

Configuring Singtel SIP Trunk With NX-32 Device

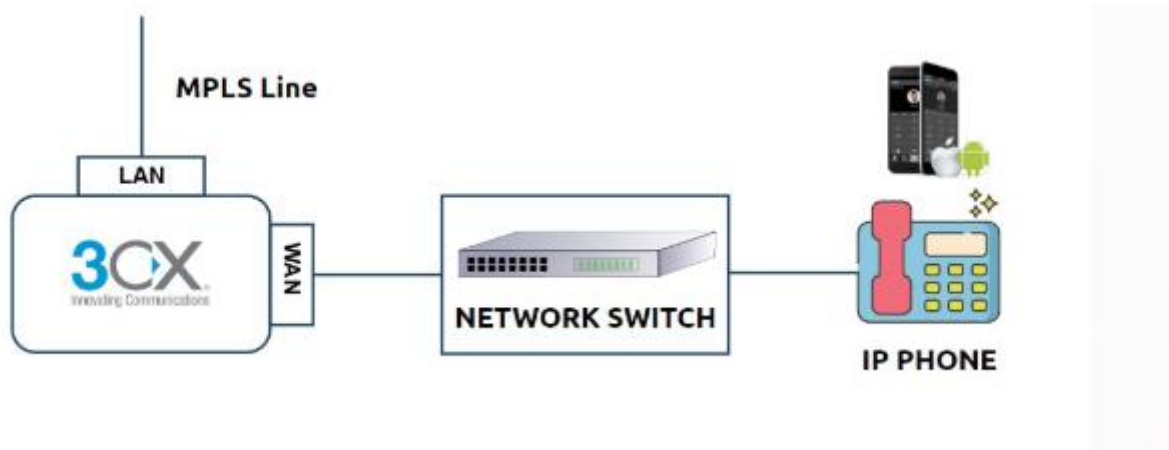
About Singtel

The Singtel Group is Asia's leading communications group, with their headquarters in Singapore. They provide a diverse range of services including fixed, mobile, data, internet, TV, infocomms technology (ICT) and digital solutions.

System Preparation

Network Topology

In order to use a SingTel SIP Trunk with 3CX, the Call4tel NX-32 device has a second network card (LAN) which will only be used for traffic from and to the SingTel servers. The network topology should look similar to the following:



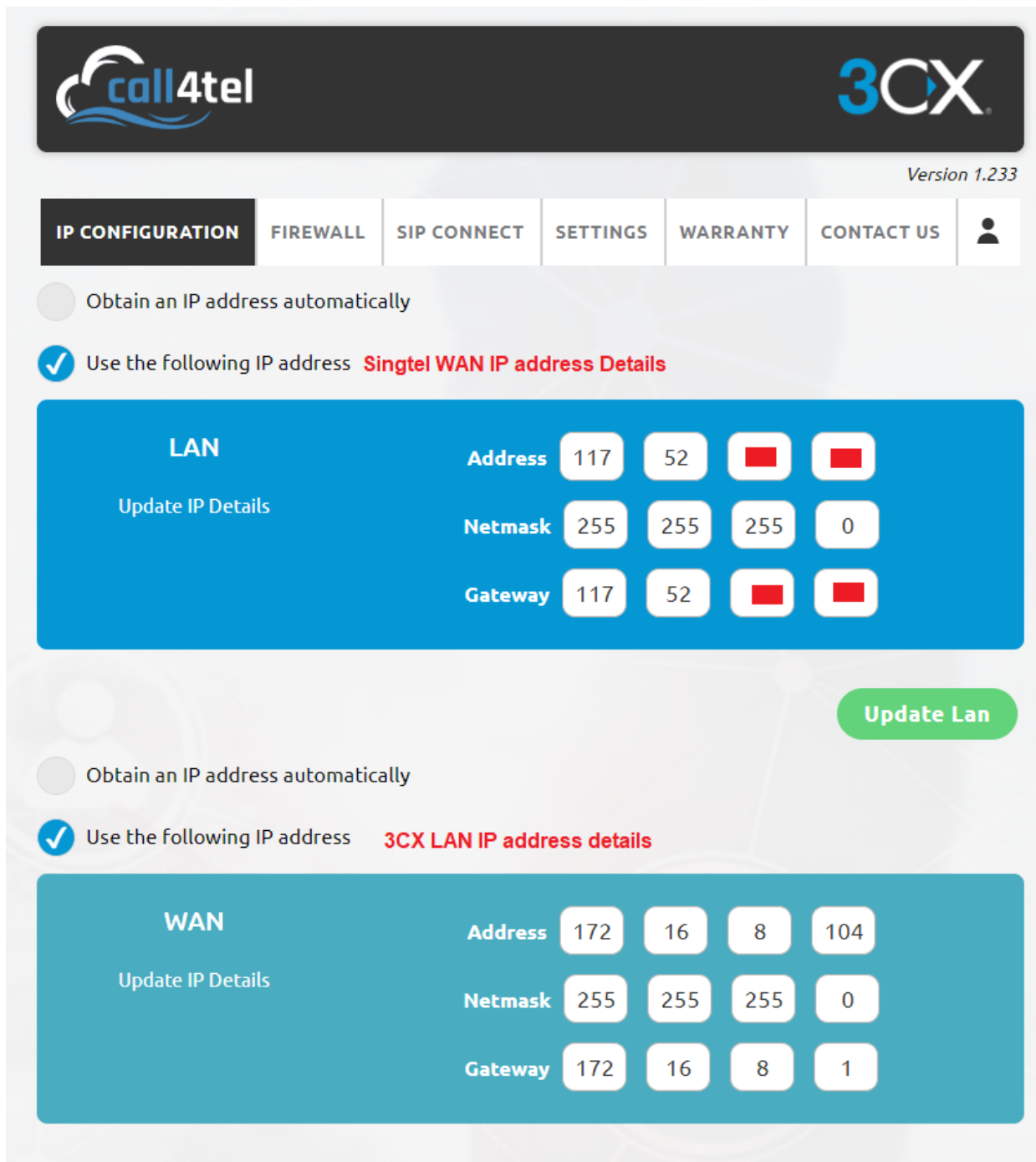
WAN- should connected to the main WAN through which the 3CX Server will have access to the internet and will also be the interface on which Extensions are connected to.

LAN will only cater for traffic from/to the SingTel servers.

Call4tel NX-32 Device Interface configuration Setup

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

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




The screenshot shows the configuration interface for the Call4tel NX-32 device. At the top, there are logos for 'call4tel' and '3CX' with the version '1.233'. Below the logos is a navigation menu with tabs: 'IP CONFIGURATION' (selected), 'FIREWALL', 'SIP CONNECT', 'SETTINGS', 'WARRANTY', 'CONTACT US', and a user icon. The main content area is divided into two sections: 'LAN' and 'WAN'. Each section has a radio button to 'Obtain an IP address automatically' and a checked radio button to 'Use the following IP address'. The 'LAN' section is highlighted in blue and shows the following settings: Address (117, 52, [red square], [red square]), Netmask (255, 255, 255, 0), and Gateway (117, 52, [red square], [red square]). The 'WAN' section is highlighted in teal and shows the following settings: Address (172, 16, 8, 104), Netmask (255, 255, 255, 0), and Gateway (172, 16, 8, 1). A green 'Update Lan' button is visible in the bottom right of the LAN section.

Important! WAN is Default Gateway for all outgoing traffic from NX-32 Device.

Adding Static Routes

Next you must add a static route so that the traffic from the 3CX towards the SingTel servers is routed out through the correct LAN Interface. To do this Navigate to “SIP CONNECT”



