

# SIP Trunk Compatibility Report

NEC is pleased to verify that:

# BT Wholesale – WSIPT & One Voice Services

Has **successfully** met the standards for SIP Trunk compatibility with the NEC products listed below.

# SL1100 (From R5.12)

NEC Enterprise Solutions has performed Interoperability Testing with the Switch(es) and Provider/Service listed above on the date specified.

Please always refer to the appropriate SIP Trunk Compatibility Report Index and the latest edition of a specific Compatibility Report on BusinessNet before considering connection.

If a Provider is no longer mentioned in the Index then the Compatibility Report has been withdrawn and connection will no longer be supported by NEC Enterprise Solutions.

Test Completion Date:	28/03/2015
Test Location:	NEC UK
Name of Provider: Website:	BT Wholesale www.btwholesale.com
System Tested:	SL1100
Software Version:	V5.12
SIP Connection Mode:	Networking Mode
Test Plan Version:	5.0

Please refer to the following page(s) for further Information and Configuration Notes.

# SIP Configuration Notes – BT Wholesale - WSIPT & One Voice Services

Use the specific configuration guide below as an example to configure an SV9100 PBX for connection to the service described above via SIP trunks.

## **Recommended Software Versions**

SL1100

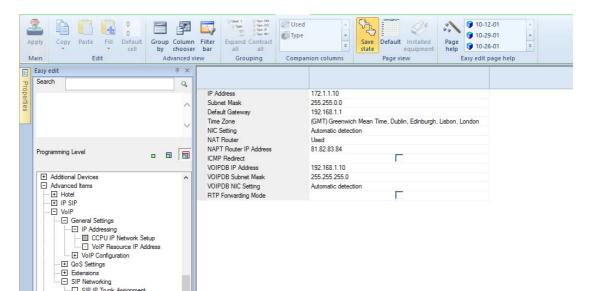


CCPU v5.12

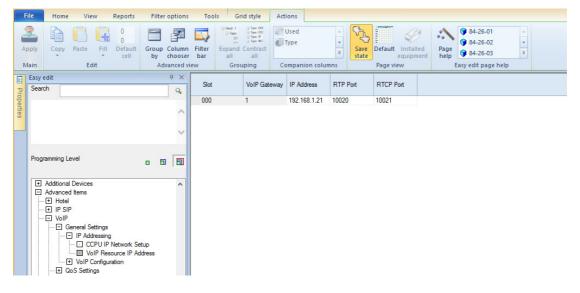
# System Programming

The following items should be changed – all other items are considered irrelevant and as such left as default. Screenshots are for example purposes only and will have been taken from the PBX under test but will apply to the other PBXs listed on the cover of the Compatibility Report. Any differences in programming will be documented where necessary.

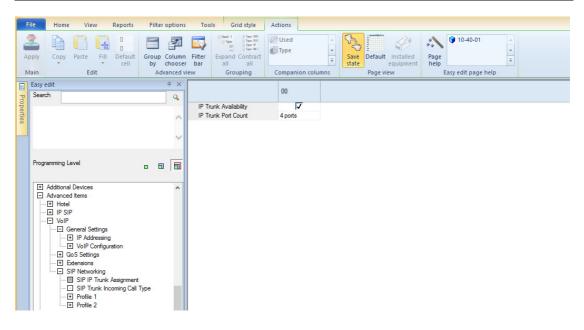
Advanced Edit	PRG	Item	Setting
	10-12-09	IPLE/VOIPDB IP	Set according to customers network
		Address	requirements
Advanced	10-12-10	IPLE/VOIPDB	Set according to customers network
Items > VoIP >		Subnet Mask	requirements
General	10-12-03	Default	Set according to customers network
Settings > IP		Gateway	requirements
Addressing >	10-12-02	Default	Set according to customers network
CCPU IP		Gateway Subnet	requirements
Network Setup		Mask	
	10-12-01	IP Address	Must be in a different network range to IPLE IP
			Address (10-12-09) Must not be set as 0.0.0.0



Advanced Edit	PRG	Item	Setting
Advanced Items >	84-26-01	VoIP	Set according to customers network
VoIP > General		Gateway IP	SL1100 requirements. VoIPDB requires 1 x static
Settings > IP		Address	IP address for the DSP resources.
Addressing > CCPU IP			
Network Setup >VOIP			
Resource IP Address			



