

UNIVERGE[®] SV8100

SIP Trunking Service Configuration Guide for IntelPeer

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**NEC Corporation of America
6535 N. State Highway 161
Irving, TX 75039-2402**

Communications Technology Group

TABLE OF CONTENTS

Section 1	NEC SV8100 and IntelPeer Setup Guide	1
1.1	This Guide and Related Documents	1
1.2	IntelPeer Account	1
1.3	SV8100 System Software	1
1.4	Requirements	2
1.5	Limitations	2
Section 2	NEC PBX Configuration.....	3
2.1	Prerequisites	3
2.1.1	SIP Trunking Information from IntelPeer	3
2.1.2	NEC UNIVERGE SV8100	3
2.1.3	Installation Worksheet	3
Section 3	SV8100 Programming	5
3.1	Trunk Type / Slot Configuration	5
3.2	CD-CP00 Network Setup	8
3.3	IPL DSP Basic Setup	9
3.4	SIP System Information Setup	11
3.5	SIP Server Information Setup	12
3.6	IP System Interconnection Setup	14
3.7	Calling Party Information (Trunk)	15
3.8	Class of Service Options (Outgoing Call Service)	16
3.9	IP Trunk Calling Party Number Setup	17
3.10	IP Trunk (SIP) Calling Party Number Setup for Extensions	17
3.11	DID (TN to ext map)	18

3.12	SIP Trunk CODEC Setup	19
3.13	SIP Trunk Basic Setup	20
Section 4	Initial Testing and Troubleshooting.....	21

LIST OF FIGURES AND TABLES

Table 1	Installation Worksheet	4
Figure 1	Blade Configuration	5
Figure 2	IPL Configuration	6
Figure 3	IPL DSP Resource Selection	7
Figure 4	IP Trunk Availability	7
Figure 5	CD-CP00 Network Setup	8
Figure 6	IPL DSP Basic Setup	9
Table 2	Port Table	10
Figure 7	SIP System Information Setup	11
Figure 8	SIP Server Information Setup	12
Figure 9	IP System Interconnection Setup	14
Figure 10	Class of Service Options (Outgoing Call Service)	16
Figure 11	IP Trunk (H.323/SIP) Calling Party Number Setup for Trunks	17
Figure 12	IP Trunk (SIP) Calling Party Number Setup for Extensions	17
Figure 13	Incoming Call Trunk Setup	18
Figure 14	SIP Trunk CODEC Setup	19
Figure 15	SIP Trunk Basic Setup	20
Table 3	Troubleshooting Guide	22

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Configuring NEC SV8100 with IntelPeer SIP Trunking Service

SECTION 1 NEC SV8100 AND INTELEPEER SETUP GUIDE

1.1 This Guide and Related Documents

This guide was created to assist knowledgeable vendors with configuring the NEC SV8100 Communication Server with IntelPeer SIP Trunking service. It provides sample entries for the required fields. The actual data is provided by IntelPeer when service is activated. Questions about software and hardware installation or other PBX configuration issues should be directed to NEC's National Technical Assistance Center (NTAC).

For complete details on using SIP trunks with the SV8100, refer to the SV8100 Networking Manual.

For complete details on using DID features, refer to the DID feature in the SV8100 Features and Specifications Manual.

For details about related hardware, refer to the SV8100 System Hardware Manual.

These manuals can be downloaded from NEC's National Technical Assistance Center (NTAC) web site. You must have a valid dealer ID to access the documents.

1.2 IntelPeer Account

Contact your IntelPeer representative.

1.3 SV8100 System Software

The SV8100 requires system software Version 9.00 or higher to use IntelPeer service.

1.4 Requirements

With the SV8100, a VoIP gateway daughter board is required in addition to licensing for IP (SIP) trunks.

A minimum of four IP (SIP) trunks are required due to the NEC Communications Server infrastructure setup.

The system software for the NEC Communications Server should be Version 9.00 or higher.

NEC recommends that the requirements and programming are completed with as much information as possible before scheduling an activation appointment with IntelePeer.

1.5 Limitations

The following limitations apply:

- Some private IP network ranges conflict with SIP trunking service providers ranges. This can cause issues when connecting to the SIP trunking service provider. Private ranges reserved for the customer's LAN are:

10.x.x.x

192.168.0.x through 192.168.10.x

SECTION 2 **NEC PBX CONFIGURATION**

This section provides information to NEC's solution providers and NEC Associates for configuring an NEC UNIVERGE SV8100 to connect to a IntelPeer SIP Trunk service provider, utilizing a **STATIC** configuration.

 *Interoperability testing was completed using Non-Registration SIP trunks.*

2.1 Prerequisites

Before you configure the UNIVERGE SV8100, you must have the following information available.

2.1.1 SIP Trunking Information from IntelPeer

- ☐ Primary SIP Proxy Server IP Address.
- ☐ Number Plan, if applicable for the Point-to-Point Connection.
- ☐ Trunking DID(s)
The DID(s) are forwarded to the Public WAN IP address(s), DNS or DNS SRV records of the PBX.