call4tel 3CX Version 1.233

IP CONFIGURATION FIREWALL **SIP CONNECT** SETTINGS WARRANTY CONTACT US

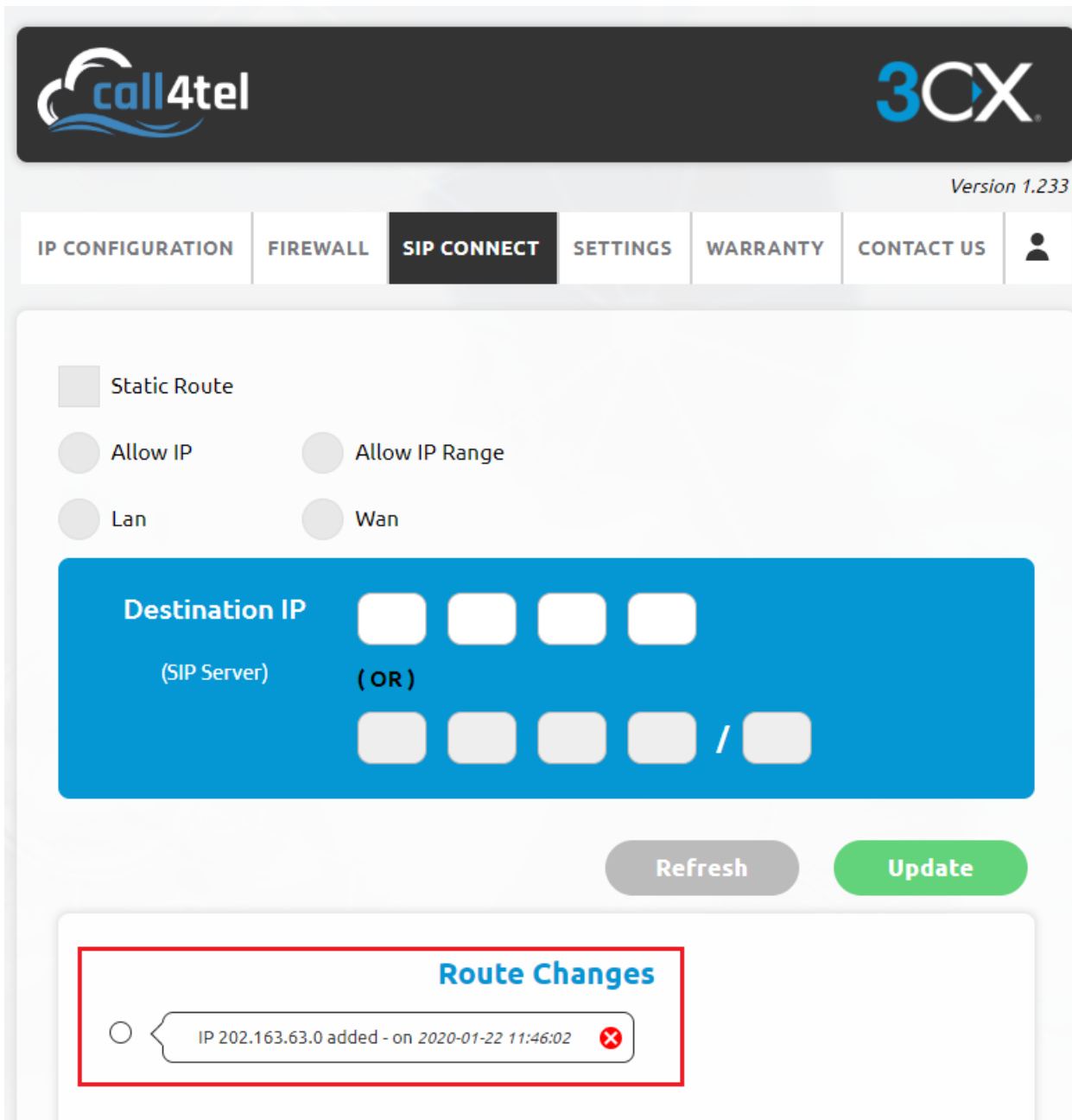
Static Route
 Allow IP
 Lan

Allow IP Range
 Wan

Destination IP 202 163 63 0
(SIP Server) (OR)

Refresh Update

Once submit “update” the route will be added and get “Success” message Also, you can see added route below.



call4tel 3CX Version 1.233

IP CONFIGURATION FIREWALL **SIP CONNECT** SETTINGS WARRANTY CONTACT US

Static Route
 Allow IP Allow IP Range
 Lan Wan

Destination IP (SIP Server) (OR)

Refresh Update

Route Changes

IP 202.163.63.0 added - on 2020-01-22 11:46:02

3CX Version

Some providers gained support and compatibility with 3CX on a specific product version. It is advisable to always run the latest version of 3CX to ensure ongoing compatibility.

Minimum 3CX Version: 3CX Phone System 15.5

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: G729, G711U, G711A
7. NAT Support: Yes
8. Other: SRTP is not supported, TLS is not supported

Collecting 3CX Configuration Settings

In order to configure SingTel with 3CX, you should first make sure you have the following information available which must be provided to you by your SingTel representative:

- Your DID numbers
- The SingTel SIP Server IP address
- Your SingTel 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 in 3CX.

