# Configure SIP trunking on Panasonic KX-KDE/NCP systems

## About this task:

**Note:** This guide assumes that the reader is comfortable with configuring a Panasonic BTS system. As it only entails registering the KDE/NCP device to ThinkTel to receive calls and ensure proper call handoff. Any other PBX configurations – such as licensing and routing decisions (hunt groups, schedules, etc.), would need to be configured separately by the reader. It also assumes that the reader has contacted Customer Support and has been provided the SIP credentials that are required to register and connect with ThinkTel.

## First, connect to the PBX.

1. Start the Panasonic Unified Maintenance Console.



- 2. Click **Connect**, verify that you will be doing so at the INSTALLER level and choose the method of connection:
  - o LAN
  - o RS-232
  - o Modem
  - USB to Connect to your PBX for interactive configuration
- 3. Provide the IP address of the MPR card and the password of the INSTALLER Level.
- 4. Click **Connect**.

Jonneo	tt
Profile F	File(P) -
Profile	Name : 🕽 WeNCP500 Demo 🔹 🎹 🌄 🎞
Connecti	ion Property
	PBX Model : KX-NCP500/1000 -
	IAN Modem RS-232C US8
LAN	Modem K3-2326 USB
	IP Address : 192.168.0.101    Search(5)  Port : 35300
	Enter Password : ••••
	V Save Password
	") Please change the password frequently.

Second, set/verify the IP Settings.

1. From **System Menu** > **Configuration** > **Slot**, hover over the MPR card and select the card property.



- 2. If static addressing is desired (DHCP Client enabled is fine as well) the default gateway should be the end router LAN IP address. Also make sure that you have a valid DSP-VOIP LAN address.
- 3. Click **Apply** > **OK**.

JiveNCP500 Demo - KX-NCP Main	enance Console - [1.Configuration - 1.Slot - Card P	roperty - IPCMPR]	
File(F) Disconnect(D) Tool(T) Util	y(U) View(V) Window(W) Help(H)		
🞯 📲 🖭 🧬			
System Menu X	1.1 Slot Card Property - IPCMPR		
1.Configuration			
1.Set	OK(0) Cancel(C) Apply(A)		
2 Portable Station			
di 3.Option	LAN Setting VolP-DSP Option Port Number	LAN Status DHCP	
4. Clock Priority	Description		
	Uncy clent Un	100	
	MAC Address for PCMPR-Card 00	3070'C23224	
	PAddress for PCMPR-Card 199	.168.0.101	
	MAC Address for VolP-DSP 00:	30.F0.C2.32.E5	
	IP Address for VoIP-DSP 190	168.0.102	
	Subnet Mask 255	255.255.0	
	Default Gateway 190	168.0.1	
	Speed/Duplex for Main Port Au	o Negotiation	
	Speed/Duplex for Maintenance Port Au	o Negotiation	
	LAN Disconnect Decision Time 5 s		
	DHCP Port Number 67		
	DHCP Time Out 10	8	

Third, install the V-SIPGW16 card.

- 1. From **Configuration** > **Slot**, hover over the IPCMPR Virtual Slot and click **Select Shelf**.
- 2. Select the V-SIPGW16 card from the cards list and click Select Shelf.

JiveNCP500 Demo - KX-NCP Main	tenance Console - [1. Configuration - 1. Slot]		
File(F) Disconnect(D) Tool(T) Ut	iky(U) View(V) Window(W) Help(H)		_ Ø ×
🕑 🛗 😫 🧬			
System Menu X	1.1 Slot		
1.Configuration			
Fr 1.Slot Fr 2.Pertable Station dig 3.Option K 4.Clock Priority	Refresh(E) Close(L) Summary(	S) Activation Key(A) PF Select 5th IPCMPR Virtual Slot P Phone Registration(R)	hysical Slot: 5 DLC8 DLC16 SLC16 SLC16 OPB3 T1 DHLC4 LCOT4 PRI23
2. System 3. Group 4. Extension 5. Optional Device 6. Feature	Panasonic         xx-xx2930           2         PRI23           1         PRI23		· .