2.1.2 NEC UNIVERGE SV8100

- ☐ SV8100 CPU firmware Version 9.00 or higher
- ☐ IPLA/B (PZ-XX)
- ☐ SIP Trunking License (minimum of four licenses)
- ☐ Digital, IP and TDM Telephones

2.1.3 Installation Worksheet

Use the worksheet to record the information needed for setting up the SIP Trunking service.

Table 1 Installation Worksheet

WAN Side:	
Internet Access Type and Speed:	
WAN IP Address:	
WAN Subnet Mask:	
WAN Gateway IP Address:	

LAN Side:	
LAN IP Address for SIParator or EdgeMarc:	
LAN Subnet Mask:	
LAN IP Address for SV8100:	
VLAN ID:	

PBX Information:	
Model:	
Firmware Version:	
Number of SIP Trunk Licenses:	
Add-on Software Applications:	
Number of Users:	
Number of Concurrent Calls:	

Notes:

SECTION 3 SV8100 PROGRAMMING

When using IntelPeer as your SIP trunking service provider, the following programs must be changed for SIP trunking service.

When using PCPro or WebPro for programming, enabling an option may be a checkbox option rather than entering a '1' as in terminal programming.

3.1 Trunk Type / Slot Configuration

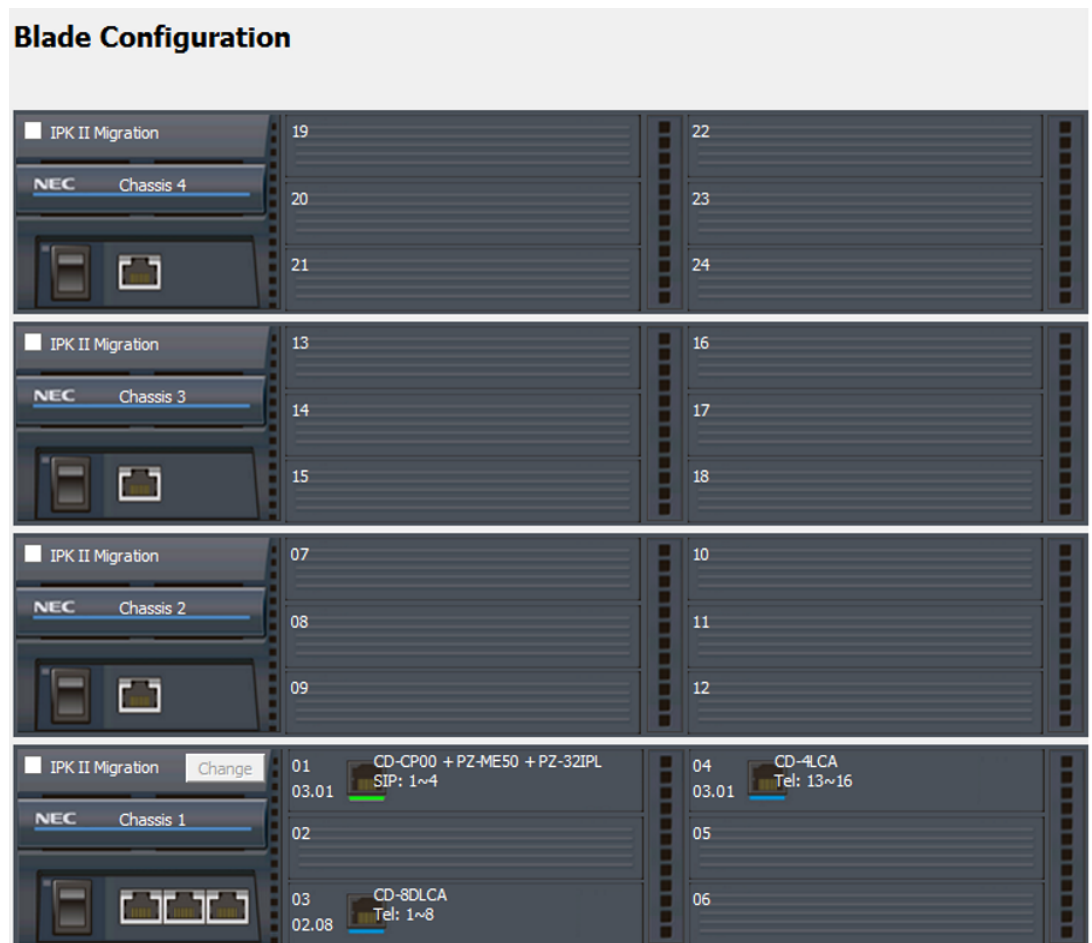


Figure 1 Blade Configuration

System Data

Grid View Apply Cancel Default

10-03: IPL Configuration

Slot CD-CP00 + PZ-ME50 + PZ-32IPL - Chassis 1 - Slot 01 (1) Physical Port (1~200) 1

