UNIFY Harmonize your enterprise

OpenScape Business

Tutorial

Networking OpenScape Business – OpenScape Voice Configuration Guide

Version: 1.0

Contents

History

Issue	Date	Reason for Changes
1.0	04/12/2013	Initial creation of version 1.0

1.1. General

This section describes the configuration of SIP-Q networking between OpenScape Business and OpenScape Voice. To do this, you will have to configure settings on OpenScape Business Assistant. On OpenScape Voice, settings are made in the Common Management Portal and in StartCli. The Common Management Portal is also used for OpenScape Branch.

Contents

This section covers the following topics:

1.1.1. Prerequisites

• OpenScape Business Version 1

• OpenScape Voice Version 7 R1

1.1.2. Features and Restrictions in Networking

- Only a star networking topology is supported. This means that OpenScape Voice is always the central switch.
- OpenScape Business supports DNS SRV for OpenScape Voice Interworking.
- OpenScape Business is released in a branch environment only with OpenScape Branch proxies and DNS-SRV configuration.
- OpenScape Business Survivability features are only released with DNS-SRV configuration.
- T.38 Fax protocol is supported.
- Two OpenScape Business endpoints cannot be networked directly via IP Network.
- Path replacement is not supported and must be deactivated.
- Path optimization is not supported and must be deactivated.
- Rerouting is not supported and must be deactivated.
- MoH is not available when proxy is in Limited Mode. The connection to OpenScape Business remains silent when on hold.
- SIP registration (dynamic endpoint) configuration is only possible in direct topology (no proxies) using IP address scheme configuration.
- In case of DNS-SRV configuration OpenScape Business must be configured as static endpoint from OpenScape Voice side. OpenScape Voice is configured only as SIP server and not as SIP registrar.

1.2. Configuration for OpenScape Business

Contents

This section covers the following topics:

1.2.1. Basic Settings configuration in OpenScape Business Assistant

Procedure

1. Open OpenScape Business Assistant.

2. **Expert Mode** ->**Telephony Server** -> **Basic Settings** -> **System** -> **System flags**. The window "System Flags" is displayed.

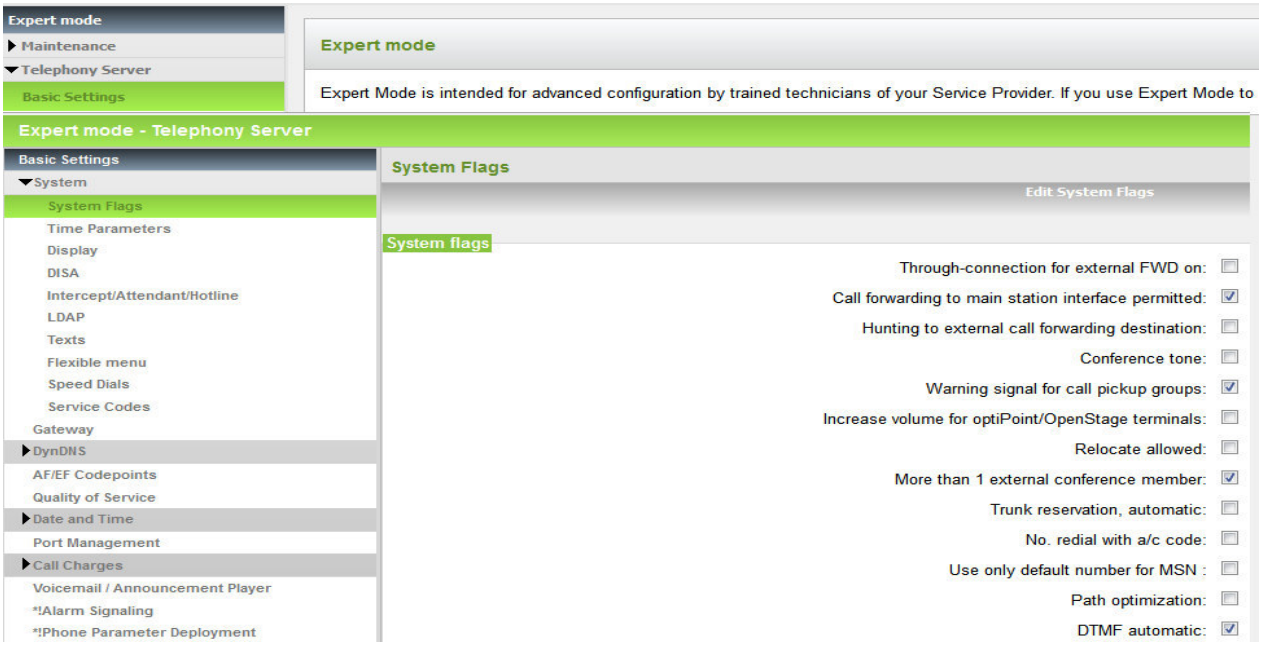
3. In the “System Flags” area, make the following settings:

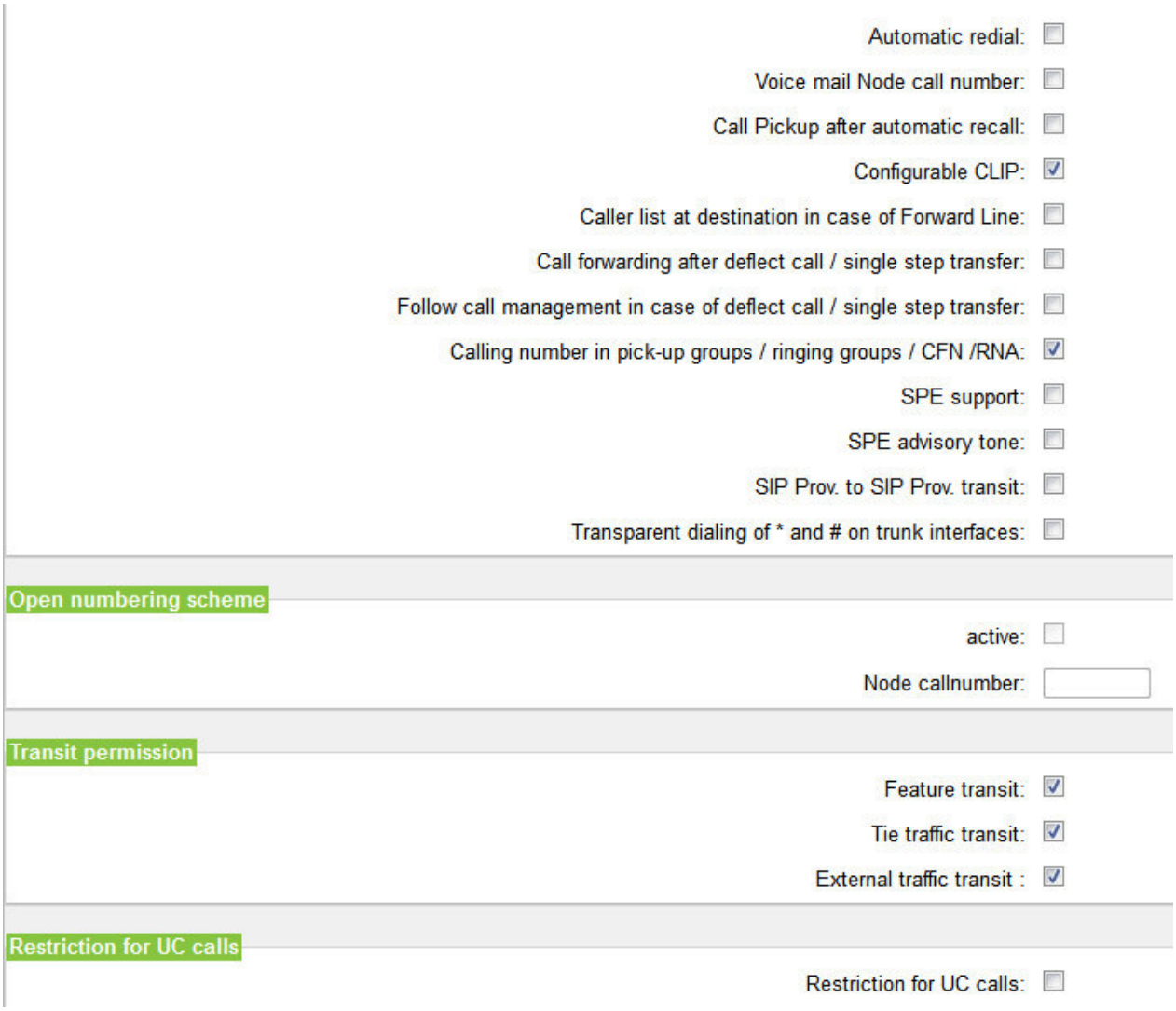
   - Path optimization: Deactivate the checkbox.
   - E.164 numbering scheme: Activate the checkbox (option available only in ManagerE).
   - If TLS is available:
     - SPE support: Activate the checkbox.
     - SPE advisory tone: Activate the checkbox.

4. In the "Transit permission" area, make the following settings:

   - External traffic transit: Activate the checkbox.