3. Drag the **VSIPGW16** card into the trunk portion of the virtual shelf by using the PC mouse lift button and then click **Yes** on the dialogue box upon release.

JiveNCP500 Demo - KX-NCP Ma	ntenance Console - [1. Configuration - 1. Slot]		
1 01 01 00 00 00 00 00 00 00 00 00 00 00	uty(o) view(v) mindow(m) nep(n)		
7   🖬 😫   🕶			
em Menu X	1.1 Slot		
onfiguration			- 10 - F
1.500 2 Dadable Station	Kerresn(c) Close(c) Summary(S)	Activation Key(A) IPCMPR VI	rtual Slot 0
3.Option	Present and	and a second	V-IPEXT32
4. Clock Priority	The second secon		V-SIPEX132 V-IPGW16
		-	V-SIPGW16
	Dissolution Class	IDCHIDD VErtral Class	V-IPC S4
	Physical Slot	IPCMPR Virtual Slot	
		P Phone Registration(R)	
		W SIN SHITE	
		a strong to	Virtual 16-Channel SIP Trunk Card
		Teacor	
			VIRTUAL SHELF
	4		
item	5 7		
NP	3 Trunk		Extension
ension			
tional Device	2		
sture			
s	1	NCP 500	
s			
1			

Take note of the V-SIPGW16 card OUS in order to be able to enter the configuration settings on the VSIPGW16 card.

🤛 NS700	Web Maintenance Console		
Login as INSTALLER			🍕 📠 💾 🚳
🔒 Users	IP Address/Ports		
PBX Configuration	Basic Settings Advanced Settings Reference     Use the following IP address		
Network Service	IP Address MAC Address	: 192.168.0.101 : 08.00:23.48:72.99	
2.Server Feature     3.Client Feature	Subset Maak Default Gateway	: 255.255.255.0	
4.Other	DNS Setting Part Number Obtain DNS server address automatically Obtain DNS server address automatically	: [53	
	Preferred DNS IP Address Alternative DNS IP Address	: 8888	
	DSP IP Setting Obtain DSP IP address automatically Use the following DSP IP address DSP Card = 1		
	IP Address MAC Address	: 192.168.0.102 : 08:00:23:A8:72:FA	
	DSP Card - 2		OK Cancel Apply

Fourth, configure the VSIP-GW16 card.

1. Hover over the VSIPGW16 card and choose **Shelf Property**, and complete the following settings:

Option	Description
Nat Traversal	Off
Keep Alive	Enable
SIP Called Party Number Check Ability	Disable (High→Low) (recommended)

<b></b> Ot	erault - KX-NCP Maintenance Console - [1. Conligurati	on - 1. slot - shen Property - vitta	a Sir Gateway
File(F) Disconnect(D) Tool(T)	Utility(U) View(V) Window(W) Help(H)		- 8 >
I I I I I I I I I I I I I I I I I I I			
System Menu	X 1.1 Slot Shelf Property - Virtual SP Gateway		
1.Configuration			
Ti 1.Slot	OK(0) Cancel(C) Apply(A)		
2 Portable Station			
	Main Timer		
	Description	Value	
	SP Clent Port Number	35060	
	NAT Traversal	Off	
	NAT - Voice (RTP) UDP Port No.	16000	
	NAT - Keep Alive Packet Sending Ability	Enable	
	NAT - Keep Alve 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.		
2 System			
3.0000			
4 Extension			
• Extension			
5. uptional Device			
6.Feature			
10.CO & Incoming Call			

- 3. Hover over the VSIPGW16 card and choose Card Property.
- 4. Click **Common Settings** (S) to enter your DNS addresses into the **Manual Preferred** and **Alternate DNS Server IP Address** fields. (Google's DNS is recommended).
- 5. Click **Apply > OK**.

