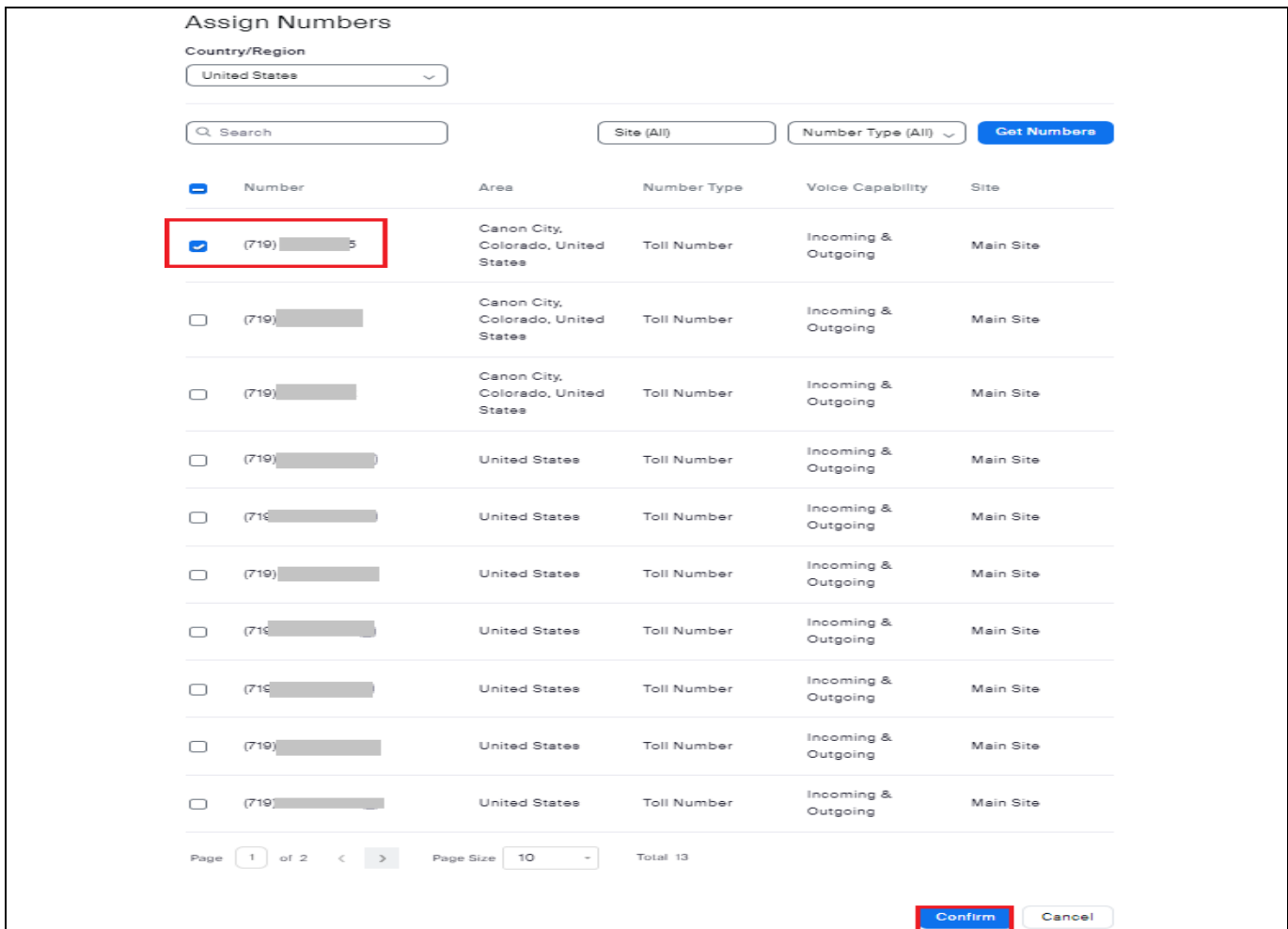


Figure 7 : Select DID Number

2. Add SIP Devices

1. Navigate to **ADMIN -> Phone System Management -> Phones & Devices**. Click **Add**

- Set **Display Name**: Add any name.
- Set **MAC Address**: add the Snom M500 MAC Address here
- Set **Device Type**: select **Other** as the phone type is not certified yet
- Click **Assign** under **Assigned To** and select the newly created user in previous steps
- Click **Save**

The screenshot shows the Zoom Admin console interface. The left sidebar has 'ADMIN' highlighted in red, and 'Phone System Management' is expanded. The 'Phones & Devices' section is active. A modal dialog titled 'Add Device' is open, with a red box highlighting the input fields: 'Display Name' (containing 'B'), 'Description (Optional)', 'MAC Address' (containing '00'), and 'Device Type' (set to 'Other'). Below the fields, it states 'This device type supports up to 1 assignee.' Under the 'Assigned to' section, a user is selected, and the 'Assign' button is highlighted in red. The background shows a table of existing devices with columns for Display Name, Device Type, MAC Address, Ext., Status, Provision, Site, IP Address, Hot Desking, Provision Template, and Call Control.

