

KX-NS Step by Step Guide

SIP Trunk to SIP Trunk

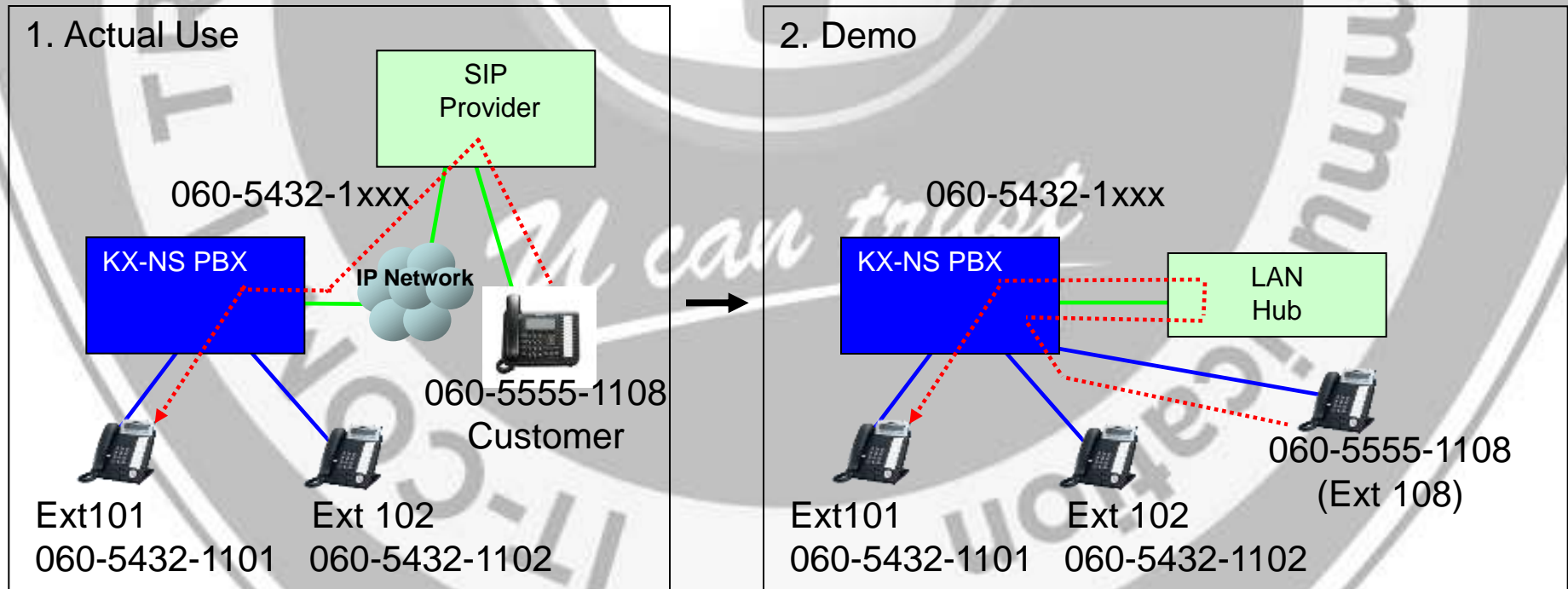


1. Overview

For demo or test, CO incoming call with **8 or more digits caller ID** is useful, because real telephone company provides 8 or more digits telephone number usually.

This document explains how to make 8 or more digits caller ID using **loop back of SIP trunk** without telephone company / SIP Provider.

And you can understand programming for SIP trunk.



2. Activation Key

Activation key for IP trunk is required.

It is used for SIP Trunk or H.323(IP-GW).

64 ch for H.323 and 94 ch for SIP in this case

The screenshot shows the 'Activation Key Status' page in a PBX configuration interface. The page includes a sidebar with navigation options like 'Users', 'PBX Configuration', and '1. Slot'. The main content area shows the 'Activation Key Installation' section with the following details:

- MPR-ID: 67010802F0C60C9A
- Number of activated IP-Softphone: 260 / 400
- Number of activated IP-GW: 64 / 160

A red circle highlights the 'Number of activated IP-GW' field, and a red arrow points from the text above to it. Below this, a table shows the status of various features:

Activated feature	Pre-installed	Activation key	Features in total	System total
IP Phone Capacity (ch)	0	300	300	-
IP Trunk (ch)	0	160	160	320
IP Proprietary Telephone/IP Softphone (ch)	0	400	400	800
IP Proprietary Telephone (ch)	8	232	240	480

This picture is copy from KX-NS1000.

