M1 SIP Trunk Configuration with Calncall SBC

1) About M1
2) System Preparation
    a) Network Topology
    b) 3CX Server NIC Setup
    c) Adding Static Routes
3) 3CX Version
4) Provider Capabilities
5) Collecting 3CX Configuration Settings
6) Configuring the Trunk with 3CX
    a) Adding the Trunk
    b) Adding Additional DIDs
    c) Creating Inbound Rules
7) Number Format
    a) Outbound Caller ID
    b) Outbound Rules
8) Multiple Account Support

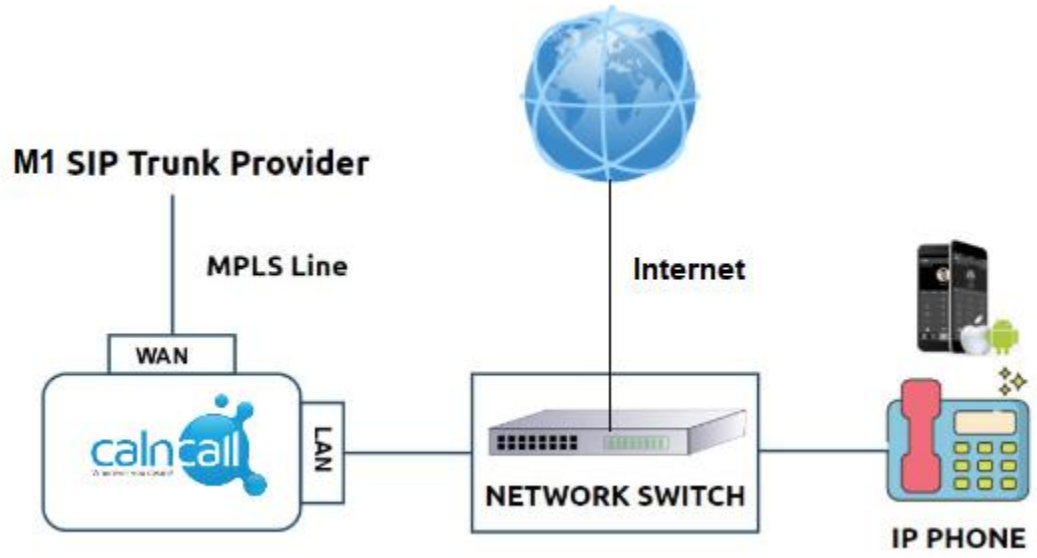
About M1

M1 is one of the three major full-service communications providers in Singapore. It offers a suite of mobile voice-and-data communication services over its 3G/3.5G/4G/LTE-A network, including international-call services to both mobile- and fixed-line customers. These include SMS, MMS, WAP, GPRS, 3G, 3.5G and 4G and was the first Singapore operator to launch a nationwide 4G LTE and 4G LTE-A network. It also offers prepaid mobile services, such as prepaid data plans, under its M Card brand. It is one of the operators in Singapore to offer a prepaid 4G service. Singapore's 2G networks, including M1's, was turned off in April 2017.

System Preparation

Network Topology

In order to use a M1 SIP Trunk with 3CX, the calncall device needs to have a second network card which will only be used for traffic from and to the M1 servers. The network topology should look similar to the following:



