SIP Trunking Configuration Guide
for
ShoreTel ShoreWare
ShoreTel 13.2

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Contents

1 Audience

This document is intended for the SIP trunk customer's technical staff and Value Added Retailer (VAR) having installation and operational responsibilities.

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- Verification Testing – Verification of interoperability performed on-site at tekVizion Labs between two products or in a multi-vendor configuration ("solution Verification")
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2 SIP Trunking Network Components

The network for the SIP trunk reference configuration is illustrated below and is representative of a ShoreTel ShoreWare configuration.

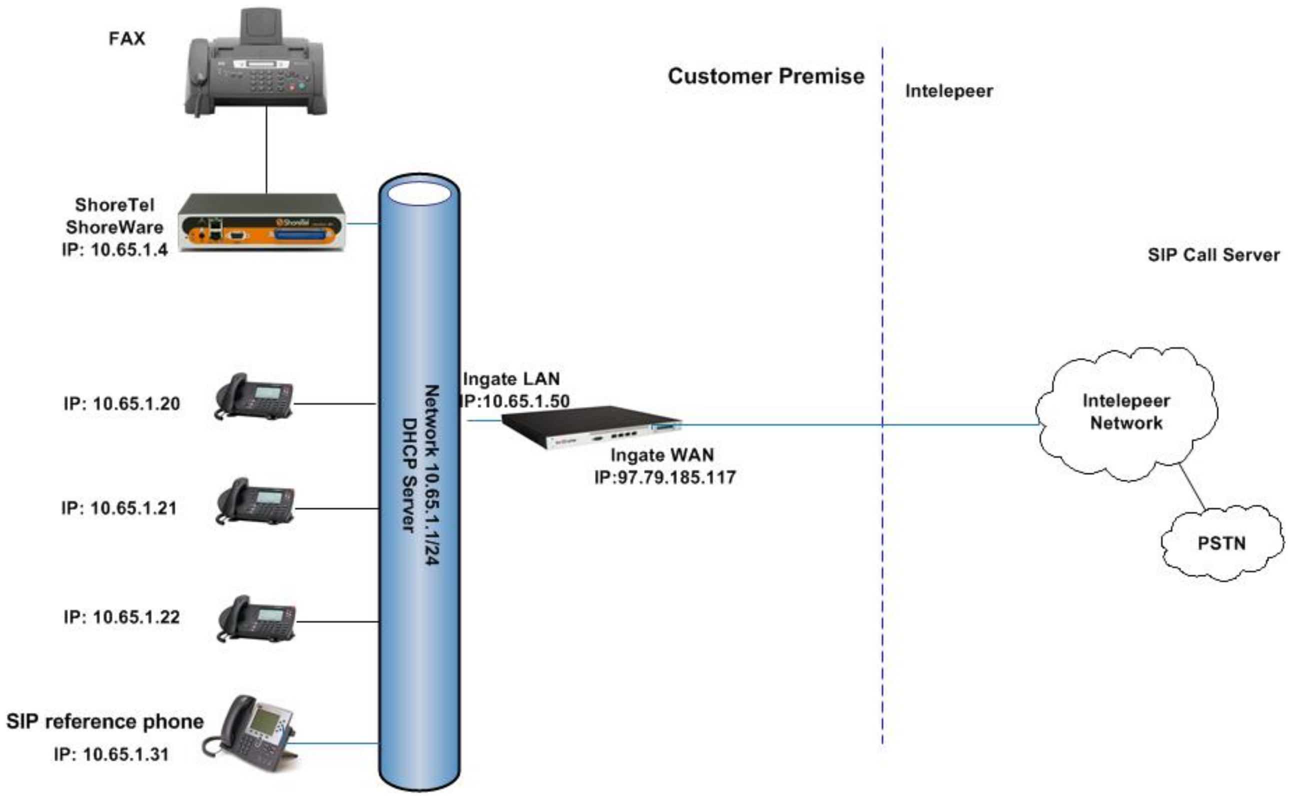


Figure 1 - SIP Trunk Lab Reference Network

The lab network consists of the following components:

- ShoreTel ShoreWare PBX for voice features, SIP proxy and SIP trunk termination.
- Shoregear 90 switch.
- Various MGCP and SIP phones on the local LAN.
- inGate.

3 Shoreware Configuration

3.1 Create SIP Trunk

1. **Navigate to Trunks > Trunk Groups**.
2. Set **Add new trunk group at site** to Headquarters.
3. Set **of type** to SIP.
4. Click **Go**.

Figure 2: Create Trunk group

5. Set **Name**: Intelepeer Trunk group is used for example.
6. Set **Enable SIP Info for G.711 DTMF Signaling**: checked.
7. Set **Profile**: Default ITSP
8. Set **Digest** Authentication: None
9. Set **Number of Digits from CO**: 10
10. Set **DNIS**: Checked
11. Set **DID**: Checked
12. Click **Edit DID Range**: Enter the Base Phone Number and number of Phone Numbers and click on "**Add this record**" to add the DID Numbers.
13. Click **Save**.
14. Click on "back" button in the top left corner of the browser to get back to trunk group configuration.
15. Confirm **Extension**: unchecked.
16. Set **Tandem Trunking**: Unchecked.
17. Set **Outbound**: Checked.
18. Set **Access Code**: 9 is used for this example.
19. Set Local **Area Code**: This code depends on the given DID range. 347 is used for this example.