Advanced Edit	PRG	Item	Setting
Advanced Items	10-68-01	Trunk Type	Set to SIP
> VoIP >SIP			
Networking> SIP	10-68-02	SIP Trunk Start	Enter the Trunk starting port. This may vary
IP Trunk		Point	depending on other Trunk cards installed and
Assignment			must be from an un-allocated port.
-	10-68-03	Number of	Enter the number of SIP Trunks required.
		ports	



Advanced Edit	PRG	ltem	Setting
Advanced Items	14-18-01	Trunk Type	Should be set to SIP
> VoIP > SIP Networking > SIP	14-18-05	SIP Profile	Set to Profile 1 or alternative profile if multiple SIP Carriers are required.
Trunk Incoming Call Type	22-02-01	Incoming Call Mode	Set as DID

File Home View Reports Filter option	s Tools G	rid style Ad	tions							
Apply Copy Paste Fill Default cell Advanced	r bar all	Contract	Used Type ompanion colu	Save state	Default Instal equipn Page view	ment help	<ul> <li>14-01-01</li> <li>14-05-01</li> <li>14-05-02</li> <li>asy edit page I</li> </ul>	↑ ▼ ₹		
Easy edit	Trunk	Trunk Name	Trunk Group	Priority	SIP Profile	Mode 1	Mode 2	Mode 3	Mode 4	м
P Search Q										
pe	001	SIP Line 1	2	1	Profile 1	DID	DID	Normal	Normal	No
tie	002	SIP Line 2	2	2	Profile 1	DID	DID	Normal	Normal	No
0	003	SIP Line 3	2	3	Profile 1	DID	DID	Normal	Normal	No
	004	SIP Line 4	2	4	Profile 1	DID	DID	Normal	Normal	No
	005	Line 005	1	5	Profile 1	Normal	Normal	Normal	Normal	No
	006	Line 006	1	6	Profile 1	Normal	Normal	Normal	Normal	No
Programming Level	007	Line 007	1	7	Profile 1	Normal	Normal	Normal	Normal	Nc
	800	Line 008	1	8	Profile 1	Normal	Normal	Normal	Normal	Nc
	009	Line 009	1	9	Profile 1	Normal	Normal	Normal	Normal	No
Additional Devices	010	Line 010	1	10	Profile 1	Normal	Normal	Normal	Normal	No
Advanced Items	011	Line 011	1	11	Profile 1	Normal	Normal	Normal	Normal	No
Hotel	012	Line 012	1	12	Profile 1	Normal	Normal	Normal	Normal	No
····	013	Line 013	1	13	Profile 1	Normal	Normal	Normal	Normal	No
General Settings	014	Line 014	1	14		Normal	Normal	Normal	Normal	No
	015	Line 015	1	15	Profile 1	Normal	Normal	Normal	Normal	No
VolP Configuration	016	Line 016	1	16	Profile 1	Normal	Normal	Normal	Normal	Nc
	017	Line 017	1	17	Profile 1	Normal	Normal	Normal	Normal	No
	018	Line 018	1	18	Profile 1	Normal	Normal	Normal	Normal	No
SIP Networking	019	Line 019	1	19	Profile 1	Normal	Normal	Normal	Normal	No
SIP IP Trunk Assignment	020	Line 020	1	20	Profile 1	Nomal	Normal	Normal	Normal	No
SIP Trunk Incoming Call Type	021	Line 021	1	21	Profile 1	Nomal	Normal	Normal	Normal	No
Profile 1	022	Line 022	1	22	Profile 1	Nomal	Normal	Normal	Normal	No
Profile 2	023	Line 023	1	23	Profile 1	Nomal	Normal	Normal	Normal	Nc
	1024	Line 024	1	24	Desfile 1	Normal	Normal	Nomal	Normal	NL.

Advanced Edit	PRG	Item	Setting
Advanced Items >	84-14-07	Session timer	Set to 900
VoIP >SIP		value	
Networking >	84-14-08	Minimum	Set to 600
Profile X>SIP Profile		session timer	
X - Trunk General		value	
Settings>Trunk	84-14-15	100rel	Use Default Setting
Basic Settings		Settings	