Figure 8 : Add Desk Phone

2. Select the Display Name of the newly created Desk Phone “**SNOM M500-8035**” to navigate to its profile and click the **Actions** and select **Provision** button. The SIP Account detail is displayed which will be used in the Snom M500 provisioning ([section Provisioning through Phone’s Web Interface](#))

3. Download the Certificates and import them to the device, so that device will be considered in the trust list. (Importing the certificates to the phone is described later in ([section 3.4.3 Apply trusted certificates](#)))

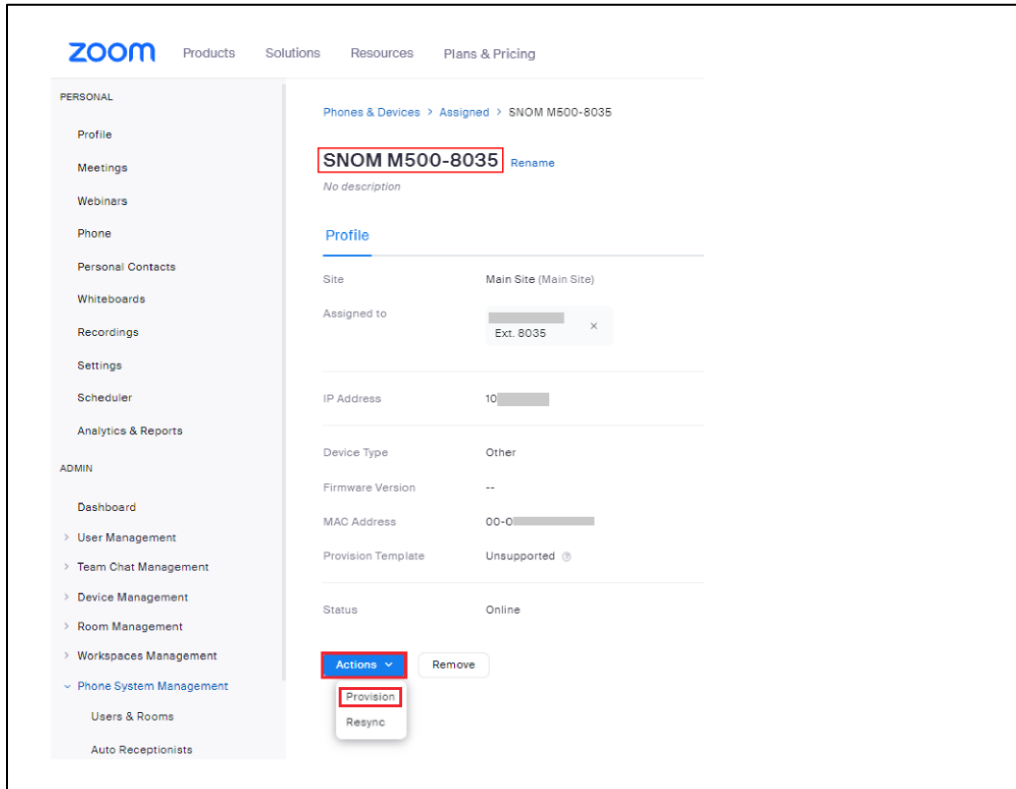


Figure 9(a): Provisioning

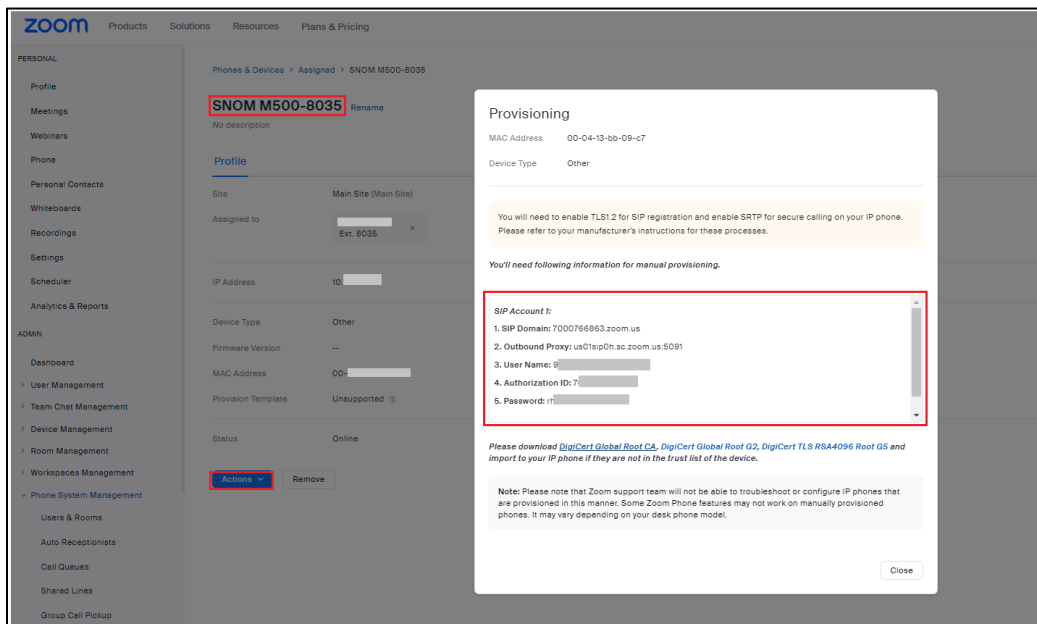


Figure 10(b): Provisioning

3. Snom M500 Provisioning

This section provides instructions on how to configure Snom M500 to register to Zoom Phone Services.

