

Clearly SIP Trunks Configuration Guide

PBX Platform: KX-TDE/NCP



Overview

This document describes the configuration procedures required for the KX-TDE100/200/600 and NCP500/1000 to make full use of the capabilities of Clearly Type SIP Trunks Services.

The SIP trunks services of the TDE/NCP PBX are provided through virtual CO line cards (V-SIPGW16) which are designed to be easily integrated into an Internet Telephony Service provided by an ITSP (Internet Telephony Service Provider).

This guide describes the specific configuration items for the virtual SIP Gateway card in addition to the PBX basic configuration related to SIP trunks functionality. It also describes basic Network configuration to familiarize dealers with the network setup. It does not describe the purpose and use of all configuration options on the virtual SIP Gateway card. For those details, see the KX-NCP500/1000 and KX-TDE100/200/600 Programming Manual for Virtual SIP CO Line Card and the KX-TDE100/200/600 and KX-NCP500/1000 Manuals available from Panasonic Communication Solutions.

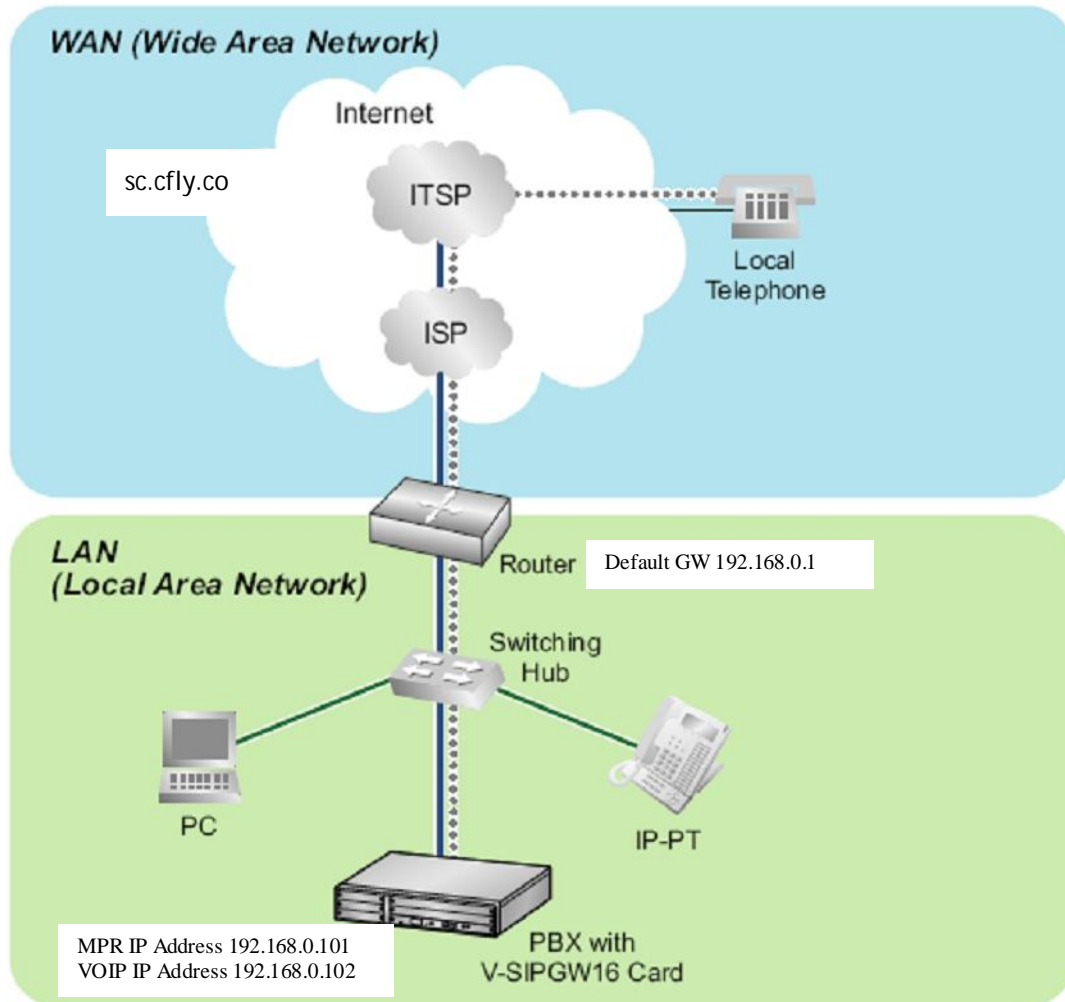
DSP card and Activation keys

- ✓ The PBX has to be equipped with a DSP card in order to provide communication between the TDM side of the PBX and the SIP trunks.
- ✓ Activation keys for SIP-Trunks has to be installed in the PBX to provide the SIP-trunks functionality

To check the number of activation keys installed into the PBX and add new licenses please refer to [Page 12](#) in this guide

Architecture Overview

The following diagram illustrates simple VOIP networks connecting the TDE/NCP PBX:
The Case of Clearlyfly Setup: Clearlyfly will provide its services over the Public Internet



Port Forwarding rules on the end router:

Forward Port 35060 to MPR IP address

Forward Port Range 12000~12127 to VOIP-DSP IP address

Basic V-SIPGW16 Settings for Clearfly Trunks

1-Install the PBX Maintenance console into your PC

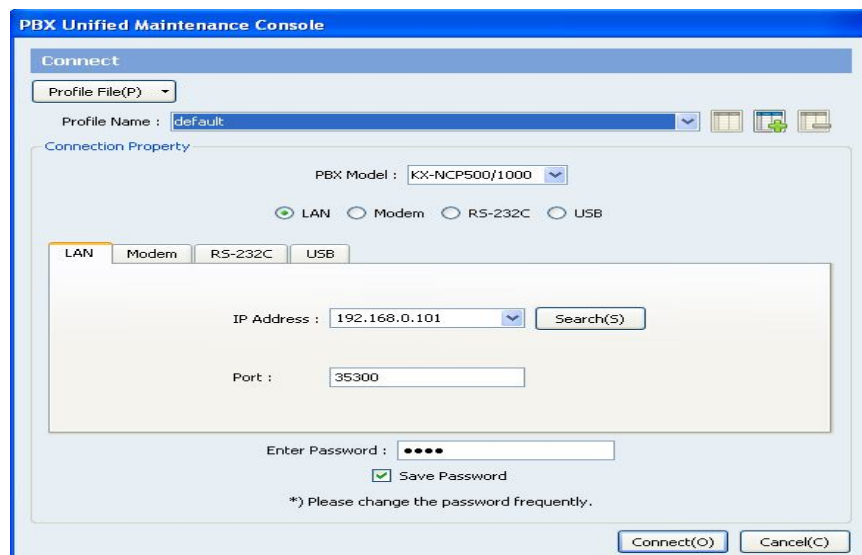
The maintenance console should be available to certified dealers; Dealers can get the latest version of the UPCM from www.btsdealer.com (UPCMC version 7.2.1.0 or higher)