The background features a large, semi-transparent watermark of a circular logo. The logo contains the text "TRAINING CENTER" at the top, "IT-COMMUNICATIONS" at the bottom, and "TM" in the center. A stylized figure is also present within the logo's inner circle.

Chapter 1

Programming for SIP Registration

11. Select Virtual Cabinet.

The screenshot displays a software interface for configuring a PBX system. On the left is a navigation tree with categories like 'Users', 'PBX Configuration', and 'Network Service'. The 'PBX Configuration' section is expanded to '1. Slot'. The main area is titled 'Slot' and contains several tabs: 'System Property', 'Activation Key', 'IP Phone Registration', 'VoIP Property', and 'UM Property'. Below these tabs are two lists of slot cards: 'Trunk Slot Card' (LCOT6, PRI30, E1, DPH2) and 'Extension Slot Card' (MCSLC16, MCSLC8, DLC16, DLC8, DHLC4). The central part of the interface shows a rack of slots for a 'Panasonic Basic' system. Slots are numbered 1 through 7. Slot 1 contains an 'EXP-M' card. Slot 2 contains 'LCOT6', 'DLC2', and 'MCSLC16' cards. Slot 3 contains 'MCSLC16' cards. Slot 4 contains 'EXP-M' and 'DHLC4' cards. Slot 5 contains 'PRI30' and 'DHLC4' cards. Slot 6 contains 'DPH2' and 'DHLC4' cards. Slot 7 contains 'DHLC4' and 'MCSLC16' cards. At the bottom, there are four smaller slot icons labeled 1, 2, 3, and 4. The first icon (slot 1) is highlighted with a yellow box. Below it, a 'Virtual Slot' icon is circled in red.

13. Set Out of Service.

The screenshot displays a PBX configuration interface with a sidebar on the left and a main configuration area on the right. The sidebar contains a tree view with categories: Users, PBX Configuration, and Network Service. Under PBX Configuration, there are sub-items: 1. Configuration (expanded), 2. Portable Station, 3. Option, 4. Clock Priority, 5. DSP Resources, 2. System, 3. Group, 4. Extension, 5. Optional Device, 6. Feature, 7. TRS, 8. ARS, 9. Private Network, 10. CO & Incoming Call, and 11. Maintenance. Under Network Service, there is an item for UM Configuration.

The main configuration area is titled "Slot" and has several tabs: System Property, Activation Key, IP Phone Registration, VoIP Property, and UM Property. The "IP Phone Registration" tab is selected. The main area is divided into two sections: "Panasonic" and "Virtual".

The "Panasonic" section shows a rack of slots numbered 1 to 4. A context menu is open over slot 1, with options: Shelf Property, Card Property, Port Property, and Ous. The "Ous" option is circled in red. Below the rack are four physical device icons labeled 1, 2, 3, and 4.

The "Virtual" section shows a rack of slots numbered 5 to 12. Slots 5, 6, 7, and 8 are labeled "V-IPEXT:" and have network port icons. Slot 9 is labeled "V-IPCS4" and has a network port icon. Slots 10, 11, and 12 are labeled "IP-CS".

At the top right, there are two card configuration boxes: "Trunk Slot Card" with fields for V-SIPGW and V-IPGW, and "Extension Slot Card" with fields for V-IPEXT, V-SIPEXT, V-UTEXT, and V-IPCS4.

A yellow box at the bottom left highlights a "Virtual Slot" icon.

14. Open Port Property.

Users

PBX Configuration

- 1. Configuration
 - 1. Slot**
 - 2. Portable Station
 - 3. Option
 - 4. Clock Priority
 - 5. DSP Resources
- 2. System
- 3. Group
- 4. Extension
- 5. Optional Device
- 6. Feature
- 7. TRS
- 8. ARS
- 9. Private Network
- 10. CO & Incoming Call
- 11. Maintenance

UM Configuration

Network Service

Slot

System Property | Activation Key | IP Phone Registration | VoIP Property | UM Property

Trunk Slot Card

- V-SIPGW
- V-IPGW

Extension Slot Card

- V-IPEXT
- V-SIPEXT
- V-UTEXT
- V-IPCS4

Panasonic | **Virtual**

4 Shelf Property
3 Card Property
2 Port Property
1 Ins
Delete

8 V-IPEXT
7 V-IPEXT
6 V-IPEXT
5 V-IPEXT

12
11 IP-CS
10
9 V-IPCS4

1 V-SIPGW

1 2 3 4

Virtual Slot

15. Assign Channel Attribute.

1 port for Basic channel

3 port for Additional channel to Basic channel, if you need 4 ch for example.