3.1 Deployment Topology Diagram

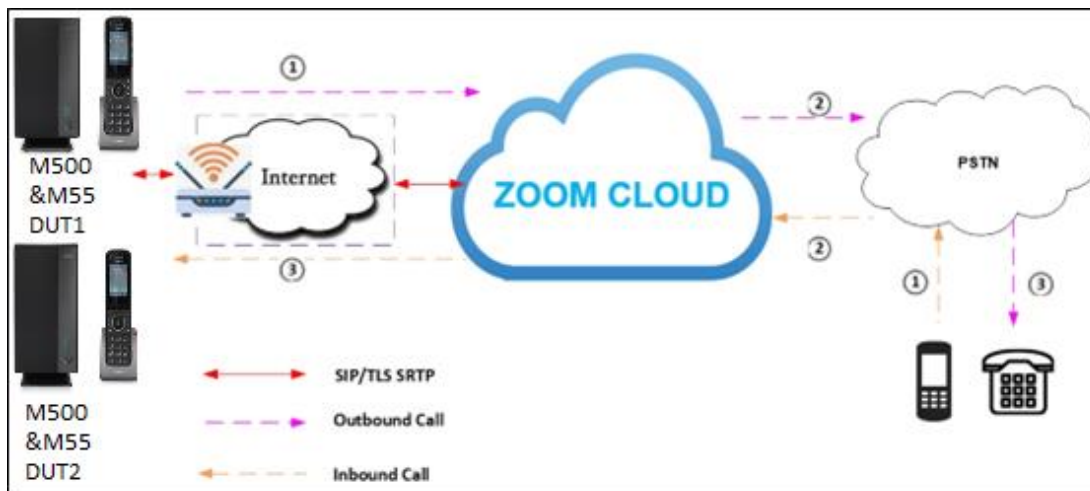


Figure 9: Network Diagram

3.2 Network

By default, Snom M500 has DHCP mode enabled, if the router to which phone is connected does not support DHCP, you can configure static IP manually. You can find the IP address of Snom M500 by navigating the physical phone: **Settings → Status → Network → IP4**

3.3 Firmware Upgrade

This section ensures the phone is upgraded with the required firmware. The firmware used for this test is **1.11.1**

- From the phone's home page, Navigate to: **Servicing → Firmware Upgrade → Auto and Manual Upgrade**.
- Please choose Base File and Handset File and click update from file/Install Handset file (Phone may have to restart to get applied with the changes)