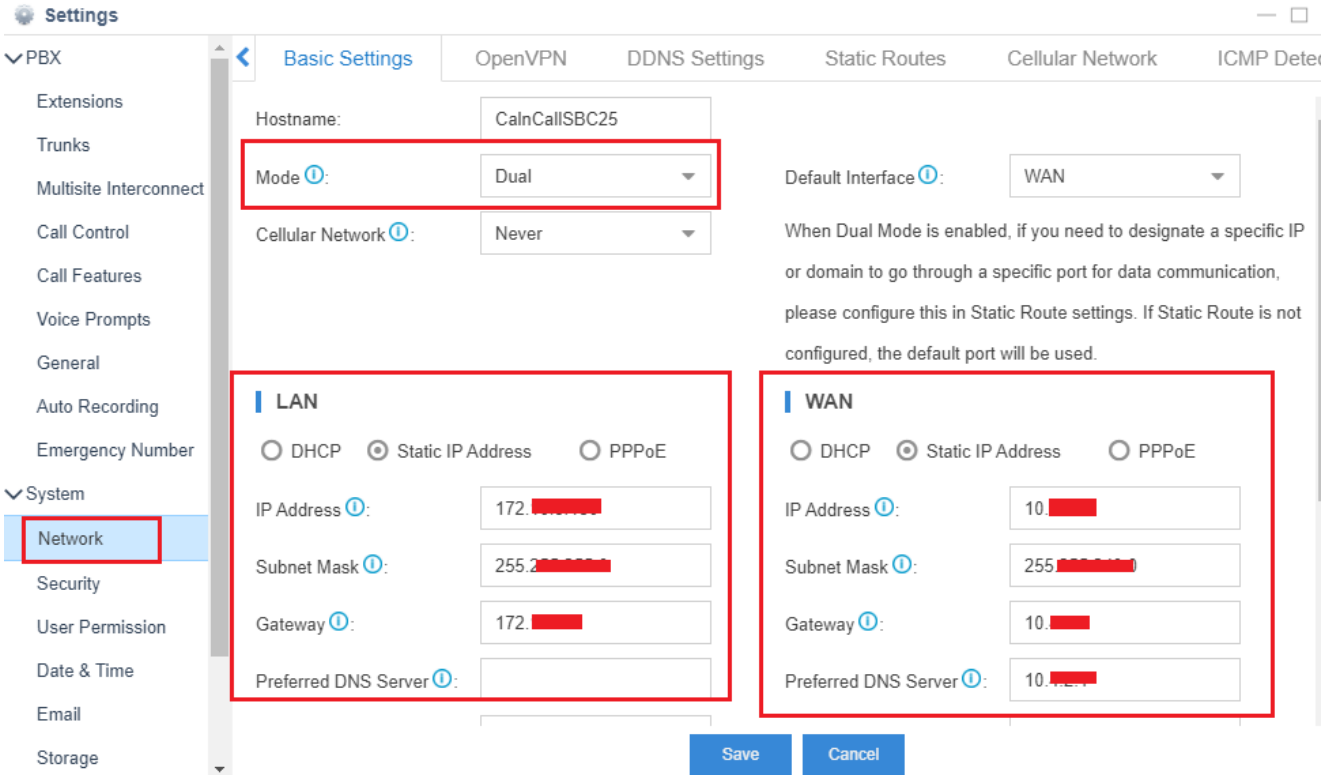
LAN should connect to the main NX32 LAN through which the calncall device will have access to the internet and will also be the LAN on which Extensions are connected to.

Calncall SBC NIC Setup

For LAN, apply the necessary network settings required by your network.

For WAN, you must manually configure the M1 WAN IP address that has be given to you and as per the instruction by M1, e.g.:

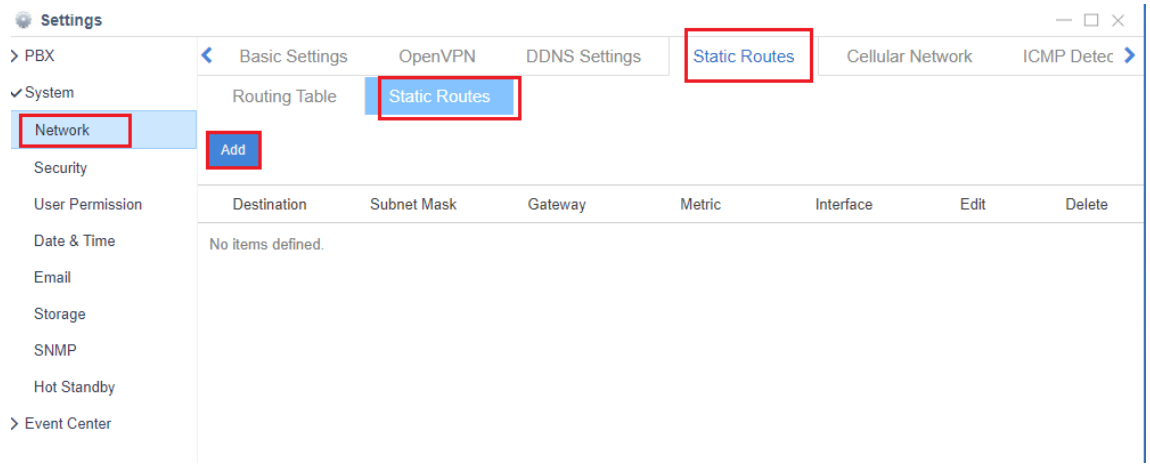
WAN will only cater for traffic from/to the M1 servers. Go to System→Network