2- Connect to the PBX

- o Start the UPCM



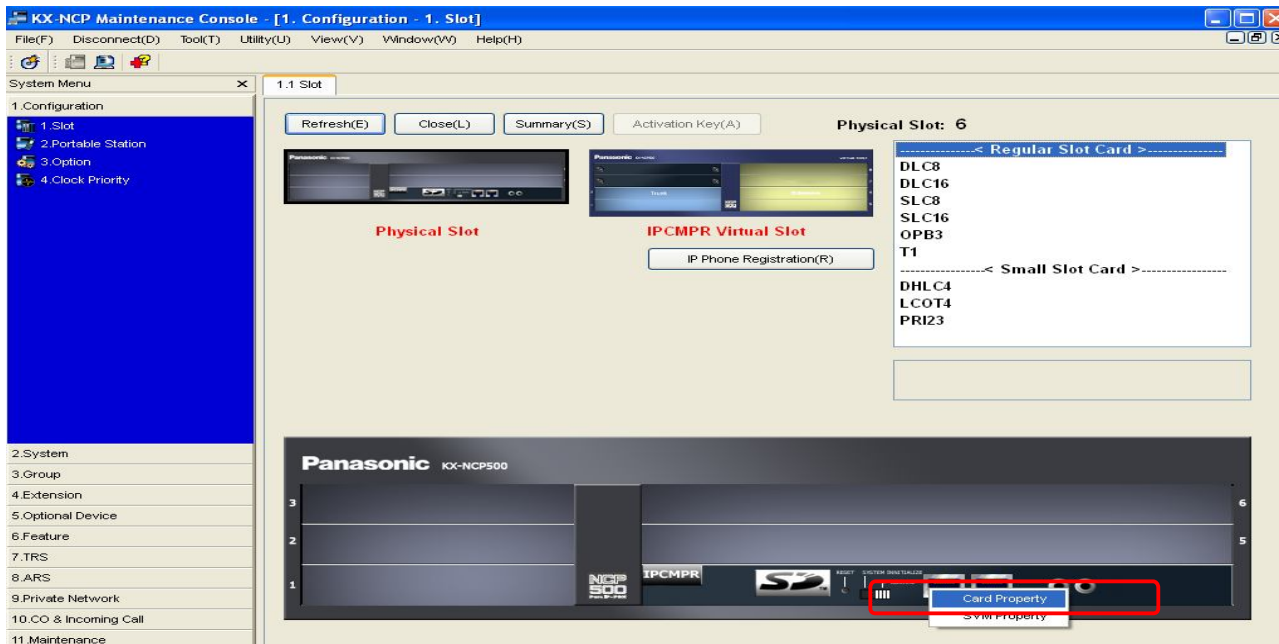
- o Click Connect and choose the method of connection using either LAN , RS-232, Modem, or USB to Connect to your PBX for interactive configuration



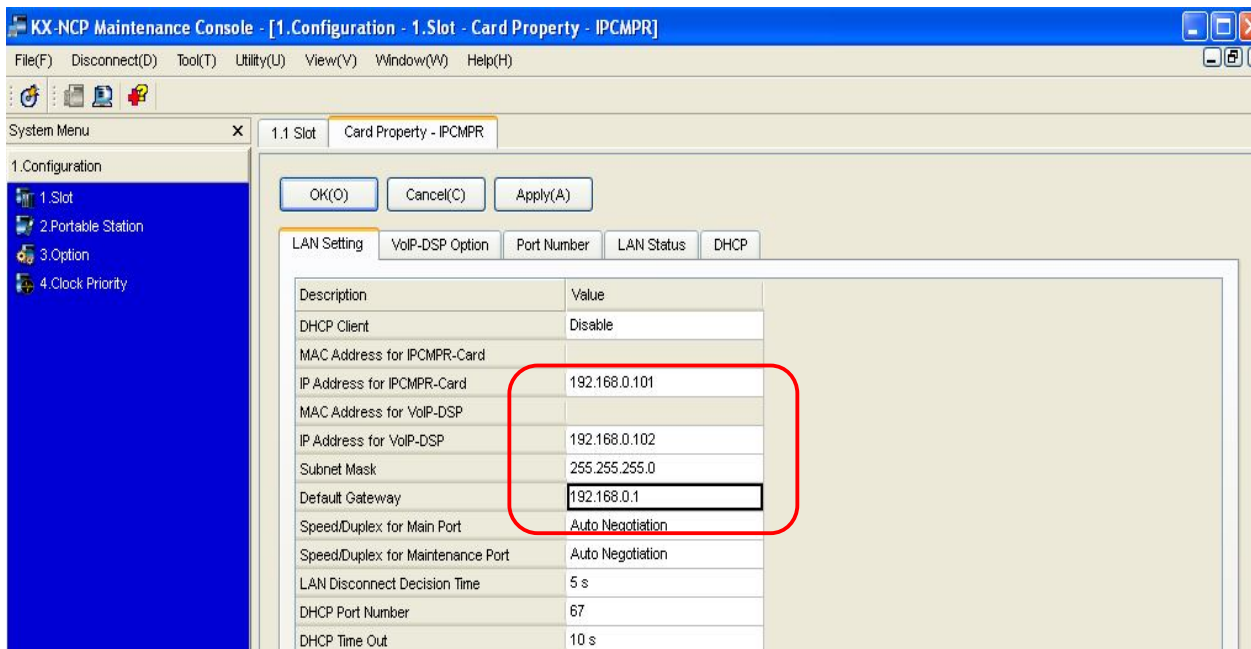
**** We will be using the LAN method throughout this guide****