Login as INSTALLER Site 1 : NS1000

Users PBX Configuration

1. Configuration

1. Slot

2. Portable Station

3. Option

4. Clock Priority

5. DSP Resources

2. System

3. Group

4. Extension

5. Optional Device

Port Property - Virtual SIP Gateway

Select Provider Add Provider Trunk Adaptor

« Main Account Register NAT Option Calling Party Called Party Voice/FAX RTP/RTCP T.38 »

No.	Shelf	Slot	Port	Connection	Connection Attribute	Trunk Property	Channel Attribute	Provider Name (20 characters)	SIP Server Name (100 characters)
	ALL			ALL	ALL	ALL	ALL		
1	Virtual	31	1	OVS	SIP Provider	Public	Basic channel		
2	Virtual	31	2	OVS	SIP Provider	Public	Additional channel for Slot 31 Ch 1		
3	Virtual	31	3	OVS	SIP Provider	Public	Additional channel for Slot 31 Ch 1		
4	Virtual	31	4	OVS	SIP Provider	Public	Additional channel for Slot 31 Ch 1		
5	Virtual	31	5	OVS	SIP Provider	Public	Not Used		
6	Virtual	31	6	OVS	SIP Provider	Public	Not Used		

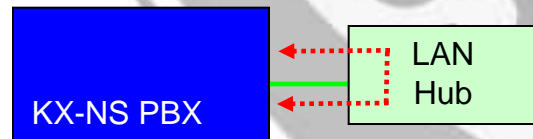
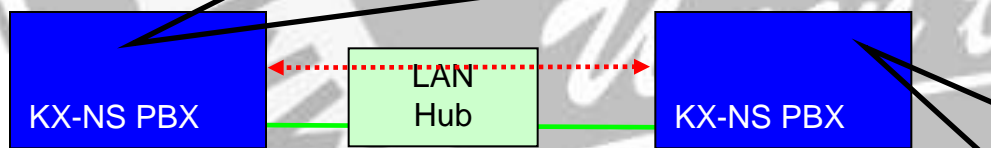
16. Assign IP address and Port Number.

Assign Own IP Address (192.168.0.101).
Change SIP Server Port Number to "35060".

<For real SIP service>

- 6) IP address of SIP service
- 7) No change usually

Channel Attribute	Provider Name (20 characters)	SIP Server Name (100 characters)	SIP Server IP Address	SIP Server Port Number
ALL				
Basic channel			192.168.0.101	35060
Additional channel for Slot 31 Ch 1				5060
Additional channel for Slot 31 Ch 1				5060
Additional channel for Slot 31 Ch 1				5060
Not Used				5060



Shelf Property - Virtual SIP Gateway

Main Timer

SIP Client Port Number: 35060

NAT Traversal: Off

17. Assign User Name, ID and Password.

These are required. Any number is OK.

<For real SIP service>
Input correct SIP account.

The screenshot shows a web-based configuration interface for a PBX system. The main window is titled "Port Property - Virtual SIP Gateway". On the left, there is a navigation menu with "Users" and "PBX Configuration" sections. The "PBX Configuration" section is expanded to show "1. Configuration", "1. Slot", "2. Portable Station", "3. Option", "4. Clock Priority", and "5. DSP Resources". The "1. Slot" option is currently selected. The main content area has a header "Port Property - Virtual SIP Gateway" and three buttons: "Select Provider", "Add Provider", and "Trunk Adaptor". Below these buttons is a tabbed interface with tabs for "Main", "Account", "Register", "NAT", "Option", "Calling Party", "Called Party", "Voice/FAX", "RTP/RTCP", and "T.38". The "Account" tab is active. A table below the tabs displays port configurations. The table has columns for "No.", "Shelf", "Slot", "Port", "Connection", "User Name (64 characters)", "Authentication ID (64 characters)", and "Authentication Pass (32 characters)". The first row of the table is circled in red, showing the following values: No. 1, Shelf ALL, Slot 31, Port 1, Connection OUS, User Name 12345, Authentication ID 12345, and Authentication Pass 12345.