File(F) Disconnect(D) Tool(T)	Utility(U) View(V) Window	(W) Help(H)		_ ð ×
1 🗃 🔊 🥔				
System Menu 3	× 1.1 Slot Card Property	y - Virtual SIP Gateway		
1.Configuration				
E 1.Skt	0K(0) Ca	ncel(C) Apply(A)		
2 Portable Station	Sheif: Virtual Common Settings(S)	Slot 1		
	Description		Value	
	DNS Server IP Address	Method	Manual	
	DHCP Preferred DNS Se	erver PAddress		
	DHCP Atemate DNS Se	rver PAddress		
	Manual Preferred DNS 5	Server IP Address	88.88	
	Manual Alternate DNS S	erver PAddress	8.8.4.4	
	Manual DNS Server Por	t Number	53	
	DNS Port Number		30053	
	DNS Retry Interval Time	r (s)	3	
	DNS Retry Counter		2	
	DNS SRV Record Reso	lve Abilty	Enable	
2.System				
3.Group				
4.Extension				
5. Optional Device				
6.Feature				
10.CO & Incoming Call				
Interactive Mode : default (LAN)	Type : NCP500	Level : Administrator	Version007-000	Region002-002

# Fifth, configure ThinkTel SIP Trunk Registration Settings.

- 1. Hover over the VSIPGW16 card and choose **Port Property**.
- 2. From **Main**, complete the following settings:

Option	Description
Slot 1 / Port 1 Channel Attribute	Basic Channel
SIP Server Location	Name: <domain>.my.domain <b>Note:</b> Replace <domain> with your unique domain (found in parentheses at the top of the admin portal dashboard).</domain></domain>
Additional provisioned channels	Add an additional channel for the slot/port of the basic channel.

E) Disconnect(D) Tool()	usey() V	ew@)	Windo	* 000 ·	14(p(3))							
🕮 😥 🛷												
m Menu	× 1.1 Sid	Per	t Propert	y - Virtual	SP Gateway							
efouration		-	1.000			1						
t fav		KIO	1	(Difeone	Apply(A)							
Contable Chatron												
1 Onton	Com	mandil		Select Pr	ovider(\$)	Add Provider(P)						
A Charle Delevited												
A CARLA PTARTAY	Afreis .	1 1 1 1 1 1 1 1		March 1997	ALC: NOTE: A CONTRACT		and a second sec	and shares as a second second				
			count	Registe	r NAT Option	Calling Party Called Party	VOICEFAX F	RTPRICP T.38	T.38 Option	DSP	Supplementary Service	5 · · · · · · · · · · · · · · · · · · ·
			count	Registe	r   NAT   Option	Calling Party Called Party	Voice#AX F	CTRACIOP   T.36	5.P Server Lo	DSP	Supplementary Service	
			fourt	Registe	Connection	Calling Party Called Party	Provider Name	CIPICIOP   T.36	5P Server Lo	DSP cetion	Supplementary Service	SP Service Domain
		No.	Siet	Port	Connection	Calling Party Called Party Channel Attribute	Provider Name (20 characters)	Name (100 charact	SP Server Lo	DSP cation PAd9	Supplementary Service SIP Server Port Numbe	SP Service Domain r (100 characters)
		No.	Siet	Port	Connection	Calling Party Called Party Channel Attribute	Provider Name (20 characters)	Name (100 charact	T.38 Option SP Server Lo ers) extofront.net	DSP cation PAdd	Supplementary Service SP Server Port Numbe 5080	SP Service Domain r (100 characters)
		No.	siet 1	Port 1	Connection	Calling Party Called Party Channel Attribute Basic channel Additional channel for Sict1 Ch1	Provider Name (20 characters)	Name (100 charact (domain).jiv	T.38 Option SIP Server Lo ers) externort.met	DSP cation PAdd	Supplementary Service SIP Server Port Numbe 5050 5060	SP Service Domain r (100 characters)
	e	No.	Slet	Port 1 2 3	Connection	Calleg Party Called Party Channel Attribute Basic channel Additional channel for Sott Ch1 Additional channel for Sott Ch1	Provider Name (20 characters)	Name (100 charact (domain).jiv	T.38 Option SIP Server Lo ens) eutofrontunet	DSP cation PASS	Sipplementary Service SIP Server Port Number 5000 5000 5000	SP Service Domain r (100 characters)
		No.	Sict	Port 1 2 3 4	Connection Cours Cous Cous Cous Cous Cous Cous	Calling Party Called Party Channel Additional Basic Channel Additional channel for Siot1 Ch1 Additional channel for Siot1 Ch1 Additional channel for Siot1 Ch1	Provider Name (20 characters)	Name (100 charact (domain).jiv	5P Server Lo srs) extofront.net	DSP cation PAdd	SIP Server Pert Number 5000 5000 5000 5000	SIP Service Domain r (100 characters)
		No.	Siet	Port 1 2 3 4 5	Connection Cours Ous Ous Ous Ous Ous Ous Ous	Calling Party Called Party Channel Astribute Basic Channel Additional channel for Slot1 Ch1 Additional channel for Slot1 Ch1 Additional channel for Slot1 Ch1 Additional channel for Slot1 Ch1	Provider Name (20 characters)	Name (100 charact (domain).jiv	5P Server Lo SP Server Lo ers) eutofront.oet	DSP cation PAd9	Supplementary Service Pert Number 5060 5060 5060 5060 5060	SP Service Domain r (100 characters)