The screenshot shows the web interface for a snom M500 device. The left sidebar contains a menu with the following items: STATUS, SYSTEM, NETWORK, CONTACTS, SERVICING (highlighted in red), Reboot, Time and Date, Custom Language, Firmware Upgrade (highlighted in red), Auto Upgrade (highlighted in blue), Manual Upgrade, Provisioning, Security, Certificates, Tr369, System Logs, SIP Trace, and Settings. The main content area features a warning box with a blue exclamation mark icon and the text "WARNING" followed by a bullet point: "Update login passwords for security reason". Below the warning is a section titled "Firmware Server Settings" enclosed in a red border. This section contains the following fields and buttons: "Base Firmware URL:" with an empty text input and a blue "Update Base Firmware Now" button; "Handset Firmware URL:" with a text input containing "https://drive.google.com/dri"; "Installed Handset Firmware" with the text "Not Available" and a blue "Install Handset Firmware Now" button; "Cordless Deskset Firmware URL:" with an empty text input; "Installed Cordless Deskset Firmware" with the text "Not Available" and a blue "Install Cordless Deskset Firmware Now" button; "Server Authentication Name:" with an empty text input; "Server Authentication Password:" with an empty text input; and a blue "Save" button at the bottom.

Figure 11(a): Auto Firmware Upgrade

snom
M500

STATUS
SYSTEM
NETWORK
CONTACTS
SERVICING

Reboot
Time and Date
Custom Language
Firmware Upgrade
Auto Upgrade
Manual Upgrade
Provisioning
Security
Certificates
Tr369
System Logs
SIP Trace
Settings

WARNING

- Update login passwords for security reason

Manual Firmware Update Settings

Base File Name: No file chosen
Choose File
Update from File

Handset File name: No file chosen
Choose File
Installed Handset Firmware: Not Available
Install Handset File

Cordless deskset File name:: No file chosen
Choose File
Installed cordless deskset Firmware: Not Available
Install cordless deskset File

Figure 12(b) : Manual Firmware Upgrade

3.4 Provisioning

The Snom M500 can be provisioned in two ways:

1. Provisioning through a HTTP/TFTP Server
2. Provisioning through Web Interface

3.4.1 Provisioning through a HTTP/TFTP server

From the phone's home page, Navigate to: **Servicing** → **Provisioning** → **Server URL**

- In a HTTP/TFTP Server, upload the below file in order for the phone to download the necessary configuration files and get provisioned. In this example, we have used <https://10.64.xx.xx/> or <http://10.64.xx.xx/>, then DUT will fetch 2 files: snomM500.htm and snomM500-{MAC}.htm
- Place sip_account.sips_uri_enable = 0 in a text file and import it into the phone.
- You can then export the configuration and check to ensure the setting was set properly.

The screenshot displays the Snom M500 web interface. On the left is a navigation menu with options like STATUS, SYSTEM, NETWORK, CONTACTS, and SERVICING (highlighted). The main content area shows a 'WARNING' message: 'Update login passwords for security reason'. Below this is the 'Provisioning Server' section, which is highlighted with a red box. It contains fields for 'Server URL' (set to https://secure-provisioning.), 'Server Authentication Name', and 'Server Authentication Password'. The 'Plug-and-Play Settings' section has 'Enable PnP Subscribe' checked. The 'DHCP Settings' section has 'Use DHCP Options' checked, with dropdowns for DHCP Option Priority 1 (66), 2 (159), and 3 (160), and text boxes for Vendor Class ID (snomM500) and User Class Info (snomM500). The 'Resynchronization' section has 'Mode' set to 'Both', 'Startup Check' set to 'On', and 'Schedule Check' set to 'Disable'. The 'Import Configuration' section has an 'Update from File' button. The 'Export Configuration' section has 'Export' and 'Export XML' buttons. The 'Reset Configuration' section has a 'Reset' button. At the bottom, there is a 'Save' button.