Provide the IP address of the MPR card and the password of the INSTALLER Level

- Go to 1-Configuration, 1-Slot, move your mouse over the MPR card and select the card property

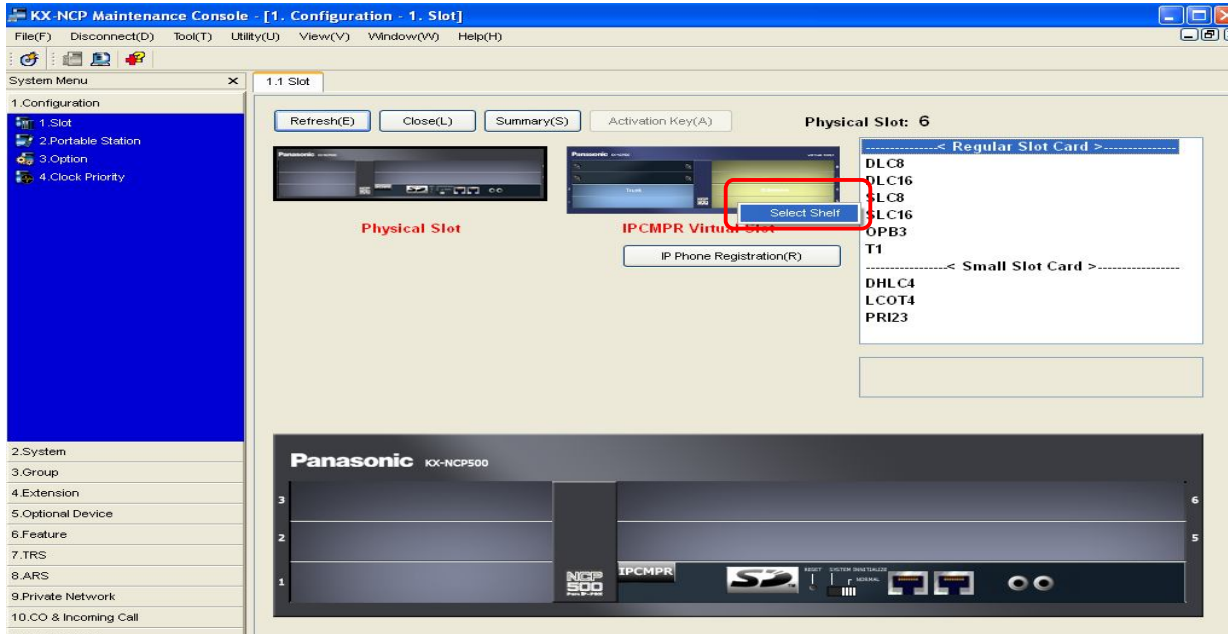


Make sure that the default gateway should be the end router LAN IP address
 Make sure that you have a valid DSP-VOIP LAN address