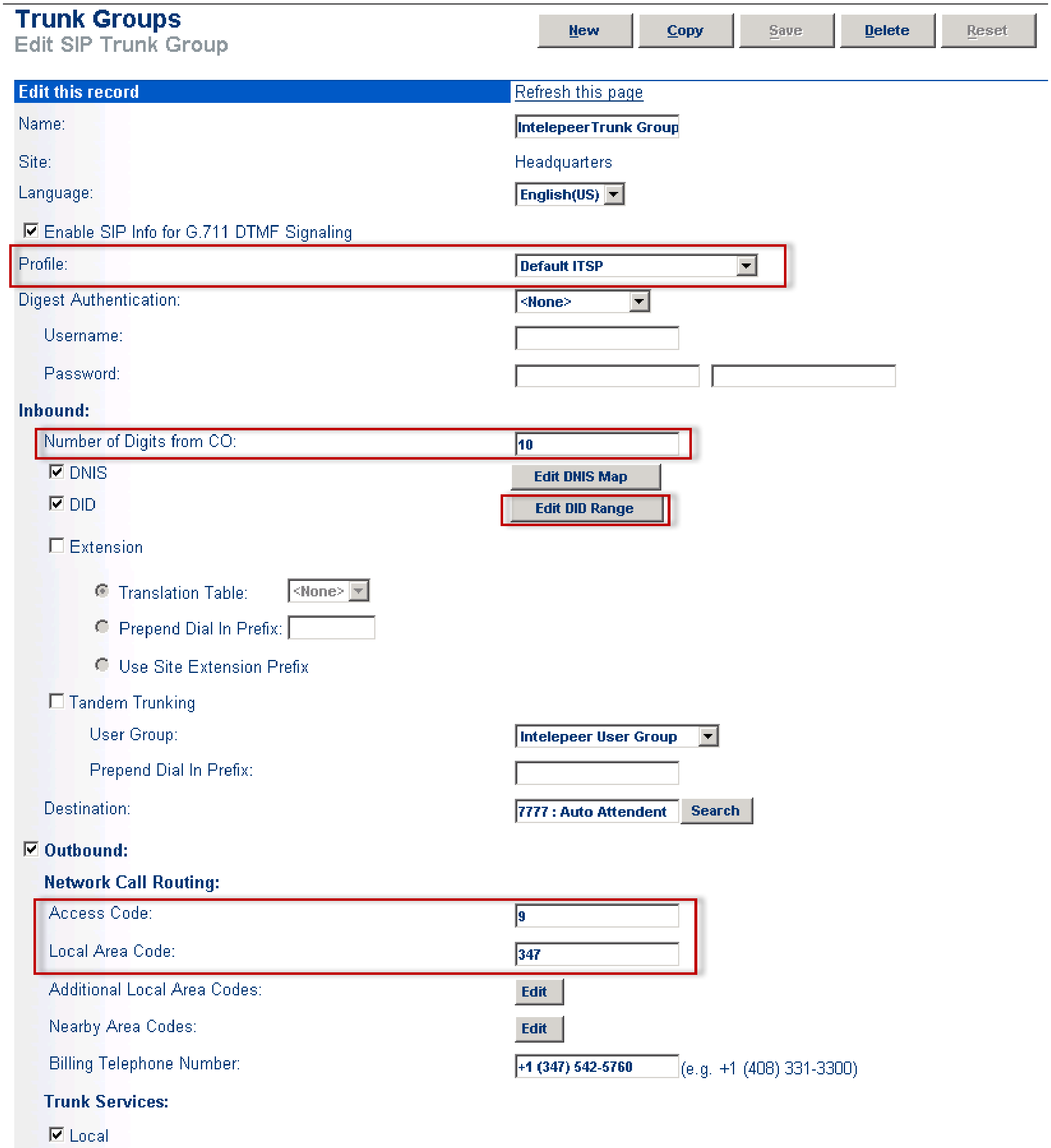


Figure 3: Trunk group

20. Set **Billing Telephone Number**: “+1(347)542-5760” is used for this example.
21. Set **Trunk Services**:
22. Set **Local**: Checked.
23. Set **Long Distance**: Checked.
24. Set **International**: Checked.

25. Set **Enable Original Caller Information**: Checked.
26. Set **n11 (e.g. 411, 611, except 911 which is specified below)**: Checked
27. Set **Emergency(e.g. 911)** : Checked.
28. Set **Easily Recognizable Codes (ERC) (e.g. 800, 888, 900)**: Checked.
29. Set **Explicit Carrier Selection (e.g. 1010xxx)**: Checked.
30. Set **Operator Assisted(e.g. 0+)**: Checked.
31. Set **Caller ID not blocked by default**: Checked.
32. Confirm **Enable Caller ID**: Unchecked.
33. Set **Trunk Digit** Manipulation:
34. Set **Remove leading 1 from 1+10D**: Unchecked.
35. Confirm **Remove leading 1 for Local Area Codes**:Unchecked.
36. Confirm **Dial 7 digits for Local Area Code**: Checked.
37. Confirm **Dial in E.164 Format**: Unchecked.
38. Set **Local Prefixes**: None.
39. Set **Translation Table**: None.
40. Click **Save**.

Figure 4: Trunk group conti.

3.2 Create User Group

1. Navigate to **Users > User Groups > Add new**

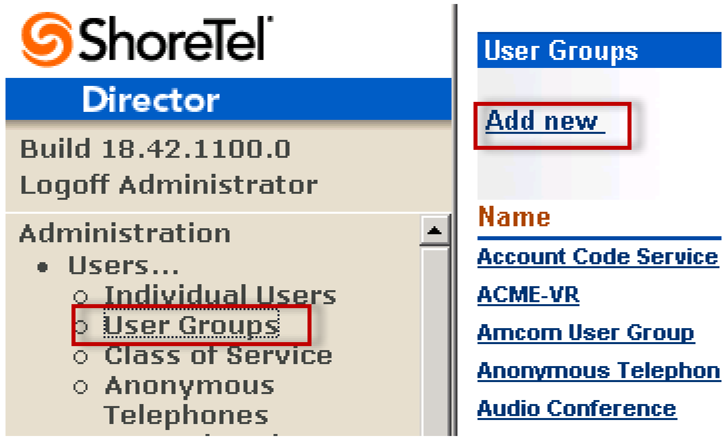


Figure 5 Create User Group

2. Set Name: Intelepeer User group is used for this example.
3. Set **COS-Telephony**: Fully Featured is selected from the pull down menu.
4. Set **COS-Call Permissions**: No Restrictions is selected from the pull down menu.
5. Set **COS-Voice Mail**: Large Mail Box is selected from the pull down menu.
6. Check **Send Caller ID** as Caller's Emergency Service Identification(CESID)
7. Check **Send DID as Caller's Emergency Service Identification(CESID)**
8. Set **Account Code Collection**: Disabled is selected from the pull down menu.
9. Set **Outgoing Trunk Groups (access Codes)**: Intelepeer Trunk Group(9) is checked.
10. Confirm all the rest of the options in "**User Profile**", "**Phone Application**", "**Ring tone** are: None which are set by default.