4. From **Account**, enter the Username and Password given to you by Customer Support.

You'll use the sip username for both the **Username** and **AuthenticationID** fields.

(D) DeverantD) Dorth (BB	an ve		- proces	-	en/HO	peril - terminan	ownerfi							
1 49 m 1 49 1	180.0.07				CHINE .									
en seru X	1.1 Set	1 100	n miger	A - Asime :	SP GROEWRY									
efguration		-												
klen	-	(v)		ance(c)	- veenv									
NØ	Comm	and(W	0	Select Pro	vider(5)	Add Providen(P)								
nsion	-		and know					S1 0	c - 23	1		12 N		
Wired Extension	Main	A	coount	Register	NAT Option	Calling Party	Called Party	VoiceFAX	RTRIRTCP	1.38	T.38 Option	OSP	Supplementary Service	
1 Extension Settings		1										-		
3 Seed Dat	1.00	No.	Set	Port	Connection	User Name		Authentication I	5	Authen	Ication Passw	erd		
4 Firstie Button	1000					(64 characters)		(64 characters)		(J2 0ha	raciers)			
5.PF Dutton	0	1	1	1	ous	sip userna	me	sip usern	ame	sip p	assword	1		
6 NDSS Link Data - Send		2	1	2	ous	1								
7 Septified Voice Message		3	1	3	ous	)								
Portable Station		4	1	4	faul	]				_				
OSS Console		5	1	5	Fault	1								
		6	1	6	Faut					-				
		1	-	7	Feat					-				
		1		0	feet					-				
				10	fault	1				-				
	6	1.	1	11	Int	1								
		12	1	12	Feut	1								
		13	1	13	Fault	1								
		14	1	14	Feut	ĵ								
		15	1	15	faut	)								
nal Device		16	1	16	Fault	}								
re														
te Network														
A incoming Call														

- 6. From Register, set Register Sending Intervals to 300.
- 7. Click Apply.