Physical Port	Trunk Logical Port	Trunk Type	CCIS Trunk	Physical Port	Trunk Logical Port	Trunk Type	CCIS Trunk
001	1	SIP	Not CCIS	009	0	H.323	Not CCIS
002	2	SIP	Not CCIS	010	0	H.323	Not CCIS
003	3	SIP	Not CCIS	011	0	H.323	Not CCIS
004	4	SIP	Not CCIS	012	0	H.323	Not CCIS
005	0	H.323	Not CCIS	013	0	H.323	Not CCIS
006	0	H.323	Not CCIS	014	0	H.323	Not CCIS
007	0	H.323	Not CCIS	015	0	H.323	Not CCIS
008	0	H.323	Not CCIS	016	0	H.323	Not CCIS

Use Program 10-03: ETU Setup to setup and confirm the Basic Configuration data for each ETU. When changing a defined terminal type, first set the type to '0' and then plug the new device in to have the system automatically define it or you may have to reset the ETU.

Figure 2 IPL Configuration

10-03-02: Blade Setup, for IPL (VoIPDB)

Define the trunks to be used for SIP trunks as 1 (SIP).

System Data

Grid View

Apply

Cancel

Default

Copy

10-19: IPL DSP Resource Selection

Slot

CD-CP00 + PZ-ME50 + PZ-32IPL - Chassis 1 - Slot 01 (1)

DSP Resource (1~128)

1

DSP Resource		DSP Resource	
001	Commonly used for both IP extensions and trunks	009	Commonly used for both IP extensions and trunks
002	Commonly used for both IP extensions and trunks	010	Commonly used for both IP extensions and trunks
003	Commonly used for both IP extensions and trunks	011	Commonly used for both IP extensions and trunks
004	Commonly used for both IP extensions and trunks	012	Commonly used for both IP extensions and trunks
005	Commonly used for both IP extensions and trunks	013	Commonly used for both IP extensions and trunks
006	Commonly used for both IP extensions and trunks	014	Commonly used for both IP extensions and trunks
007	Commonly used for both IP extensions and trunks	015	Commonly used for both IP extensions and trunks
008	Commonly used for both IP extensions and trunks	016	Commonly used for both IP extensions and trunks

This program sets the IPL DSP resource selection.

Figure 3 IPL DSP Resource Selection

10-19-01 : VOIP DSP Resource Selection

Specify the operating mode for the DSP resources (0=common use (extensions and trunks), 1=IP extensions only, 2=SIP trunks only, 3=Networking, 4=NetLink, 5=Blocked, 6=Common without Unicast Paging, 7=Multicast, 8=Unicast Paging).

System Data

Grid View

Apply

Cancel

Default

10-40: IP Trunk Availability

Slot

CD-CP00 + PZ-ME50 + PZ-64IPLA - Chassis 1 - Slot 01 (1)

01 - IP Trunk Availability

☒

02 - IP Trunk Port Count

4 ports

04 - CCISoIP Port Count

None

This program sets the availability of SIP Trunks. A reset of the IPLA is required for changes to take effect.