5. Click **Apply**. Your changes are saved.


Expert mode
Maintenance
Telephony Server
Basic Settings
Expert mode
Expert Mode is intended for advanced configuration by trained technicians of your Service Provider. If you use Expert Mode to
Expert mode - Telephony Server
Basic Settings
System
System Flags
Time Parameters
Display
DISA
Intercept/Attendant/Hotline
LDAP
Texts
Flexible menu
Speed Dials
Service Codes
Gateway
DynDNS
AF/EF Codepoints
Quality of Service
Date and Time
Port Management
Call Charges
Voicemail / Announcement Player
*!Alarm Signaling
*!Phone Parameter Deployment
System Flags
Edit System Flags
System flags
Through-connection for external FWD on:
Call forwarding to main station interface permitted:
Hunting to external call forwarding destination:
Conference tone:
Warning signal for call pickup groups:
Increase volume for optiPoint/OpenStage terminals:
Relocate allowed:
More than 1 external conference member:
Trunk reservation, automatic:
No. redial with a/c code:
Use only default number for MSN :
Path optimization:
DTMF automatic:


Automatic redial:
Voice mail Node call number:
Call Pickup after automatic recall:
Configurable CLIP:
Caller list at destination in case of Forward Line:
Call forwarding after deflect call / single step transfer:
Follow call management in case of deflect call / single step transfer:
Calling number in pick-up groups / ringing groups / CFN /RNA:
SPE support:
SPE advisory tone:
SIP Prov. to SIP Prov. transit:
Transparent dialing of * and # on trunk interfaces:
Open numbering scheme
active:
Node callnumber:
Transit permission
Feature transit:
Tie traffic transit:
External traffic transit :
Restriction for UC calls
Restriction for UC calls:

1.2.2. Trunk configuration in OpenScape Business Assistant

OpenScape Business supports two SIP interconnection trunks. One SIP interface must be assigned to the Osbiz – OSV interconnection. Usage of "SIP Interconnection 2" trunk type is recommended.

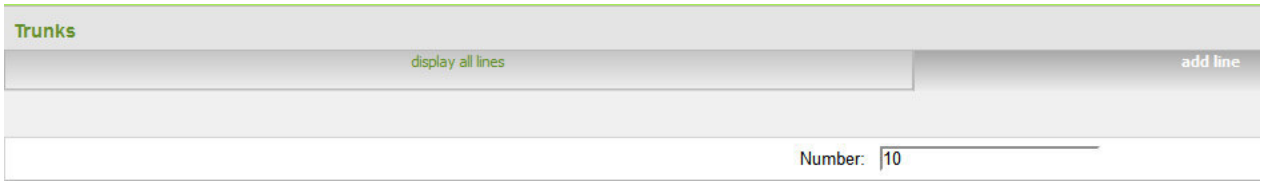
Contents

In Expert Mode of OpenScape Business Assistant, changes will be made on the following screens:

1.2.2.1. Telephony Server -> Trunks/Routing -> Trunks -> Lan

1. **Expert Mode** -> **Telephony Server** -> **Trunks/Routing** -> **Trunks** -> **LAN** -> select SIP Interconnection 2. Information about SIP Interconnection 2 trunk type will be displayed in "display all lines" tab.

2. Select "add line" tab and select the number of SIP Interconnection 2 trunks that will be created (i.e 10).



3. Click **Apply**. Your changes are saved.

4. Under "display all lines" tab, newly created trunks will be appeared and they will be automatically assigned to SIP INT 2 by default (Trunk Group 11).

display all lines | add line

Trunk	Box-SI-Pt-Li	Code	Route	Status	Type
Line 81	LAN 1-0-5-1	7881	SIP INT 2	active	SIP Interconnection 2
Line 82	LAN 1-0-5-2	7882	SIP INT 2	active	SIP Interconnection 2
Line 83	LAN 1-0-5-3	7883	SIP INT 2	active	SIP Interconnection 2
Line 84	LAN 1-0-5-4	7884	SIP INT 2	active	SIP Interconnection 2
Line 85	LAN 1-0-5-5	7885	SIP INT 2	active	SIP Interconnection 2
Line 86	LAN 1-0-5-6	7886	SIP INT 2	active	SIP Interconnection 2
Line 87	LAN 1-0-5-7	7887	SIP INT 2	active	SIP Interconnection 2
Line 88	LAN 1-0-5-8	7888	SIP INT 2	active	SIP Interconnection 2
Line 89	LAN 1-0-5-9	7889	SIP INT 2	active	SIP Interconnection 2
Line 90	LAN 1-0-5-10	7890	SIP INT 2	active	SIP Interconnection 2

1.2.2.2. Telephony Server -> Trunks/Routing -> Route (CO Route)

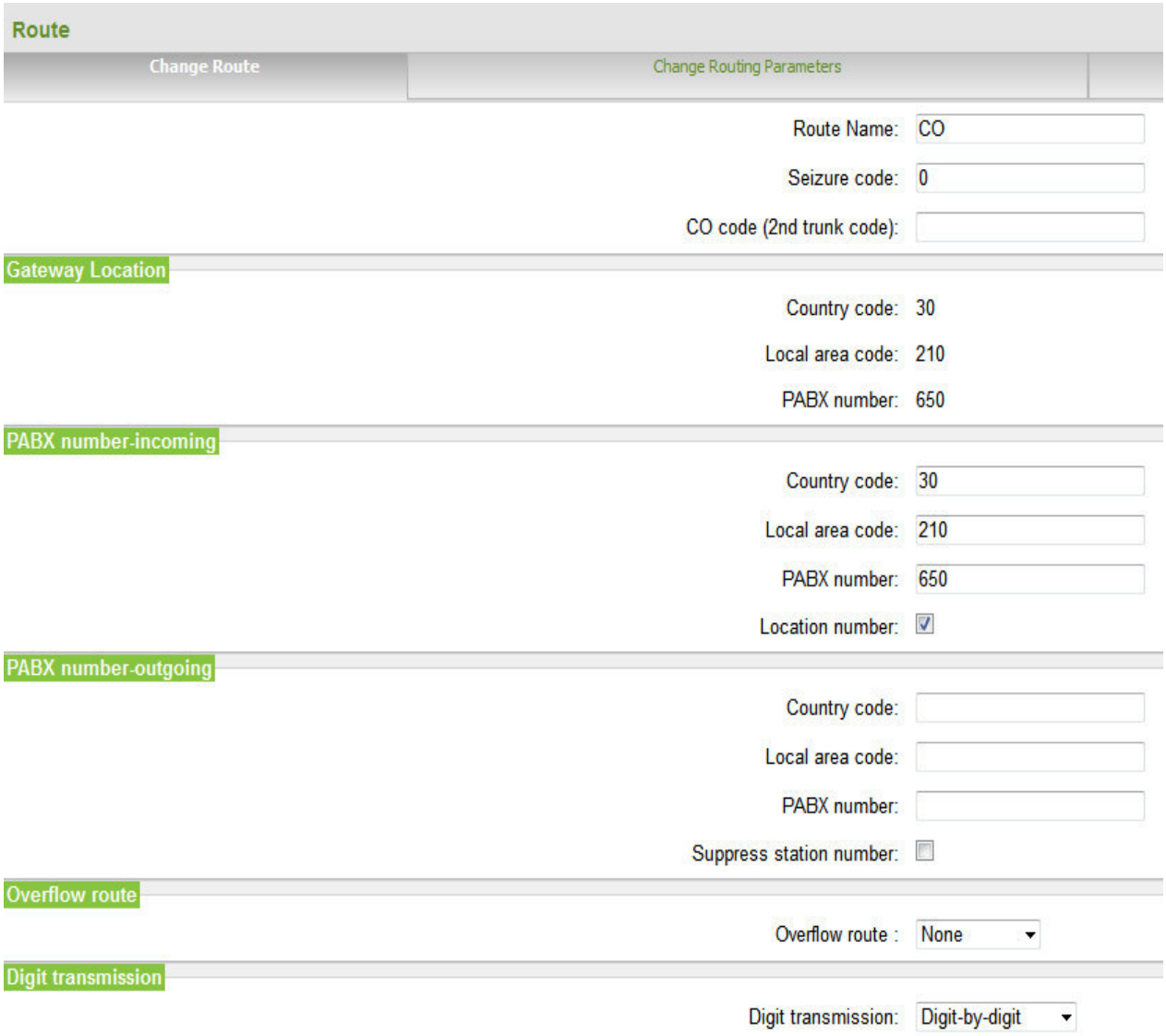
One route to the Carrier must be configured. To do this, proceed as follows:

1. **Expert Mode** -> **Telephony Server** -> **Trunks/Routing** -> **Trunks** -> **Route** -> select Route 1. Configuration options for Route 1 are displayed.

2. For **Route 1**, make the following settings:

- Route Name: **CO**
- PABX number-incoming: Enter the location number in the E.164 format for the country code, local area code and PABX number, for example:30, 210, 650.
- Location number: Activate the checkbox.