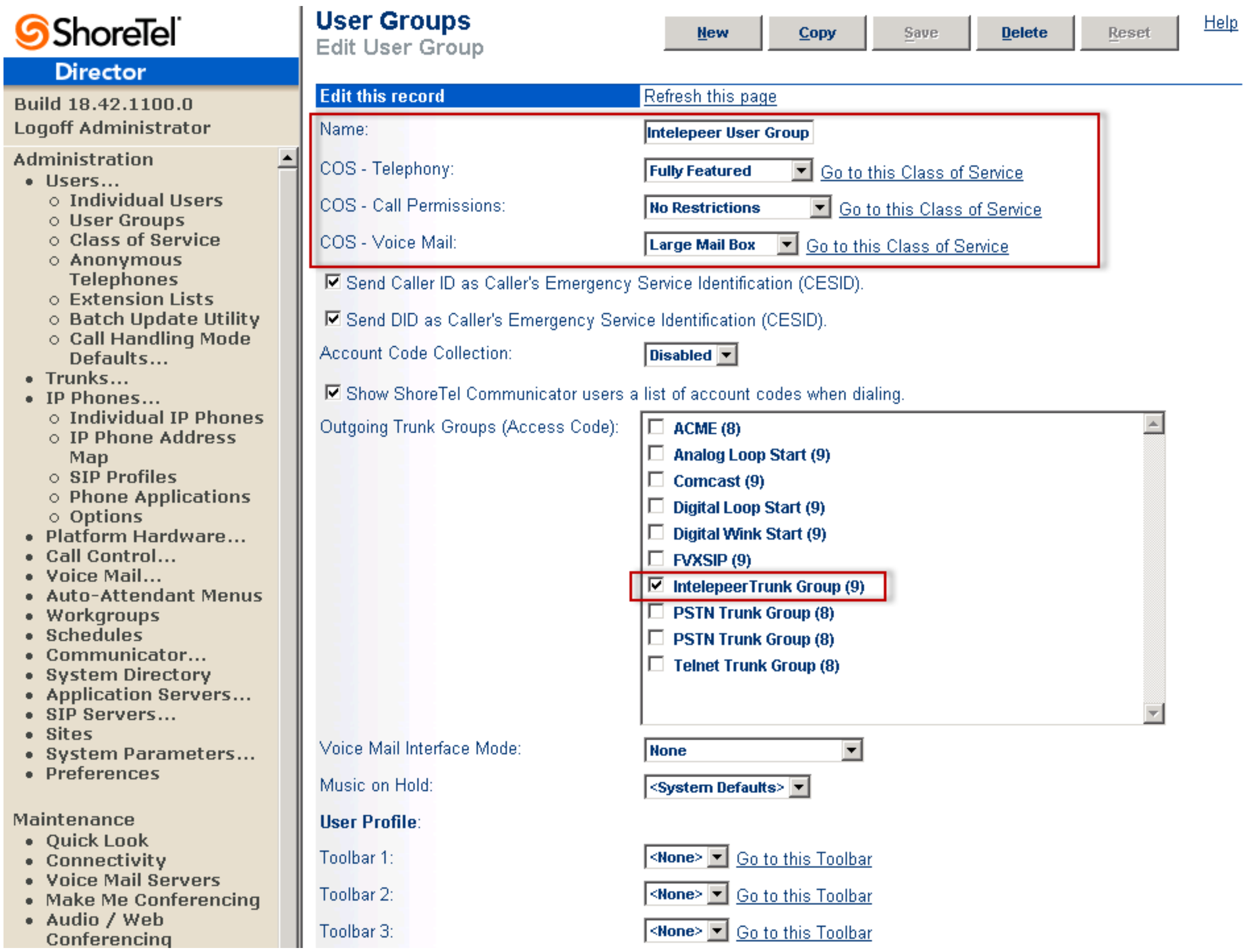


Figure 6 Create User Group cont.

3.3 Create Individual Trunks

1. Navigate to **Trunks > Individual Trunks**.
2. Set **Add new trunk at site**: Headquaters from the pull down menu.
3. Set in **trunk group**: Intelepeer Trunk Group from the pull down menu.
4. Click **Go**.

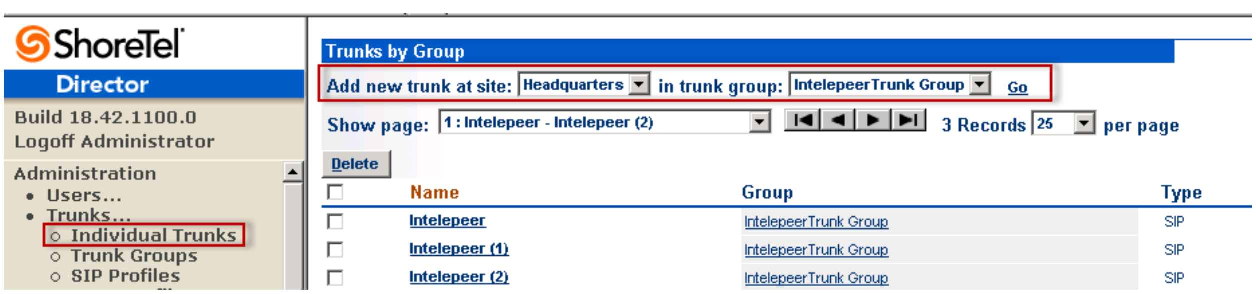


Figure 7 Individual Trunk

5. Set **Name**: is given for this example.
6. Select **Switch**: ShoreGear90 is selected for this example from the pull down menu.
7. Set **IP Address**: This is the IP address of LAN side of Ingate. Please use the actual IP address of Ingate for your network. The IP Address used in this configuration is 10.65.1.50. The Ingate IP address may/will be different from this example.
8. Select **Number of Trunks**: 3 is selected for this example.
9. Click **Save**.

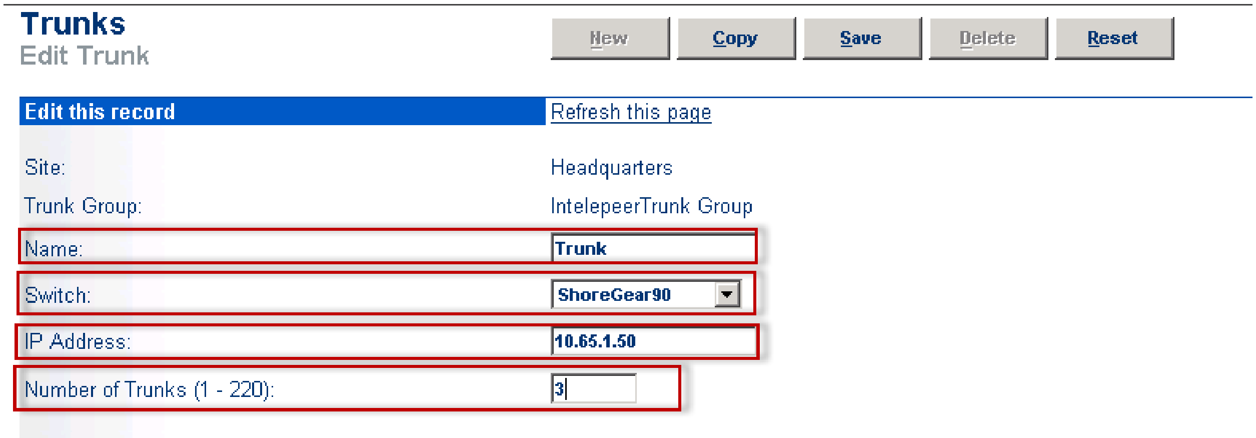


Figure 8 Individual Trunk cont.

3.4 Add a New User

1. Navigate to **Users > Individual users**.
2. Set **Add a new user at site**. Headquarters is selected for this example.
3. Click **Go**.

Figure 9 Add a New User

4. Set **First Name**: For this example Dave is given as first name.
5. Set **Last Name**: For this example Phone3 is used.
6. Set **Number**: This 4 digit extension number should be in the DID Range. For this example 5761 is used.
7. Set **License Type**: External and Mailbox is selected from the pull down menu.
8. Set **Access License**: personal is selected from the pull down menu.
9. Set **Caller ID**: The DID number which is assigned is given in the format as shown in figure.