	File	Home	View	/	Reports	Filte	r options	To	ols	Grid :	style	Actions									
	Apply Main	Copy	Paste Edit	Fill t	0 0 Default cell	by	Column chooser lvanced vi	bar	Expai all	nd Co	Type: DOX Type: DSS Type: IP Type: ML1 Intract all ng	Used Type Compar	nion colum	↓ ↓ ↓ 1ns	Save state		Installed equipment ew	Page help	> 🌍 84-14	* *	
E	0								1	× ×						Profile	1				
Properties										< >	Si M Ci	IP Trunk Port ession Timer inimum Sessi alled Party In RL Type	Value ion Timer V	alue		5060 900 600 Reques SIP-UF					
	Progr	ramming l	.evel						۵	6	-	RL/To Head Orel Settings		ion			Server Domain sfault Setting	1			
			<ul> <li>SIP Tru</li> <li>Profile 1</li> <li>SIP</li> <lis< td=""><td>Frunk / nk Inc SIP Pr SIP Pr SIP Pr SIP Pr SIP Pr</td><td>Assignment coming Call rofile 1 - Trunk ( rofile 1 - Tru rofile 1 - CO rofile 1 - Fol rofile 1 - Tru rofile 1 - Tru rofile 1 - E.1</td><th>Type General S unk Basic DEC Sett IP Setting unk Incon unk Mess</th><th>Settings tings is hing Type age Custo</th><td>mization</td><td></td><td>^</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></lis<></ul>	Frunk / nk Inc SIP Pr SIP Pr SIP Pr SIP Pr SIP Pr	Assignment coming Call rofile 1 - Trunk ( rofile 1 - Tru rofile 1 - CO rofile 1 - Fol rofile 1 - Tru rofile 1 - Tru rofile 1 - E.1	Type General S unk Basic DEC Sett IP Setting unk Incon unk Mess	Settings tings is hing Type age Custo	mization		^											

Advanced Edit	PRG	Item	Setting
Advanced Items >	84-13-28	Audio	Carrier supports G.729 and G.711
VoIP >SIP Networking		Capability	
> Profile X>SIP Profile		Priority	
X - Trunk General	84-34-01	DTMF Relay	Set to RFC2833
Settings>Codec		Mode	
Settings	84-34-02	DTMF	Set as 101
		Payload Size	
	84-13-49	RTP Filter	Set to disabled

ile Home View Reports Filter options	Tool		Grid st	le Actions			
Easy edit			Ψ×			Profile 1	
Search			9			FIONE 1	
			-		m Audio Frame Size	20ms	
			~		ctivity Detection		
				G.711 Type		A-law	
					n Jitter Buffer Size	20	
					e Jitter Buffer Size	40	
					m Jitter Buffer Size	80	
Programming Level		•	6		m Audio Frame Size	20ms	
		-			ctivity Detection		
					n Jitter Buffer Size	20	
+ Hotel			^		e Jitter Buffer Size	40	
					m Jitter Buffer Size	80	
General Settings					m Audio Frame Size	30ms	
QoS Settings					n Jitter Buffer Size	30	
					Jitter Buffer Size	60	
E SIP Networking					m Jitter Buffer Size	120	
SIP IP Trunk Assignment				Jitter Buffer Mo	The second s	Adaptive immediately	
SIP Trunk Incoming Call Type					Detection Threshold	20	
Profile 1				Audio Capabilit DTMF Pavload		G.711_PT 101	
SIP Profile 1 - Trunk General Settings				DTMF Payload DTMF Relay M		BEC2833	
SIP Profile 1 - Trunk Basic Settings					node m Audio Frame Size	30ms	
SIP Profile 1 - CODEC Settings					n Jitter Buffer Size	30 30	
SIP Profile 1 - FoIP Settings					a Jitter Buffer Size	60	
SIP Profile 1 - Trunk Incoming Type					m Jitter Buffer Size	120	
SIP Profile 1 - Trunk Message Customi     SIP Profile 1 - E.164 Number Formattin					m Audio Frame Size	30ms	
SIP Profile 1 - E. 164 Number Formattin     SIP Profile 1 - Networking Mode	g				ctivity Detection	Sums	
IP SIP Profile 1 - Carrier Mode (IP Address)					ulitter Buffer Size	30	
SIP Profile 1 - Carrier Mode (Domain Name	)				Jitter Buffer Size	60	
+ Profile 2					Jitter Buffer Size	30	
- IP DECT					Jitter Buffer Size	60	
I Service Tones					Jitter Buffer Size	120	
···· + User Pro				iLBC Payload N		98	
- + Maintenance				RTP Filter			
L- ⊕ CTI				VAD Negotiatio	on on SDP		
Applications				Voice Band Da			
+ Version							