Figure 4 IP Trunk Availability

10-40-01 : IP Trunk Availability – IP Trunk Availability

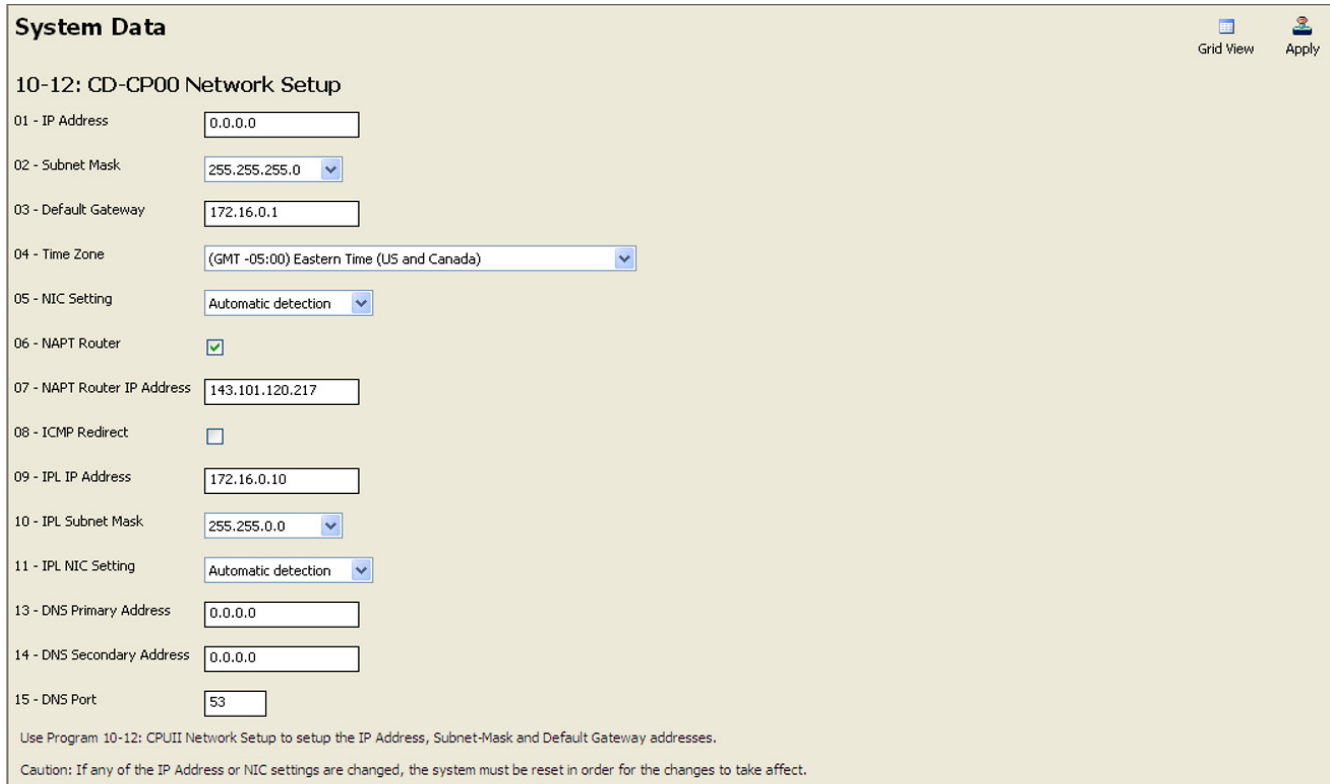
Turn this option "on".

10-40-02 : IP Trunk Availability – IP Trunk Port Count

Select the number of trunks being used.

3.2 CD-CP00 Network Setup

Values shown are for example purposes only. Your actual IP values will be determined by your local LAN administrator.



System Data

Grid View Apply

10-12: CD-CP00 Network Setup

01 - IP Address: 0.0.0.0

02 - Subnet Mask: 255.255.255.0

03 - Default Gateway: 172.16.0.1

04 - Time Zone: (GMT -05:00) Eastern Time (US and Canada)

05 - NIC Setting: Automatic detection

06 - NAPT Router: ☒

07 - NAPT Router IP Address: 143.101.120.217

08 - ICMP Redirect: ☐

09 - IPL IP Address: 172.16.0.10

10 - IPL Subnet Mask: 255.255.0.0

11 - IPL NIC Setting: Automatic detection

13 - DNS Primary Address: 0.0.0.0

14 - DNS Secondary Address: 0.0.0.0

15 - DNS Port: 53

Use Program 10-12: CPUUI Network Setup to setup the IP Address, Subnet-Mask and Default Gateway addresses.

Caution: If any of the IP Address or NIC settings are changed, the system must be reset in order for the changes to take affect.

Figure 5 CD-CP00 Network Setup

10-12-01 : CD-CP00 Network Setup – IP Address

Set the LAN IP address for the system ethernet port to 0.0.0.0

10-12-02 : CD-CP00 Network Setup – Subnet Mask

Set the subnet mask for the system ethernet port to be different than the subnet for the IPLA/IPLB blade.

10-12-03 : CD-CP00 Network Setup – Default Gateway

Set the default gateway for the IPLA/IPLB blade.

If a router or firewall is placed between the SIP Trunk Provider and SV8100, you must also set the following programs:

10-12-06 : CD-CP00 Network Setup – NAPT Router

Turn this program on if the SV8100 resides behind a NAT router.

10-12-07 : CD-CP00 Network Setup – NAPT Router IP Address

Set the WAN IP address of the NAT router behind the SV8100.

10-12-09 : CD-CP00 Network Setup – IP Address

Select the IP address for the VoIP connection (default: 172.16.0.10). A static IP address is required.

IP address is required by the CD-CP00. Some private IP network ranges (ex: 192.168.0.0/16, 172.16.0.0/12) conflict with SIP Service Provider's Network ranges which may cause issues when connecting SIP connect service. Private ranges reserved for the customer's LAN are 10.x.x.x and 192.168.0.x through 192.168.10.x.

The SV8100 must be reset in order for the change to take effect.

10-12-10 : CD-CP00 Network Setup – Subnet Mask

Select the Subnet Mask to be used by the VoIP server (default: 255.255.0.0).

3.3 IPL DSP Basic Setup

Values shown are for example purposes only. Your actual IP values will be determined by your local LAN administrator.