4. Click **Apply**. Your changes are saved.



1.2.2.3. Telephony Server -> Trunks/Routing -> Route (SIP INT2 Route)

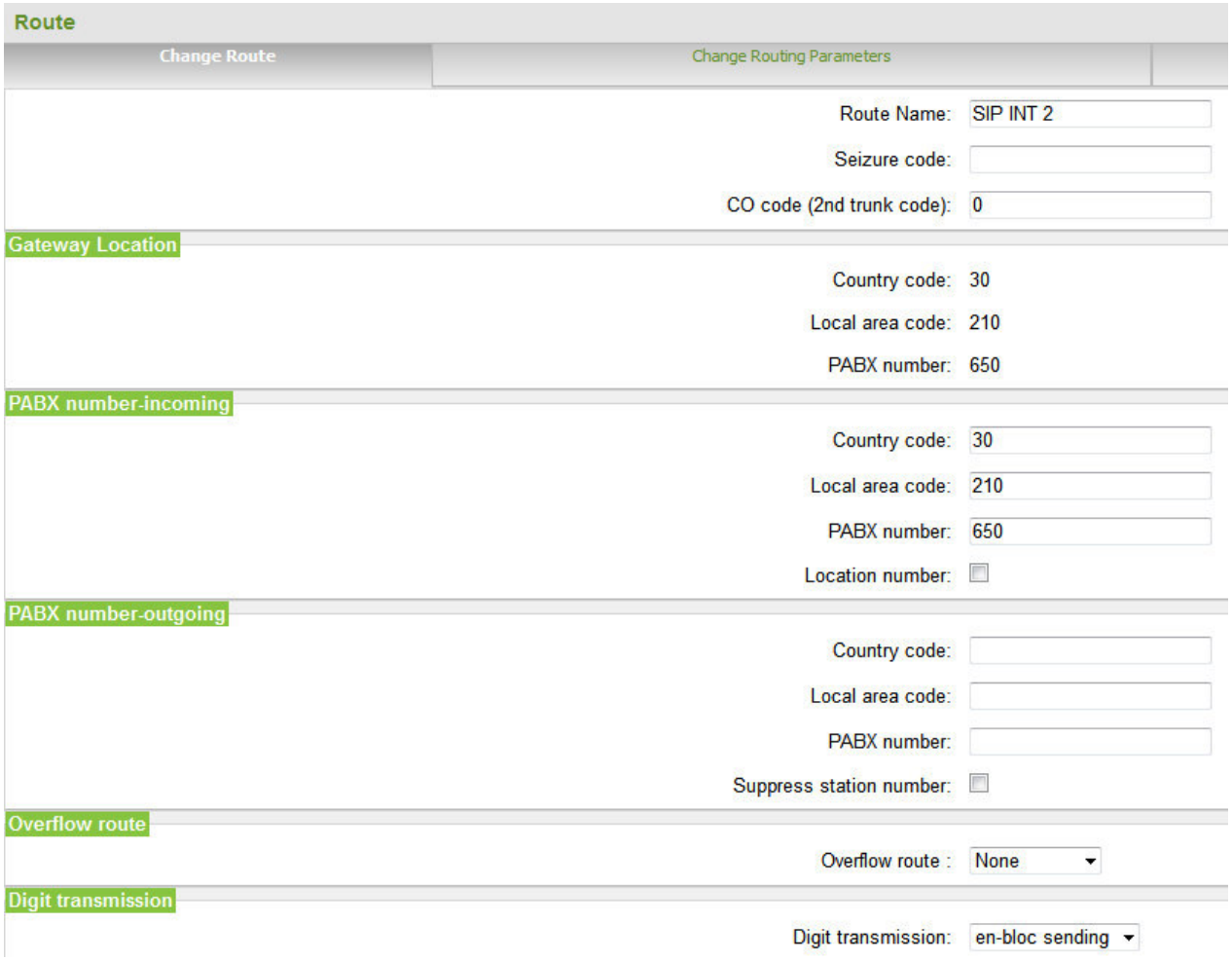
SIP INT 2 route to OpenScape Voice must be configured. To do this, proceed as follows:

1. **Expert Mode** -> **Telephony Server** -> **Trunks/Routing** -> **Trunks** -> **Route** -> select SIP INT 2 route (route 11). Configuration options for Route SIP INT 2 are displayed.

2. For **SIP INT 2**, make the following settings:

- Route Name/Name: **SIP INT2**
- 2nd trunk code: Enter **0** for the local PSTN access code
- PABX number-incoming: Enter the location number in the E.164 format for the country code, local area code and system number. This number is generally the same as the number entered for route "CO" (see previous section), in this example: **30, 210, 650**.
- Digit transmission: **en-bloc sending**

4. Click **Apply**. Your changes are saved.


Route
Change Route
Change Routing Parameters
Route Name: SIP INT 2
Seizure code:
CO code (2nd trunk code): 0
Gateway Location
Country code: 30
Local area code: 210
PABX number: 650
PABX number-incoming
Country code: 30
Local area code: 210
PABX number: 650
Location number:
PABX number-outgoing
Country code:
Local area code:
PABX number:
Suppress station number:
Overflow route
Overflow route : None
Digit transmission
Digit transmission: en-bloc sending

1.2.2.4. Telephony Server -> Trunks/Routing -> Route -> Routing Parameters (SIP INT2 Route)

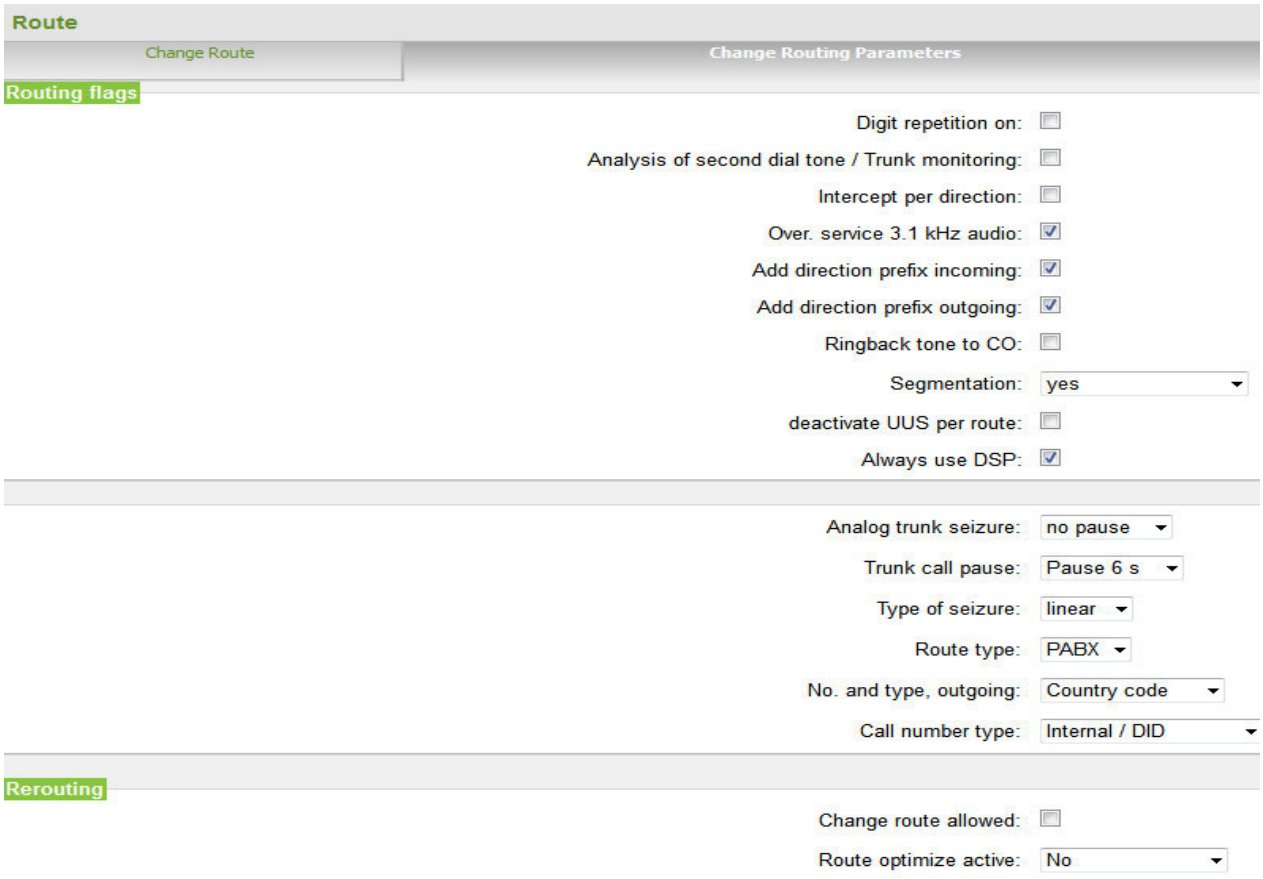
You must set routing parameters for the "Hp8k" route created in the previous section. To do this, proceed as follows:

1. **Expert Mode** -> **Telephony Server** -> **Trunks/Routing** -> **Trunks** -> **Route** -> **SIP INT2** -> select **Routing parameters**. The tab “Change Routing Parameters” for SIP INT 2 route is displayed.

2. For "SIP INT 2", make the following settings:

- **Always use DSP**: Activate the checkbox.
- Route type: **PABX**
- No. and type, outgoing: **Country code**
- Call number type: **Internal / DID**
- Route optimize active: **No**

4. Click **Apply**. Your changes are saved.



1.2.3. Voice Gateway configuration in OpenScape Business Assistant

This section covers the following topics:

Section 1.2.3.1, "Voice Gateway -> Codec Parameters"

Section 1.2.3.2, "Voice Gateway -> SIP Parameters"

Section 1.2.3.3, "Voice Gateway -> SIP Interconnection -> OpenScape Voice (IP Address)"