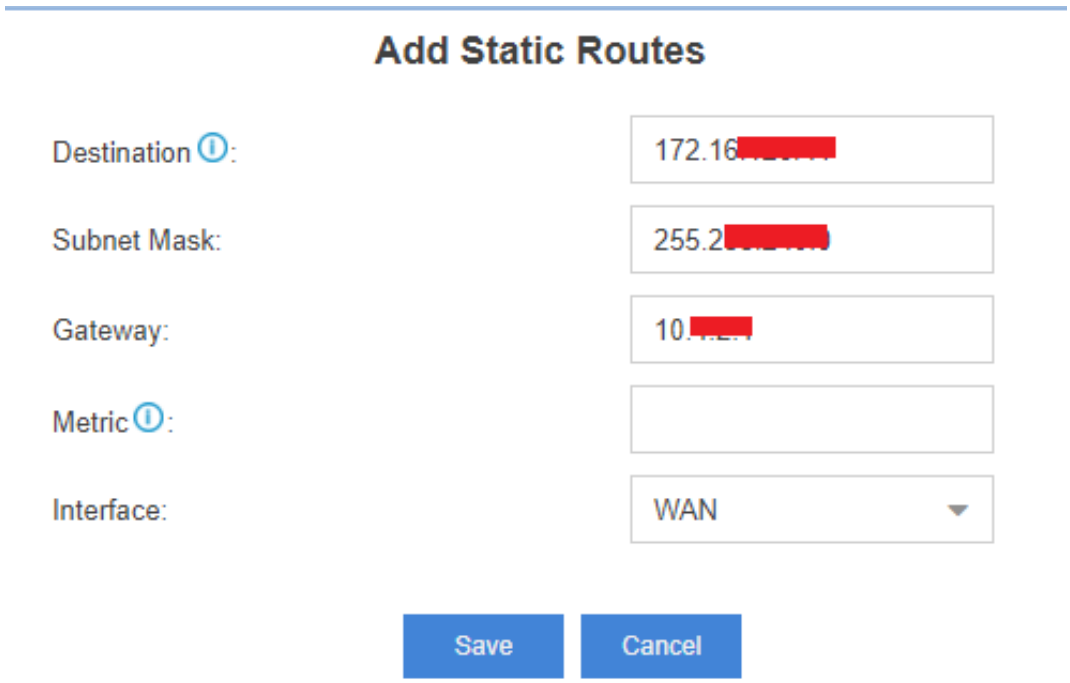


Fix WAN IP address which getting details from M1

Adding Static Routes

Next you must add a static route so that the traffic from the Calncall Device towards the M1 servers is routed out through the correct Gateway. To do this on a Calncall Device. Go to→System→Network→Static Routes→Add





The Gateway IP that you need to configure should be given to you by M1.

Provider Capabilities

Below is a short overview of the provider's capabilities and services and whether they're supported or not:

1. CLNS (Clip No Screening): No
2. Catch All Routing: Yes, static SI per trunk
3. Fax in T38: No
4. CLIR (Number Suppression): No
5. DTMF via RFC 2833: Yes
6. Codec Order: G711A,G729, G711U, -
7. NAT Support: Yes
8. Other: SRTP is not supported, TLS is not supported

Collecting CalncallSBC Configuration Settings

In order to configure M1 with CalnCall Device, you should first make sure you have the following information available which must be provided to you by your M1 representative:

- Your DID numbers
- The M1 SIP Server IP address
- Your M1 WAN IP Address

With the above information you can proceed to the next section which explains how you use this information to configure the Trunk CalncallSBC.