Advanced Edit	PRG Item		Setting
Advanced Items >	84-33-01	Fax Relay	Enable if required to support T.38 Fax
VoIP >SIP		Mode	
Networking> Profile			
X >SIP Profile X -	84-33-02	T.38	Set to UDPTL
Trunk General		Protocol	
Settings>SIP Profile x		Mode	
- FoIP Settings			

Fil	le	Home	View	Reports	Filter option	s To	ols	Gr	rid s	tyle	Actions		
	Easy e Searc							ф	×	Γ		Profile 1	
roperties	Progra	Hotel	eral Settings Settings nsions SIP IP Trunk SIP Trunk In Profile 1 SIP Profil SIP SIP F SIP SIP F	Assignment coming Call T le 1 - Trunk G Profile 1 - Trur Profile 1 - COI Profile 1 - Folf	ieneral Settings nk Basic Settings DEC Settings		. 6	1			Fax Relay Mode T.38 Protocol mode Fax Max Rate Low Speed Data Redundancy High Speed Data Redundancy TCF Handling Method T.38 RTP Format payload Number FAX Codec Payload Size Jitter Duffer Mode Minimum Jitter Buffer Average Jitter Buffer RTP Payload Type	T.38           UDPTL only           14400bps           0           0           Network           100           G.711 a-law           2           Static           20           40           80           103	

Advanced Edit	PRG	ltem	Setting
Advanced Items > VoIP	14-01-01	Trunk Name	Label Trunks
>SIP Networking> Profile X >SIP Profile X - Trunk General	14-05-01	Trunk Group/Priority	Assign to Trunk Groups and set priority. You must remove all unused Trunks from the group selected.
Settings>SIP Profile x - Trunk Incoming Type	22-02	Incoming Call Trunk Setup	Set to DID

Easy edit		Ψ×				-					
Search		9	Trunk	Trunk Name	Trunk Group	Priority	SIP Profile	Mode 1	Mode 2	Mode 3	Mod
			001	Line 001	2	1	Profile 1	Normal	Normal	Normal	Nom
		~	002	Line 002	2	2	Profile 1	Normal	Normal	Normal	Nom
			003	Line 003	2	3	Profile 1	Normal	Normal	Normal	Nom
			004	Line 004	2	4	Profile 1	Normal	Normal	Normal	Nom
		~	005	SIP 1	1	1	Profile 1	DID	DID	DID	DID
			006	SIP 2	1	2	Profile 1	DID	DID	DID	DID
Programming Level			007	SIP 3	1	3	Profile 1	DID	DID	DID	DID
		6	008	SIP 4	1	4	Profile 1	DID	DID	DID	DID
			009	Line 009	25	9	Profile 1	Normal	Normal	Normal	Nom
+ Hotel		^	010	Line 010	25	10	Profile 1	Normal	Normal	Normal	Nom
- IP SIP			011	Line 011	25	11	Profile 1	Normal	Normal	Normal	Nom
- OIP			012	Line 012	25	12	Profile 1	Normal	Normal	Normal	Nom
+ General Settings			013	Line 013	25	13	Profile 1	Normal	Normal	Normal	Nom
			014	Line 014	25	14	Profile 1	Normal	Normal	Normal	Nom
Extensions			015	Line 015	25	15	Profile 1	Normal	Normal	Normal	Nom
SIP Networking			016	Line 016	25	16	Profile 1	Normal	Normal	Normal	Nom
SIP IP Trunk Assignment			017	Line 017	25	17	Profile 1	Normal	Normal	Normal	Nom
Sir Trunk incoming call type     Profile 1			018	Line 018	25	18	Profile 1	Normal	Normal	Normal	Nom
SIP Profile 1 - Trunk General Settings			019	Line 019	25	19	Profile 1	Normal	Normal	Normal	Nom
SIP Profile 1 - Trunk Basic Settings			020	Line 020	25	20	Profile 1	Normal	Normal	Normal	Nom
SIP Profile 1 - CODEC Settings			021	Line 021	25	21	Profile 1	Normal	Normal	Normal	Nom
SIP Profile 1 - FoIP Settings			022	Line 022	25	22	Profile 1	Normal	Normal	Normal	Nom
SIP Profile 1 - Trunk Incoming Type			023	Line 023	25	23	Profile 1	Nomal	Normal	Normal	Nom
SIP Profile 1 - Trunk Message Custom	ization		024	Line 024	25	24	Profile 1	Normal	Normal	Normal	Nom
SIP Profile 1 - E.164 Number Formattin			025	Line 025	25	25	Profile 1	Normal	Normal	Normal	Norm
ET OD D OLA NA LA MAL			000	11 000	05	20	0.01.4	AL 1	AL 1	AL 1	A.1

# e.164 Number Formatting Support

BT Wholesale require that the caller ID presentation to be converted as e.164 format +44 for example. Please configure as below to meet the requirements as addition to the settings above for commands 84-14-13 & 84-14-16 for SIP Profile 1.