System Data

Grid View Apply Cancel Default

84-26: IPL DSP Basic Setup

Slot: CD-CP00 + PZ-ME50 + PZ-32IPL - Chassis 1 - Slot 01 (1)

VoIP Gateway	IP Address	RTP Port	RTCP Port
1	10.70.95.3	10020	10021
2	0.0.0.0	10052	10053
3	0.0.0.0	10084	10085
4	0.0.0.0	10116	10117
5	0.0.0.0	10148	10149
6	0.0.0.0	10180	10181
7	0.0.0.0	10212	10213
8	0.0.0.0	10244	10245

Figure 6 IPL DSP Basic Setup

Port Forwarding:

The Router will require port forwarding rules to be configured.

Port 5060 must be forwarded to the address entered in Program 10-12-09.

Port 5060 is not used for remote terminals - ports 5070 and 5080 are used instead. Port 5060 is only used for trunking so there are no issues with the possible fraudulent usage of unauthorized remote attempts to register remote terminals.

The ports used in Programs 84-26-02 and 84-26-03 must be forwarded to the IP address entered in Program 84-26-01.

The RTP/RTCP ports are forwarded to avoid possible one-way conversation which might occur on inbound calls. When forwarding the ports, the range for each gateway must be set. The number of gateways to forward will depend on the size of the IPLA/B.


- Gateway 1 will require ports 10020-10051 forwarded.
- Gateway 2 will require ports 10052-10083 forwarded.
- Gateway 3 will require ports 10084-10115 forwarded.
- Gateway 4 will require ports 10116-10147 forwarded.
- Gateway 5 will require ports 10148-10179 forwarded.
- Gateway 6 will require ports 10180-10211 forwarded.
- Gateway 7 will require ports 10212-10243 forwarded.
- Gateway 8 will require ports 10244-10275 forwarded.

Table 2 Port Table

Ports	UDP	TCP
5060	Yes	No
10020	Yes	No
10021	Yes	No
10052	Yes	No
10053	Yes	No
10084	Yes	No
10085	Yes	No
10116	Yes	No
10117	Yes	No

3.4 SIP System Information Setup

Values shown are for example purposes only. Your actual values will be determined by your implementation team.

 For interoperability testing with IntelPeer, Program 10-28-04 used a 10 digit telephone number provided by IntelPeer. Program 10-28-05 was set to IP Address.

10-28: SIP System Information Setup

01 - Domain Name

tekvision.com

02 - Host Name

tekVizion

03 - Transport Protocol

UDP

04 - User ID

9722103197

05 - Domain Assignment

IP Address


06 - IP Trunk Port Binding
☐

This program sets basic system information used in SIP Trunk

Figure 7 SIP System Information Setup


10-28-01 : SIP System Information Setup – Domain Name

Define the Domain name up to 64 characters. This information is specific to your market and is provided by your SIP Trunking Service Provider.

 When configuring Domain name, the SIP service provider will supply the Proxy/Domain in the following manner - "Host Name" . "Domain Name" . The characters are normally separated by "." The characters **after** "." will be in the Domain Name.

10-28-02 : SIP System Information Setup – Host Name

Define the Host name, up to 48 characters.


 When configuring Host name, the SIP service provider will supply the Proxy/Domain in the following manner - "Host Name" . "Domain Name" . The characters are normally separated by "." The characters **before** "." will be in the Domain Name.

10-28-03 : SIP System Information Setup – Transport Protocol

Define the Transport type. This option is always set to 0 (UDP).

10-28-04 : SIP System Information Setup – User ID

This information is provided by your SIP Trunking Service Provider.

 Program 10-28-04 is required and **cannot** be left blank.

Entries: 32 characters maximum (Default=No Entry).

 Typically the ten digit billing telephone number is used.

10-28-05 : SIP System Information Setup – Domain Assignment

Determine the type of Domain Assignment.

10-28-06 : SIP System Information Setup – IP Trunk Port Binding
Set this entry to 0 (Disable) to allow an incoming call to use the lowest port.

3.5 SIP Server Information Setup

Values shown are for example purposes only. Your actual values will be determined by your implementation team.

For interoperability testing with IntelePeer, Program 10-29-14 was changed to Carrier B.

System Data

Grid View

Apply

Cancel

Default

10-29: SIP Server Information Setup

01 - Outbound Default Proxy

☒

02 - Inbound Default Proxy

☐

03 - Default Proxy IP Address

04 - Default Proxy Port

05 - Register Mode

None

06 - Registrar IP Address

07 - Registrar Port

08 - DNS Mode

☐

09 - DNS IP Address

10 - DNS Port

11 - Registrar Domain Name

12 - Proxy Domain Name

13 - Proxy Host Name

14 - SIP Carrier Choice

Carrier B

15 - Registration Expiry Time

16 - Register Sub Mode

☐

17 - DNS Source Port

This program sets the information of SIP Server this system uses

Figure 8 SIP Server Information Setup

10-29-01 : SIP Server Information Setup – Outbound Default Proxy
Enable (1) the SIP Outbound Proxy.

If entries are made in Program 10-29-xx for a SIP Server and the SIP Server is then removed or not used, the entries in Program 10-29-xx must be set back to their default settings. Even if 10-29-01 is set to .0. (off), the SV8100 will check the settings in the remaining 10-29 programs.