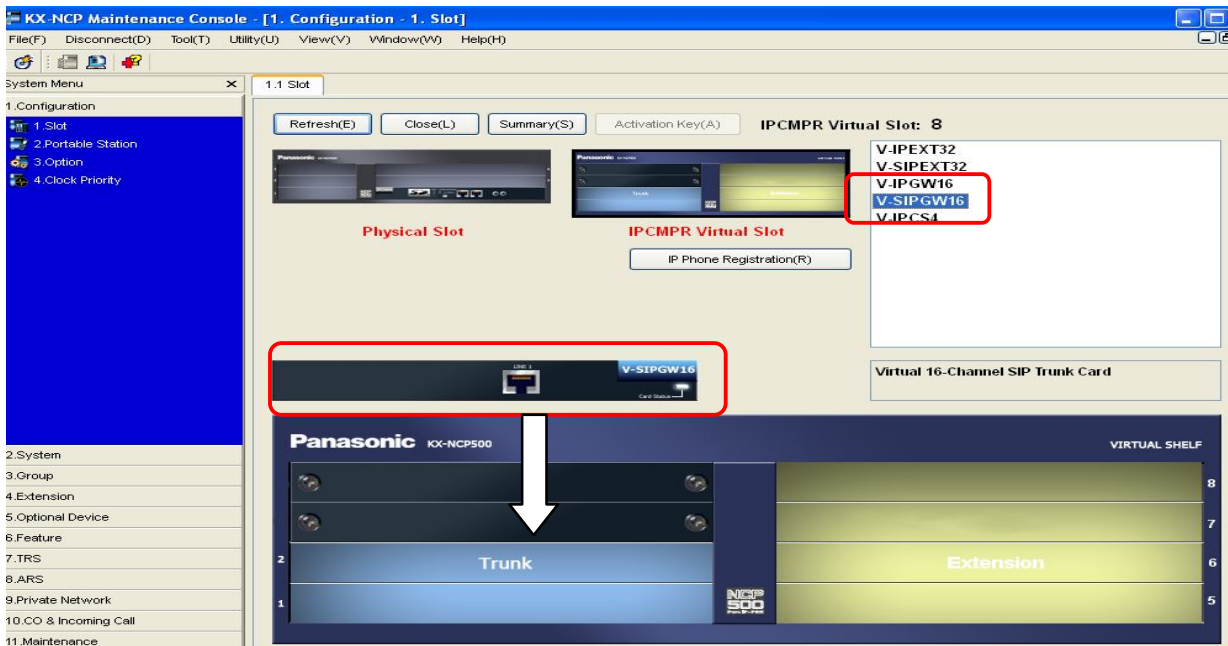


3- Installing V-SIP W16 card

- Go to 1-Configuration, 1-Slot, move your mouse towards the IPCMPR virtual shelf and click on select shelf