Advanced Edit	PRG	Item	Setting
Advanced Items > VoIP	10-02-01	Country	Enter the country code as 44 for UK
>SIP Networking>		Code	
Profile X >SIP Profile X	10-02-02	International	Enter as 00
-Trunk General		Access Code	
Settings>SIP Profile X –	10-02-03	Caller ID Edit	Enter 0 if required
E.164 Number		Mode	
Formatting> SIP Profile	10-02-05	CID Edit TAC	Enter the digit used for Trunk Access –
x – Location Set Up			Normally 9 or 0

	File	Home	View	Reports	Filter options	Tools		Grid	l style	Actions					
E Pr	Easy e							₽×		Country Code	International Access Code	Caller ID Edit Code	Area Code	CID Edit Trunk Access Code	
ope	-									44	00	0		0	
Properties	Progr	QoS     QoS     SIP     O	eral Settings socions Networking SIP IP Truns IP Truns I Profile 1 SIP Pro SIP Pro SIP SIP SIP SIP	k Assignment Incoming Call T file 1 - Trunk G Profile 1 - Trur Profile 1 - COI Profile 1 - Folf Profile 1 - Trur	ieneral Settings nk Basic Settings DEC Settings	zation				44	00	0		0	
					64 Number Formattin Location Setup	9									
				SIP Profile 1 - SIP Profile 1 -	E.164 Number Form F-Route	at Setting	s								
			E SIP Pro	file 1 - Network	king Mode										

Advanced Edit	PRG	ltem	Setting
Advanced Items > VoIP	84-14-13	Incoming/Outgo	Set to Mode 2
>SIP Networking> Profile X		ing SIP Trunk for	
>SIP Profile X -Trunk		E.164	
General Settings>SIP			
Profile X – E.164 Number	84-14-16	SIP Trunk SIP-	Set to Mode 2
Formatting> SIP Profile x		URI E.164	
E.164 Number Format		Incoming Mode	
Settings			

	File	Home	View	Reports	Filter options	Tool	s	Grid s	tyle Actions
E P	Easy eo Search						1	× ×	Profile 1
Properties								< >	Incoming/Outgoing SIP Trunk for E.164 Mode 2 SIP Trunk SIP-URI E.164 Incoming Mode Mode 2
	Program	mming Leve	el				6	1	
			Networking SIP IP Trunk Ir Profile 1 SIP Prof SIP Prof SIP Prof SIP SIP SIP SIP SIP	Assignment icoming Call T roofile 1 - Trunk G Profile 1 - Trun Profile 1 - COI Profile 1 - Trun Profile 1 - Trun Profile 1 - E.11 SIP Profile 1 - E.11	ieneral Settings he Basic Settings DEC Settings P Settings hk Incoming Type hk Message Customiz 64 Number Formatting Location Setup E.164 Number Forma F-Route		38	^	

Also configure LCR to convert the dialed digits to add 0044 infront of the number so the customer can still dial using the national format when dialing. LCR also converts numbers dialed from the Speed Dial tables & Caller History from key sets. Please set LCR as per the table below and enable Trunks required.

Advanced Edit	PRG	Item	Setting
	14-01-23	Least Cost	Enable each required Trunk (SIP Trunk
		Routing	only)
	26-02-01	Dial Data	Enter digits to be modified. See table
			below and add further digits as required.
Advanced Items >	26-02-06	Carrier Table	Enter the required Carrier Table for the
LCR>LCR Dial Data			modification for each dialled digit.
	26-05-01	LCR Delete Digits	Enter the amount of digits required for
			deletion per carrier table. See table below
	26-05-02	Access Code	Use this table to add digits per carrier
			table. See table below.