10-29-03 : SIP Server Information Setup – Default Proxy IP Address
Define the SIP Trunk Service Provider Proxy IP Address. You may resolve the IP address of the Outbound Proxy by pinging the URL.

10-29-05 : SIP Server Information Setup – Registrar Mode

Set the Registrar Mode to 0(None) with SIP trunking.

10-29-08 : SIP Server Information Setup – SIP Proxy Setup – DNS Mode

Set the DNS Mode to 1, when the SIP carrier provides a domain name.


10-29-09 : SIP Server Information Setup – SIP Proxy Setup – DNS IP Address


This information should be provided by your SIP service provider.

 *The DNS IP Address should be any valid Domain Name Server either SIP provided or within your network.*

10-29-13 : SIP Server Information Setup – Proxy Host Name

Enter the Host name.

 *When configuring Domain name the SIP service provider will supply the Proxy/Domain in the following manner - "Host Name" . "Domain Name" . The characters are normally separated by "." The characters **before** "." will be in the Host Name.*

 *Define the Proxy IP Address provided by ITSP.*

10-29-14 : SIP Server Information Setup – SIP Carrier Choice

Set the SIP Carrier Choice to 2 (Carrier B).

10-29-15 : SIP Server Information Setup – Registration Expiry Time

It is **important** to leave this automatic re-registration time to be 3600 seconds so that the IntelPeer network does not get flooded.

10-29-16 : SIP Server Information Setup – Register Sub Mode

Unchecking the Register Sub Mode (setting it to "off") will allow all trunk calls to be routed based on routing policies.

3.6 IP System Interconnection Setup

Values shown are for example purposes only. Your actual values will be determined by your implementation team.

For interoperability testing with IntelePeer, required entries are shown below. The IP Address was provided by IntelePeer and may be different for each customer.

System Data

Grid ViewApplyCancelDefaultCopy

10-23: IP System Interconnection Setup

Sys No. (1~1000)1

Sys No.	System Interconnection	IP Address	Call Control Port	Dial Number
0001	<input checked="" type="checkbox"/>	173.46.31.194	1720	1
0002	<input checked="" type="checkbox"/>	173.46.31.194	1720	2
0003	<input checked="" type="checkbox"/>	173.46.31.194	1720	3
0004	<input checked="" type="checkbox"/>	173.46.31.194	1720	4
0005	<input checked="" type="checkbox"/>	173.46.31.194	1720	5
0006	<input checked="" type="checkbox"/>	173.46.31.194	1720	6
0007	<input checked="" type="checkbox"/>	173.46.31.194	1720	7
0008	<input checked="" type="checkbox"/>	173.46.31.194	1720	8
0009	<input checked="" type="checkbox"/>	173.46.31.194	1720	9
0010	<input checked="" type="checkbox"/>	173.46.31.194	1720	0

This program sets the IP system interconnection .

Figure 9 IP System Interconnection Setup

10-23-01 : System Interconnection

Enable interconnection to the SIP Server.

10-23-02 : IP Address

Enter the IP Address of the SIP Server.

10-23-04 : Dial Number

Enter the digits to be sent to the SIP Server on an outbound call.

3.7 Calling Party Information (Trunk)

Caller ID - In the Invite message there are two fields that can have caller ID. One field is the “SIP From Address” and the other field is “SIP Display Info”. If both of these fields are left blank the call will not complete.

Below is an example of a SIP Invite Message with outbound CID.

From: "9722103197"<sip:9722103197@68.68.123.103>

14-12-01 : SIP Register ID Setup for IP Trunks

On a per trunk basis, you can choose a SIP register ID of 0~31. If the ID is left to 0, the “SIP from Address” would not be assigned on a per trunk basis. If set to 1~31, it then looks at command 10-36-02 to populate the “SIP from Address” field.

14-12-02 : SIP Register ID Setup for IP Trunks

This is for SIP trunks to the provider for inbound purposes. If 10-28-06 (Trunk port Binding) is enabled, inbound calls map to the trunk. If you want to create a hunt group when trunk port binding is enabled, set multiple trunks to the same pilot and then define that number in 10-36.

10-36-02 : SIP Trunk Registration Information

Per registration ID 1~31 you can assign what will be populated in the “SIP from Address” field.

15-16-01 : SIP Register ID Setup for Extensions

Per station you can choose a SIP register ID of 1~31. If left blank the “SIP from Address” would not be assigned on a per station basis. If assigned, it will look at Program 10-36-02 to populate the “SIP from Address” field. This takes priority over command 14-12-01.

10-28-04 : SIP System Information Setup – User ID

This is the default “Display Info” and “From Address” if either of these fields is blank what is assigned in this command will be inserted. This setting has the lowest priority and if any of the next commands are set they will be sent out instead of this command.