No.	Shelf	Slot	Port	Connection	User Name (64 characters)	Authentication ID (64 characters)	Authentication Pass (32 characters)
1	Virtual	31	1	OUS	12345	12345	12345
2	Virtual	31	2	OUS			
3	Virtual	31	3	OUS			
4	Virtual	31	4	OUS			
5	Virtual	31	5	OUS			

18. Disable Register.

Registration using User Name, ID and password is disabled.
But these parameters are required as previous page.

<For real SIP service>
No need to change usually.

The screenshot shows a web-based configuration interface for a PBX system. The main window is titled 'Port Property - Virtual SIP Gateway'. On the left, there is a navigation menu with 'Users' and 'PBX Configuration' sections. Under 'PBX Configuration', '1. Configuration' is expanded to show '1. Slot', which is currently selected. The main area contains a 'Register' tab, and below it, a table of port properties. The table has columns for No., Shelf, Slot, Port, Connection, Register Ability, Register Sending Interval (s), Un-Register Ability when port INS, and Registrar Serv (100 charac). The 'Register Ability' for the first row (No. 1) is set to 'Disable' and is circled in red. Other rows show 'Enable' for 'Register Ability'.

No.	Shelf	Slot	Port	Connection	Register Ability	Register Sending Interval (s)	Un-Register Ability when port INS	Registrar Serv (100 charac)
1	Virtual	31	1	OUS	Disable	3600	Enable	
2	Virtual	31	2	OUS	Enable	3600	Enable	
3	Virtual	31	3	OUS	Enable	3600	Enable	
4	Virtual	31	4	OUS	Enable	3600	Enable	
5	Virtual	31	5	OUS	Enable	3600	Enable	
6	Virtual	31	6	OUS	Enable	3600	Enable	

19. Select "PBX-CLIP"

This is required for extension to send CLIP when making a call from SIP trunk.

Login as INSTALLER Site 1 : NS1000

Users PBX Configuration

1. Configuration

- 1. Slot
- 2. Portable Station
- 3. Option
- 4. Clock Priority
- 5. DSP Resources

2. System

- 3. Group
- 4. Extension
- 5. Optional Device
- 6. Feature

Port Property - Virtual SIP Gateway

Select Provider Add Provider Trunk Adaptor

Main Account Register NAT Option **Calling Party** Called Party Voice/FAX RTP/RTCP T.38

No.	Shelf	Slot	Port	Connection	Header Type	From Header - User Part	From Header - SIP-URI (100 characters)
	ALL			ALL	ALL	ALL	
1	Virtual	31	1	OUS	From Header	PBX-CLIP	
2	Virtual	31	2	OUS	From Header	User Name	
3	Virtual	31	3	OUS	From Header	User Name	
4	Virtual	31	4	OUS	From Header	User Name	
5	Virtual	31	5	OUS	From Header	User Name	

Extension Number	CLIP ID
101	06054321101
102	06054321102
103	06054321103
104	06054321104

20. Set In Service.

Users

PBX Configuration

- 1. Configuration
 - 1. Slot**
 - 2. Portable Station
 - 3. Option
 - 4. Clock Priority
 - 5. DSP Resources
- 2. System
- 3. Group
- 4. Extension
- 5. Optional Device
- 6. Feature
- 7. TRS
- 8. ARS
- 9. Private Network
- 10. CO & Incoming Call
- 11. Maintenance

UM Configuration

Network Service

Slot

System Property | Activation Key | IP Phone Registration | VoIP Property | UM Property

Trunk Slot Card

V-SIPGW
V-IPGW

Extension Slot Card

V-IPEXT
V-SIPEXT
V-UTEXT
V-IPCS4

Panasonic

4
3
2
1

Shelf Property
Card Property
Port Property
Ins
Delete

8
7
6
5

V-IPEXT:
V-IPEXT:
V-IPEXT:
V-IPEXT:

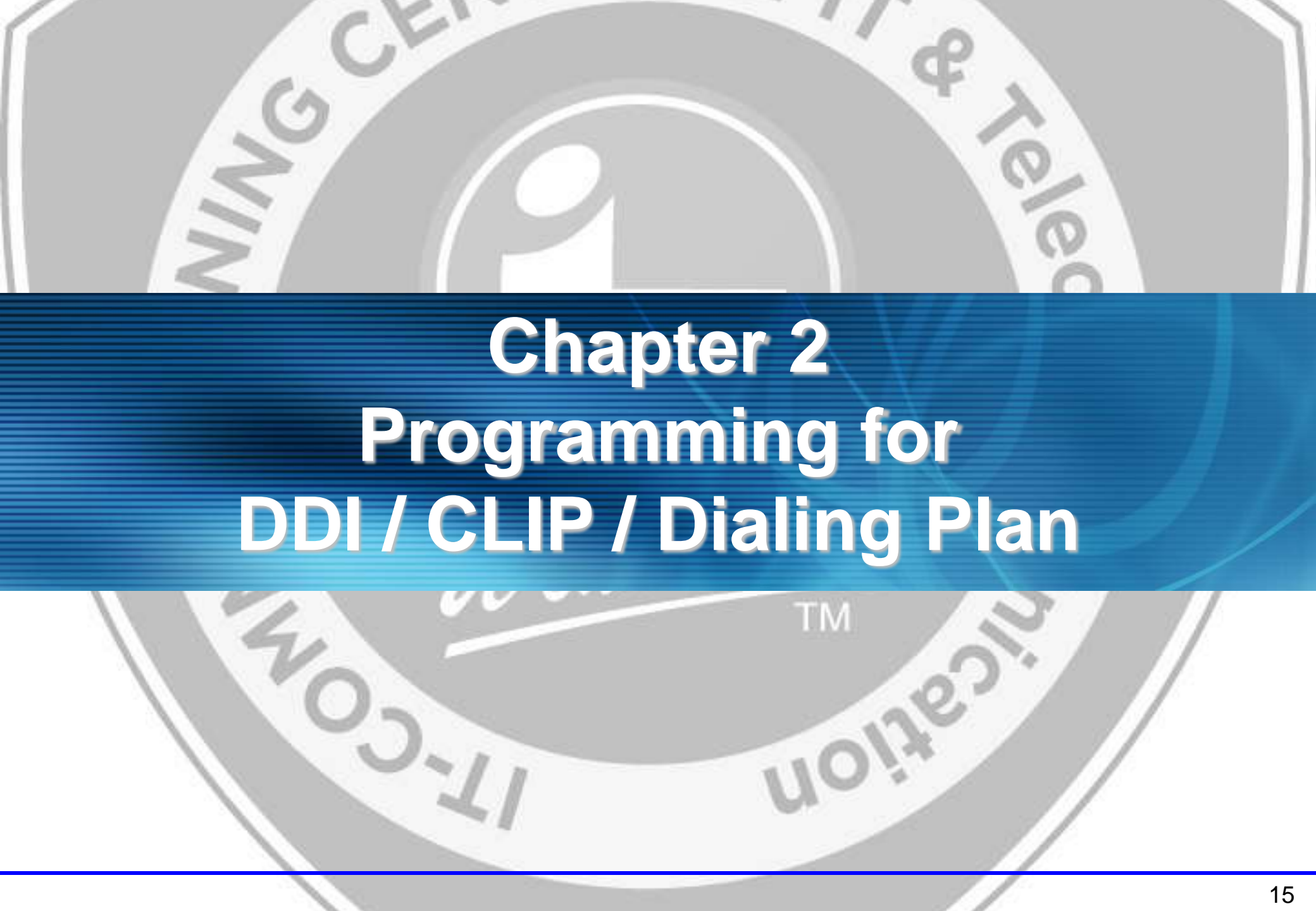
Virtual

12
11
10
9

IP-CS
V-IPCS4

1 2 3 4

Virtual Slot



Chapter 2

Programming for DDI / CLIP / Dialing Plan

21. Assign DDI.

This is required for extension to receive incoming call from SIP trunk.

DDI / DID Table

Automatic Registration Name Generate Destination Setting

ID	DDI / DID Number (32 digits)	DDI / DID Name (20 characters)	DDI / DID Destination - Day	DDI / DID Destination - Lunch	DDI / DID Destination Break
1	06054321101		101	101	101
2	06054321102		102	102	102
3	06054321103		103	103	103
4	06054321104		104	104	104
5	06054321105		105	105	105
6	06054321106		106	106	106
7	06054321107		107	107	107
8	06055551108		108	108	108
9	06054321109		109	109	109
10	06054321110		110	110	110
11	06054321111		111	111	111

“Automatic registration” is useful.