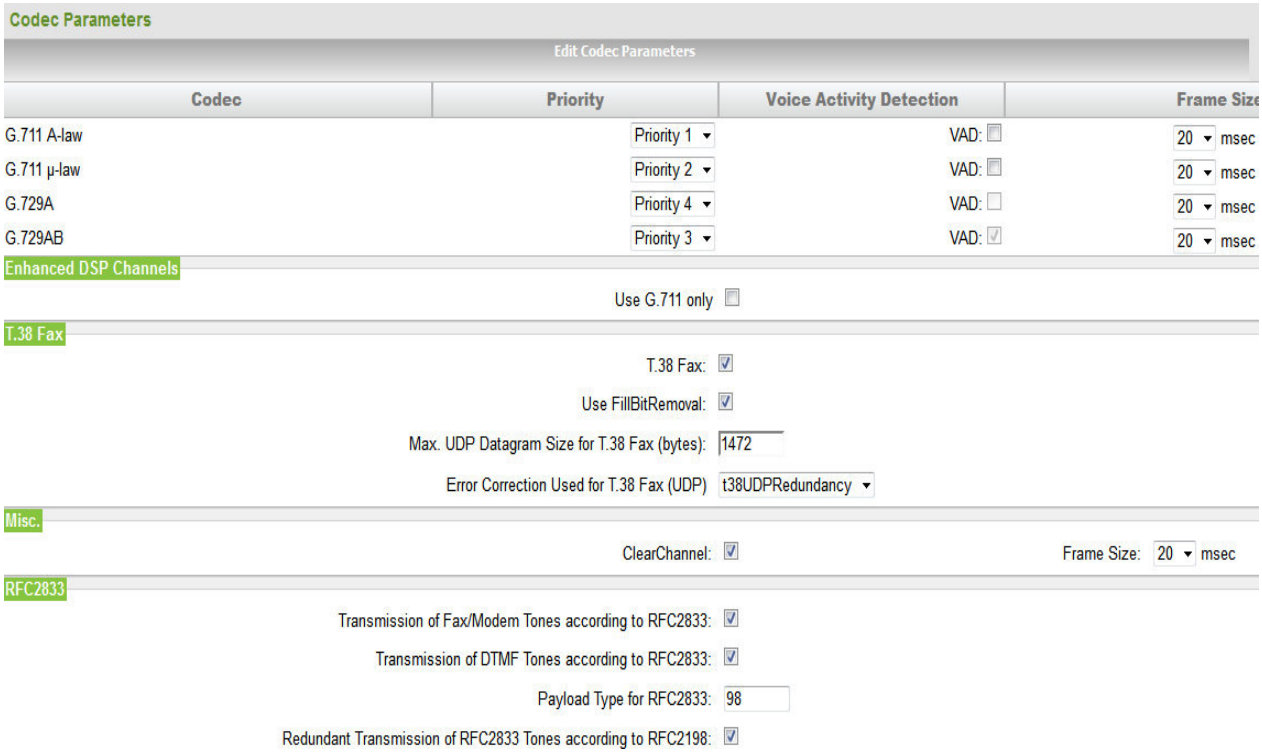
Section 1.2.3.4, "Voice Gateway -> SIP Interconnection -> OpenScape Voice (DNS-SRV)"

Section 1.2.3.5, "Voice Gateway -> SIP Interconnection -> OpenScape Voice (Digest Authentication)"

1.2.3.1. Expert Mode -> Telephony Server -> Voice Gateway -> Codec Parameters

Proceed as follows:

1. Go to **Expert Mode** -> **Telephony Server** -> **Voice Gateway** and select **Codec Parameters**.
2. Configure **G711 A-law** with **Priority 1** and **20ms** as Frame Size.
3. Configure **G711 µ-law** with **Priority 2** and **20ms** as Frame Size.
4. T.38 Fax: **Activate** the checkbox.
5. Use FillBitRemoval: **Activate** the checkbox.
6. Error Correction Used for T.38 Fax (UDP): Select **t38UDPRedundancy**
7. Transmission of Fax/Modem Tones according to RFC2833: **Activate** the checkbox
8. Transmission of DTMF Tones according to RFC2833: **Activate** the checkbox
9. Payload Type for RFC2833: Configure value **98**
10. Click **Apply**. Your changes are saved.



1.2.3.2. Expert Mode -> Telephony Server -> Voice Gateway -> SIP Parameters

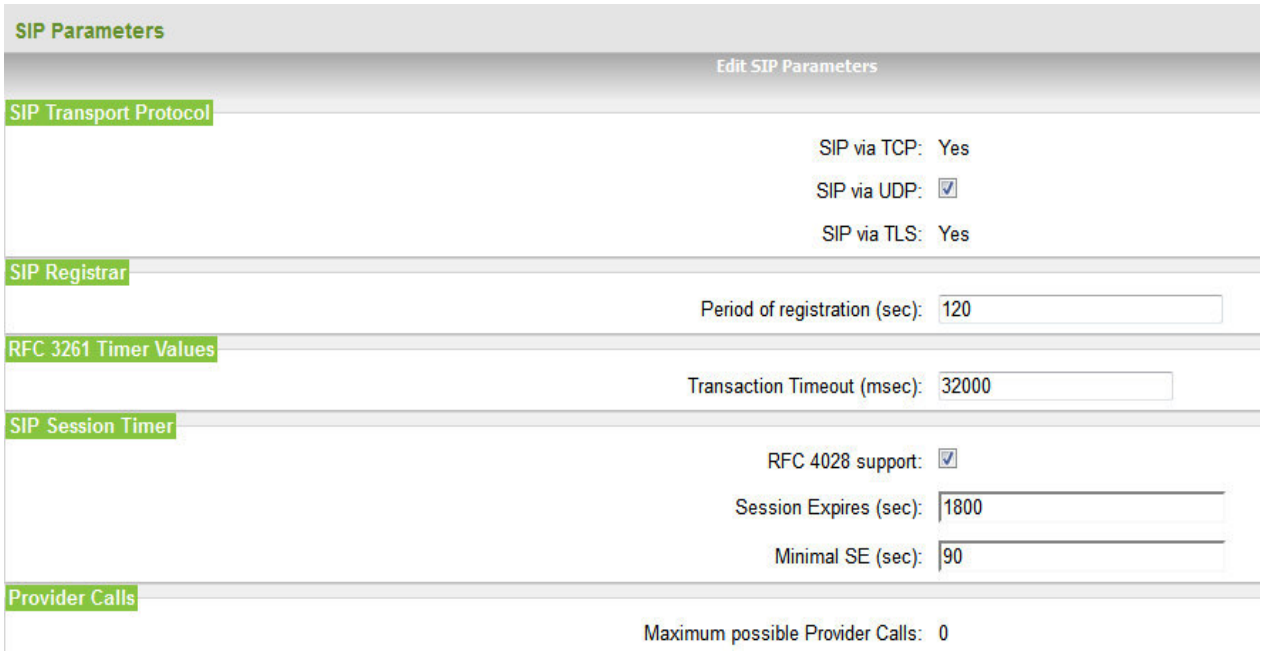
Proceed as follows:

1. Go to **Expert Mode** -> **Telephony Server** -> **Voice Gateway** and select **SIP Parameters.**
2. Configure the SIP parameters to the default values. These are:
    - SIP transport protocol
        - SIP via TCP: **Yes**
        - SIP via UDP: **Yes**
        - SIP via TLS: **Yes**
    - SIP Registrar
        - Period of registration (sec): **120**
    - RFC 3261 Timer Values
        - Transaction Timeout (msec): **32000**
    - SIP session timer
        - RFC 4028 Support: **Yes**
        - Session Expires (sec): **1800**

- Minimal SE (sec): **90**

- Provider calls
  - Maximum possible Provider Calls: **0**

3. Click **Apply**. Your changes are saved.



1.2.3.3. Voice Gateway -> SIP Interconnection -> OpenScape Voice (IP Address)

Direct interconnection to OpenScape Voice via SIP Registration is only release with IP Address configuration. No survivability features are possible with this type of interconnection.

Parameters for the OpenScape Voice must be set. To do this, proceed as follows:

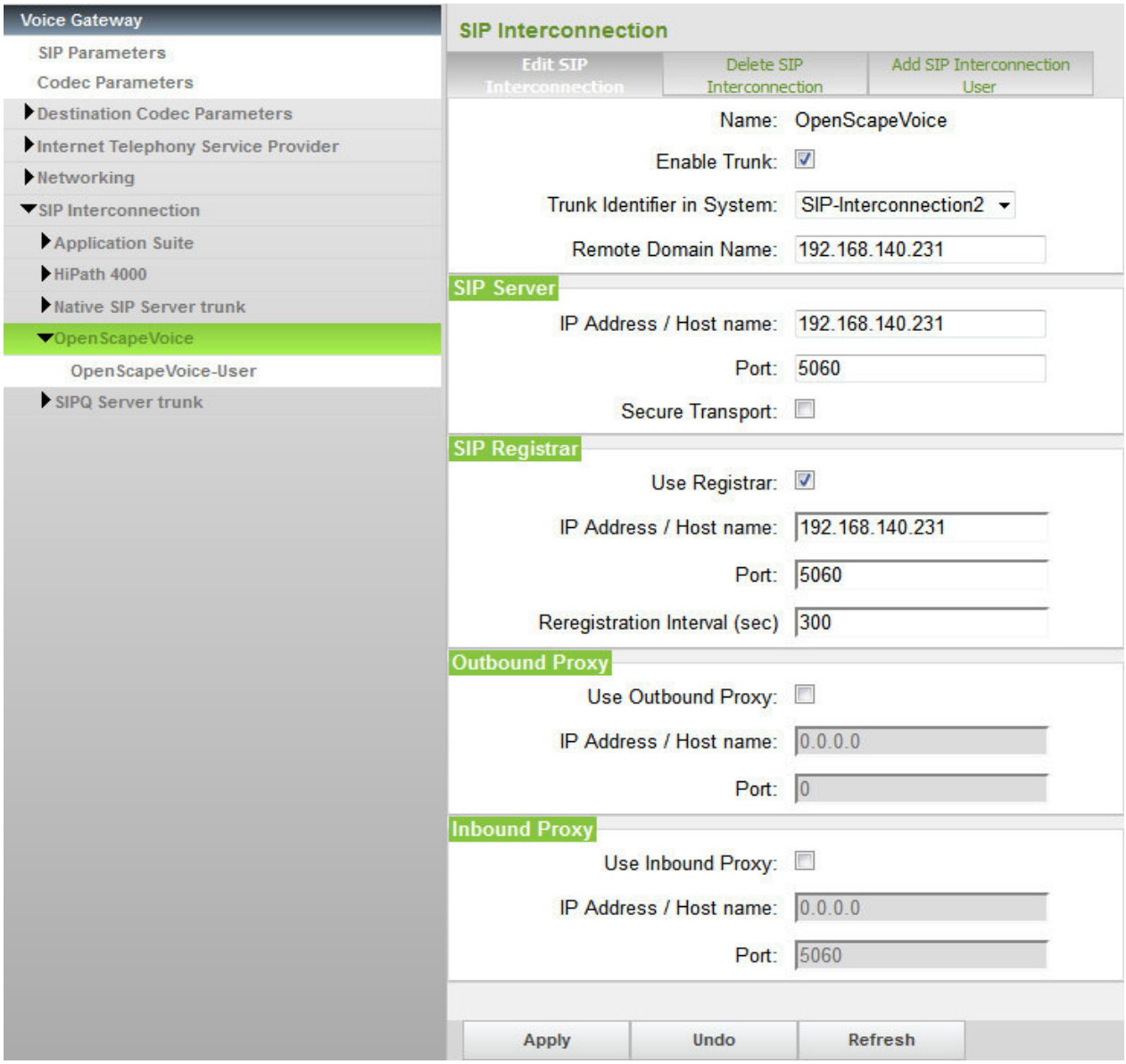
1. **Expert Mode** -> **Telephony Server** -> **Voice Gateway** -> **SIP Interconnection** and select **OpenScape Voice**. The tab “Edit SIP Interconnection” is displayed.