10. Check **DID Range**.
11. Select the DID Range from the pull down menu.
12. Set **DID number**: This will be the number assigned to the phone. This number should be in the DID Range selected.
13. Set **PSTN Failover**: Select None from the pull down menu.
14. Set **user groups**: For this example Intelepeer is selected from the pull down menu.
15. Set **Primary Phone** Port:
16. Check **IP Phones**: Select the MAC address of the appropriate phone connecting to the user.

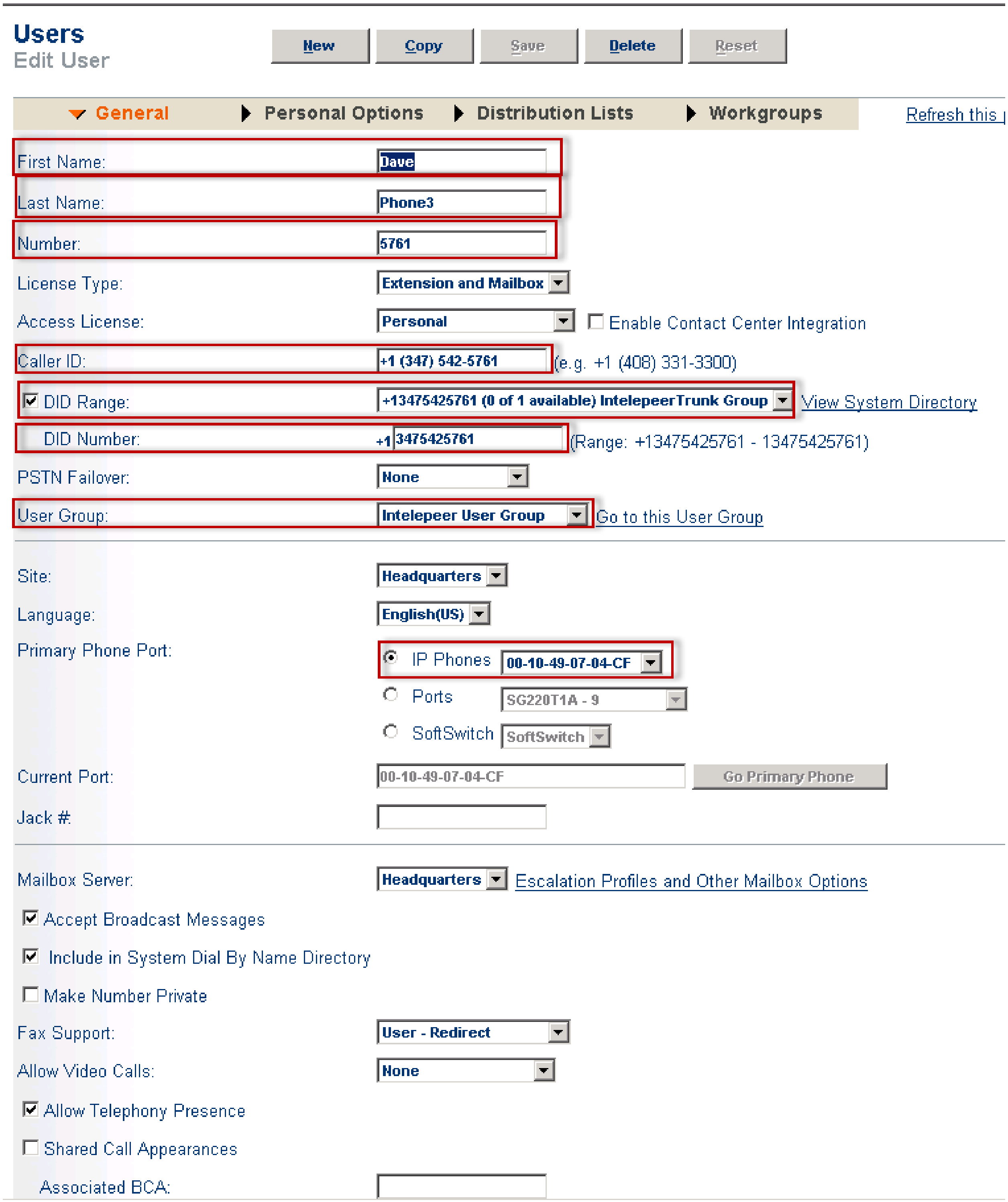


Figure 10 Add a New User cont.

1. Set **Client User ID**: dPhone3 is given for this example.
2. Set **Email Address**: dphone3@tekvizion.com is given for this example
3. Click **Save**.

4 InGate Configuration

4.1 Select Model

1. Click **Start up Tool TG Tool**.
2. Set **Please Select Model**: Ingate Firewall/SIParator is selected.
3. Click **Next**.

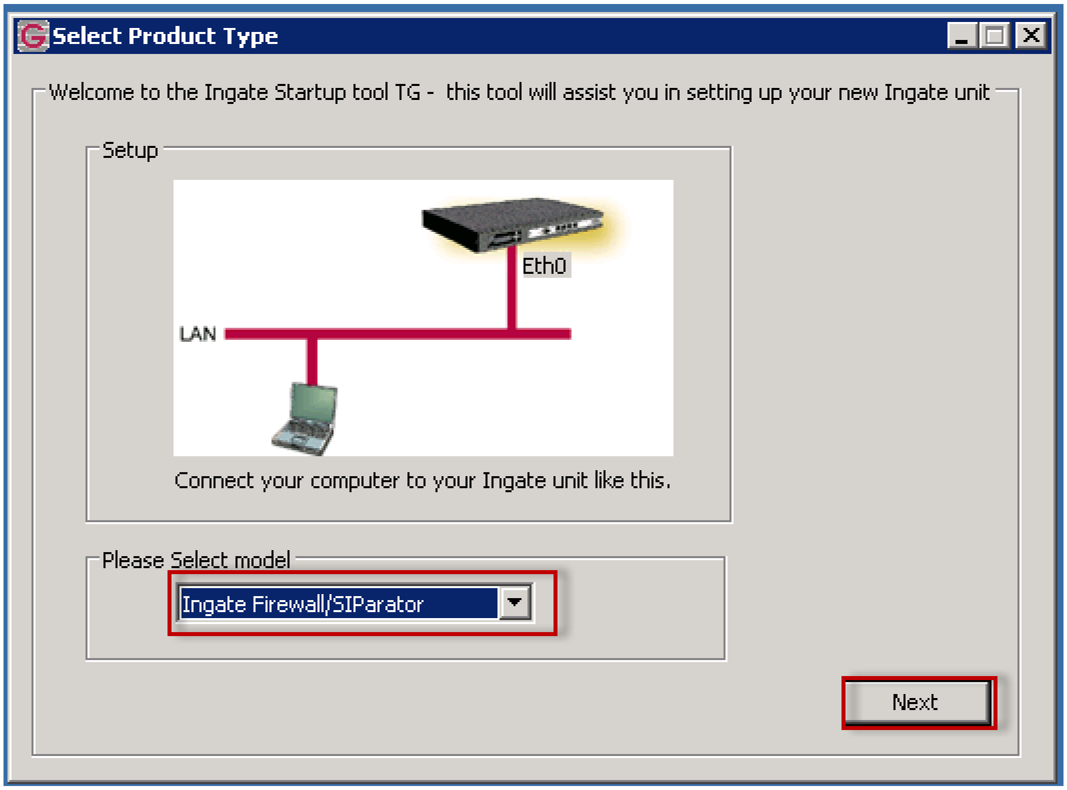


Figure 11 Select Model

4.2 Connect Ingate

1. Under **First select what you would like to do**:
2. Check **Change or update configuration of the unit**.
3. Check **Configure SIP trunking**.
4. Under **Establish contact**:
5. Set **IP Address**: This is the IP address of LAN side of Ingate. Please use the actual IP address of Ingate for your network. The IP Address used in this configuration is 10.65.1.50. The Ingate address may/will be different from this example.
6. Enter **Password**: **********.
7. Click **Contact**.

