



M1 SIP Trunk Configuration with Calncall SBC

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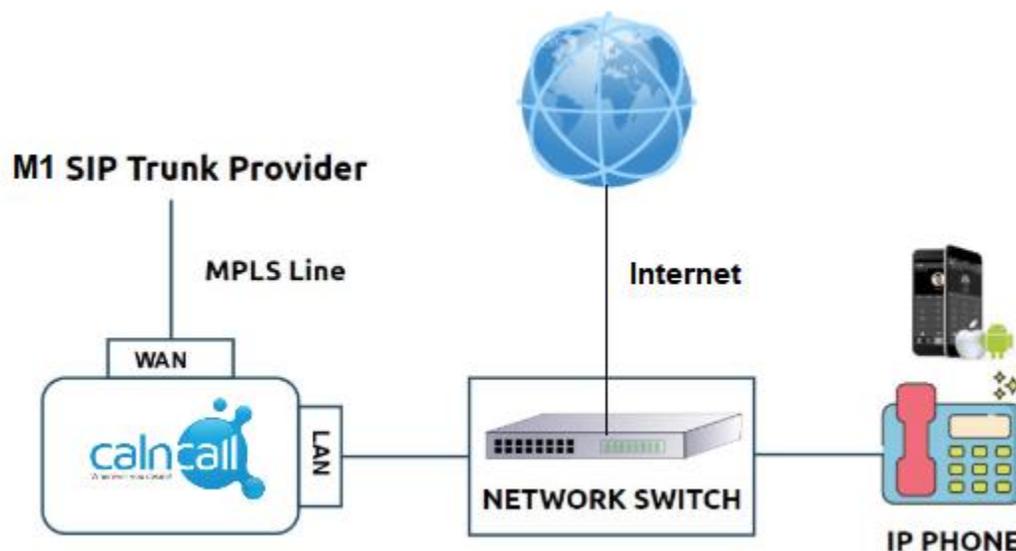
About M1

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:



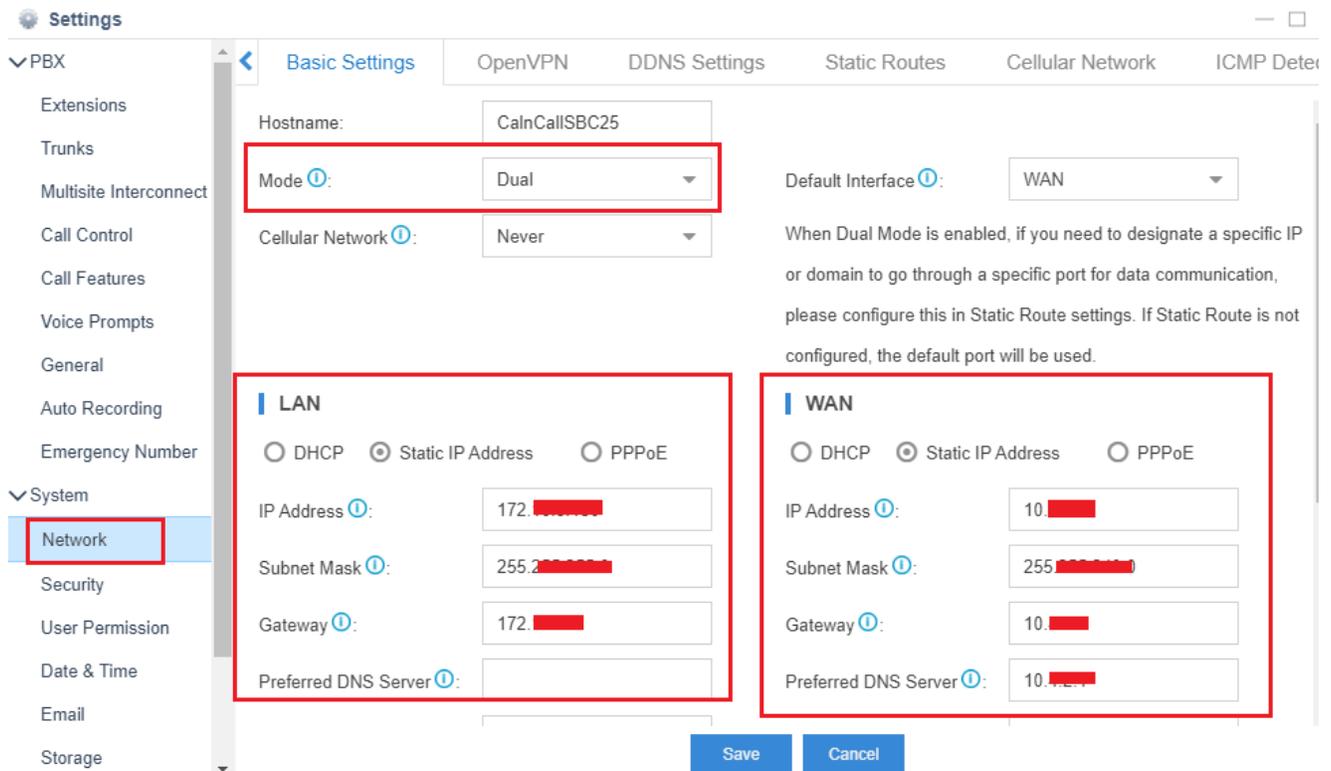
LAN should connect to the main NX32 LAN through which the calncall device will have access to the internet and will also be the LAN on which Extensions are connected to.