2. Make the following settings in the "Edit SIP Interconnection" tab:

- Enable Trunk: **Activate** the checkbox.
- Trunk Identifier in System: Select **SIP-Interconnection2**.
- Remote Domain Name: IP Address of **sipsm1**.
- SIP Server
  - IP Address / Host name: IP Address of **sipsm1**.
  - Port: **5060**.
  - Secure Transport: **Deactivate** the check box.

- SIP Registrar
    - Use Registrar: **Activate** the checkbox.
    - IP Address / Host name: IP Address of **sipsm1**.
    - Port: **5060**.
    - Reregistration Interval (sec): **300**.
- Outbound Proxy (**Check box must be deactivated**)
- Inbound Proxy (**Check box must be deactivated**

3. Click **Apply**. Your changes are saved.



1.2.3.4. Voice Gateway -> SIP Interconnection -> OpenScape Voice (DNS-SRV)

DNS SRV interconnection type assumes that: a) a DNS server has been installed and configured in the environment with the appropriate domains and SRV records, b) DNS SRV query for FQDN of OSV (sipsm1) is resolved from DNS server and c) the DNS server is configured in OpenScape Business.

Openscape Business generates the followed type of DNS SRV query: _sip._tcp.domain_name. In case of OpenScape Branch configuration, sipsm1 and openscape branch must share the same Fully Qualified Domain Name (i.e. sip.osv.net)

```
⊟ Queries
  ⊞ _sip._tcp.sip.osv.net: type SRV, class IN
⊟ Answers
  ⊞ _sip._tcp.sip.osv.net: type SRV, class IN, priority 10, weight 100, port 5060, target openbranch.osv.net
  ⊞ _sip._tcp.sip.osv.net: type SRV, class IN, priority 20, weight 100, port 5060, target sipsm1.osv.net
```

Survivability features are only available with DNS-SRV configuration.

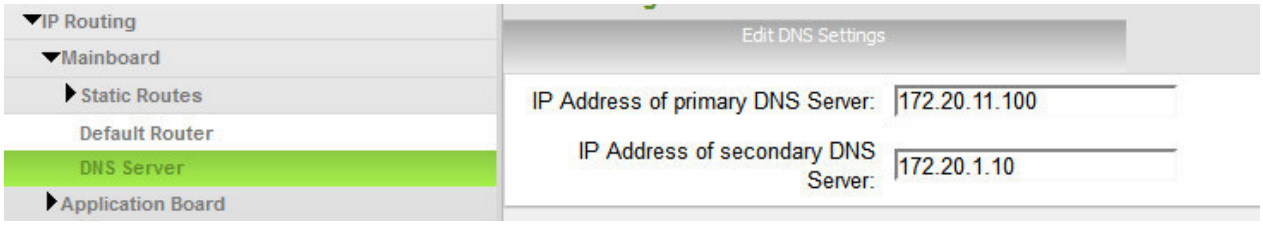
Parameters for the DNS Server must be set. To do this, proceed as follows:

1. **Expert Mode** -> **Telephony Server** -> **Routing** -> **IP Routing** -> **Mainboard** and select **DNS Server** option. The tab “Edit DNS Settings” is displayed.

2. Make the following settings in the "Edit DNS Settings" tab:

- IP Address of Primary DNS Server: IP Address of **Primary DNS Server**.
- IP Address of Secondary DNS Server: IP Address of Secondary **DNS Server (optional)**.

3. Click **Apply**. Your changes are saved.



Parameters for the OpenScape Voice must be set. To do this, proceed as follows:

1. **Expert Mode** -> **Telephony Server** -> **Voice Gateway** -> **SIP Interconnection** and select **OpenScape Voice**. The tab “Edit SIP Interconnection” is displayed.

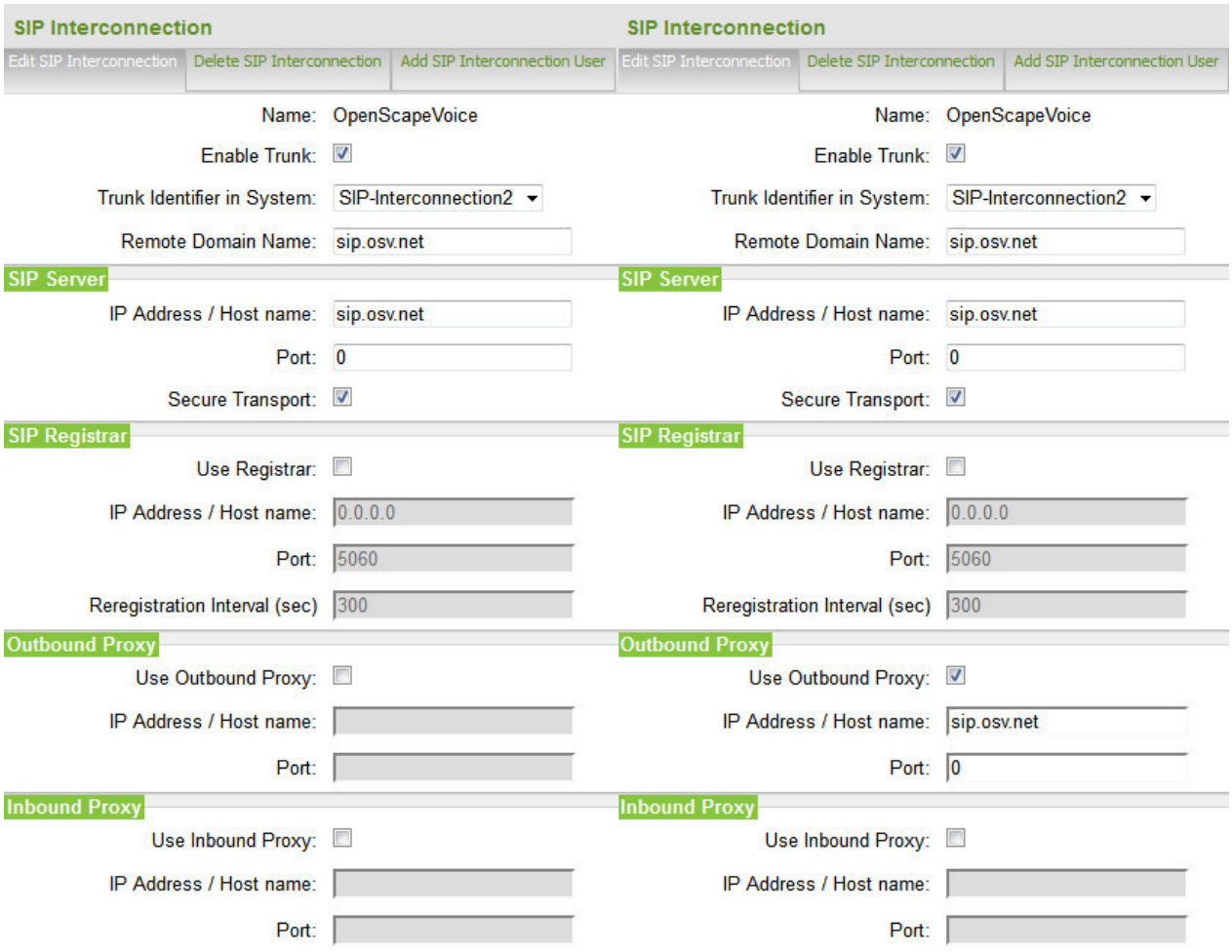
2. Make the following settings in the "Edit SIP Interconnection" tab:

- Enable Trunk: **Activate** the checkbox.
- Trunk Identifier in System: Select **SIP-Interconnection2**.
- Remote Domain Name: **Fully Qualified Domain Name** (i.e. sip.osv.net).
- SIP Server
  - IP Address / Host name: **Fully Qualified Domain Name** (i.e. sip.osv.net).
  - Port: **0**.
  - Secure Transport: **Deactivate** the check box.
- SIP Registrar (**Check box must be deactivated**)
- Outbound Proxy (**Check box must be activated in case of OpenScape Brach)**
  - Use Outbound Proxy: **Activate** the checkbox.