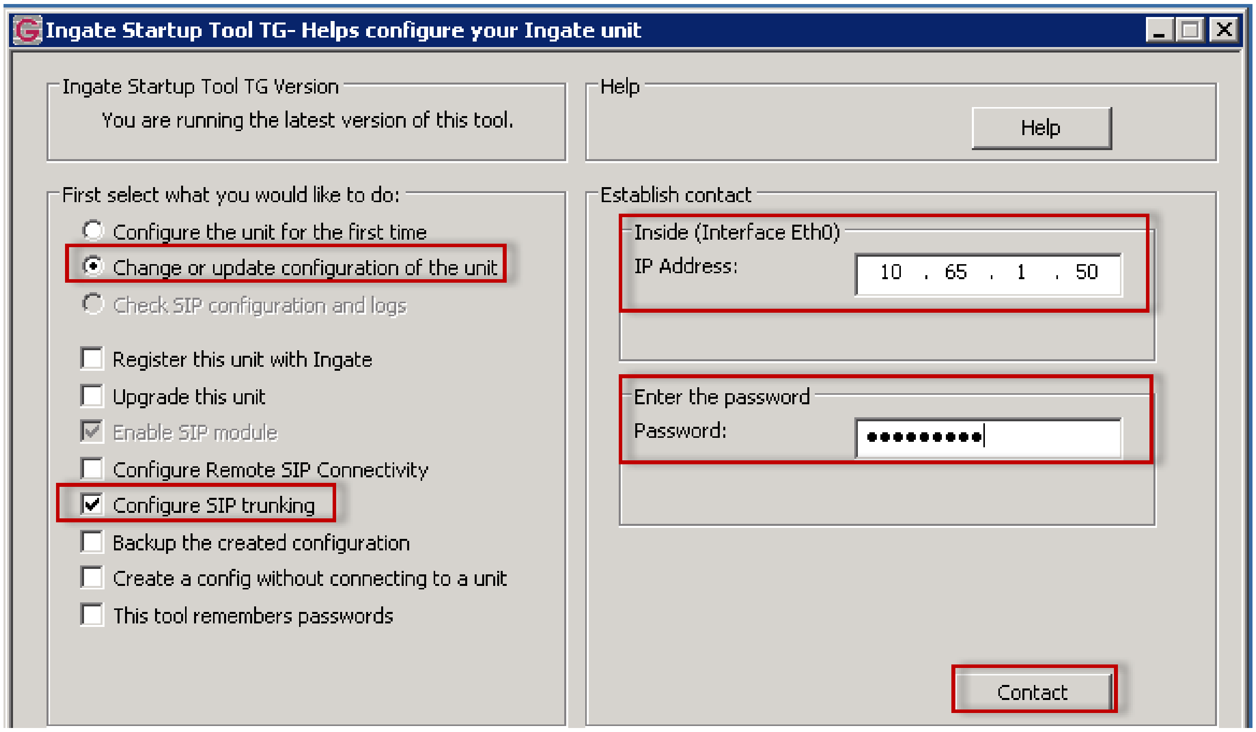


Figure 12 Connect Ingate

4.3 Network Topology

1. Set **Product Type**: Standalone SIParator is selected from the pull down menu.
2. Under **Inside(Interface Eth0)**:
3. Set **IP address**: This is the IP address of LAN side of Ingate. Please use the actual IP address of Ingate for your network. The IP Address used in this configuration is 10.65.1.50. The Ingate address may/will be different from this example.
4. Set **Netmask**: This is the Netmask for the IP address of "Inside (Interface Eth0)" entered in Network Topology
5. Under **Outside (Interface Eth1):**
6. Confirm **Use DHCP to obtain IP**: Unchecked
7. Set **IP Address**: Set IP address: This is the IP address of WAN side of Ingate. Please use the actual IP address of Ingate for your network. The Ingate WAN address may/will be different from this example.
8. Set **Netmask**: This is the Netmask for the IP address of Outside (Interface Eth1) entered in Network Topology.
9. Confirm **Allow https access to web interface from Internet** is Unchecked.
10. Set **Gateway**: Please use the actual Gateway IP address for your network. IP address may/will be different from this example.
11. Set **DNS Server(Primary)**: The primary DNS Server used here is 10.64.1.3. The IP address may/will be different from this example.

