

Cbeyond SIP Trunks Configuration Guide

PBX Platform: KX-TDA50



Overview

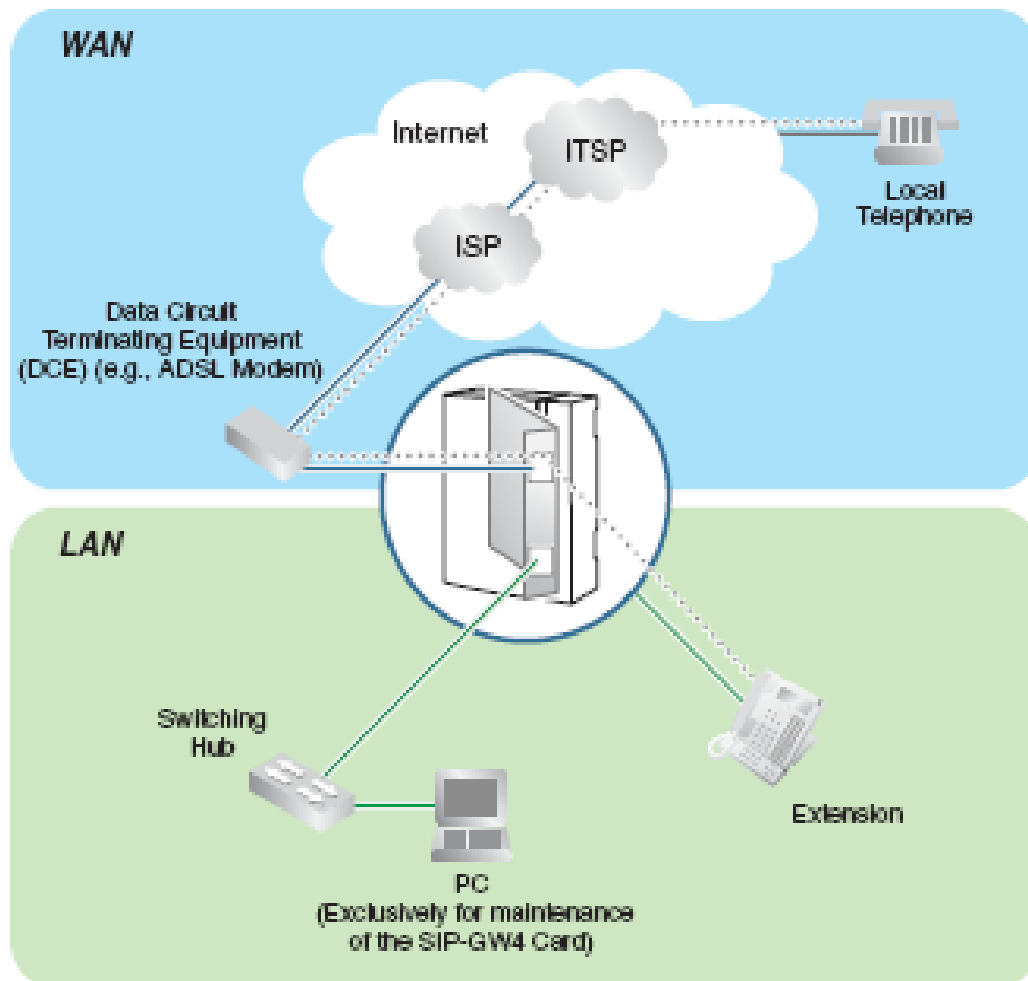
This document describes the configuration procedures required for the KX-TDA50 to make full use of the capabilities of Cbeyond SIP Trunks Services.

The KX-TDA50 is one of Panasonic platforms that support SIP trunks functionality. It implements the Session Initiation Protocol (SIP) through a dedicated (Trunk) Gateway card (KX-TDA5450) which offers 4-Channels of SIP trunks. Capacity of the SIP trunks can be increased by installing an additional DSP daughter card (KX-TDA5451) which provides additional 4-Channels. The maximum numbers of SIP Gateway cards to be installed into one PBX is one card.

This guide describes the specific configuration items for the 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 for the SIP Gateway card. It does not describe the purpose and use of all configuration options on the SIP Gateway card. For those details, see the KX-TDA5450 Installation Manual and the KX-TDA50 Manuals available from Panasonic Communication Solutions.

Architecture Overview

The following diagram illustrates simple VOIP networks connecting the SIP-GW4 card:
The Case of Cbeyond Setup: Cbeyond will provide its services over a dedicated Circuit terminated at the CPE device



Basic SIP-GW Settings for Cbeyond

1-Starting the SIP-GW4 Maintenance Utility

To start the SIP-GW4 Maintenance Utility, log in from your PC connected to the card by specifying the default IP address, username, and password.

1. Start Internet Explorer from the Start menu.
2. Specify the URL of the SIP-GW4 Maintenance Utility with the IP address <http://192.168.0.1:8000/Exp>.
3. a. The log-in screen is displayed.