060-5432-1xxx : 101 - 107
060-5555-1108 : 108

22. Assign CLIP.

This is required for extension to send CLIP when making a call from SIP trunk.

The screenshot shows the 'Extension Settings' interface. The 'CLIP Generate' button is highlighted with a red dashed circle. Below it, a table lists extensions and their CLIP IDs. The CLIP ID for extension 108 is also circled in red.

No.	Extension Number	Extension Name (20 characters)	CLIP ID	CLIP on Extension/CO	CLIR	COLR
				ALL	ALL	ALL
1	101		06054321101	Extension	Disable	Disable
2	102		06054321102	Extension	Disable	Disable
3	103		06054321103	Extension	Disable	Disable
4	104		06054321104	Extension	Disable	Disable
5	105		06054321105	Extension	Disable	Disable
6	106		06054321106	Extension	Disable	Disable
7	107		06054321107	Extension	Disable	Disable
8	108		06055551108	Extension	Disable	Disable
9	109		06054321109	Extension	Disable	Disable
10	110		06054321110	Extension	Disable	Disable

 "CLIP generate" is useful.

060-5432-1xxx : 101 - 107
060-5555-1108 : 108

23. Change Trunk Group.

Keep Trunk Group 1 for SIP.
Change other trunk to Trunk Group 2 for demo.

Login as INSTALLER Site 1 : NS1000

Users

PBX Configuration

- 1. Configuration
- 2. System
- 3. Group
- 4. Extension
- 5. Optional Device
- 6. Feature
- 7. TRS
- 8. ARS
- 9. Private Network
- 10. CO & Incoming Call
- 1. CO Line Settings**
- 2. Dll Table & Port

CO Line Settings

CO Line Number	Site	Shelf	Slot	Port	Card Type	CO Name (20 characters)	Trunk Group Number
		ALL			ALL		ALL
1	1	1	2	1	LCOT2		2
2	1	1	2	2	LCOT2		2
3	1	Virtual	31	1	V-SIPGW16		1
4	1	Virtual	31	2	V-SIPGW16		1
5	1	Virtual	31	3	V-SIPGW16		1
6	1	Virtual	31	4	V-SIPGW16		1
7	1	Virtual	31	5	V-SIPGW16		1
8	1	Virtual	31	6	V-SIPGW16		1
9	1	Virtual	31	7	V-SIPGW16		1
10	1	Virtual	31	8	V-SIPGW16		1

24. Remove Trunk Group 2 for Dial 0/9.

This setting is required for extension to make a call from SIP trunk by dialing 0/9 and phone number such as 060-5432-1104.
Trunk Group 1 is for SIP.

The screenshot shows the PBX configuration interface. The left sidebar has 'PBX Configuration' expanded to '3.Group' > '1.Trunk Group' > '2.Local Access Priority'. The main area shows a table with columns 'Priority' and 'Trunk Group No. & Name'. The 'Local Access Priority' title is circled in red. The table has the following data:

Priority	Trunk Group No. & Name
1	ALL
2	1 :
3	3 :
4	4 :
5	5 :
6	6 :
7	7 :
8	8 :
9	9 :

The '2' in the Priority column is circled in red. Below this, a 'Features' window is open for extension 'KX-T7710'. It shows a table of features with 'Local Access' highlighted in orange and circled in red.

No.	Feature	Dial (4 digits)
1	Operator Call	9
2	Idle Line Access (Local Access)	0
3	Trunk Group Access	8
4	TIE Line Access	7
5	Redial	#
6	System Speed Dialing / Personal Speed Dialing	**

25. Assign Dialing Plan.

This setting is required for extension to make a call from SIP trunk without dialing “#” or without waiting for 10s after dialing.

Login as INSTALLER Site 1 : NS1000

Users PBX Configuration

1. Configuration
2. System
3. Group
1. Trunk Group
1. TRG Settings
2. Local Access Priority
3. Caller ID Modification
4. Dialling plan
5. Charge Rate
2. User Group

Dialling plan

Auto Assign

Dialling Plan Table : 1

No.	Leading Number (32 digits)	Removed Number of Digits	Added Number (32 digits)
1	060XXXXXXXX	ALL	
2		0	
3		0	
4		0	
5		0	
6		0	
7		0	
8		0	

The background features a large, semi-transparent circular logo. The logo contains a stylized white figure resembling a person or a signal tower. The text around the logo includes "NING CENTER" at the top, "IT-Communication" at the bottom, and "& Telecommunications" on the right side. A trademark symbol (TM) is also visible.