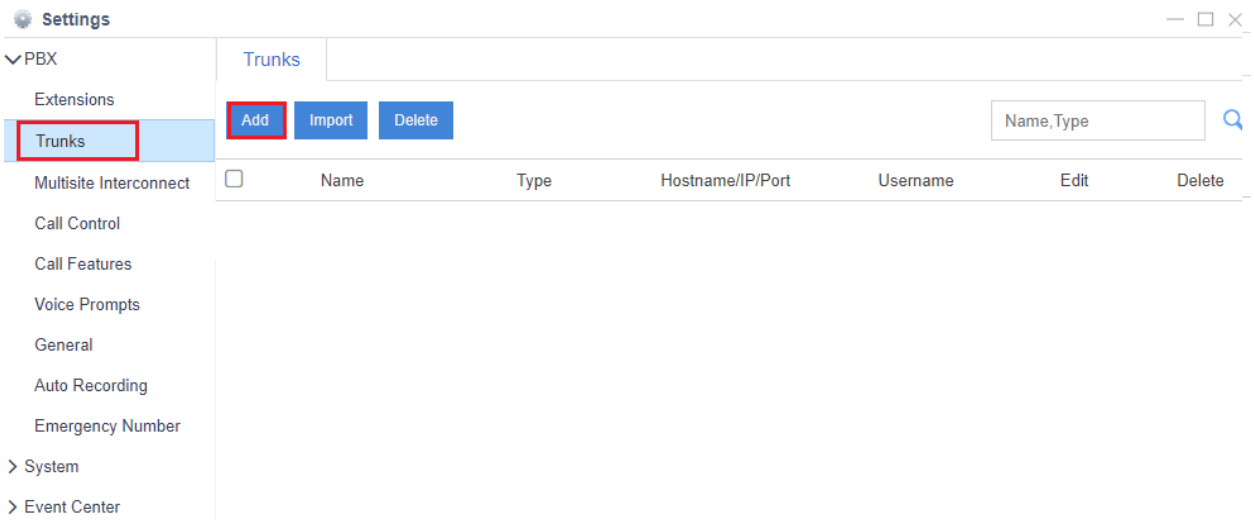
Configuring the Trunk with CalncallSBC

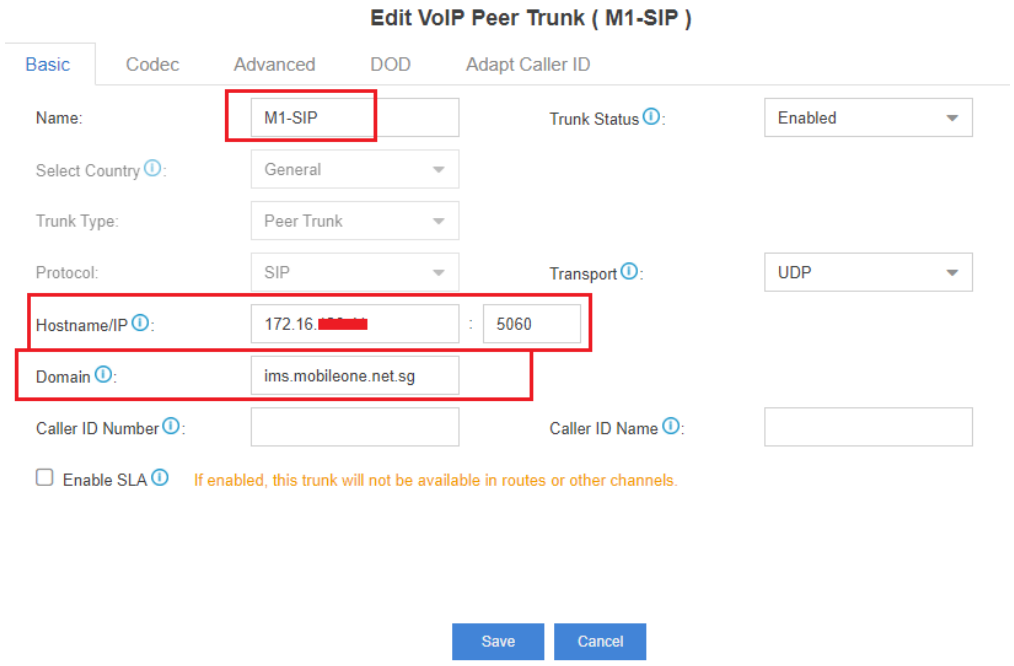
Adding the Trunk

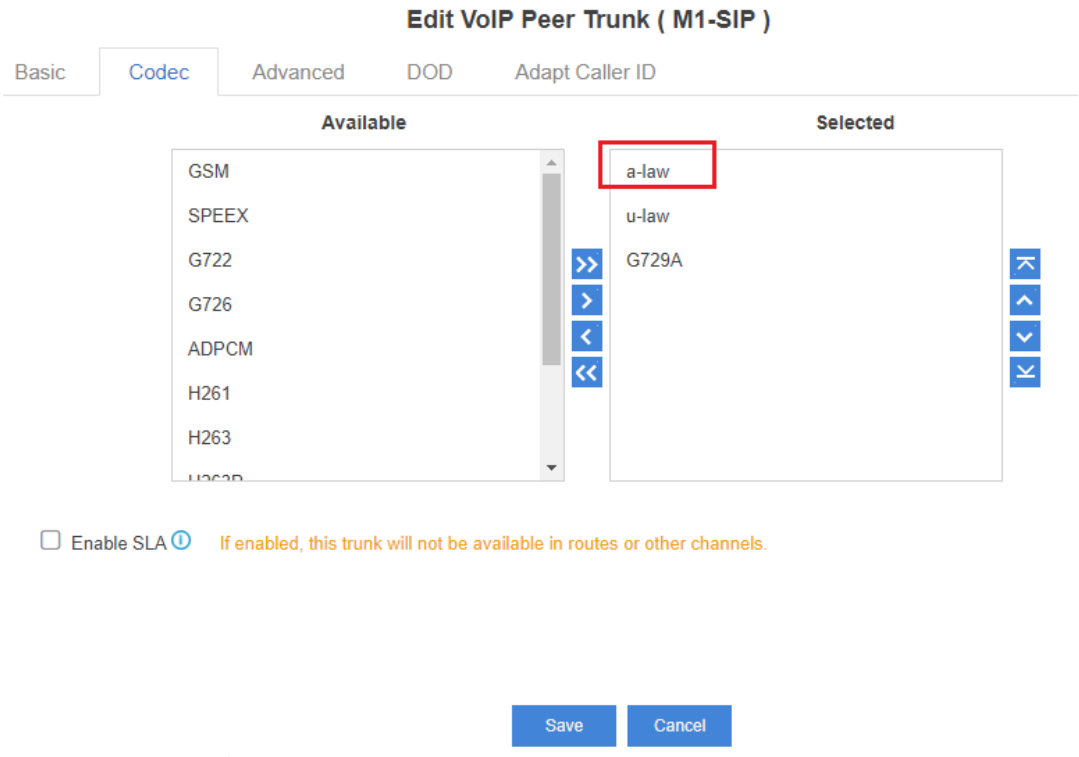
The general instructions outlining how to add a new SIP Trunk to your CalncallSBC

