Panasonic SIP Trunking User Guide
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Overview

This document outlines the configuration settings required for the Panasonic KX-NS1000 and KX-NS700 PBX (Private branch exchange) to make full use of the capabilities of Nextiva’s SIP Trunking services.

The SIP Trunking services of the Panasonic KX-NS1000/700 PBX are provided through virtual CO line cards (VSIPGW16), which can be easily integrated with Nextiva’s VoIP service. This guide describes the specific configuration items for the Virtual SIP Gateway Card in addition to the basic PBX configuration related to SIP Trunking functionality.

DSP card and Activation keys

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

To check the number of activation keys installed in the PBX and add new licenses, please refer to Page 13 in this configuration guide.
Architecture Overview

The above diagram illustrates simple VoIP networks connecting the NS1000/700 PBX. Nextiva will provide its services over the Public Internet.

Port Forwarding rules on the end router:

- Forward Port (UDP) **35060** to the PBX IP address
- Forward Port Range (UDP) **12000 - 12511** to the VOIP-DSP#1-1 IP address
- Forward Port Range (UDP) **12512 - 13023** to the VOIP-DSP#1-2 IP address
- Forward Port Range (UDP) **13024 - 13535** to the VOIP-DSP#2-1 IP address
- Forward Port Range (UDP) **13536 - 13047** to the VOIP-DSP#2-2 IP address
Basic V-SIPGW16 Settings for Nextiva SIP Trunking

1. **Install the NS Unified Web Maintenance console on your PC**
   a. The maintenance console is available for certified dealers. Dealers can get the latest version of the UPCMC from [www.panasonicpartnerportal.com](http://www.panasonicpartnerportal.com) (UPCMC version 5.10.1 or higher)

2. **Connect to the PBX**
   a. Start the UPCMC.

   ![UPCMC Screenshot]

   b. Click **Connect** and enter the IP Address to connect to your PBX for interactive configuration.

   **KX-NS700**
   ![KX-NS700 Screenshot]

   **KX-NS1000**
   ![KX-NS1000 Screenshot]
c. Enter the username and password to log in to the PBX.
   • Default Username: **INSTALLER**
   • Default Password: **1234**

![Web Maintenance Console Image]

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d. Complete the Easy Setup Wizard configuration (if starting at factory default).
3. Configure the LAN Settings of the PBX

a. Click on Setup.

b. Go to Network Service → 1.IP Address/Ports → Basic Settings tab

c. Based on your Local LAN, assign static IP addresses to the PBX. The default gateway should be the end router’s network IP address.

- IP Address: *provided by LAN administrator*
- Subnet Mask: *provided by LAN administrator*
- Default Gateway: *provided by LAN administrator*
- Preferred DNS IP Address: *provided by LAN administrator*
- Alternative DNS IP Address: *provided by LAN administrator*
- DSP Card #1 – 1: *provided by LAN administrator*
- DSP Card #1 – 2: *provided by LAN administrator*
- DSP Card #2 – 1: *provided by LAN administrator*
- DSP Card #2 – 2: *provided by LAN administrator*
d. Select **Apply**, then click **OK**.

4. **Installing V-SIPGW16 cards**

**KX-NS1000**


b. Click the dropdown menu, and select the number of V-SIPGW16 Cards to add for your installation.
**KX-NS700**

a. Go to PBX Configuration → 1.Configuration → 1.Slot → Select the Virtual Shelf

b. Drag → Drop V-SIPGW16 Cards to the virtual Trunk slots (1 - 4) as needed and click **OK.**
5. **Configuring the V-SIPGW16 Card**

   a. Move your cursor over the V-SIPGW16 Card and click **OUS** to take the card out of service.

   b. **Shelf Property settings**: Move your cursor over the V-SIPGW16 Card and select **Shelf Property**.

   ![Shelf Property - Virtual SIP Gateway](image)

   c. Change the following parameters from their default value:

   **Main Tab**
   - NAT – Keep Alive Packet Sending Ability: **Enable**

   **Timer Tab**
   - **leave at factory default setting**

   d. Select **Apply** and then click **OK** to exit the Shelf Property settings screen.
e. **Card Property settings:**
   Move your cursor over the V-SIPGW16 card and choose **Card Property**. *leave at factory default setting*

f. **Select Apply** and then click **OK** to exit the Card Property settings screen.

g. **Port Property settings:**
   Move your cursor over the V-SIPGW16 card and choose **Port Property**.
h. Change the following parameters from their default value:

Main Tab
- Connection Attribute: Basic Channel + Additional Channels
- Provider Name: Nextiva
- SIP Server Name: pai.voipdnsservers.com

Account Tab
- User Name: provided by Nextiva
- Authorization ID: provided by Nextiva
- Authorization Password: provided by Nextiva

Register Tab
- Leave at factory default setting

NAT Tab
- Leave at factory default setting

Option Tab
- Leave at factory default setting

Calling Party Tab
- From Header - User Part: PBX-CLIP
- P-Asserted-Identity Header: Enable

Called Party Tab
- Leave at factory default setting

Voice/FAX Tab
- Leave at factory default setting

RTP/RTCP Tab
- Leave at factory default setting

T.38 Tab
- Leave at factory default setting

T.38 Option Tab
- Leave at factory default setting

DSP Tab
- Leave at factory default setting

Supplementary Service Tab
- CNIP (Receive): Yes

Advanced
- Leave at factory default setting

i. Select Apply, and then click OK to exit the Port Property settings screen.
6. Configuring Incoming DID Call Routing
   a. Go to PBX Configuration → 10.CO & Incoming Call → 3.DDI/DID Table

   ![DDI/DID Table Screen](image)

   b. Enter the 10-digit DDI / DID Numbers.

   c. Enter the desired Day/Lunch/Break/Night destination extension for each DDI / DID.

   d. Select Apply and then click OK to exit the DDI / DID Table settings screen.

7. Backup and Reset
   a. Click on Maintenance → System Control → 4.System Reset

   b. Click Backup.

   c. Click OK.

   d. Click OK.

   e. NS system will restart.
SIP Trunk Activation keys:

1. To obtain Activation Keys, you need to purchase the appropriate IP Trunk activation key models and access the Key Management System to register them to your PBX at http://tde.panacare.com.
   - KX-NSM102: 2-Channel IP Trunk Activation Key (2 IP Trunk)
   - KX-NSM104: 4-Channel IP Trunk Activation Key (4 IP Trunk)
   - KX-NSM108: 8-Channel IP Trunk Activation Key (8 IP Trunk)
   - KX-NSM116: 16-Channel IP Trunk Activation Key (16 IP Trunk)

2. You will need the MPR ID from the PBX to register the Activation Key(s) on the Key Management System.

3. To check the Number of Activation Keys Installed in your system and the MPR ID:
   - PBX Configuration → 1.Configuration → 1.Slot → Activation Key

Minimum System Software requirements:

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<th>NS Unified Web Maintenance Console</th>
<th>v5.10.1</th>
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<td>v4.10060</td>
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<td>KX-NS700</td>
<td>v4.10064</td>
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Useful Tips:

1. Update your system software once an update is available through the Dealer website to make use of added features and improved functionality.
2. Update your UPCM (Maintenance Tool) with the latest version available on the BTS website.
3. Back up your PBX 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:

E911: Please work closely with the Nextiva team to ensure that E911 service is configured and tested properly.