- IP Address / Host name: **Fully Qualified Domain Name** (i.e. sip.osv.net).
- Port: **0**.

- Inbound Proxy (**Check box must be deactivated**

3. Click **Apply**. Your changes are saved.



1.2.3.5. "Voice Gateway -> SIP Interconnection -> OpenScape Voice (Digest Authentication)"

Parameters for the OpenScape Voice must be set. To do this, proceed as follows:

1. **Expert Mode** -> **Telephony Server** -> **Voice Gateway** -> **SIP Interconnection** -> **OpenScape Voice** and select **OpenScape Voice-User**. The tab "Edit SIP Interconnection User" is displayed.

Make the following settings in the "Edit SIP Interconnection User" window:

- UserId: i.e. **OpenScapeVoice-User**.

- Authorization name: i.e. **OpenScapeVoice-User**.
- Password: **Enter the password**.
- Confirm password: **Re-enter the password to confirm**.

1.2.4. TLS Configuration

This section covers the following topics:

Section 1.2.4.1, “Telephony Server -> Basic Settings -> Date and Time -> SNTP Settings”

Section 1.2.4.2, “Telephony Server -> Basic Settings -> System -> System Flags”

Section 1.2.3.3, “Telephony Server -> Security -> Signaling and Payload Encryption”

Section 1.2.3.5, "Telephony Server -> Station -> Station Payload Security”

Section 1.2.3.6, "Voice Gateway -> SIP Interconnection -> OpenScape Voice (TLS)”

1.2.4.1. “Telephony Server -> Basic Settings -> Date and Time -> SNTP Settings”

Enter the NTP server address. To do this, proceed as follows:

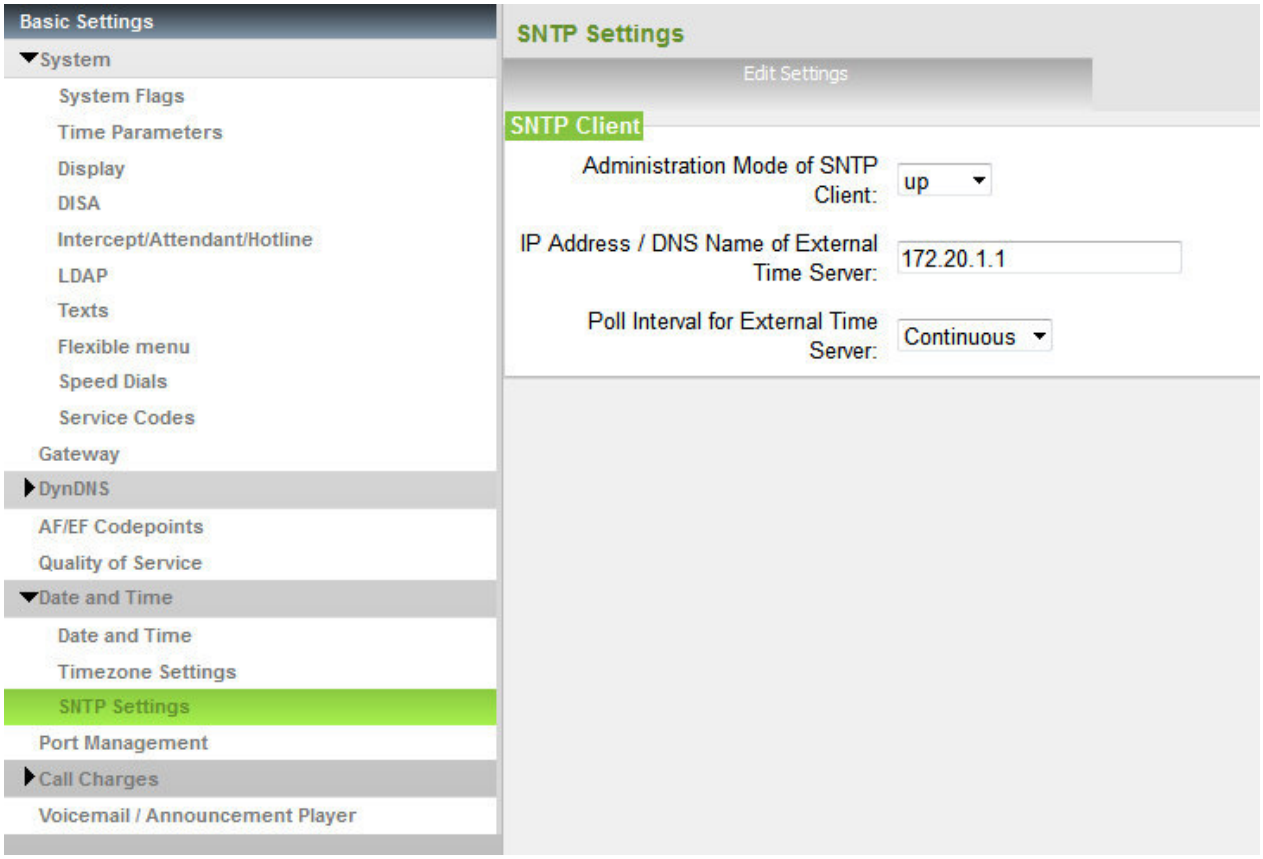
1. **Telephony Server** -> **Basic Settings** -> **Date and Time** -> select **SNTP Settings**. The "Edit SNTP Settings" tab is displayed.

2. In the "Edit SNTP Settings" area, make the following settings:

- Administration Mode of SNTP Client: Select **UP**
- IP Address / DNS Name of External Time Server: Enter the **IP address** of SNTP Server
- Poll Interval for External Time Server: Configure “**Continuous**” Polling

> **Attention:** For TLS connections, the same time must be set for all connections. This is achieved by all components using the same NTP server.

3. Click **Apply**. Your changes are saved.



1.2.4.2. "Telephony Server -> Basic Settings -> System -> System Flags"

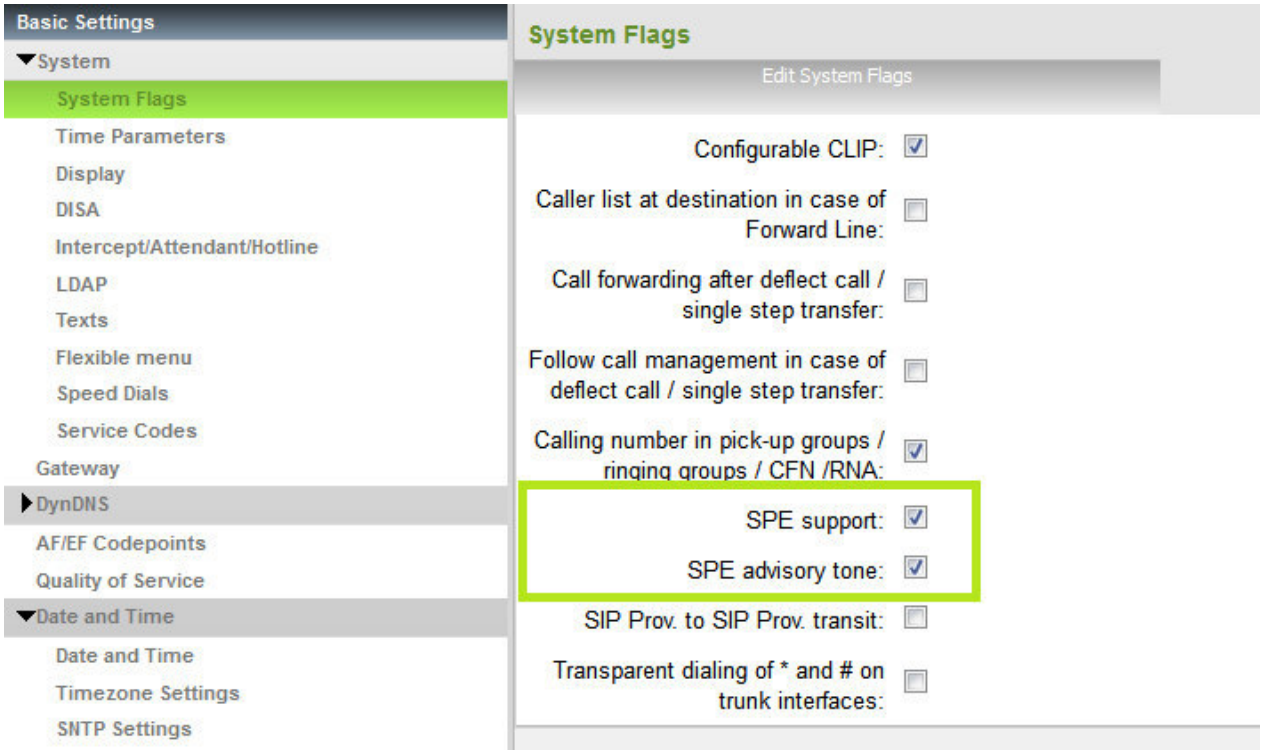
1. Go to **Expert Mode** ->**Telephony Server** -> **Basic Settings** -> **System and** select **System flags**. The window "System Flags" is displayed.

2. In the "System Flags" area, make the following settings:

- SPE support: **Activate** the checkbox.
- SPE advisory tone: **Activate** the checkbox.

3. Click **Apply**. Your changes are saved.

4. Changes are only applied after system restart.



1.2.4.3. "Telephony Server -> Security -> Signaling and Payload Encryption"

Overview

For Signaling and Payload Encryption via TLS two Certificates must be imported to OpenScape Business (certificate with private key & CA certificate).