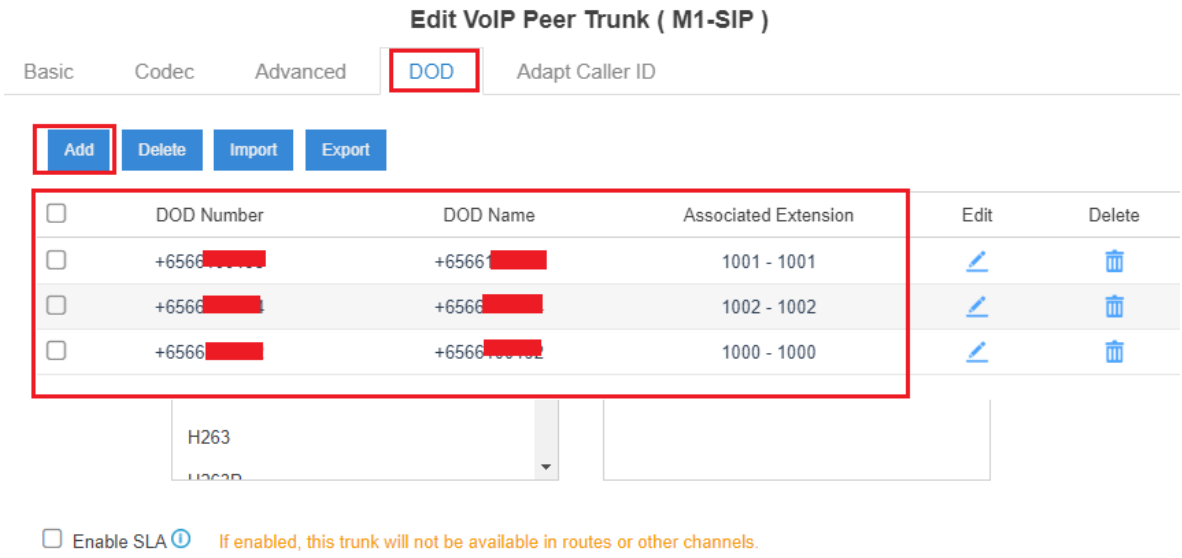
Additionally, for M1, you must also have a dedicated NIC for the traffic from/to the Provider. The instructions for this are provided in section "System Preparation" and must be done prior to the following.

To add M1 to your CalncallSBC, open the Console and navigate to **"Trunks"**. Press the **"Add Trunk"** button




Edit VoIP Peer Trunk (M1-SIP)
Basic
Codec
Advanced
DOD
Adapt Caller ID
Name:
M1-SIP
Trunk Status:
Enabled
Select Country:
General
Trunk Type:
Peer Trunk
Protocol:
SIP
Transport:
UDP
Hostname/IP:
172.16.
5060
Domain:
ims.mobileone.net.sg
Caller ID Number:
Caller ID Name:
Enable SLA
If enabled, this trunk will not be available in routes or other channels.
Save
Cancel


Edit VoIP Peer Trunk (M1-SIP)
Basic
Codec
Advanced
DOD
Adapt Caller ID
Available
Selected
GSM
SPEEX
G722
G726
ADPCM
H261
H263
a-law
u-law
G729A
Enable SLA
If enabled, this trunk will not be available in routes or other channels.
Save
Cancel