Configuring the Trunk with 3CX

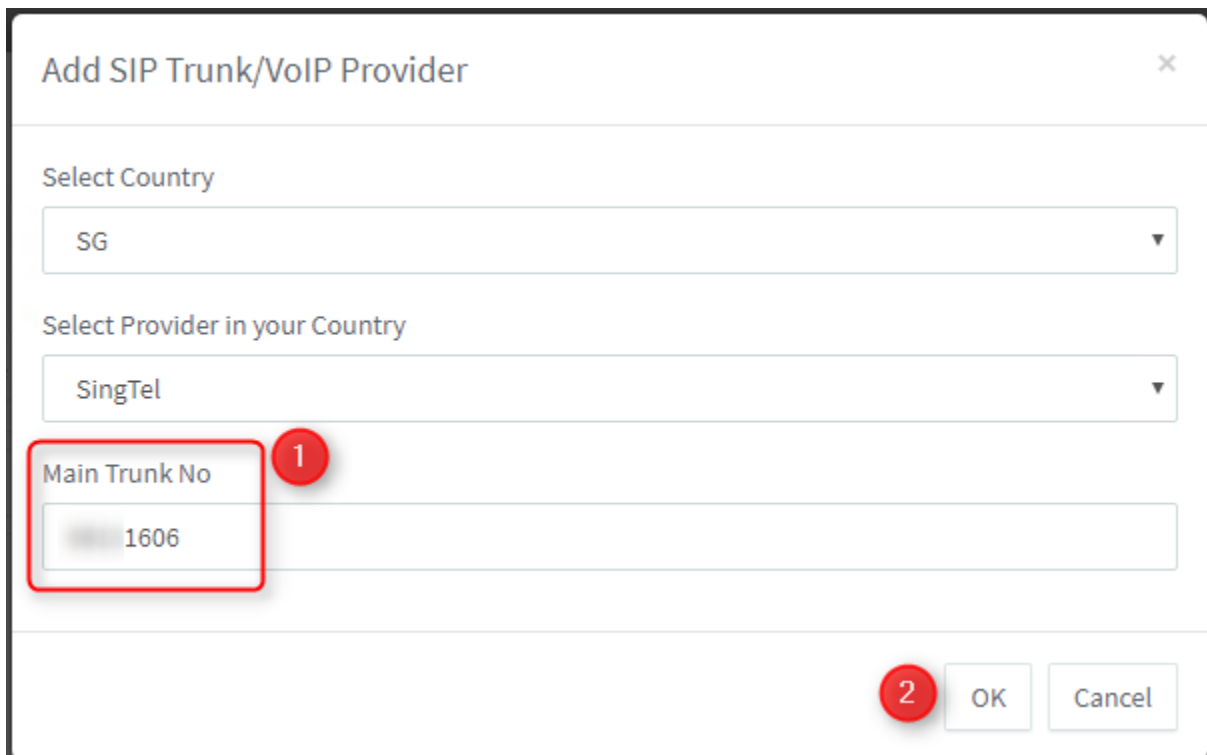
Adding the Trunk

The general instructions outlining how to add a new SIP Trunk to your 3CX installation can be found

Additionally, for SingTel, you must also have a dedicated NIC(LAN) for the traffic from/to the Provider. The instruction for this are provided in section [“System Preparation”](#) and must be done prior to the following.

To add SingTel to your 3CX system, open the Management Console and navigate to “SIP Trunks”. Press the “Add SIP Trunk” button and select “SG” as the country and then “SingTel” from the following drop-down.