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 been 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**



Settings

Basic Settings | OpenVPN | DDNS Settings | Static Routes | Cellular Network | ICMP Detec

Hostname: CalnCallSBC25

Mode: Dual

Cellular Network: Never

Default Interface: WAN

When Dual Mode is enabled, if you need to designate a specific IP or domain to go through a specific port for data communication, please configure this in Static Route settings. If Static Route is not configured, the default port will be used.

LAN

DHCP Static IP Address PPPoE

IP Address: 172. [REDACTED]

Subnet Mask: 255.2 [REDACTED]

Gateway: 172. [REDACTED]

Preferred DNS Server: [REDACTED]

WAN

DHCP Static IP Address PPPoE

IP Address: 10. [REDACTED]

Subnet Mask: 255. [REDACTED]

Gateway: 10. [REDACTED]

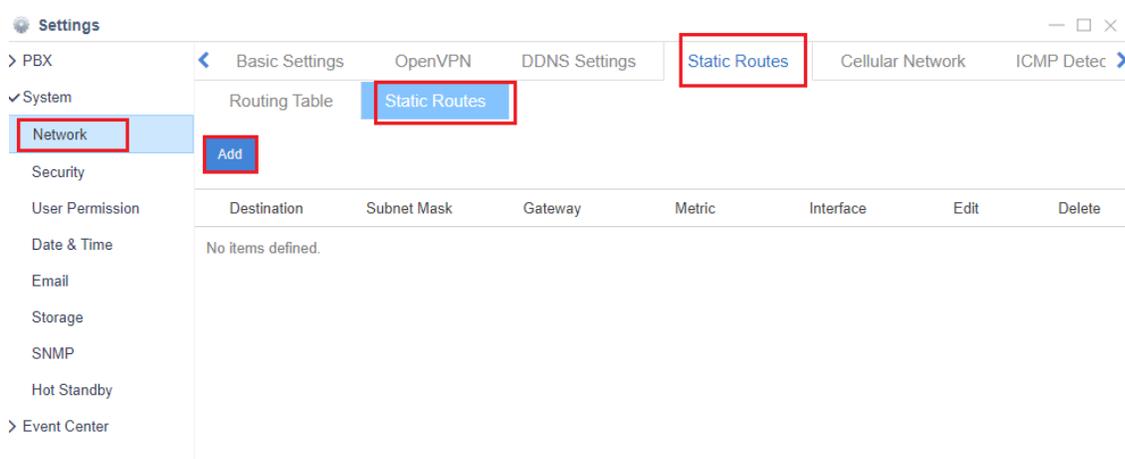
Preferred DNS Server: 10. [REDACTED]

Save Cancel

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



Settings

Basic Settings | OpenVPN | DDNS Settings | Static Routes | Cellular Network | ICMP Detec

Routing Table | Static Routes

Add

Destination	Subnet Mask	Gateway	Metric	Interface	Edit	Delete
No items defined.						

Add Static Routes

Destination ⓘ:	<input type="text" value="172.16.0.0"/>
Subnet Mask:	<input type="text" value="255.255.0.0"/>
Gateway:	<input type="text" value="10.0.0.1"/>
Metric ⓘ:	<input type="text"/>
Interface:	<input type="text" value="WAN"/>

Save

Cancel

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.