See screen shot on next page

	4 ×	Trunk	Trunk Name	Least Cost Routing	Dial Data	Carrier Table Entry	Delete digits	Access Code (add digits)	Authorization Code Table Entry	Cost Centre Code	
		001	BRI 1	Off	00	1	0		0		Least Cost Routing 14-01-23
		002	BRI 2	Off	01	2	1	0044	0		Dial Data 26-02-01
		003	BRI 3	Off	02	2	0	0044115	0		Carrier Table Entry 26-02-06 Delete Digits 26-05-01
		004	BRI 4	Off	03	2	0		0		Access Code (add digits
		005	BRI 5	Off	04	2	0		0		26-05-02
		006	BRI 6	Off	05	2	0		0		
		007	BRI 7	Off	06	2	0		0		
Programming 🖬 🖬	<b>a</b>	008	BRI 8	Off	07	2	0		0		
		009	SIP 1	On	08	2	0		0		
Flexible Ringing by Caller ID		010	SIP 2	On	09	2	0		0		
Flexible CLI		011	SIP 3	On	112	1	0		0		
<ul> <li>Auto Attendant</li> </ul>		012	SIP 4	On	1	3	0		0		
Queue Messages		013	Line 013	Off	2	3	0		0		
Voicemail		014	Line 014	Off	3	3	0		0		
Night Service     Eco Mode		015	Line 015	Off	4	3	0		0		
Eco Mode     ARS Automatic Route Sele		016	Line 016	Off	5	3	0		0		
E LCR	·	017	Line 017	Off	6	3	0		0		
- LCR Dial Data		018	Line 018	Off	7	3	0		0		
LCR Options		019	Line 019	Off	8	3	0		0		
Cost Center Codes		020	Line 020	Off	999	1	0		0		
F-Route		021	Line 021	Off	90	3	0		0		
Additional Devices		022	Line 022	Off	91	3	0		0		
Advanced Items		023	Line 023	Off	92	3	0		0		
Applications     Version		024	Line 024	Off	93	3	0		0		
I version	~	025	Line 025	Off	94	3	0		0		
< >		026	Line 026	Off	95	3					

Advanced Edit	PRG	Item	Setting
Advanced Items > VoIP >SIP Networking>	10-28-01	Domain Name	Set according to customers network requirements or leave blank if not required
Profile x > SIP Profile X - Networking	10-28-02	Host Name	Set according to customers network requirements or leave blank if not required
Mode>SIP Profile x – System Information Setup	10-36-02	User ID	Enter the user ID supplied by BT Wholesale (normally the main number that must be entered in international format)

File Home V	iew Reports	Filter options	Tools	Grid	tyle Actions						
Easy edit Search				Ψ×	Profile	Domain Name	Host Name	User ID	Transport Protocol	Domain Assignment	
ope				_	Profile 1			+441923616	UDP	IP Address	
Properties				$\hat{}$							
Programming Level			۰	8 8							
SIP Profi 	ings sorking P Trunk Assignment Frunk Incoming Call e 1 SIP Profile 1 - Trunk ( SIP Profile 1 - Networ SIP Profile 1 - Se SIP Profile 1 - Se SIP Profile 1 - Nu SIP Profile 1 - Nu SIP Profile 1 - Cal	Type General Settings king Mode stem Information Setup mote Destinations rver Setup	Trunks	ns							

Advanced Edit	PRG	Item	Setting
	10-23-01	System	Set to <b>Enabled</b>
		Interconnection	
Advanced Items >	10-23-02	IP Address	Set to SIP server IP Address supplied by BT
VoIP >SIP			Wholesale
Networking> Profile	10-23-04	Dial Number	The first digit(s) that will be dialled
x > SIP Profile X - Networking Mode>SIP Profile x – Remote Destinations	10-23-05	Keep Alive Mode	Set to option keep alive mode required for SIP Proxy Fall back to profile 2. See comments for further information on this requirement.
	10-23-06	SIP Profile	Set to Profile 1 or alternative profile if multiple SIP Carriers are required.

