CASE STUDY

CALL RECEPTION IN SNOM SIP TELEPHONE EXTENSIONS

Description

This document describes the way to setup MEET IP intercom system from FERMAX to communicate with IP SNOM Telephone by using SIP protocol.

TABLE OF CONTENTS

INTRODUCCIÓN

In this Case Study, it is described the way to integrate MEET IP Intercom with SNOM SIP telephones.

Despite it is possible to make a phone call to these telephones through a SIP server, in this integration case we will focus in making a call peer to peer directly from the intercom to the telephone, without the need of a SIP server. In case the telephone is registered in a SIP server, it is adviced to review the relative case study of the SIP SERVER in MEET WORKS WITH repository meet.fermax.com

This integration case is focused in the SNOM D785 Telephone. With other SNOM telephones, the process is similar, specially what is related to MEET IP intercom. For more info related to the SIP phone, it is possible to know more at SNOM SERVICE HUB https://service.snom.com , looking for the FAQ "How To Make Peer-to-Peer IP Calls without a Registrar"

In this case, the configuration to be done will be on a 1 pushbutton MILO MEET intercom panel. Other keypad MEET intercom panels are also compatible with SIP Call.

> VERSIONS USED :
> - snomD785-SIP fw v.10.1.159.12
> - MILO MEET 1 pushbutton panel version 3.0

Direct call is often used in those cases in which due to proximity reasons, the intercom panel and the phone are in the same LAN network and the SIP server is in the cloud. It is not necessary to have internet access to do the call from the intercom to the phone. In addition, the call is faster and reliable since even in the case the internet access is not available, the call will be produced since intercom and telephone are in the same LAN.

As an additional remark, despite we will focus in making a call to a single SIP phone, the intercom outdoor **panel can call simultaneously several destinations or telephones**, following a similar method.

PRELIMINARY CONSIDERATIONS

Before proceeding to the system configuration, it is required to take into account the following points:

 IP intercom panel and telephone addressing:

Both, telephone and intercom, need a fixed IP, in the same local IP network where they are installed. Obviously, these IP addresses must not be used in other IP devices. Can be requested to the network admin. For this case, we will use will the SNOM ip address 192.168.1.100 and the MEET MILO intercom 192.168.1.51 ip address.

OUTDOOR PANEL INTERCOM SETUP

First of all, all devices should be setup in the same ip network range, as per the selected ip addresses.

We will access to the intercom web server. In the MILO MEET 1 pushbutton panel the default ip address is 10.1.1.2 (in MEET Digital panels with keypad like KIN, MILO, MARINE the default address is 10.1.0.1). We must put the computer network interface in the same range 10.1.1.x

The recommended web browser to use is **Google Chrome**. We will introduce the default IP 10.1.1.2 and the user / password to access. By default **user: admin pass: 123456 .**
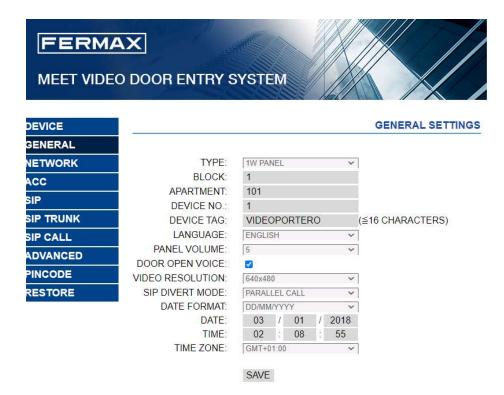
In the NETWORK tab, change the IP to the desired one, in this case 192.168.1.51 and click SAVE. Then we need to change the computer network ip address so that it is in the same network range 192.168.1.x

Now we can access again to the webserver introducing the new ip address 192.168.1.51 in the web browser and we will see again the MILO setup page.

In the GENERAL tab, we will configure that is a 1 single pushbutton panel that calls an apartment (that really do not exist) in the block 1, apartment 101. The pushbutton now is mapped to apartment 101.

It should be selected the TYPE 1W PANEL .

The DEVICE NO will be 1 , to indicate that this is the first panel on the installation. If there were more, we will add consecutive numbers.

Now it is required to associate the pushbutton to an IP address or sip extension to call. We will go to SIP CALL tab and map the intercom pushbutton (assigned previously to apartment 101) to an IP address or SIP extension, that will be the **SNOM** telephone.