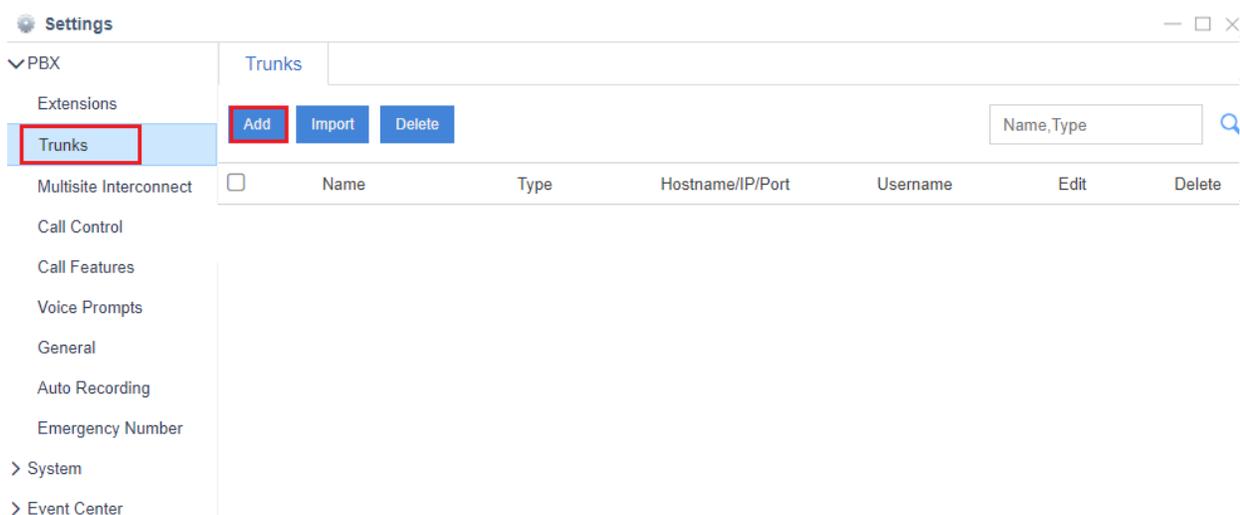
Configuring the Trunk with CalncallSBC

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: Trunk Status:

Select Country:

Trunk Type:

Protocol: Transport:

Hostname/IP:

Domain:

Caller ID Number: Caller ID Name:

Enable SLA If enabled, this trunk will not be available in routes or other channels.

Edit VoIP Peer Trunk (M1-SIP)

Basic | Codec | Advanced | DOD | Adapt Caller ID

Available Selected

GSM	>>	a-law
SPEEX	>	u-law
G722	<	G729A
G726	<<	
ADPCM		
H261		
H263		
H263P		

Enable SLA If enabled, this trunk will not be available in routes or other channels.

Edit VoIP Peer Trunk (M1-SIP)

Basic Codec Advanced **DOD** Adapt Caller ID

Add Delete Import Export

<input type="checkbox"/>	DOD Number	DOD Name	Associated Extension	Edit	Delete
<input type="checkbox"/>	+6566 [REDACTED]	+6566 [REDACTED]	1001 - 1001	/	🗑
<input type="checkbox"/>	+6566 [REDACTED]	+6566 [REDACTED]	1002 - 1002	/	🗑
<input type="checkbox"/>	+6566 [REDACTED]	+6566 [REDACTED]	1000 - 1000	/	🗑

H263

Enable SLA ⓘ *If enabled, this trunk will not be available in routes or other channels.*

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 DID/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.

Settings — □ ×

✓ PBX **Inbound Routes** Outbound Routes Outbound Restriction AutoCLIP Routes SLA Time

Extensions

Trunks

Multisite Interconnect

Call Control

Call Features

Voice Prompts

General

Auto Recording

Emergency Number

> System

> Event Center

Add **Import** **Delete**

<input type="checkbox"/>	Name	DID Pattern	Caller ID Pattern	Edit	Delete	Priority
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Once click you will be getting below screen, you can enter the DID Pattern to create multiple rules.

Edit Inbound Route (66100193)

Name: 66100193

DID Pattern: +6566100193

Caller ID Pattern:

Member Trunks:

Available	Selected
	M1-SIP (SIP-Peer)

Enable Time Condition

Destination: IVR 6500

Distinctive Ringtone:

Enable Fax Detection

Fax Destination: Extension 1000 - 1000

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 DID's 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 show the DID Numbers.