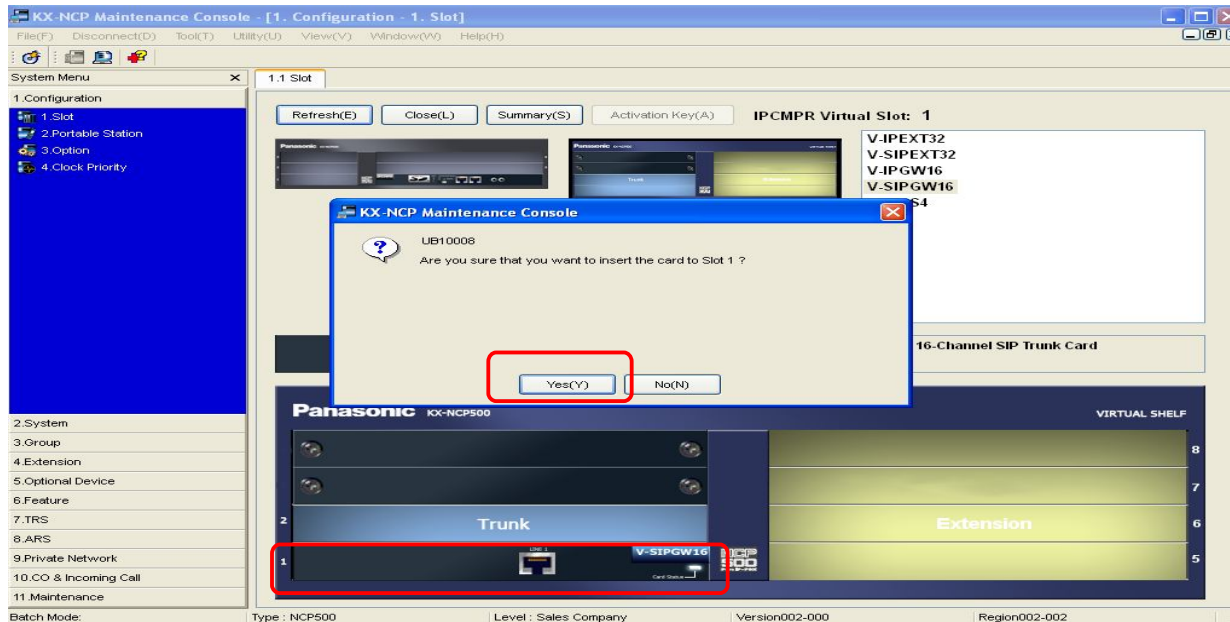


Highlight the V-SIPGW16 card from the cards list in the left side



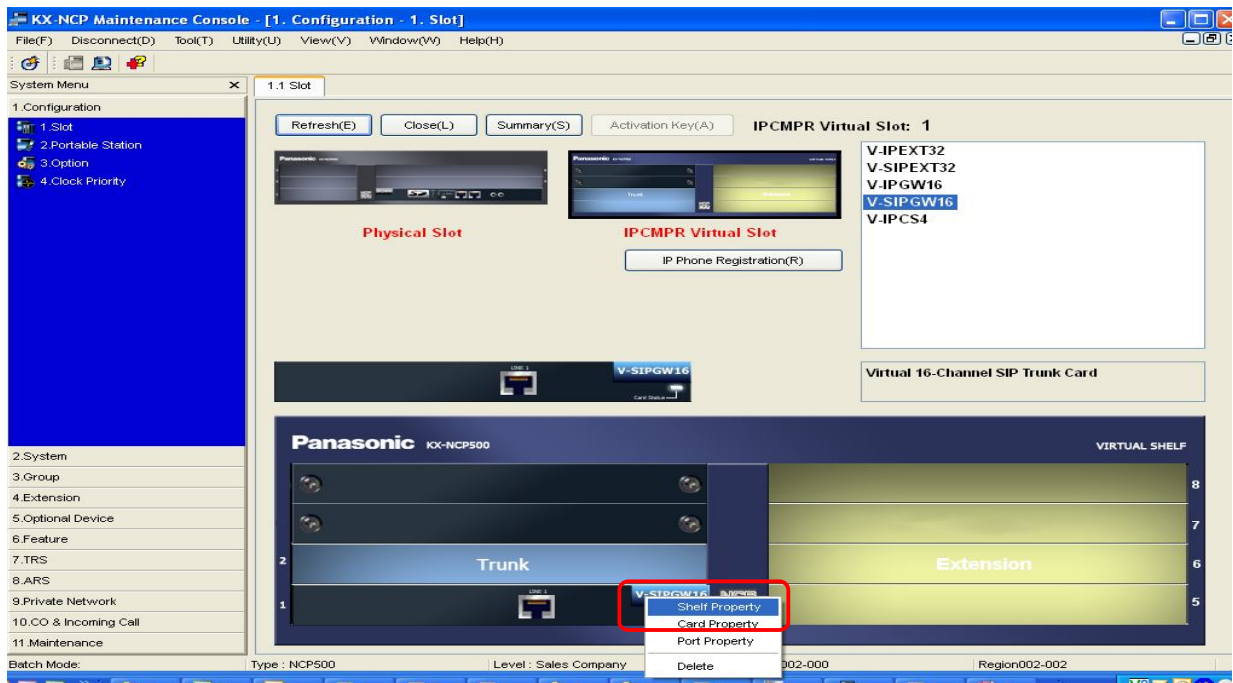
- Drag the VSIPGW16 card into the trunk portion of the virtual shelf by using the PC mouse left button
- Release the Mouse left button and click Yes on the dialogue box