Chapter 3

Demo after Setup

31. Demo after Setup

< Call from customer >

Ext 108 dials 0/9-060-5432-1101 or 1102.

=> Ext 101 or 102 will ring.

Caller ID : 06055551108 is displayed.

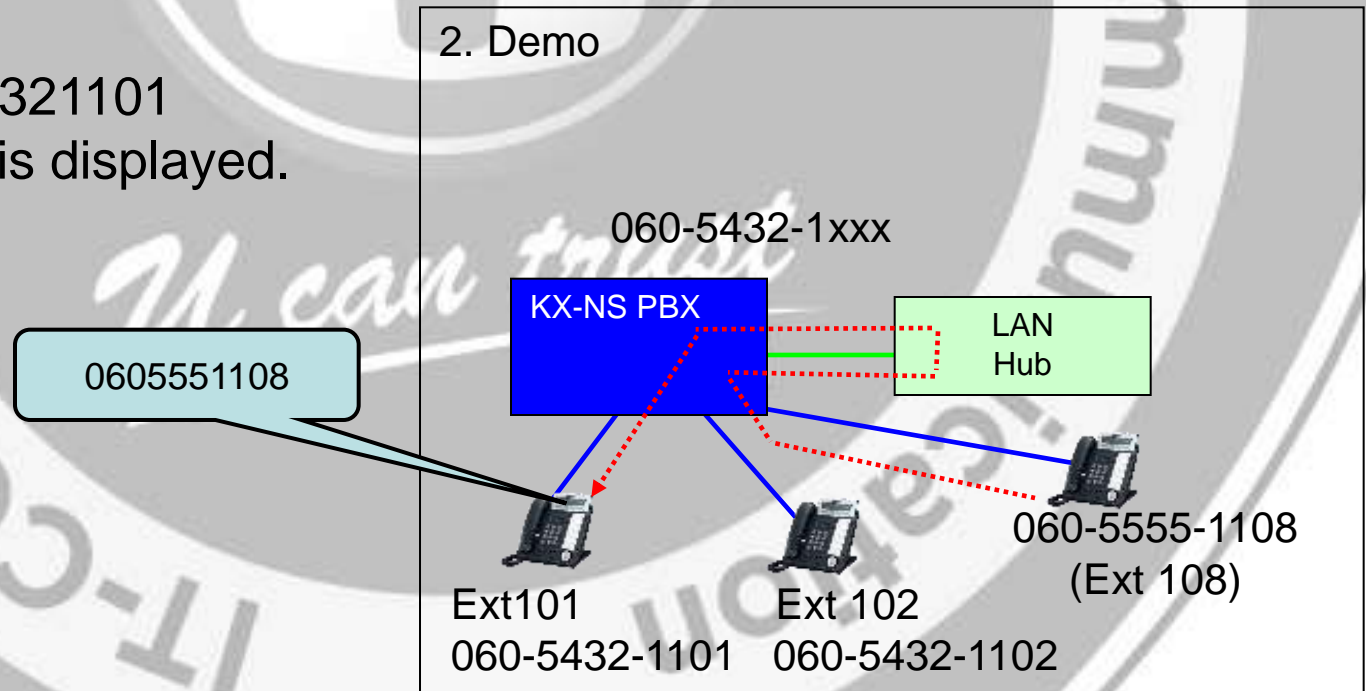
< Call to customer >

Ext 101 or 102 dials 0/9-060-5555-1108.

=> Ext 108 will ring.

Caller ID : 06054321101

or 06054321102 is displayed.



The background features a large, semi-transparent watermark logo. It consists of a circular emblem with a stylized human figure in the center. The text "TRAINING CENTER" is visible at the top, and "IT-Communication" is at the bottom. A trademark symbol (TM) is also present. A blue horizontal band with a gradient and light effects is overlaid across the center of the image.

Thank you !

Revision

Date	No. (*)	Change
Oct 15	-	First edition
Dec 17	-	Picture was revised.
Jan 20	31	Picture was revised.

*) Number in title