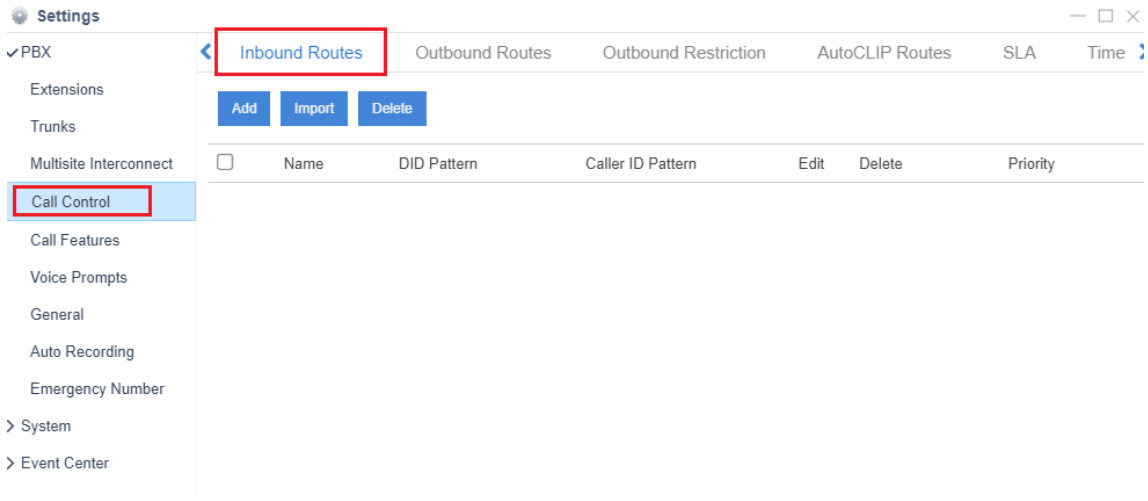
Click Save and save the configurations.

Once you have done the above, press save and your Trunk will now be configured.

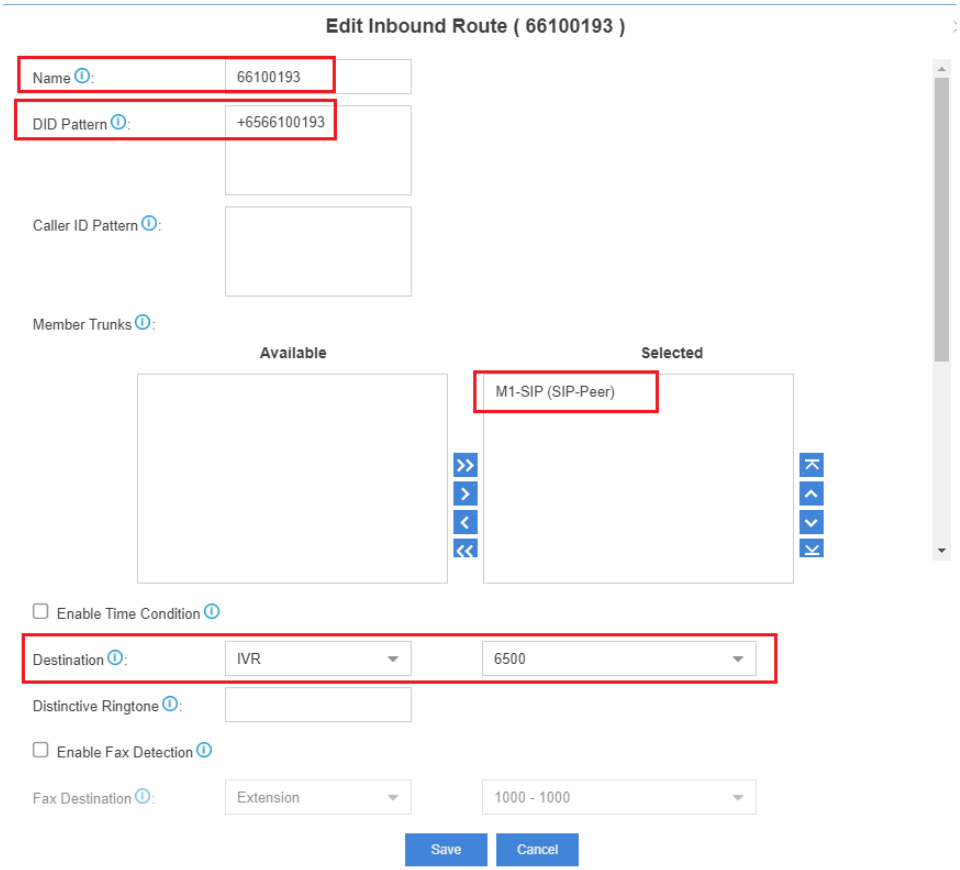
Creating Inbound Rules

Now that you have associated all your DIDs/Number with your SIP Trunk in calncall SBC, you can create Inbound Routes to set where calls will be routed when those numbers are called.

Go to Inbound routes and create inbound rule.



Once click you will be getting below screen, you can enter the DID Pattern to create multiple rules.