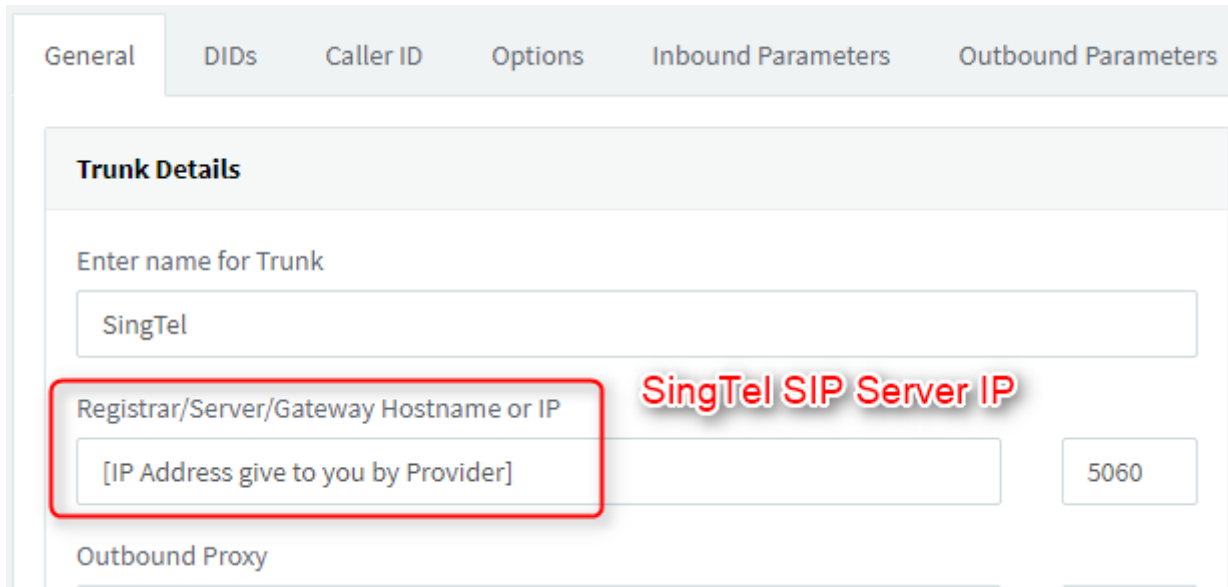
In the “Main Trunk No” field, enter one of your DID numbers, then press OK.



The screenshot shows a dialog box titled "Add SIP Trunk/VoIP Provider". It contains the following fields and controls:

- Select Country:** A dropdown menu with "SG" selected.
- Select Provider in your Country:** A dropdown menu with "SingTel" selected.
- Main Trunk No:** A text input field containing "1606". This field is highlighted with a red box, and a red circle with the number "1" is positioned to its right.
- Buttons:** "OK" and "Cancel" buttons are located at the bottom right. A red circle with the number "2" is positioned to the left of the "OK" button.

Once you have done this, in the “General” tab fill in the SingTel SIP Server IP given to you by the Provider in the “Registrar” field:



General | DIDs | Caller ID | Options | Inbound Parameters | Outbound Parameters

Trunk Details

Enter name for Trunk

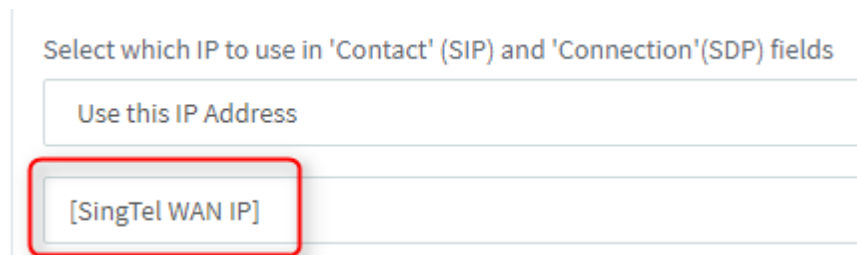
SingTel

Registrar/Server/Gateway Hostname or IP **SingTel SIP Server IP**

[IP Address give to you by Provider] 5060

Outbound Proxy

Next, go to the “Options” tab and in the “Advanced” section, fill in the SingTel WAN IP you have been given.



Select which IP to use in 'Contact' (SIP) and 'Connection'(SDP) fields

Use this IP Address

[SingTel WAN IP]

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

Adding Additional DIDs

To associate all other DIDs/Numbers you have on your SingTel Trunk, what you need to do is go to the Management Console → SIP Trunks, double-click on your SingTel Trunk and go to the “DIDs” tab.

Here you should already see 1 entry that is the Main Trunk number you have set. Add all other DIDs/Numbers you have to the list in the National Number format.

Creating Inbound Rules

Now that you have associated all your DIDs/Number with your SIP Trunk in 3CX, you can create Inbound Rules to set where calls will be routed when those number are called.

Number Format

Outbound Caller ID

When making Outbound Calls using your SingTel SIP Trunk, 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 to your Trunk.

Outbound Rules

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