asy edit Search		₽ ×	Sys No.	System Interconnection	IP Address	Dial Number	Keep Alive mode for SIP	SIP Profile
			0001	7	62.239.32.253	0	Option Keep	Profile 1
		~	0002	<b>V</b>	62.239.32.253	1	Option Keep	Profile 1
			0003	1	62.239.32.253	2	Option Keep	Profile 1
			0004	1	62.239.32.253	3	Option Keep	Profile 1
		×.	0005	7	62.239.32.253	4	Option Keep	Profile 1
			0006	1	62.239.32.253	5	Option Keep	Profile 1
rogramming Level			0007	<b>V</b>	62.239.32.253	6	Option Keep	Profile 1
		8 8	0008	V	62.239.32.253	7	Option Keep	Profile 1
			0009	1	62.239.32.253	8	Option Keep	Profile 1
+ Hotel		~	0010	<b>V</b>	62.239.32.253	9	Option Keep	Profile 1
····  IP SIP			0011		0.0.0.0		Disabled	Profile 1
VoIP			0012		0.0.0.0		Disabled	Profile 1
—			0013		0.0.0.0		Disabled	Profile 1
—			0014		0.0.0.0		Disabled	Profile 1
Extensions			0015	Г	0.0.0.0		Disabled	Profile 1
SIP Networking			0016		0.0.0.0		Disabled	Profile 1
···· SIP IP Trunk Assignment			0017		0.0.0.0		Disabled	Profile 1
SIP Trunk Incoming Call Type			0018		0.0.0.0		Disabled	Profile 1
Frotile 1     Forile 1     SIP Profile 1 - Trunk General Settings			0019		0.0.0.0		Disabled	Profile 1
SIP Profile 1 - Networking Mode			0020	Г	0.0.0.0		Disabled	Profile 1
SIP Profile 1 - System Information Setup			0021		0.0.0.0		Disabled	Profile 1
SIP Profile 1 - Remote Destinations			0022		0.0.0.0		Disabled	Profile 1
SIP Profile 1 - Server Setup			0023		0.0.0.0		Disabled	Profile 1
			0024		0.0.0.0		Disabled	Profile 1
SIP Profile 1 - Calling Party Number for T	runks		0025		0.0.0.0		Disabled	Profile 1
SIP Profile 1 - Calling Party Number for E			0026	Ē	0.0.0.0		Disabled	Profile 1

Advanced Edit	PRG	Item	Setting		
	10-28-05	Domain Assignment	Set to IP Address		
	84-14-17	Call Forward Moved	Not supported. Use standard		
		Temporarily Support	forwarding methods if external divert		
			is required		
Advanced Items >	10-29-05	SIP Carrier Choice	Set to carrier format B (See comments		
VoIP >SIP			for more information why this format		
Networking> Profile			is required).		
x > SIP Profile X -	10-29-16	Register Sub Mode	Set to disabled		
Networking					
Mode>SIP Profile x	10-12-06	NAPT Router	Enable if required		
– Server Setup	10 20 21		Enable if Doutor if configured for port		
	10-29-21	NAPT Router IP	Enable if Router if configured for port		
		Address	forwarding to modify the contact		
			header from private to public IP		
			address		

F	File Home View Reports Filter options	Tool	s	Grid	tyle Actions
	Easy edit		1	X	Profile 1
Properties	Search			9	Register Mode None
perti				~	SIP Carrier Choice Carrier B
ŝ					Register Sub Mode
-				$\sim$	NAT Router Used NAPT Router IP Address 81 168 26 35
					Call Forward Moved Temporarily Support Disabled
	Programming Level		_		Keep Alive by OPTION Interval Timer 180
			Ð	6	Keep Alive by OPTION Fail Limit 1
	Hotel			^	Option Keep Alive User ID ping
	····				
	····· ⊡ VoIP ····· ⊕ General Settings				
	QoS Settings				
	Extensions     SIP Networking				
	SIP IP Trunk Assignment				
	SIP Trunk Incoming Call Type				
	SIP Profile 1 - Networking Mode				
	SIP Profile 1 - System Information Setu	q			
	SIP Profile 1 - Remote Destinations     SIP Profile 1 - Server Setup				
	🛨 SIP Profile 1 - Numbering Plan				
	SIP Profile 1 - Calling Party Number for				
	SIP Profile 1 - Calling Party Number for	Extensio	ons		

Advanced Edit	PRG	Item	Setting
Advanced Items > VoIP	21-19	SIP Extension	Enter the full number including the
>SIP Networking> Profile x		CPN Number	area code
> SIP Profile X -			
Networking Mode>SIP			
Profile x – Calling Party			
Number for Extensions			