OK	(0)	Ca	ancel(C)	Apply(A)	l,					
Comme	and(M)		Select Pro	vider(S)	Add Prov	ider(P)				
lain	Acc	ount [	Register	NAT Optio	n Calling	Party Called Par	ty Voice/FAX F	RTP/RTCP T.38	T.38 Option	DSP +
					Decister	Depister Section	IIn Decister	\$	Registrar Server	
-	No.	Slot	Port	Connection	Ability	Interval (s)	Ability when port INS	Name (100 characters)	IPA	ddress
0	1	1	1	NS	Enable	300	Enable			
	2	1	2	INS	Enable	3600	Enable			
	3	1	3	INS	Enable	3600	Enable			
			-							

- 8. From **Calling Party**, complete the following settings:
  - Option

Description

Header Type - Slot 1 Port 1 P-Preferred-Identity Header

P-Preferred-Identity Header User Part: PBX-CLIP

9. Click Apply.

JiveNCP500 Demo - KK-NCP Main	ntenance Co	esole - [1.	Configuratio	n - 1.Slot - Port Pe	operty - Virtual SIP Gateway]					
File(E) Disconnect(D) Took(E) Ut	Hty(2) Ver	~00 W	ndow( <u>(ii)</u> ) ?	96000						
0 2 2 4										
System Menu X	1.1 Set	Port Pro	perty - Virtual	SP Gateway						
1.Configuration	100	1000	6							
ing 1 Sat ing 2 Portable Station ing 3.Option ing 4.Clock Priority	Comm	and(¥)) ( Accour	Cancel( <u>C</u> ) Select Pr t Registe	Apply(A) ovider(S)	Add Provider(P)	rty VoiceFAX	RTPIRTCP T.38	7.38 Option   DSP   5	upplementary Service	
							From Header	P.0	referred-identity Header	
		No. Si	ot Port	Connection	Header Type	User Part	SIP-URI (100 characters)	User Part	SIP-URI (100 characters)	Number Format
	9	1 1	1	OUS	P.Preferred-identity Header	User Name		PEX-CUP		National
		2 1	2	OUS	From Header	User Name		User Name		National

10. From Called Party, set Type column – Slot 1 Port 1 to: Request-URI.

🔚 defa	ult - KX-N	NCP N	lainte	enance C	onsole -	[1.Cor	nfiguration - 1	Slot - Por	t Property - \	/irtual SIP G	
File(F) Disconnect(D) Tool(T) Ut	lity(U) Vie	w(V)	Windo	w(W) H	elp(H)						
I 🖉 🚨 😫											
System Menu X	1.1 Slot	Port	Propert	ty - Virtual	SIP Gatewa	y.					
1.Configuration	1										
🏭 1.Slot	OK	(0)	C	ancel(C)	Appl	y(A)					
2.Portable Station	Comm	and(M)		Select Provider(S)			Add Provider(P)				
	Main	Acc	count	Register	NAT	Option	Calling Party	Called Party	alled Party Voice/FAX RTP/RTC		
	-	No.	Slot	Port	Connectio	n	Number Format	ту	pe		
	0	1	1	1	OU	S	National	Re	quest-URI	~	
		2	1	2	OU	s	National	То	header		
		3	1	3	OU	S	National	То	header		
		4	1	4	OU	S	National	To	header		