In the User name box, type INSTALLER.

b. In the Password box, type 1234.

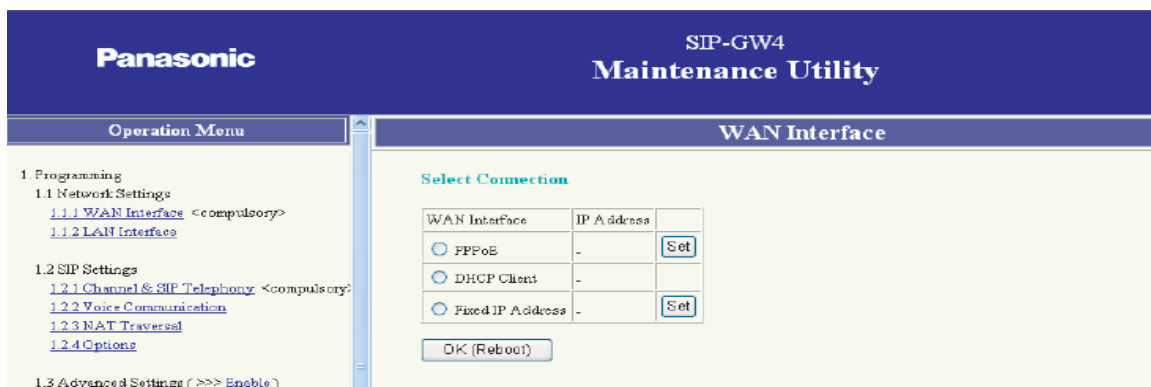
c. Click OK.

Now the menu screen of the SIP-GW4 Maintenance Utility is displayed

2-Network Settings

WAN Interface

Fixed IP address is the recommended method for Cbeyond setup, Check Fixed IP Address and Click Set.



Fixed IP Address Configuration

1. Assign each parameter, based on the information provided by the ITSP (Cbeyond),

Note

Do not assign an IP address and a subnet mask address from the same network as the LAN port, **for example:**

LAN port: IP address 192.168.0.1, Subnet mask 24 (255.255.255.0)

WAN port: IP address 192.168.0.2, Subnet mask 24 (255.255.255.0)

If you do so, disconnect the cables from the LAN and WAN ports and reboot the SIP-GW4 card. Then, connect the cable only to the LAN port, and reassign the IP address and subnet mask address for the WAN port.

2. Click **Set**.

3. You will need to **reboot** The Gateway card for these settings to be effective

3- Channel & SIP Telephony

1. Click 1.2.1 Channel & SIP Telephony.

2. Specify **Channel Attribute** for each channel referring to the descriptions below.

Attribute	Description
Not Used (default)	The channel is not in use.
Basic channel	A subscriber channel. If you select this attribute, the "Set" button will become active, which allows you to configure SIP Telephony Basic Settings and SIP Telephony Detailed Settings .
Additional channel of ChN (N: 1–8)	Subordinative channel that can be added to Basic channel above. This setting is to be configured when several channels can be used for one subscription with an ITSP. Selects a basic channel number to which an additional channel is added.

Note

Channels 5 through 8 are only available when the SIP-DSP4 card is mounted on the SIP-GW4 card.

3. Click the **Reboot** button that appears below the table after all the required configuration, including the following SIP Telephony Basic Settings, is complete.

SIP Telephony Basic Settings

1-System Level Configuration:

This section describes system-wide configuration items that are generally required for each KX-TDA50 to work with Cbeyond.

*Operation Menu→1.2 SIP settings→1.2.1 Channel and SIP Telephony

SIP Telephony Settings - Basic (Channel:1)

Server Settings

Proxy Server <compulsory>

Registration ☒ Enable ☐ Disable

Registration Timer(Offer) sec (20-36400)

Registrar Server

Domain Name

ITSP Name

DNS(SRV Record) Resolve Ability ☐ Enable ☒ Disable

Step	Command	Purpose
Step 1	Set Proxy Server<compulsory>. (i.e. Sip-proxy.dal0.cbeyond.net)	Set the TDA50 SIP server to the Fully Qualified Domain Name (FQDN) for the Cbeyond Application Server cluster. The domain must match the domain configured for the Cbeyond subscriber's line/port domain.
Step 2	Enable Registration.	Specifies whether to register on the SIP server or not (if required).
Step 3	Set Registration Timer (Offer).	Specifies the length of time that the card offers for Registration to the SIP server (if required).
Step 4	Set Register Server.	Specifies the domain name or IP address of a Registrar server (if provided). If an ITSP provides both Proxy and Registrar Server information, specify the Registrar Server information.
Step 5	Set Domain name. (i.e. sipconnect.dal0.cbeyond.net)	Specifies the domain name (if provided besides proxy and registrar server).
Step 6	Set ITSP Name.	Specifies the ITSP name (optional).