Edit VoIP Peer Trunk (M1-SIP)

Basic Codec Advanced **DOD** Adapt Caller ID

Add Delete Import Export

<input type="checkbox"/>	DOD Number	DOD Name	Associated Extension	Edit	Delete
<input type="checkbox"/>	+6566 [REDACTED]	+6566 [REDACTED]	1001 - 1001		
<input type="checkbox"/>	+6566 [REDACTED]	+6566 [REDACTED]	1002 - 1002		
<input type="checkbox"/>	+6566 [REDACTED]	+6566 [REDACTED]	1000 - 1000		

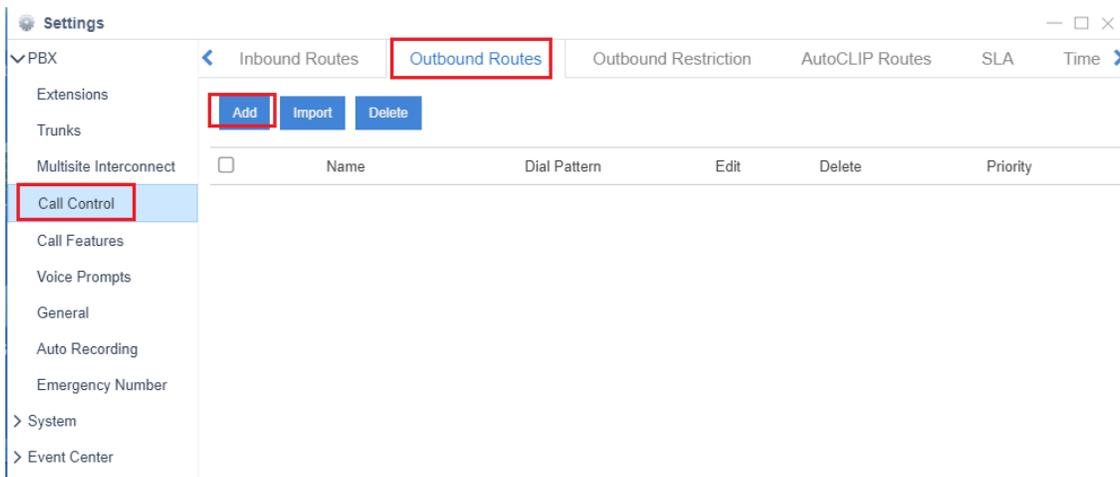
H263

Enable SLA ⓘ If enabled, this trunk will not be available in routes or other channels.

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



Settings

- PBX
 - Inbound Routes
 - Outbound Routes**
 - Outbound Restriction
 - AutoCLIP Routes
 - SLA
 - Time
- Extensions
- Trunks
- Multisite Interconnect
- Call Control**
- Call Features
- Voice Prompts
- General
- Auto Recording
- Emergency Number
- > System
- > Event Center

Add Import Delete

<input type="checkbox"/>	Name	Dial Pattern	Edit	Delete	Priority
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Edit Outbound Routes (Routeout)

Name:

Dial Patterns:

Patterns	Strip	Prepend	Edit	Delete
X		+65	<input type="button" value="↩"/>	<input type="button" value="🗑"/>

Member Trunks:

Available	Selected
	M1-SIP (SIP-Peer)

Member Extensions:

Available	Selected
	1000 - 1000 1001 - 1001 1002 - 1002 1003 - 1003 1004 - 1004

Password:

Rmemory Hunt

Time Condition: Workday

SIP General Settings

Settings _ □ ×

PBX
 Preferences
 Feature Code
 Voicemail
 SIP
 IAX
 Jitter Buffer
 API

Extensions
 Trunks
 Multisite Interconnect
 Call Control
 Call Features
 Voice Prompts
 General
 Auto Recording
 Emergency Number
 System
 Event Center

General	NAT	Codec	TLS	Session Timer	QoS	T.38	Advanced
Allow RTP Re-invite: <input type="text" value="No"/>				Get Caller ID From: <input type="text" value="From"/>			
User Agent: <input type="text"/>				Get DID From: <input type="text" value="Invite"/>			
<input type="checkbox"/> Send Remote Party ID				<input type="checkbox"/> 100rel			
<input type="checkbox"/> Send P Asserted Identity				<input type="checkbox"/> Allow Guest			
<input type="checkbox"/> Send Diversion ID				<input checked="" type="checkbox"/> Support Message Request			
<input type="checkbox"/> Support Early Media				Maxtime: <input type="text" value="Default"/>			
<input type="checkbox"/> All Busy Mode for SIP Forking				<input type="checkbox"/> Notify Caller ID			
<input type="checkbox"/> Inband Progress				<input type="checkbox"/> DND Status Synchronization			
<input type="checkbox"/> DTMF Passthrough							

Thank you