Figure 13 : Manual Provisioning

- From Web UI of phone, Click **Servicing**→**Reboot**

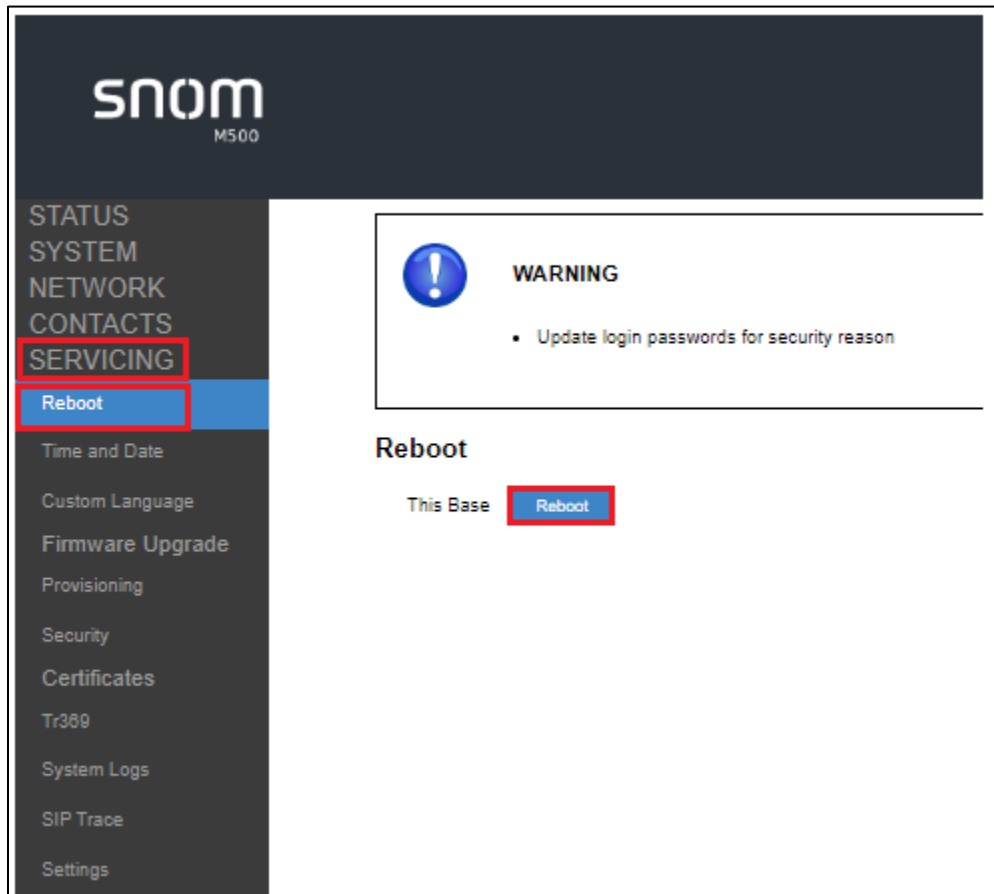


Figure 142 : Reboot

- Once the Phone reboots, enter the phone's IP address in the browser's address bar (**https://ip-address**) and enter. There is a default administrator username and password (admin/admin)

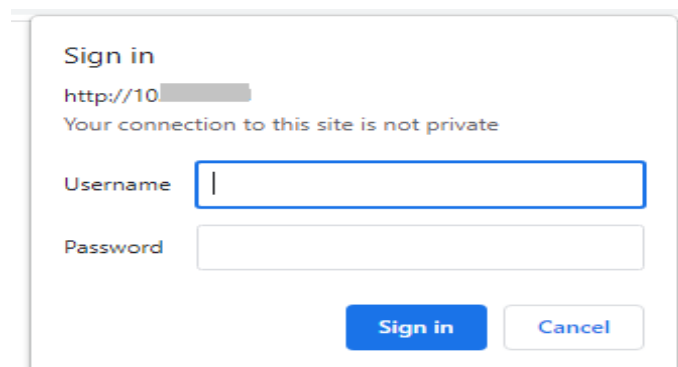


Figure 153 : Phone Login

3.4.2 Provisioning through Phone's Web Interface

This section explains how the device can be registered in Zoom portal using SIP Account details that is populated in Zoom portal (explained earlier in [2. Add SIP Devices -> Provisioning](#))

- Snom M500 configuration is done via web interface, enter the phone's IP address in the browser's address bar (https://ip-address) and enter
- Navigate to **System** → **SIP Account Management** → **Account 1**
 1. Select Account 1 and Enable Account
 2. Account Label: Enter any label.
 3. Display name: Enter any name/Number
 4. User Identifier: **User Name** (from Zoom provisioning)
 5. Authentication Name: **Authorization ID** (from Zoom provisioning)
 6. Authentication Password: **Password** (from Zoom provisioning)
 7. SIP Server, Registration, Outbound Proxy, and Backup Outbound Proxy (from Zoom Provisioning).
 - a). Registrar: SIP Server and Registration: Server Address: **xxxxxxxxx.zoom.us** and **Port:5060**(Provided by Zoom)
 - b). Outbound Proxy and Backup outbound Proxy: **Server Address: xxxxxxxxxxx.sc.zoom.us** and **Port:5091** (Provided by Zoom)
 - c). Click **Save**