*Operation Menu→1.2 SIP settings→1.2.4 Options

SIP Options

- PRACK ("100rel" option)

PRACK

☒ Enable(Passive) ☐ Enable(Active) ☐ Disable

- Session Timer ("Timer" option)

Session Timer

☒ Enable(Passive) ☐ Enable(Active) ☐ Disable

Session Timer (Offer)

sec (180-3600)

Session Timer Method

☒ re-INVITE ☐ UPDATE

Step	Command	Purpose
Step 7	Enable PRACK ("100rel" option).	Specifies whether the PRACK feature is enabled or disabled.
Step 8	Enable Session Timer.	Specifies whether Session Timer is enabled or disabled.
Step 9	Set Session Timer(Offer). Session Timer(Offer) = 180	Specifies the length of time that the card offers for Registration to the SIP server (if required).
Step 10	Set Session Timer Method.	Specifies the method to be used for Session Timer.

*1: If the port number of the server is not "5060", enter ":" and the specified port number after the domain name or IP address.

[Example]

• If you do not need to specify the port number of the server (i.e., the port number is 5060):

Domain name format: example.com

IP address format: 192.168.1.1

• If you need to specify the port number of the server:

Domain name format: example.com:7777

IP address format: 192.168.1.1:7777

The value range of the port number is 1024–65535.

*2: No need to change unless necessary.

*3: The actual length of time depends on the negotiation with the SIP server or the other device. Therefore, the Registration Timer will not always function for the length of time set in advance.

2-Subscriber Level Configuration Parameters

This section identifies the SIP service subscriber-specific parameters, including registration and authentication. These settings must be unique for each account. Provisioning a subscriber to register with Cbeyond allows calls to terminate to the subscriber's line. Registration requires that a unique address of record (AoR) is provisioned on Cbeyond Application server cluster. A user name (SIP account) and a password (Authentication Password) will be provided from Cbeyond to each subscriber.

Step	Command	Purpose
Step 1	Set SIP Account<compulsory>.	The register user ID must correspond with the line/port setting on Cbeyond
Step 2	Set Authentication ID <compulsory>.	If the Authentication service is configured on Cbeyond, these parameters must be configured to match the Cbeyond settings.
Step 3	Set Authentication Password <compulsory>.	Specifies the password (compulsory).

4- NAT Traversal

Based on your network architecture you need to choose the proper method to perform the NAT transversal.

If you have chosen the fixed IP address method and the WAN port of your SIP-GW card is connected to the LAN side of your Broadband router, you have to Enable the NAT traversal and specify the Fixed IP address of the Broadband Router.

Example (SIP-GW WAN side IP address is Private IP address 192.168.10.100) and your SIP account is authenticated over the Cbeyond Circuit IP address, Fixed IP address NAT traversal has to be enabled

If the Authentication IP address is over the Private IP address of the WAN side of the SIP-GW card, The NAT Traversal should be disabled.

Essential PBX Configuration:

The screenshot shows the '10.3 DID Table' configuration window. On the left is a 'System Menu' with options: 1.Configuration, 2.System, 3.Group, 4.Extension, 5.Optional Device, 6.Feature, 7.TRS, 8.ARS, 9.Private Network, and 10.CO & Incoming Call. Under '10.CO & Incoming Call', there are sub-options: 1.CO Line Settings, 2.DIL Table & Port Settings, 3.DID Table (highlighted), and 4.Miscellaneous. The main area has buttons for 'OK(O)', 'Cancel(C)', and 'Apply(A)'. Below these are 'Automatic Registration(U)', 'Name Generate(N)', and 'Destination Setting(S)'. A range selector shows '1 - 100' selected. The table below has columns: No., DID Number (32 digits), DID Name (20 characters), DID Destination (Day, Lunch, Break, Night), Tenant Number, VM Trunk Group No., and CLI Ring for DID (Day, Lunch, Break, Night). The first row shows a DID number '1234567890' and name 'Cbeyond 1' with destinations set to '101' for all four times of day. The remaining rows (2-8) have empty fields for DID numbers and names, and '1' for destinations.

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	Night
1	1234567890	Cbeyond 1	101	101	101	101	1	1	Disable	Disable	Disable	Disab
2							1	1	Disable	Disable	Disable	Disab
3							1	1	Disable	Disable	Disable	Disab
4							1	1	Disable	Disable	Disable	Disab
5							1	1	Disable	Disable	Disable	Disab
6							1	1	Disable	Disable	Disable	Disab
7							1	1	Disable	Disable	Disable	Disab
8							1	1	Disable	Disable	Disable	Disab

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

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.

Minimum System Software requirements:

UPCMC	V4.4.1.0 (Latest as of 02/10/09)
SIP-GW card	V 4.002
TDA50 MPR	V 5.0003

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