- Take the V-SIPGW16 card OUS in order to be able to enter the following settings



4-Configuring the VSIP-GW16 card

a- Shelf Property settings: Move the computer mouse over the VSIPGW16 card and choose Shelf property



The following settings are required for Clearfly SIP trunk services on the shelf property:

Main Timer	
Description	Value
SIP Client Port Number	35060
NAT Traversal	Off
NAT - Voice (RTP) UDP Port No.	16000
NAT - Keep Alive Packet Sending Ability	Disable
NAT - Keep Alive Packet Type	Blank UDP
NAT - Keep Alive Packet Sending Interval (s)	20
NAT - Fixed Global IP Address	
STUN Ability	Disable
STUN Client Port Number	33478
STUN External Address Detection Retry Counter	1
STUN Resending Interval	500 ms
SIP Called Party Number Check Ability	Disable(High->Low)
Symmetric Response Routing Ability	Enable
100rel Ability	Enable(Passive)
Ringback Tone to Outside Caller	Disable
*) Perform System Reset for changes to take effect.	

Click Apply and then OK to exit the shelf property settings screen.

b- Card Property settings:

- Move the computer mouse over the VSIPGW16 card and choose Card property
- Click on Common settings
- DNS Server IP address method is Manual
- Provide your ISP DNS servers IP addresses. (Contact your ISP to obtain DNS IP addresses if needed)

1. Configuration - 1. Slot - Card Property - Virtual SIP Gateway - Common ...

OK(O) Cancel(C) Apply(A)

Description	Value
DNS Server IP Address Method	Manual
DHCP Preferred DNS Server IP Address	
DHCP Alternate DNS Server IP Address	
Manual Preferred DNS Server IP Address	66.180.96.12
Manual Alternate DNS Server IP Address	64.238.96.12
Manual DNS Server Port Number	53
DNS Port Number	30053
DNS Retry Interval Timer (s)	3
DNS Retry Counter	2
DNS SRV Record Resolve Ability	Enable

These addresses are just sample. Please use your ISP provided information


- o Click Apply and then OK
- o Click Cancel on the card property- Virtual SIP gateway screen to exit this screen

c- Port Property settings:

Move the computer mouse over the VSIPGW16 card and choose port property

Basic Channel setup:

Please locate the Clearfly SIP Trunks account details from your Clearfly account Welcome letter/email.. Sample is shown below..

Main	Account	Register	NAT	Option	Calling Party	Called Party	Voice/FAX	RTP/RTCP	T.38	T.38 Option	DSP	Supplementary Service
<div>-</div> <div></div>	No.	Slot	Port	Connection	Channel Attribute	Provider Name (20 characters)	SIP Server Location		SIP Server Port Number	SIP Service D (100 characte		
							Name (100 characters)	IP Address				
	1	4	1		Basic channel	Clearly	sc.cfly.co		5060			
	2	4	2		Additional channel f...				5060			
3	4	3		Additional channel f...				5060				

To: New Customer

cc: support <support@clearfly.net>

Subject: Clearfly SIP Trunk Information:

Hello,

Your Clearfly SIP trunk is now active and has been provisioned as follows:

PBX IP: **1.2.3.4** ← NAT Fixed-Global IP address

Clearfly SIP Server: **sc.cfly.co** ← SIP Server Location

Transport: UDP/5060

Codec: G.711u & G.729a

RTP Payload Type: 101

DTMF Relay: RFC2833

Digits Transferred: Default is 10. Please respond if you'd like something different.

123.456.7890 has been routed to this trunk <-- DID/BTN /account username..

If you have any questions about or problems with this trunk, our techs are available for test/turn-up from 8AM-5PM MST, Monday-Friday at +1.866.652.7520.