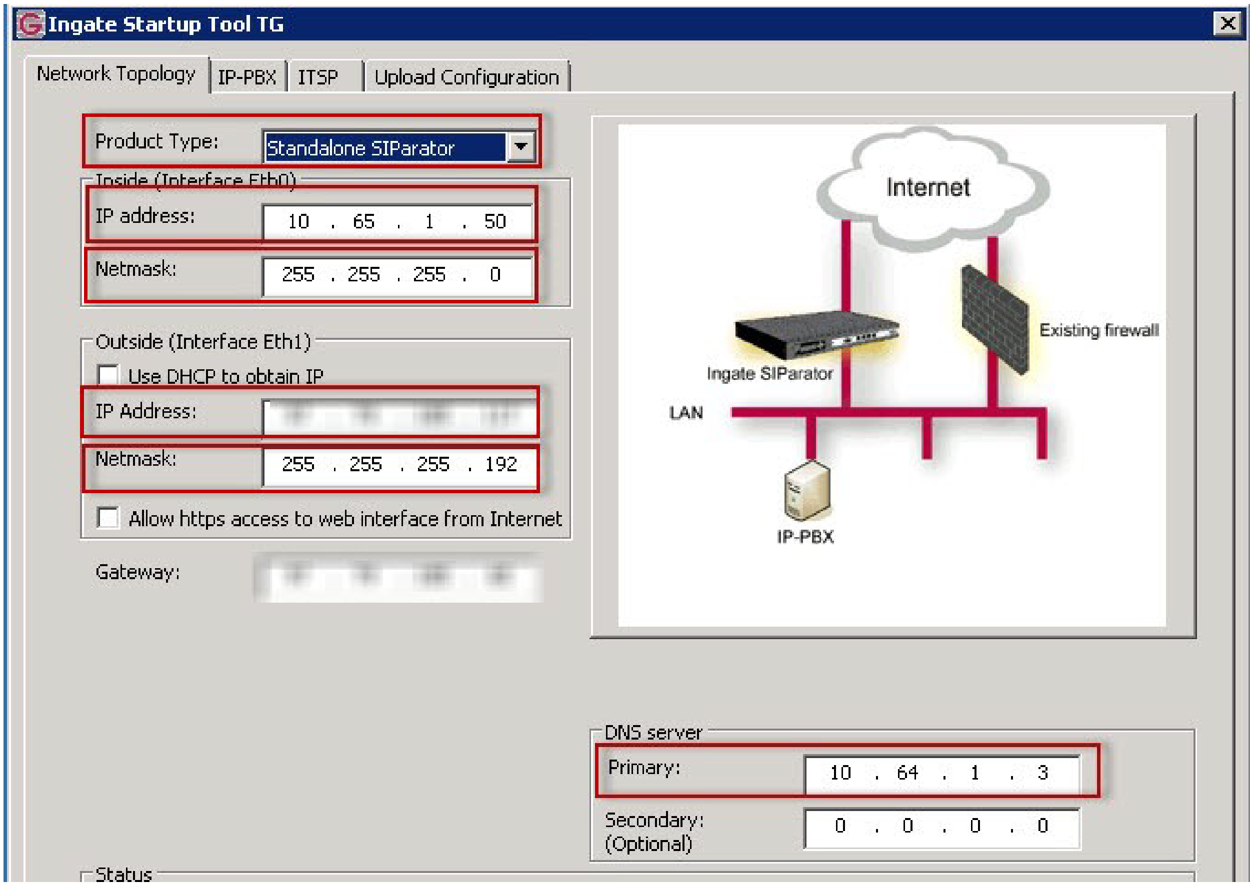


Figure 13 Network Topology

4.4 IP-PBX

1. Set **Type**: ShoreTel ShoreGear.
2. Set **IP Address**: Please the actual IP address of Shoretel PBX for your network. The IP Address used in this configuration is 10.65.1.4. The PBX IP address may/will be different from this example.
3. Conform **Use Domain Name** is Unchecked.

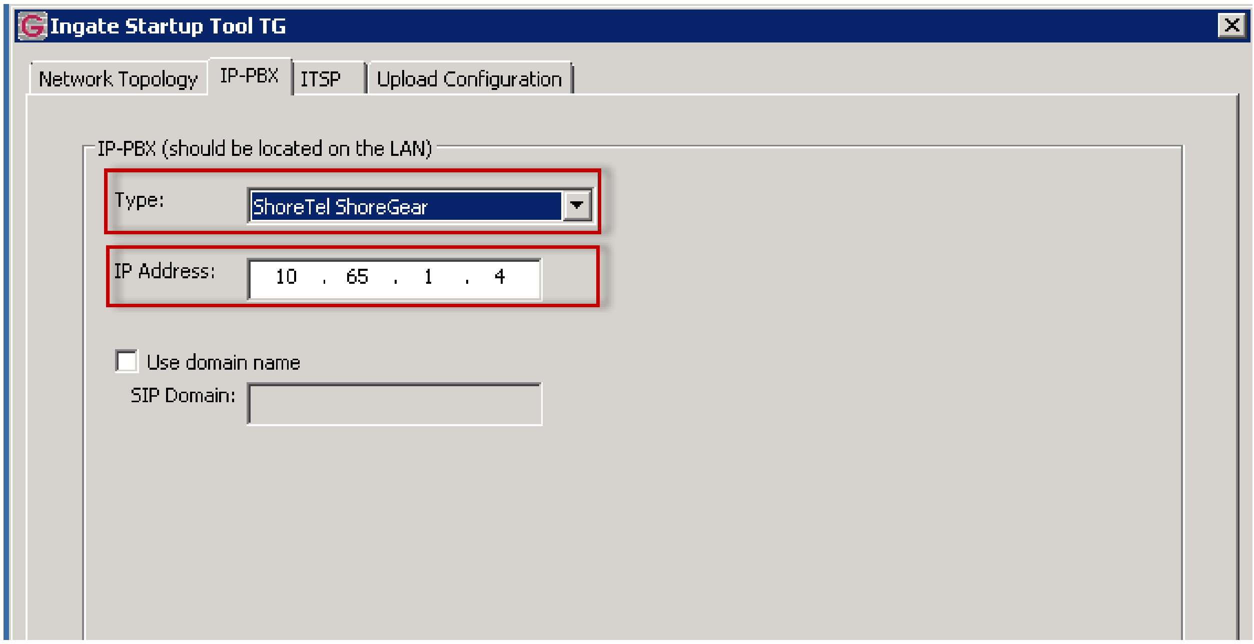


Figure 14 IP-PBX

4.5 Service Provider

1. Select **Name**: Generic(register main)
2. Under **Provider Address**
3. Set **IP Address**: Please use the actual IP address of signaling IP that is provided by the service provider.The IP address may/will be different from this example
4. Confirm **Use domain name** is Unchecked.
5. Uncheck **Authentication**.