Certificates exported from OpenScape Voice must be used (rootcert.pem and client.pem).

client.pem is located in OpenScape Voice in the folder /usr/local/ssl/private

rootcert.pem must be created by using the root.pem.
Copy the file root.pem from OpenScape Voice /usr/local/ssl/certs and rename it to rootcert.pem.
Use an editor to delete RSA-private-key (text from BEGIN RSA PRIVATE KEY to END RSA PRIVATE KEY).

Proceed as follows to configure Signaling and Payload Settings (SPE) and to import the certificates:

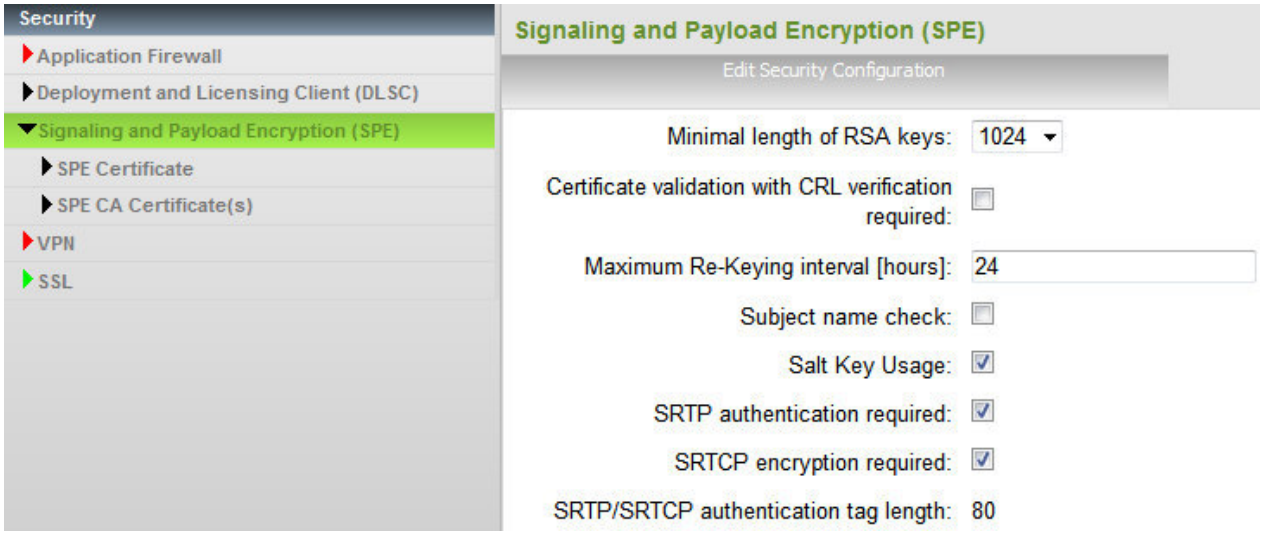
1. Go to **Expert Mode** ->**Telephony Server** -> **Security** and select **Signaling and Payload Encryption (SPE)**. The tab "Signaling and Payload Encryption (SPE)" is displayed.

2. In the "Edit Security Configuration" area, make the following settings:

- Minimal length of RSA Keys: Select **1024**.
- Certificate validation with CRL verification required: **Deactivate** the checkbox.
- Maximum Re-Keying interval [hours]: **24** hours (default value).
- Subject name check: **Deactivate** the checkbox.

- Salt Key Usage: **Activate** the checkbox.
- SRTP authentication required: **Activate** the checkbox.
- SRTCP encryption required: **Activate** the checkbox.
- SRTP/SRTCP authentication tag length: **80** (default value).

3. Click **Apply**. Your changes are saved.



Proceed as follows to import the CA Certificate:

1. Go to **Expert Mode** ->**Telephony Server** -> **Security** -> **Signaling and Payload Encryption (SPE)** and select **SPE CA Certificate(s)**. The tab "Import trusted CA Certificate (X.509 file) for SPE" is displayed.

2. In the configuration area, make the following settings:

- File with certificate (PEM or binary): Click “Browse” and select the **rootcert.pem** file.

3. Press button “View Fingerprint of Certificate”. The fingerprint is displayed.

4. Press button “Import Certificate from File”. Certificate is imported.

Proceed as follows to import the CA Certificate:

1. Go to **Expert Mode** ->**Telephony Server** -> **Security** -> **Signaling and Payload Encryption (SPE)** and select **SPE Certificate**. The tab "Import SPE certificate plus private key (PKCS#12 file)" is displayed.

2. In the configuration area, make the following settings:

- Passphrase for decryption: **No passphrase configuration.**
- File with certificate and private key (PEM or PKCS#12 format): Click “Browse” and select the **client.pem** file.

3. Press button “View Fingerprint of Certificate”. The fingerprint is displayed.

4. Press button “Import Certificate from File”. Certificate is imported.

1.2.4.4. "Voice Gateway -> Station -> Station Payload Security”

When SPE is activated, payload security option must be configured to “ON” for all supported station types.

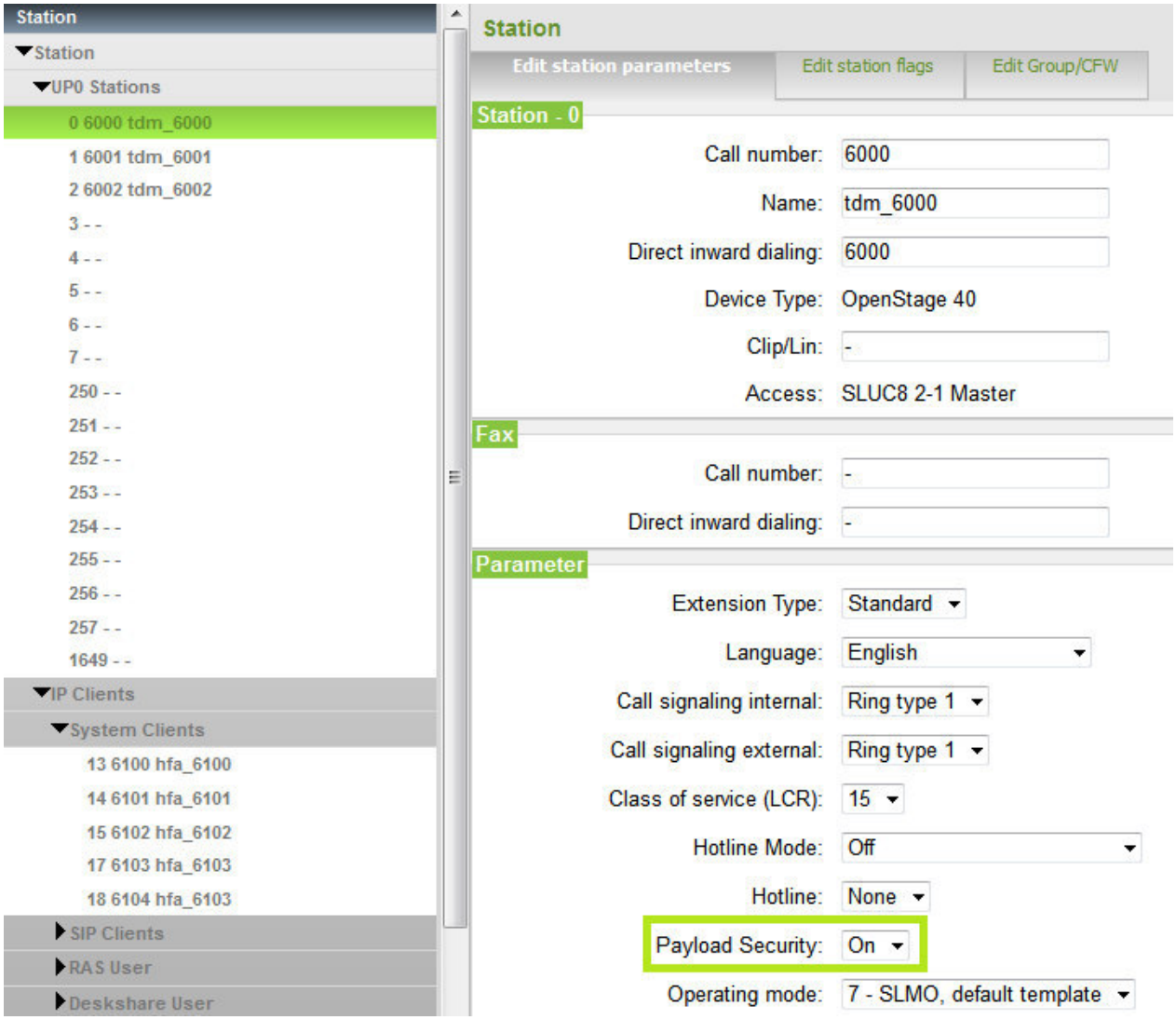
1. Go to **Expert Mode** ->**Telephony Server** -> **Station** -> **Station and** select a specific station (e.g UP0 6000). The window "Edit Station Parameter" tab is displayed.

2. In the “Edit Station Parameter” area, make the following setting:

- Payload Security: Configure **ON**.

3. Click **Apply**. Your changes are saved.

4. Apply the same configuration to all **active supported** stations.



1.2.4.5. "Voice Gateway -> SIP Interconnection -> OpenScape Voice (TLS)"

In order to configure TLS for the SIP interconnection trunk you have to follow the steps described in sections 1.2.3.3 and 1.2.3.4.