12. From Supplementary Service, set CNIP (Receive) to Yes, as well as both REFER options.

13. Click Apply > OK.

D. Deserver To Tourt 1980		-20	-										080
	a)	7.00			090027								-
	-	-											
n Meru X	1.1.588	Part	Propert	y - Vitual:	SP Gateway								
figuration			-			( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )							
dem	OK	(0)	0	ances(C)	Apply(A)								
	Com	1000		Salect Pro	vider(\$)	Add Provider(P)	-						
neion	( and the second		0 000			source of the second se							
Wived Extension	Main	AD	Devel.	Register	NAT Optio	n Calling Party	Caled Party	VSiceFAX	RTHRICP	T.38	T.38 Option DSP	Supplementary Service	
1 Extension Settings	-	1	-					-		104	A 101 102 001 0		
2.NVDONO			100	~			CNP	CNP	0	lind	Attended		
🚽 3 Speed Dial		NO.	244	POR	Connection	CLR	(Send)	(Receive	<li>e) 0</li>	REFER	(REFER)		
4 Flexible Button	-				-	1.004	hine'	Yes			Yes		
S.Pf Dutton	S	1	-		005	2 Yes	105	i No.		ies.			
6 NOSS Link Oata - Send		-		3	ous	) Yes	Ves	No			No		
<ul> <li>A companies voice message</li> </ul>	1	4		4	Fast	Ves	Vies	No		0	No		
PER Canada			1	5	Int	Ves	Yes	No	No	8	No		
A CONTRACTOR OF THE OWNER		6	1	6	faul	Tres	Yes	No	14	0	No		
		7	1	7	Fault	Yes	Yes	No	14	0	No		
		8	1	8	Faut	1/09	Yes	No	N	e .	No		
		9	1	9	Fault	) Yes	1/65	No	No	0	No		
		10	1	10	Fault	Yes	Yes	No	26	0	No		
	9	11	1	11	Fault	) Yes	Yes	No	Ne		No		
	12	12	1	12	Fault	) Yes	Yes	No	No	0	No		
	1	13	1	13	Fault	Ves	Yes	No	No	0	No		
		14	1	14	faut	Ves	Yes	No	No	0	No		
		15	1	15	faul	Yes	Yes	No	14	0	No		
ional Device		16	1	16	Fault	2 Yes	Yes	No	N	9	No		
ture													
5													
ate Network													
& incoming Call													

#### Sixth, configure the DID Table.

1. From **System Menu** > **CO & Incoming Call** > **DID Table**, add each of your assigned phone numbers to the DID Number column and configure the DID Destination.

This is necessary for inbound calls to work.

#### 2. Click Apply > OK.

File(F) Disconnect(D) Tool(T) Util	ty(U) Vie	w(V) W	indow(W) Help	(H)										
I III 🖉 🚨 🥔														
System Menu X	1.1 Slot	Port Pro	operty - Virtual SIP	Gateway 10.3	DID Table									
1.Configuration														
2.System	OK	œ	Cancel( <u>C</u> )	Apply(A)										
3.Group	Aut	amatic Day	intration(II)	Name Genera	te(NI)	n'			Des	tinution Cal	in a/C)		L.	
4.Extension		omatic Key	hen enco(Q)	Name Genera	re(II)		_		Ue	ionation Set	ang(2)		5	
5.Optional Device	1 - 10	0 101-200 201-3		00 301 - 400	301 - 400 401 - 500		600	601 - 700 70		1 - 800	801 - 900	901 - 1000		
6.Feature			-			DD De	Cestination				CLI Rin	Ring for DID		
7.TRS		No.	Number	DID Name					Tenant	r Group No	k		Break 1	
8.ARS			(32 digits)	(20 charact	ers) Day	Lunch	Break	reight	Number		Day	Lunch		night
9.Private Network	1	1	8015550112		101	101	101	101	1	1	Disable	Disable	Disable	Disable
10.CO & Incoming Call		2	8015550113		102	102	102	102	1	1	Disable	Disable	Disable	Disable
A 1.CO Line Settings		3	8015550114		103	103	103	103	1	1	Disable	Disable	Disable	Disable
C 2.DL Table & Port Settings		4				-			1	1	Disable	Disable	Disable	Disable
4 3.00 Table		5							1	1	Disable	Disable	Disable	Disable
N- 4 Miscelaneous		6							1	1	Disable	Disable	Disable	Disable
		-							1	4	Disable	Disable	Disable	Disable

Lastly, set the per Extension outgoing caller ID.

About this task: These steps are optional.

- 1. From System Menu > Extension > Wired Extension > Extension Settings, click the ISDN CLIP tab.
- 2. For each extension on your system, set the **CLIP ID** to the number you would like to show for the outbound caller ID.
- 3. Click Apply > OK.