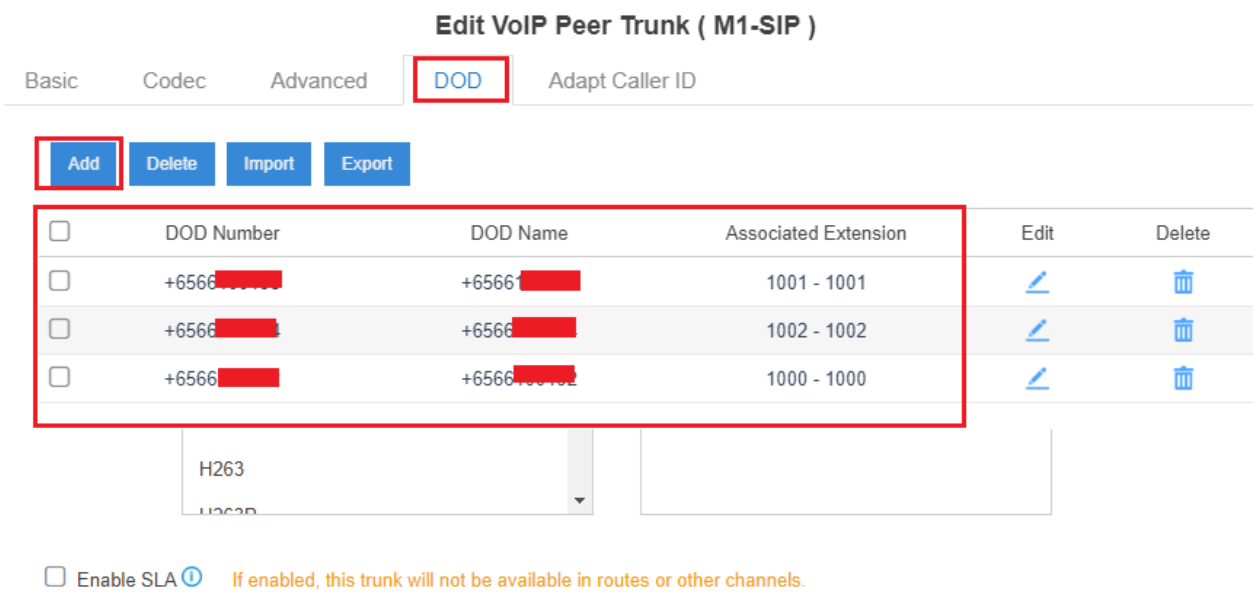
Once Click Save the inbound rule will be saved. You can change DID pattern and create multiple rule for Each DID numbers.

Number Format

Outbound Caller ID

When making Outbound Calls using your M1 SIP Trunk, you can present any of your DIDs as the Outbound Caller ID.

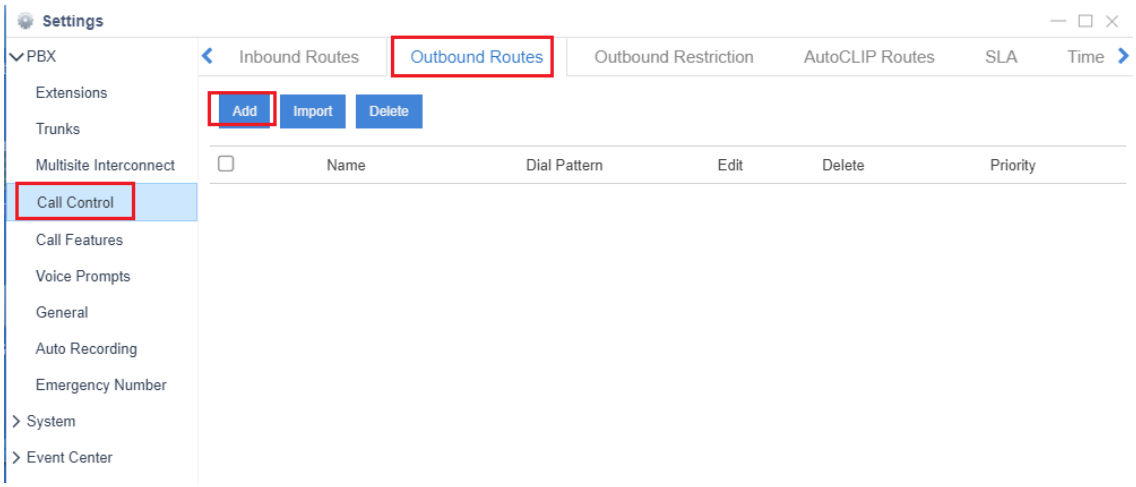
Note though that because Clip No Screening is not supported, you cannot present any other number that you don't have associated with your Trunk. You can add DOD setting in order to s how the DID Numbers.