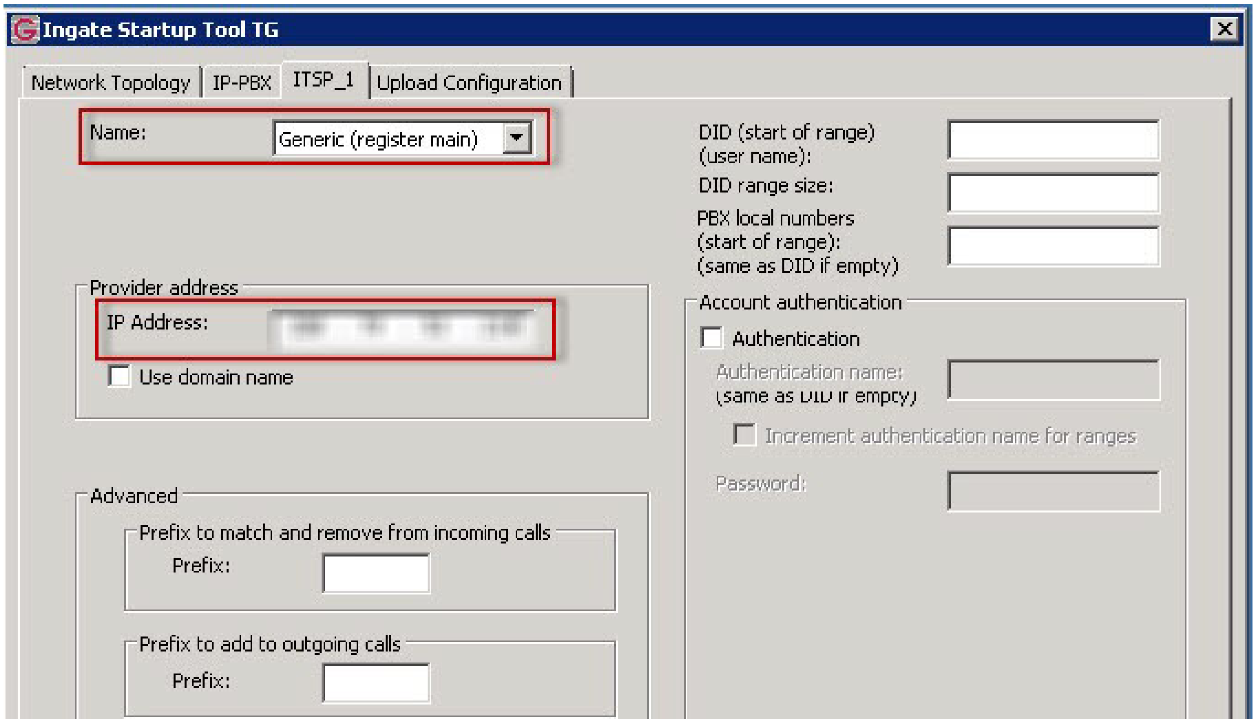


Figure 15 Service Provider

4.6 Upload Configuration

1. Under **Verbose Logging**(SIP debug):gs
2. Check **Enable**.
3. Under **Final step**:
4. Check **Logon to web GUI and apply settings**.
5. Click **Upload**.

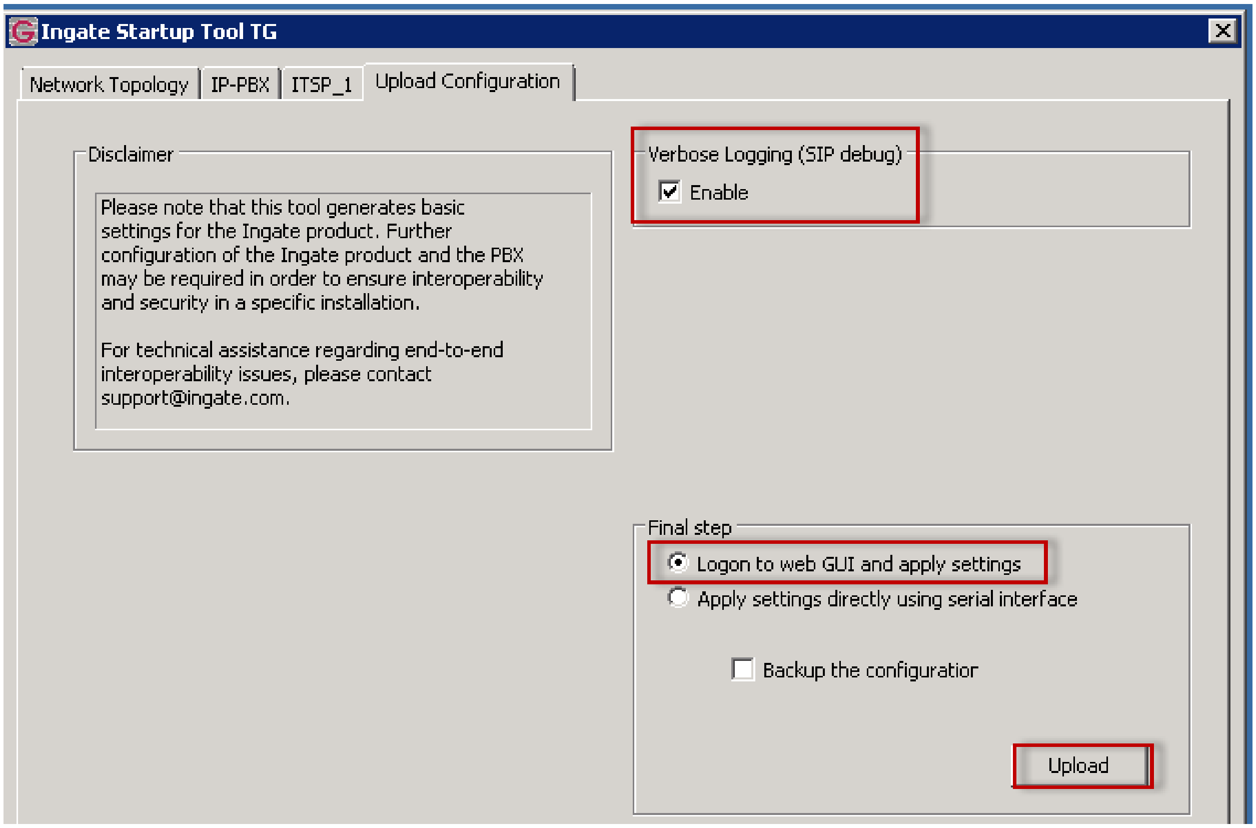


Figure 16 Upload Configuration

4.7 SIP Trunk

1. In Ingate Web GUI:
2. Navigate to **SIP Trunks > Trunk1**.
3. Under **SIP Trunk1**.
4. Check **Enable SIP Trunk**.
5. Under **SIP Trucking Service**:
6. Check **Define SIP Trunk Parameters**.
7. Set **Service name**: Generic (Register main).
6. Set **Service Provider Domain**: Signaling IP address provided by Service Provider. Please use the actual IP address. The IP Address used in this configuration is 208.79.53.214. The IP address may/will be different from this example.
8. Set **Restrict to calls from**: WAN.
9. Set **From header domain**:
10. Check **as entered**.
11. Set **From Domain**: Please use the actual IP address of Ingate WAN for your network. The Ingate WAN IP address may/will be different from this example.