The screenshot displays the Snom M500 web interface. On the left is a dark sidebar with navigation links: STATUS, SYSTEM (highlighted), SIP Account Management (highlighted), Base Preferences, User Preferences, Programmable Keys, Paging Configuration, NETWORK, CONTACTS, and SERVICING. The main content area features a 'WARNING' message: 'Update login passwords for security reason'. Below this is the 'SYSTEM ACCOUNT MANAGEMENT ACCOUNT' configuration page for 'Account: 1'. The page has tabs for 'Registration', 'Features', 'Audio', 'Signaling', and 'Call Settings'. The 'Registration' tab is active, showing 'General Account Settings' with a checked 'Enable Account' option and fields for Account Type (Key Line Emulation), Account label (snom1), Display Name (8036), User Identifier, Authentication Name, and Authentication Password. Below are sections for 'SIP Server' (Server Address: 3.zoom.us, Port: 5060), 'Registration' (Server Address: 33.zoom.us, Port: 5060, Expiration: 1800, Freq: 10), 'Outbound Proxy' (Server Address: c.zoom.us, Port: 5091), and 'Backup Outbound Proxy' (Server Address: c.zoom.us, Port: 5091). A 'Save' button is at the bottom left of the configuration area.

Figure 16 : Identity Settings

- Navigate to **Network -> Basic**. Ensure the below parameters are set and Click **Save**

STATUS
SYSTEM
NETWORK

Basic

Advanced

CONTACTS
SERVICING

WARNING

- Update login passwords for security reason

Basic Network Settings

IPv4

Disable

DHCP

Static IP

IP Address:

Subnet Mask:

Gateway:

PPPoE

Username:

Password:

Manually Configure DNS

Primary DNS:

Secondary DNS:

IPv6

Disable

Auto Configuration

Static IP

IP Address:

Prefix (0-128):

Gateway:

Manually Configure DNS

Primary DNS:

Secondary DNS:

Save

Figure 17 : Network Settings

- Navigate to **System→SIP Account Management→Signaling→ Transport=TLS**. Ensure the parameters are set and click **Save**.

snom
M500

STATUS
SYSTEM
SIP Account Management
Base Preferences
User Preferences
Programmable Keys
Paging Configuration

NETWORK
CONTACTS
SERVICING

WARNING

- Update login passwords for security reason

SYSTEM ACCOUNT MANAGEMENT ACCOUNT

Account: 1

Registration Features Audio **Signaling** Call Settings

Signaling Settings

Local SIP Port: 5060

Transport: TLS

Caller Identity

Source Priority 1: PAI

Source Priority 2: RPID

Source Priority 3: From

Session Timer

Enable Session Timer

Minimum Value (secs): 90

Maximum Value (secs): 1800

Keep Alive

Enable Keep Alive

Keep Alive interval (secs): 15

Ignore Keep Alive Failure

NAT Traversal

Enable STUN

Server Address:

Port: 3478

Enable STUN Keep-Alive

Keep-Alive Interval (secs): 30

Save

Figure 18 : SIP-Basic Settings

- Navigate to **System**→**SIP Account Management**→**Audio**→**Enable Voice Encryption(SRTP)**. Ensure the parameters are set and click **Save**

snom
M500

STATUS SYSTEM

SIP Account Management

Base Preferences
User Preferences
Programmable Keys
Paging Configuration

NETWORK CONTACTS SERVICING

WARNING

- Update login passwords for security reason

SYSTEM ACCOUNT MANAGEMENT ACCOUNT

Account: 1

Registration Features **Audio** Signaling Call Settings

Audio

Codec Priority 1: G.711u
Codec Priority 2: G.711a
Codec Priority 3: G.722
Codec Priority 4: G.728
Codec Priority 5: Opus
Codec priority 6: None
Codec priority 7: None

Enable Voice Encryption (SRTP)

Enable G.729 Annex B

Preferred Packetization Time (ms): 20
DTMF Payload Type: 101

Voice

Min Local RTP Port: 18000
Max Local RTP Port: 19000

Quality of Service

DSCP (voice): 48
DSCP (signaling): 28

Jitter Buffer

Fixed
Fixed Delay (ms): 70

Adaptive
Normal Delay (ms): 80
Minimum Delay (ms): 80
Maximum Delay (ms): 240

Save

Figure 19: Audio Settings

- Under **System** → **Programmable Keys** → **PFK**. Ensure the below parameters are set.
 1. Define each PFK (1-6) with different types of functionalities to perform
 2. Assign the functionality and click **Save**.

snom
M500

STATUS
SYSTEM
SIP Account Management
Base Preferences
User Preferences
Programmable Keys
Paging Configuration

NETWORK
CONTACTS
SERVICING

WARNING

- Update login passwords for security reason

M55 Programmable Keys

Select Handset:

Handset Name:

Default Account:

PFK

| | Type | Account | Value | |
|-------|------------------------|-----------|-------|-------|
| PFK 1 | N/A | Account 1 | 1 | |
| | | Account 1 | 1 | PFK 2 |
| PFK 3 | KeyLine | Account 1 | 1 | |
| | Line | Account 1 | 4 | PFK 4 |
| PFK 5 | Call List | Account 1 | 1 | |
| | Dialing Line | Account 1 | 1 | PFK 6 |
| | Directory | | | |
| | Call History | | | |
| | Redial | | | |
| | Messages | | | |
| | Do Not Disturb | | | |
| | Call Forward All | | | |
| | Call Forward Busy | | | |
| | Call Forward No Answer | | | |
| | User Settings | | | |
| | Speed Dial List | | | |
| | Intercom Call List | | | |
| | Silent Ringer | | | |
| | Silent Mode | | | |
| | Callback | | | |
| | Speed Dialing | | | |

Figure 20: Programmable keys

3.4.3 Provisioning through Phone's Web Interface

In order to register the phone to zoom portal, ensure that the following certificates are uploaded in the phone successfully.

- From phone's Web UI, Navigate to **Servicing**→ **Certificates**→**Device**
- From Custom Certificate, Choose File to Import

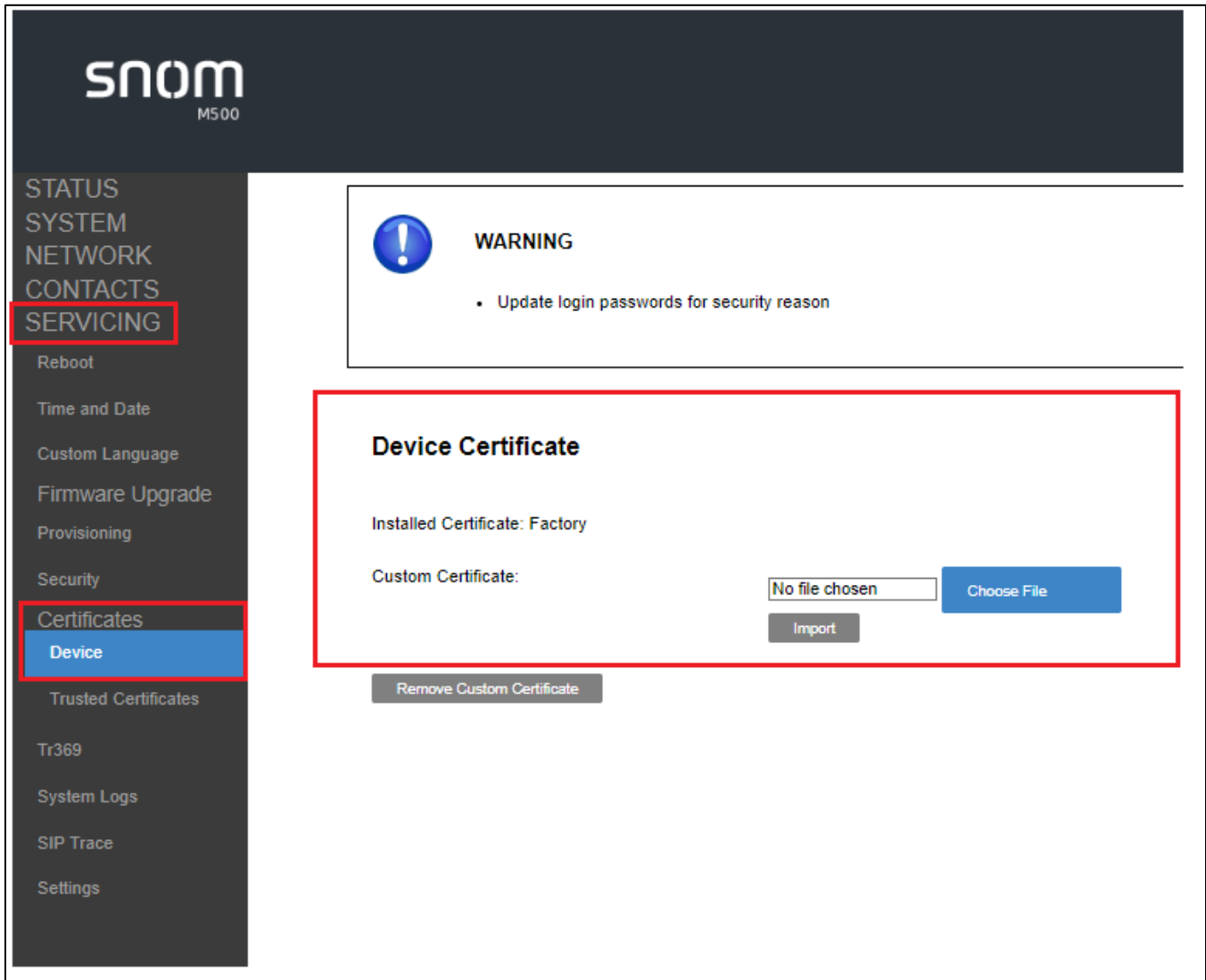


Figure 19: Device Certificate

- Click **Servicing**→**Certificates**→**Trusted Certificates**→: DigiCertGlobalRootCA.crt.pem, DigiCertGlobalRootG2.crt.pem, DigiCertGlobalRootG3.crt.pem
- Click **Save**.

SNOM M500

STATUS
SYSTEM
NETWORK
CONTACTS
SERVICING
Reboot
Time and Date
Custom Language
Firmware Upgrade
Provisioning
Security
Certificates
Device
Trusted Certificates
Tr369
System Logs
SIP Trace
Settings

WARNING

- Update login passwords for security reason

Trusted Certificate

Select All

| Total: 16 | Issue to | Issue by | Expiration | Protected |
|--------------------------|---|---|--------------------------|-------------------------------------|
| <input type="checkbox"/> | Snom Phone 1 SHA-256 | snom technology AG SHA-256 CA | Dec 31 15:19:52 2037 GMT | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | Deutsche Telekom Root CA 2 | Deutsche Telekom Root CA 2 | Jul 9 23:59:00 2019 GMT | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | DST Root CA X3 | DST Root CA X3 | Sep 30 14:01:15 2021 GMT | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | Verizon Public SureServer CA G14-SHA2 | Baltimore CyberTrust Root | Apr 9 16:02:10 2021 GMT | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | Baltimore CyberTrust Root | Baltimore CyberTrust Root | May 12 23:59:00 2025 GMT | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | Go