File Home View Reports Filter options	Tools		Grid sty	yle Actions			
Easy edit Search		Ą	۱× م	Station Port	Extension	Name	SIP Extension - Calling Party Number Profile 1
opp.				001	200		00441923616753
				002	201		00441923616751
ö				003	202		
				004	203		
				005	204		
				006	205		
Programming Level		•		007	206		00441923616753
		•		008	207		00441923616751
				009	208		
Hotel			^	010	209		
····   IP SIP				011	210		
VoIP				012	211		
				013	212		
Extensions				014	213		
SIP Networking				015	214		
SIP IP Trunk Assignment				016 017	215 216		
SIP Trunk Incoming Call Type				018	216		
Profile 1				019	217		
🛨 SIP Profile 1 - Trunk General Settings				020	210		
SIP Profile 1 - Networking Mode				020	213		
SIP Profile 1 - System Information Setup				022	220		
SIP Profile 1 - Remote Destinations     SIP Profile 1 - Server Setup				023	222		
				024	223		
SIP Profile 1 - Calling Party Number for Tr	unks			025	224		
SIP Profile 1 - Calling Party Number for Ex		ns		026	225		

#### Network Configuration

If Public IP addresses are assigned to the SL1100 and VoIP Gateways, then there should be no network configuration required.

If there is one public IP address assigned, and NAT is used, it is necessary to configure Port Forwarding on the router and we recommend that SIP ALG is disabled:

- Port 5060 should be forwarded to the IPLE IP address as per command 10-12-09. If using multiple SIP Carriers then port 5062 should be used for the second profile in command 84-14-06. BT Wholesale has not been tested in this mode. SIP Carrier does not need to change their port as 5060 is still correct.
- Port 10020 10533 should be forwarded to the VoIP Gateway IP addresses as per command 84-26-01
- NAT Router should be enabled in PRG10-29-21 and the Public IP address should be entered into PRG10-12-07.

### **Licensing**

The SL1x000 platform also includes 4 SIP Trunk licenses when a VoIP DB card has been installed but additional SIP Trunk licenses for each Trunk thereafter. The SL supports up to 32 SIP Trunks.

## **Comments / Known Limitations**

- SIP calls are sent "en bloc". This means that the External Call Interdigit timer (PRG21-01-03) must expire before the call is set up. This can be reduced, but will have an impact on ISDN trunks also. The user can dial # to indicate "end of dialling" instead if required.
- Command 20-25-02 to provide ring back tone for SIP to SIP calls.
- BT SIP Accounts have a WEB portal where the SIP Settings can be amended as required. You will need to change the Caller ID presentation to use the From Header instead of the P-Asserted Identification field (default setting). This is required if the customer requires flexible CLIP using command 21-17 (Trunk Level) or 21-19 (Extension Level) to send an alternative CLI for outbound calls other than the base number. CLIP should be entered in international format 00441923610000 for example.
- SIP Carrier B format in 10-29-14 must be used for the BT WSIPT service as this format does not send the Privacy header that can override settings that can be applied using the BT web portal for example withheld CLIP at network level. Note comment above.
- Fax over SIP Trunks has been tested using T.38 for both inbound and outbound. Please note that we cannot always guarantee fax over IP as this can fail due to the Fax Machines used or bandwidth / packet loss on the network. Command 15-03-03 must be set to special & 15-03-18 set to Fax for the SLT extensions used for Fax and Fax Relay Mode must be enabled in 84-13-50.
- Minimum and maximum session expiry timers need to be set as 600 for the minimum expiry timer (84-14-08) & 900 for the maximum (84-14-07) as required by BT Wholesale.
- Call Forward Moved Temporally with T302 return not supported with BT. If Call defection via SIP is required then Trunk to Trunk external forwarding will need to be configured.
- BT Wholesale provides a secondary SIP Server IP Address that can be used for back-up if their primary connection fails also referred to as SIP Proxy Fallback. This feature is not currently supported as the delay for fall-back is too long. We are looking into supporting this at a later date when the fall-back timer is more flexible but for now if required command 10-23-02 could be amended to their back up SIP Server address if the primary SIP Server not contactable.

NEC Enterprise Solutions cannot be held responsible for any regulatory non-compliance resulting from the use of this service.

Version	Date	Description
5.0	17/04/2015	Certification tests were completed using BT Wholesales SIP Certification Plan. This report is now released for the SL1100
5.1	28/04/2015	Added comment regarding SIP Proxy Fallback
5.2	06/01/2016	Updated certification regarding Carrier Format B to be used instead of E so that the privacy header is not sent in the invite for outgoing calls. Comments added that the BT SIP Account will need to be updated to use the From Header instead of the PAID header for outgoing CLIP requirements.

# Document History

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