Figure 17 SIP Trunk

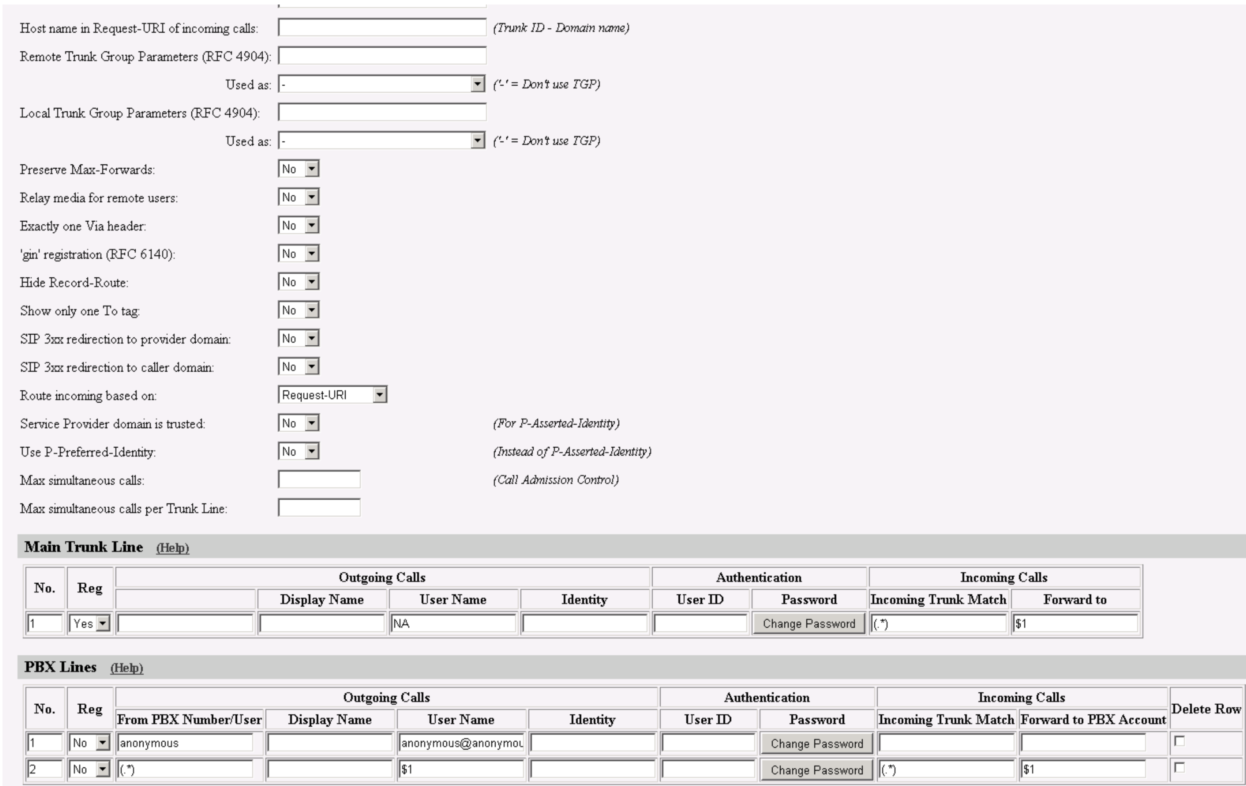
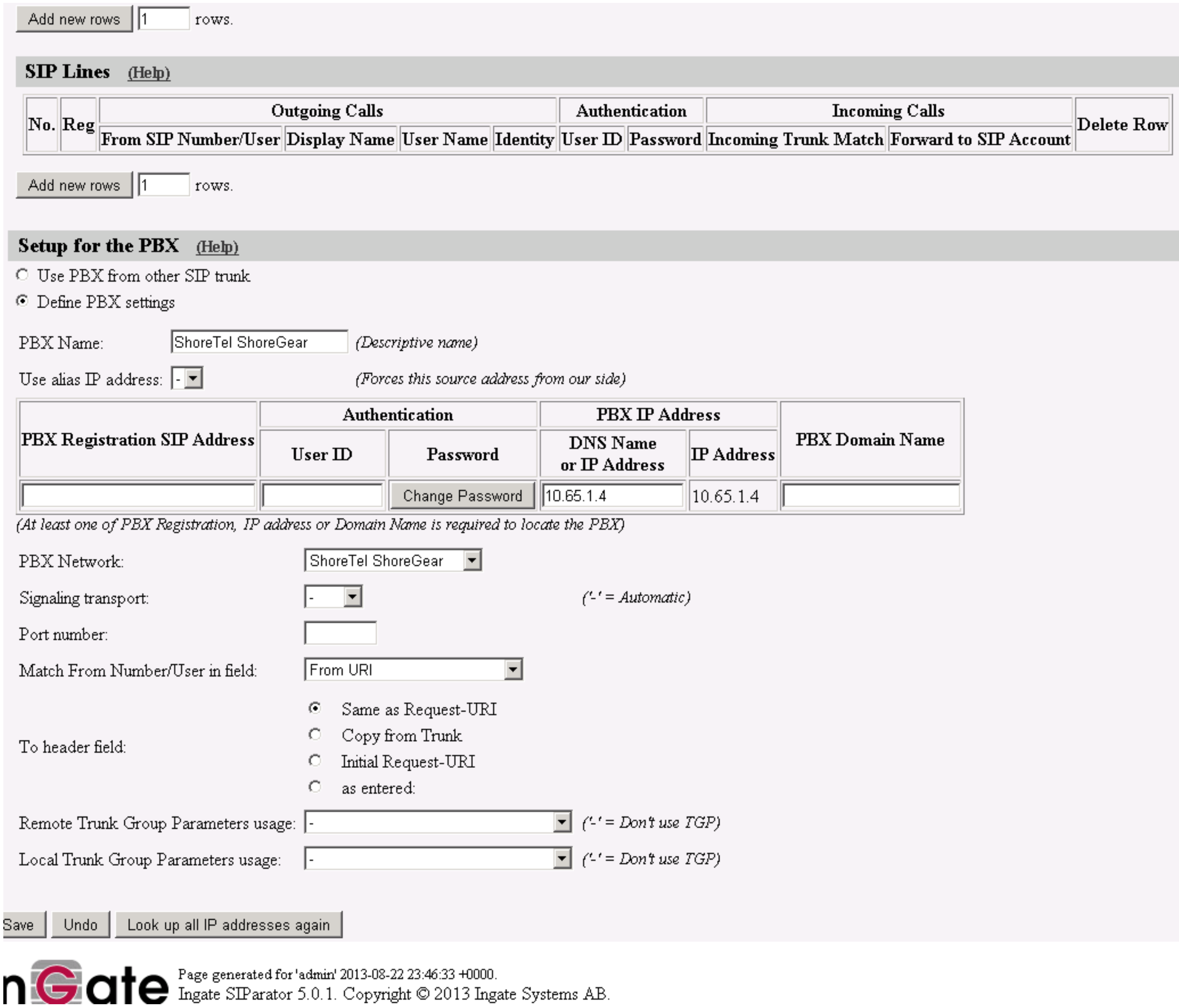


Figure 18: SIP Trunk conti..



Add new rows 1 rows.

SIP Lines (Help)

No.	Reg	Outgoing Calls				Authentication		Incoming Calls		Delete Row
		From SIP Number/User	Display Name	User Name	Identity	User ID	Password	Incoming Trunk Match	Forward to SIP Account	

Add new rows 1 rows.

Setup for the PBX (Help)

Use PBX from other SIP trunk

Define PBX settings

PBX Name: ShoreTel ShoreGear *(Descriptive name)*

Use alias IP address: - *(Forces this source address from our side)*

PBX Registration SIP Address	Authentication		PBX IP Address		PBX Domain Name
	User ID	Password	DNS Name or IP Address	IP Address	
		Change Password	10.65.1.4	10.65.1.4	

(At least one of PBX Registration, IP address or Domain Name is required to locate the PBX)

PBX Network: ShoreTel ShoreGear

Signaling transport: - *('-' = Automatic)*

Port number:

Match From Number/User in field: From URI

To header field: Same as Request-URI / Copy from Trunk / Initial Request-URI / as entered:

Remote Trunk Group Parameters usage: - *('-' = Don't use TGP)*

Local Trunk Group Parameters usage: - *('-' = Don't use TGP)*

Save Undo Look up all IP addresses again

Page generated for 'admin' 2013-08-22 23:46:33 +0000.

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Figure 19: SIP Trunk

The End.