Daddy Root Certificate Authority - G2 | Go Daddy Root Certificate Authority - G2 | Dec 31 23:59:59 2037 GMT | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | COMODO RSA Certification Authority | COMODO RSA Certification Authority | Jan 18 23:59:59 2038 GMT | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | GlobalSign | GlobalSign | Mar 18 10:00:00 2029 GMT | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | VeriSign Universal Root Certification Authority | VeriSign Universal Root Certification Authority | Dec 1 23:59:59 2037 GMT | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | Certum CA | Certum CA | Jun 11 10:46:39 2027 GMT | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | Go Daddy Secure Certificate Authority - G2 | Go Daddy Root Certificate Authority - G2 | May 3 07:00:00 2031 GMT | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | Go Daddy Class 2 Certification Authority | Go Daddy Class 2 Certification Authority | Jun 29 17:06:20 2034 GMT | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | DigiCert Global Root CA | DigiCert Global Root CA | Nov 10 00:00:00 2031 GMT | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | DigiCert Global Root G2 | DigiCert Global Root G2 | Jan 15 12:00:00 2038 GMT | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | DigiCert Global Root G3 | DigiCert Global Root G3 | Jan 15 12:00:00 2038 GMT | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | DigiCert TLS RSA4096 Root G5 | DigiCert TLS RSA4096 Root G5 | Jan 14 23:59:59 2046 GMT | <input checked="" type="checkbox"/> |

Delete Selected Entries Protect Selected Entries

Only accept trusted certificates

Save

Figure 21: Trusted CA Certificates

4. Troubleshooting

Online how-to guides:

- <https://service.snom.com/display/wiki/M500>
- <https://service.snom.com/display/wiki/How+to+set+up+M500+Pro+in+a+dual-cell+configuration>

Support:

Outside North America

- <https://helpdesk.snom.com>
- <https://www.snom.com/en/support/help-center/>
- <https://www.snom.com/en/contact/contact-person/>

Within North America

- Email: supportusa@snom.com
- Phone: (339) 227-6160 Option 2
- Helpdesk (create a ticket): <https://helpdesk.snom.com>

5. FAQ

Online FAQ:

- <https://service.snom.com/display/wiki/M500>

6. Resources

Firmware:

- <https://service.snom.com/display/wiki/DECT+M500-Series+Firmware>
- <https://service.snom.com/display/wiki/DECT+M500+Pro-Series+Firmware>

Online Service Hub:

- <https://service.snom.com/>