3.8 Class of Service Options (Outgoing Call Service)

Values shown are for example purposes only. Your actual values will be determined by your implementation team.

System Data

20-08: Class of Service Options (Outgoing Call Service)

Class of Service (1~15)

01 - Intercom Call	<input checked="" type="checkbox"/>
02 - Outgoing Trunks	<input checked="" type="checkbox"/>
03 - Common Speed Dials	<input checked="" type="checkbox"/>
04 - Group Speed Dials	<input checked="" type="checkbox"/>
05 - Dial Number Preview	<input checked="" type="checkbox"/>
06 - Toll Restriction Override	<input type="checkbox"/>
07 - Repeat Redial	<input checked="" type="checkbox"/>
08 - Toll Restriction Dial Blocking	<input type="checkbox"/>
09 - Hotline for Handpiece	<input type="checkbox"/>
10 - Handsfree Answerback/Forced Intercom Ringing Switching	<input checked="" type="checkbox"/>
11 - Call Mode Switching Protection from Caller (Internal Call)	<input type="checkbox"/>
12 - Department Group Step Calling	<input checked="" type="checkbox"/>
13 - ISDN Clip	<input checked="" type="checkbox"/>
14 - Set Calling Sub Address	<input type="checkbox"/>
15 - Block Outgoing Caller ID	<input type="checkbox"/>

Figure 10 Class of Service Options (Outgoing Call Service)

20-08-13 : Class of Service Options (Outgoing Call Service) – ISDN Clip

This needs to be turned ON per COS, if you are trying to send any information on a per station basis. If turned OFF, it will still send the trunk information if set.

20-09-02: Class of Service Options (Incoming Call Service) Caller ID Display

This needs to be turned ON per COS, if you want to receive caller ID.

3.9 IP Trunk Calling Party Number Setup

System Data

Grid View Apply Cancel Default

21-17: IP Trunk (H.323/SIP) Calling Party Number Setup for Trunks

Trunk 001: SIP - Chassis 1 - Slot 01 (1) <

Trunk	Calling Party Number
01	9722103197
02	
03	
04	

Use Program 21-17: IP (H.323/SIP) Trunk Calling Party Number Setup for Trunks to allow for the Calling Party Number to be displayed for IP trunks when the VoIP feature is used.

Figure 11 IP Trunk (H.323/SIP) Calling Party Number Setup for Trunks

21-17-01: Calling Party Number Setup for Trunks

On a per trunk basis this populates the “SIP Display Info” field. If a station has a setting in 21-19-01, it will override this field.

3.10 IP Trunk (SIP) Calling Party Number Setup for Extensions

Values shown are for example purposes only. Your actual values will be determined by your implementation team.

System Data

Grid View Apply Cancel Default

21-19: IP Trunk (SIP) Calling Party Number Setup for Extensions

ICM Extension 101: MLT - STA 101 - Port 001 <

ICM Extension	Calling Party Number	ICM Extension	Calling Party Number
101		109	9722103197
102		110	9722103198
103		111	
104		113	
105		114	
106		115	
107		116	
108		201	

Use Program 21-19: IP (SIP) Trunk Calling Party Number Setup for Extensions to allow for the Calling Party Number to be displayed for IP extensions when the VoIP feature is used.

Figure 12 IP Trunk (SIP) Calling Party Number Setup for Extensions

21-19-01 : IP Trunk (SIP) Calling Party Number Setup for Extensions

On a per station basis this populates the “SIP Display Info” field. This setting has the highest priority.

This program is used to assign the Calling Party Number for each extension (Entries: 1~0, *, #). The assigned number is sent to the SIP Trunking Service Provider when the caller places an outgoing call. If the Calling Party Number is assigned by both Program 21-17 and 21-18/21-19, then the system uses the data in Program 21-18/21-19. Do not use Program 21-13 for SIP. This entry must be a 10-digit DID associated with the SIP Trunking Service Provider Account. DID numbers are provided by your SIP Trunking Service Provider Coordinator.

3.11 DID (TN to ext map)

Values shown are for example purposes only. Your actual values will be determined by your implementation team.

System Data

22-02: Incoming Call Trunk Setup

Trunk: 001: SIP - Chassis 1 - Slot 01 (1) | Night Mode: 01 - Mode 1

Trunk	Mode 1	Mode 2	Mode 3	Mode 4
01	DID	DID	DID	DID
02	DID	DID	DID	DID
03	DID	DID	DID	DID
04	DID	DID	DID	DID

Use Program 22-02: Incoming Call Trunk Setup to assign the incoming trunk type for each trunk. There is one item for each Night Service Mode.

Figure 13 Incoming Call Trunk Setup

22-02-01 : Incoming Call Trunk Setup

Define the SIP trunks as type 3 (DID). In addition to the SIP trunk programming, refer to the DID feature in the SV8100 Features and Specifications Manual for additional DID programming (e.g., 14-05, 22-04, 22-09, 22-10, 22-11, 22-12, 22-13, 22-17, 34-01).