In the example, the field APARTMENT will be then 101, and the NUMBER will be the ip call destination, that in this case will be a sip call to ip address 192.168.1.100, assigned to SNOM telephone. The syntaxis to be used is the following: **sip:192.168.14.1**

REMARK: These telephones are SIP, so they can be also registered as an extension of a SIP server. If that was the case, and assuming that the server ip would be 192.168.1.199 and the phone extension registered 1122, the call destination to be used would be then   sip:1122@192.168.1.199 . Where this syntaxis corresponds to sip:sip_extension@server_ip_address

SNOM SIP TELEPHONE CONFIGURATION

We need to set the ip address in the desired address (in this case 192.168.1.100). By default there is no default IP. This telephone also has a webserver embedded, so we will connect to it using the same web browser Google Chrome. To access it is not required to introduce any user credential.

System Information   snom

Logout

Operation
  Home
  Directory
Setup
  Preferences
  Speed Dial
  Function Keys
  Identity 1
  Identity 2
  Identity 3
  Identity 4
  Identity 5
  Identity 6
  Identity 7
  Identity 8
  Identity 9
  Identity 10
  Identity 11
  Identity 12
  Action URL Settings
  Advanced
  Certificates
  Software Update
Status
  System Information
  Log
  SIP Trace
  DNS Cache
  Subscriptions
  PCAP Trace
  Memory
  Settings
  Manual

snom
© Snom Technology GmbH

System Information

Field	Value
Phone Type	snomD785-SIP
MAC Address	0004139AEC53
IP Address	192.168.1.100
IPv6 Address	
Firmware Version	snomD785-SIP 10.1.57.14
Firmware URL	
Production Information	Mac:0004139AEC53;Hardware: D785;Date:07/21;Copyright(C) snom technology GmbH
Uptime	18 days, 0 hours, 47 minutes
LCS	18 days, 0 hours, 45 minutes (0)
Memfree	74040 K
CPU	5.21 5.15 5.10 1/68 645
Bootloader Version	2010.12-00001-gd311851f1

SIP Identity Status

Field	Value
Identity 1 Status	192.168.1.51@192.168.1.51: Network Failure
Identity 2 Status	
Identity 3 Status	
Identity 4 Status	
Identity 5 Status	
Identity 6 Status	
Identity 7 Status	
Identity 8 Status	
Identity 9 Status	
Identity 10 Status	
Identity 11 Status	
Identity 12 Status	

Net Port

Field	Value
Connection Type	100 Mbit Full Duplex
Status	connected

PC Port

Field	Value
Connection Type	
Status	not connected

Advanced Settings   snom

Logout

Operation
  Home
  Directory
Setup
  Preferences
  Speed Dial
  Function Keys
  Identity 1
  Identity 2
  Identity 3
  Identity 4
  Identity 5
  Identity 6
  Identity 7
  Identity 8
  Identity 9
  Identity 10
  Identity 11
  Identity 12
  Action URL Settings
  Advanced
  Certificates
  Software Update

Network   Behavior   Audio   SIP/RTP   QoS/Security   Update

Network

Field	Value
IPv6	More Controls ?
LLDP	● on ○ off ?
LLDP Network Policy Timeout	90 ?
DHCP	○ on ● off ?
Options on DHCP=on	1 2 3 4 6 12 15 42 43 51 66 67 ?
Options on DHCP=off	43 120 125 ?
IP Address	192.168.1.100 ?
Netmask	255.255.255.0 ?
Host Name	?
IP Gateway	?

WLAN

Field	Value
AuthMode	off ▾ ?

DNS

Field	Value
Domain	?
DNS Server 1	?
DNS Server 2	?

Time

Field	Value
NTP Server	192.53.103.104 pool.ntp.org ?
NTP Refresh Time (s)	3600 ?
Time Zone	+1 Spain (Madrid, Palma) ▾ ?

As default, SNOM telephones do not receive direct calls from other SIP devices, so that we need to enable this feature. For that we can follow SNOM recommendations at https://service.snom.com/ looking for *"Peer to Peer IP calls"*.

How To Make Peer-to-Peer IP Calls without a Registrar

1. **Login** to the **Web UseWeb User Interface**r Interface of the phone.
2. Go to **Advanced →SIP/RTP → SIP>Network Identity Port**: 5060
3. Go to **Advanced → SIP/RTP → SIP → Listen TCP Port**: On
4. **Click apply**
5. Go to **Advanced → QOS/Security → Security → Filter Packets From Registrar**: Off
6. **Click apply**
7. If you previously configured an Identity on the phone you may need to disable the Identity by turning it Off.
8. Go to the **Directory** of the phone, from the Web UI, and in the number field enter the SIP URI for the far end device you are trying to call.