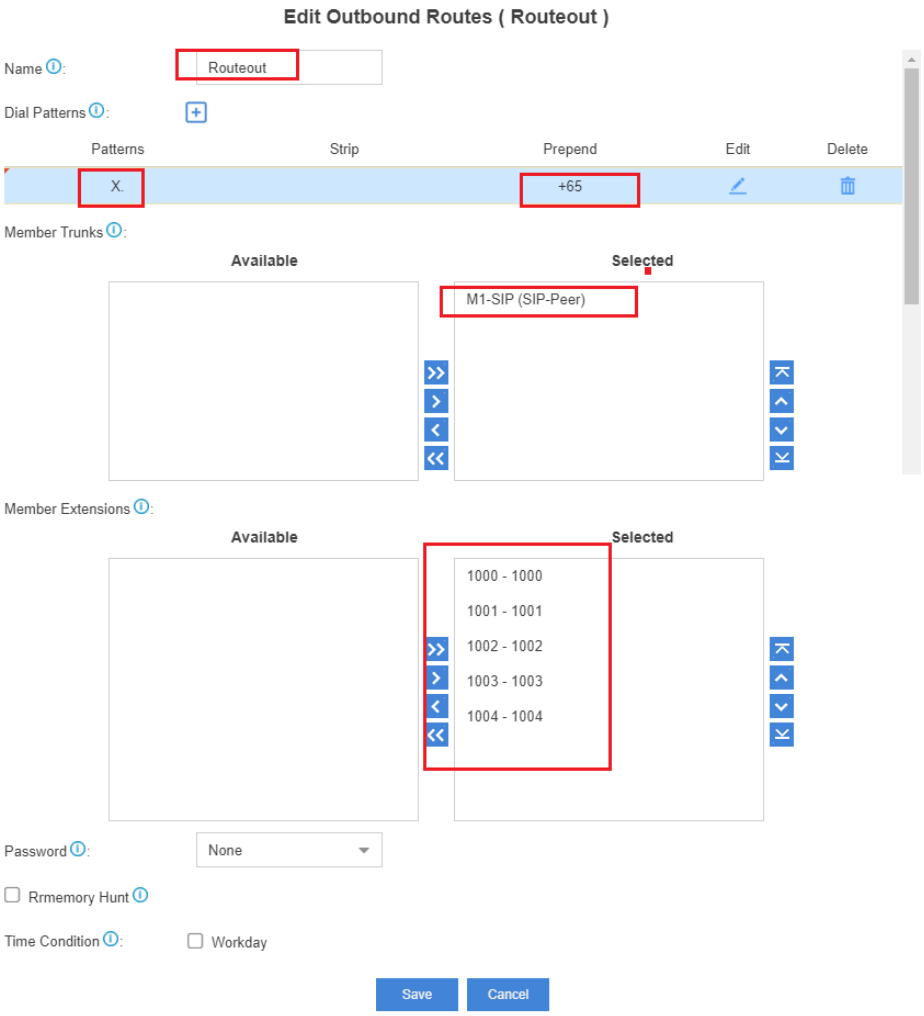


Outbound Routes

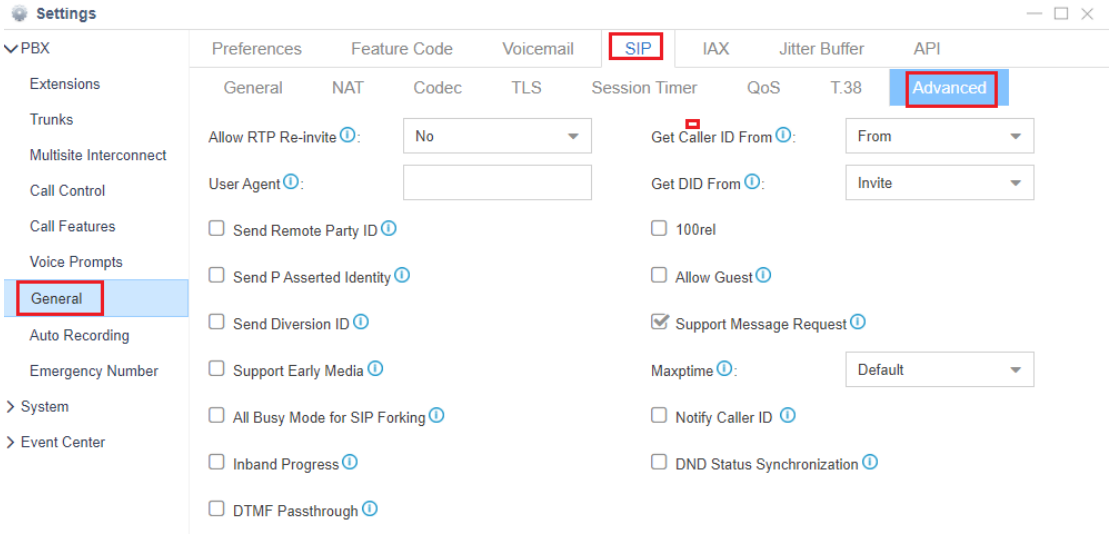
There are no special instructions regarding Outbound Rules that are required, numbers can be dialled either in any valid format.

Go to outbound Routes & Add outbound route





SIP General Settings



Thank you