3.12 SIP Trunk CODEC Setup

Values shown are for example purposes only. Your actual values will be determined by your implementation team.

For interoperability testing with IntelPeer, Program 84-13-32 was set RFC2833, Program 84-13-31 was set to 101.

18 - Voice Activity Detection Threshold: Adaptec 0.3dBm (20) 10.0dBm

19 - Idle Noise Level: 7000

20 - Echo Cancellation Mode: ☒

21 - Signal Limiter: Mode 5

22 - Echo Cancellation Non-linear Processing Mode: 2 wire only

24 - Echo Cancellation Comfort Noise Generator Configuration: Adaptive

26 - TX Gain: -20.0dBm 0.0dBm (20) 20.0dBm

27 - RX Gain: -20.0dBm 0.0dBm (20) 20.0dBm

28 - Audio Capability Priority: G.711_PT

31 - DTMF Payload Number: 101

32 - DTMF Relay Mode: RFC2833

Figure 14 SIP Trunk CODEC Setup

84-13-32 : SIP Trunk CODEC Setup – DTMF Relay Mode

Set the DTMF setup to 1 (Enabled).

If set to RFC2833, the carrier must also have this feature enabled.

3.13 SIP Trunk Basic Setup

Values shown are for example purposes only. Your actual values will be determined by your implementation team.

System Data

Grid View

Apply

Cancel

Default

84-14: SIP Trunk Basic Setup

01 - Invite ReTx Count

7

02 - Request ReTx Count

11

03 - Response ReTx Count

7

04 - Request ReTx Start Time

5

05 - Request Max ReTx Interval

40

06 - SIP Trunk Port

5060

07 - Session Timer Value

0

08 - Minimum Session Timer Value

1800

09 - Called Party Info

Request URI

10 - URL Type

SIP-URL

11 - URL/TO Header Information

Proxy Server Domain

13 - Incoming/Outgoing SIP Trunk for E.164

OFF

15 - 100rel Settings

Use Default Setting

16 - SIP Trunk SIP-URI E.164 Incoming Mode

Off

17 - Call Forward Moved Temporarily Support

Disabled

Use Program 84-14: SIP Trunk Basic Information Setup to define the basic setup for SIP trunks.

Figure 15 SIP Trunk Basic Setup


84-14-11 : SIP Trunk Basic Setup – URL/TO Header Setting Information

Set this program to Proxy Server Domain.

Changes within this program require the SV8100 be reset in order for the change to take effect.

SECTION 4 INITIAL TESTING AND TROUBLESHOOTING

To confirm that the system is correctly set, perform the following tests:

 *If you run into an issue with any of these tests, refer to [Table 3 Troubleshooting Guide](#).
Test an outgoing call to a local number. Check for ringback, 2-way audio and quality.*

1. Test an outgoing call to a long distance number. Check for ringback, 2-way audio and quality.
2. Test an outgoing call to an international number. Check for ringback, 2-way audio and quality.
3. Test a outgoing call lasting more than 15 minutes.
4. Test multiple call concurrences on outgoing calls. Setup multiple calls to PSTN.
5. Test an outgoing call to an Operator '0'.
6. Test an outgoing call to directory assistance '411'.
7. Test a 911 call.



Identify to the operator that this is a TEST!

8. Test an incoming call to an internal DID. Check for ringback, 2-way audio and quality.
9. Test an incoming call to an auto-attendant. Check DTMF and audio quality.
10. Test transferring calls off-site.
11. Test an outgoing call to an auto-attendant and verify DTMF.

Table 3 Troubleshooting Guide

Issue	Cause	Remedy
No Calls IN/Out	○ Router Configuration	○ Check Router Configuration
	○ NEC Configuration	○ Check NEC Configuration
	○ Unqualified IP Address	○ Note WAN IP Address and Contact Provider
No Calls Out	○ NEC Configuration	○ Check NEC Configuration
	○ Unqualified IP Address	○ Note WAN IP Address and Contact Provider
No Calls In	○ NEC Configuration	○ Check NEC Configuration
	○ Unqualified IP Address	○ Note WAN IP Address and Contact Provider
One-Way Audio	○ NEC Configuration	○ Check NEC Configuration
Echo	○ Excessive Delay	○ Check LAN and WAN for high latency
	○ Echo Cancellation Issue	○ Check Echo settings and/or consult IntelePeer
Call Dropping	○ Internet Access Issues	○ Call Internet Access Provider
	○ Extreme Latency on LAN	○ Check Latency on LAN
	○ SIP issue	○ Contact Provider
Static or HUM on Phones	○ Power issue	○ Check power if using AC, should not be issue in PoE
Missing Parts of Words	○ Packet Loss or Latency on LAN	○ Check LAN
	○ Packet Loss or Latency on WAN	○ Check with Internet Access Provider
	○ Jitter Buffer Configuration	○ Check with NEC