   ⓘ **Example: sip: 192.x.x.x** where the 192.x.x.x is the actual Public or Private IP address of the other phone.

9. Set **Number Type: SIP**, Outgoing Identity: Active, and then click add.
10. Click "**Save**" and then "**Reboot**" at the top of the page.
11. **Repeat Steps 1 – 9** on the other phone.
12. Place a test call by pressing the "**Directory**" key on the phone, select the IP address of the phone you configured in Step 7, and then press the dial key.
13. The call should complete.

The screens where to setup the SNOM parameters are the following:

It is convenient to confirm that the MEET compatible codecs are selected. We can do it on the SIP screen. Main codecs are PCMU and PCMA.

With the previous configuration we can make a call from the intercom panel to the telephone.

The door lock release can be done using either "*" or "#" from the telephone keypad, during the call.

VIDEO

Currently SNOM telephones do not allow video H.264 reception, which is the video sent by MEET FERMAX intercom panels.

ADVANCED FUNCTIONS

It is possible to call from the telephone to the panel. For that reason, it is quite useful to setup a direct access on the telephone. In particular, SNOM D785 allows to have direct accesses on the auxiliar display.

Additionally, for more usability, it is possible to set up a function key labeled to open the door, in this way even staff that is not familiar with the telephone will be able to identify the way to open the door.

For that it is recommended that a direct access is added to the directory menu.

To label properly and assign the functionality to the quick access function keys, we will access the "Function Keys" and set it up the desired keys.

To **call the outdoor intercom** panel we will choose

Context : Active   Type: Speed Dial   Number: 192.168.1.51   Label : INTERCOM

Where "Number" is the IP of the intercom and "Label" is the text we want to be shown in the function key display.

To **open the door lock during the call** we will choos

Context : Active   Type: DTMF   Number: *   Label : Door Open

Where "Number" is the DTMF tone to open the door, that in MEET can be "*" or "#" to active the relay in the intercom panel. In case there is a secondary relay module connected to the panel, then this additional relay can be opened using "0" number. "Label" is the text we want to be shown in the function display.

Operation
 Home
 Directory
Setup
 Preferences
 Speed Dial
 Function Keys
 Identity 1
 Identity 2
 Identity 3
 Identity 4
 Identity 5
 Identity 6
 Identity 7
 Identity 8
 Identity 9
 Identity 10
 Identity 11
 Identity 12
 Action URL Settings
 Advanced
 Certificates
 Software Update
Status
 System Information
 Log
 SIP Trace
 DNS Cache
 Subscriptions
 PCAP Trace
 Memory
 Settings
 Manual

snom

© Snom Technology GmbH

⚠ **Some settings are not yet stored permanently.** [Save] [View Changes] [?]

[?] **Key Settings**

On this page you can specify the settings for programmable keys on your phone. Use Context to specify the identity context for that key e.g. this identity will be used to subscribe for a particular extension. Type will select the actual functionality of a particular key. In the last argument field Number, the actual telephone number, sip url, dtmf sequence, action url or key type can be stored. Please refer to your phone manual for more details.

Context-Sensitive Keys

Type	Number	Label	
Key Event	Directory	eldirectorio	F1
Key Event	Headset		F2
Call Forward			F3
Key Event	Help		F4

Navigation Keys

Type		
Previous Identity	Up	⌃
Missed Calls	Right	›
Next Identity	Down	⌄
Accepted Calls	Left	‹
Redial	OK	☑
Cancel	Cancel	✕

Dedicated Keys

Type	Number	Label	
Key Event	Voicemail	Voicemail	📞
Key Event	DND	DND	⊖
Key Event	Directory	Directory	📖
Transfer		Transfer	↪
Key Event	Hold	Hold	⏸
Key Event	Settings	Settings	⚙
Key Event	Next Page	Labels Forward	⬜
Key Event	Previous Page	Labels Backward	⬜

Line Keys

Page [Page 1 ▾]

Context	Type	Number	Label	XML Label	
Active	Line				P1
Active	Line				P2
Active	Key Event	Conference			P3
Active	Key Event	Silent Mode			P4
Active	Speed Dial	192.168.1.51	INTERCOM		P5
Active	DTMF	*	Door Open		P6

[Apply]