Regards,

○ **Main tab:**

According to the account info above, we need to configure the Basic Channel Port as follows:

“Please Note: the information above is just a sample, please locate your account details in your Clearfly welcome letter/email”

- 1- Port 1 channel attribute = Basic channel
- 2- Provider name= Clearfly
- 3- SIP Server Name= “**sc.cfly.co**”
- 4- SIP server port number =5060
- 5- SIP service Domain = “**Blank**”
- 6- Subscriber number = 1234567890 (Optional)

○ **Account tab:**

- 1- user name == **1234567890**
- 2- Authentication ID== **same as BTN & Username 1234567890**
- 3- Password == **Provided by Clearfly**

- **Register Tab:**

Changes from Default settings:

- 1- Register ability == **Enable**
- 2- Unregister ability when port INS = **Disable**

- **NAT Tab:**

Same as default

- **Calling Party tab:**

Changes from Default settings:

- 1- P-asserted Identity Header = **Enable**

- **Called party Tab:**

Same as default

- **Voice/Fax Tab:**

Changes from Default settings:

- 1- IP Codec priority (1st = **G.729A**, 2nd = **G.711u**, 3rd = **None**)

- **RTP/RTCP Tab:**

Same as default

- **T.38, T.38 Option**

Same as default

- **DSP**

Same as default

- **Supplementary services:**

Changes from Default settings:

- 1- CNIP (Receive) = **Yes**

Additional DID's

Please set the channel attribute for number of ports depending on the number of active SIP lines as "**additional channel for channel 1**"

For example ,if there are 3 Simultaneous calls can be received on this trunk, the number of V-SIPGW ports to be set as an "**additional channel for channel 1**" will be


2
ports

Main	Account	Register	NAT	Option	Calling F
-	No.	Slot	Port	Channel Attribute	
	1	1	1	Basic channel	
	2	1	2	Additional channel for Ch1	
	3	1	3	Additional channel for Ch1	

Essential PBX Configuration:

Please locate your DID information in the Clearfly Welcome letter

To Assign the DID numbers destinations, Go to 10-3.CO & Incoming Call→ DID table

	No.	DID Number (32 digits)	DID Name (20 characters)	DID Destination				Tenant Number	VM Trunk Group No.	CLI Ring for DID			
				Day	Lunch	Break	Night			Day	Lunch	Break	Ni
	31	1234567890	Clearfly	101	101	102	103	1	1	Disable	Disable	Disable	Dis

Important note:

Make sure that you provide the 10 digits DID number in the DID number field to be able to make use of the additional DID's assigned by the Provider.

SIP trunks Activation keys:

- 1- The DSP card installed onto the PBX MPR Card has preinstalled number of SIP trunks activation keys (DSP4 and DSP16 have 4 IP trunks and DSP64 has 16 IP trunks)
- 2- To obtain additional activation keys, you need to purchase the appropriate activation key codes (For IP Trunks) and access the Key Management System. You can download the activation keys as an activation key file from the Key Management System. To download the activation keys, enter the MPR ID number shown on the IPCMPR Card in the PBX, and activation key number and registration ID provided on each activation key code.
- 3- To check the Number of Activation Keys Installed into your system
[Go to 1- Configuration, 1-Slot, click on Activation Keys \(Top of the PBX image\)](#)

Minimum System Software requirements:

UPCMC	V7.2.1.0 or higher
NCP	V5.0002 or higher
TDE 100/200	V5.0002 or higher
TDE600	V5.0002 or higher

Useful Hints:

- 1- Update your system software once the update is available through the Dealer website to make use of added features and improved functionality
- 2- Update your PCMC (Maintenance Tool) with the latest version available on the BTS website and through Panasonic Tech support department
- 3- Back up your configuration file with the Good known settings
- 4- Consult with your network administrator prior to installation to guarantee a smooth setup for your system over the existing network

Important Notes:

1- Fax and Modem communication:

Clearly doesn't support Fax or Modem communication over their SIP trunks. **Clearly** always suggests using POTS line for these types of communication.

2- E911 :

Please Work Closely with Clearly team to ensure that E911 service is configured and tested properly