Voice Gateway -> SIP Interconnection -> OpenScape Voice (IP Address)

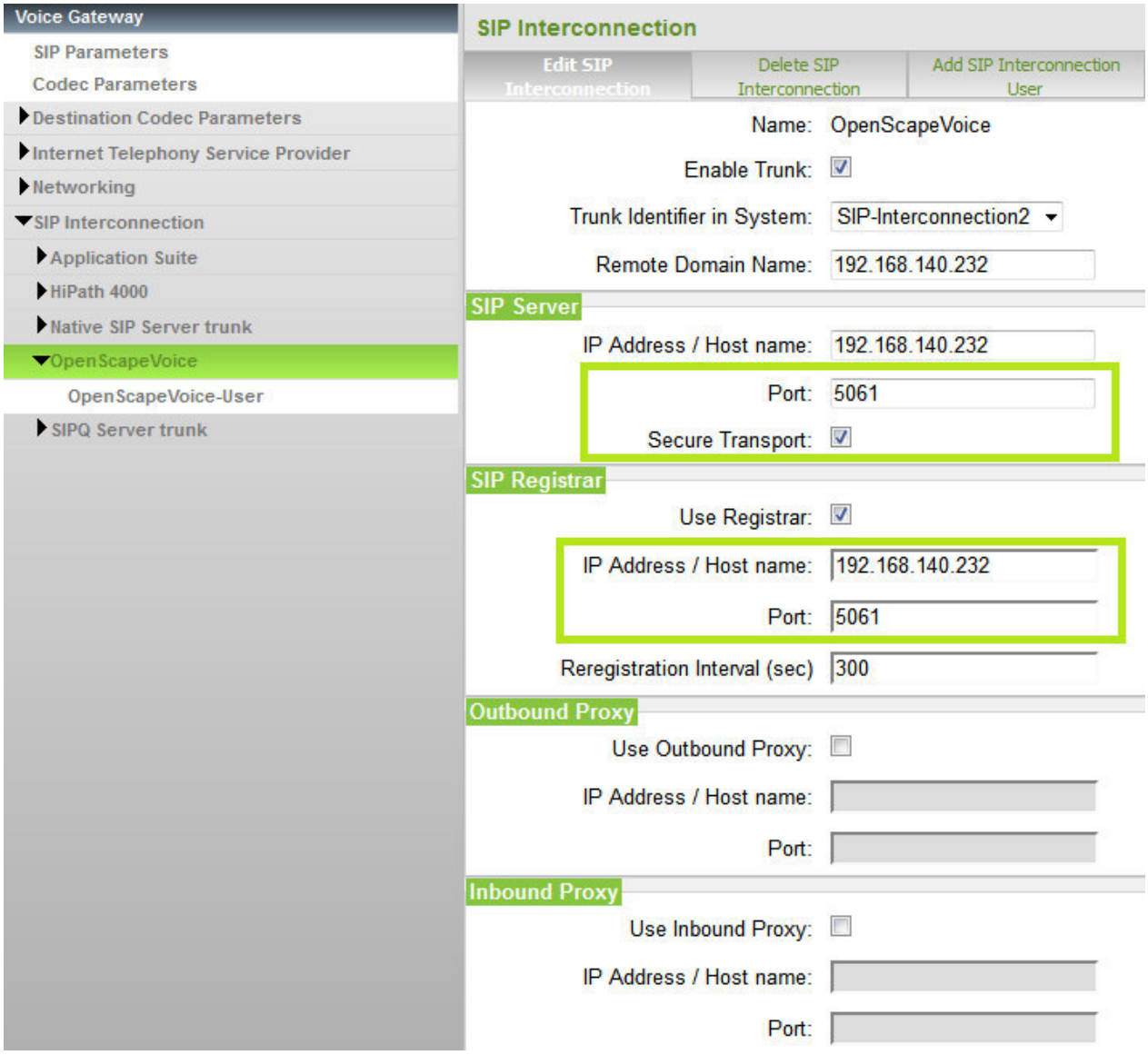
Parameters for the OpenScape Voice must be set. To do this, proceed as follows:

1. **Expert Mode** -> **Telephony Server** -> **Voice Gateway** -> **SIP Interconnection** and select **OpenScape Voice**. The tab "Edit SIP Interconnection" is displayed.

2. Make the following settings in the "Edit SIP Interconnection" tab:

- Enable Trunk: **Activate** the checkbox.
- Trunk Identifier in System: Select **SIP-Interconnection2**.
- Remote Domain Name: IP Address of **sipsm3**.
- SIP Server
  - IP Address / Host name: IP Address of **sipsm3**.
  - Port: **5061**.
  - Secure Transport: **Activate** the check box.
- SIP Registrar
  - Use Registrar: **Activate** the checkbox.
  - IP Address / Host name: IP Address of **sipsm3**.
  - Port: **5061**.
  - Reregistration Interval (sec): **300**.
- Outbound Proxy (**Check box must be deactivated**)
- Inbound Proxy (**Check box must be deactivated**

3. Click **Apply**. Your changes are saved.



Voice Gateway -> SIP Interconnection -> OpenScape Voice (DNS-SRV)

For enabling TLS in DNS-SRV interconnection, steps in 1.2.3.4 must be followed. The only difference is that "**secure transport**" checkbox must be **activated** and **FQDN of sipsm3** must be used. No other configuration is necessary from OpenScape Business side.

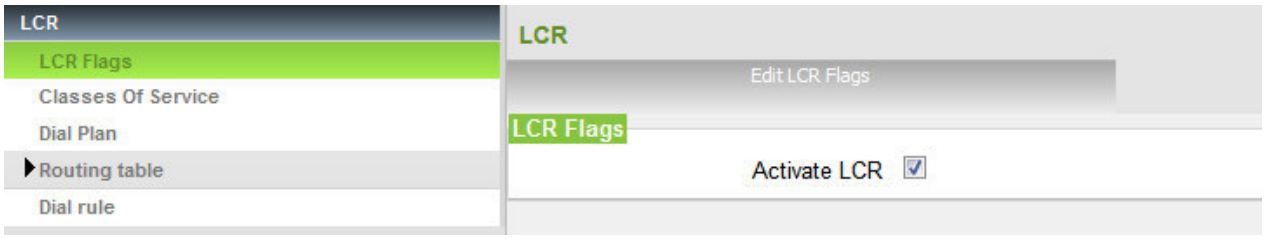
Openscape Business generates the followed type of DNS SRV query for TLS: _sips._tcp.domain_name. In case of OpenScape Branch configuration, sipsm3 and openscape branch must share the same Fully Qualified Domain Name (i.e. sip.osvsec.net).

1.2.5. Least Cost Routing

1.2.5.1. Basic settings

Proceed as follows:

1. **Expert Mode** -> **Telephony Server** -> **LCR** and select **LCR Flags.** The "Edit LCR Flags" tab is displayed.
2. Make the following settings:
    - Activate LCR: **Activate** the checkbox.
3. Click **Apply**. Your changes are saved.



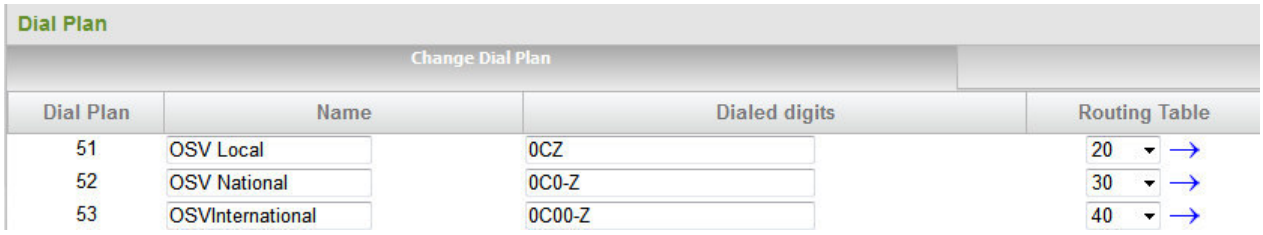
4. **Expert Mode** -> **Telephony Server** -> **LCR** and select Classes of Service.
6. Make the following settings:
    - Class of Service: Configure Class of Service **14** to all endpoints.

1.2.5.2. Least cost routing to CO (Carrier)

Overview

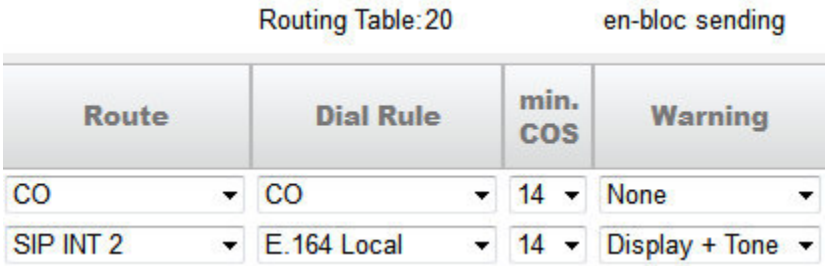
The first route should lead to the CO. As an option, a second route can be configured for least cost routing to OpenScape Voice. This route is only used to bridge trunk failures. During a trunk failure, calls are routed to OpenScape Voice (with a transition to another OpenScape Voice gateway).

Local calls (Dialed digits 0CZ), national calls (Dialed digits 0C0-Z), and International calls (Dialed digits 0C00-Z), must be handled in 3 LCR rules.



Local calls

Dialed digits: **CO** (name), **0CZ** (Dialed digits), **20** (Routing table)
Routing table: **CO** (Route), **CO** (Dial rule), **14** (min. COS), -, **None** (Warning)
SIP INT 2 (Route), **E.164 Local** (Dial rule), **14** (min. COS), -, **Display + tone**



National calls:

Dialed digits: **CO** (name), **0C0-Z** (Dialed digits), **30** (Routing table)
Routing table: **CO** (Route), **CO** (Dial rule), **14** (min. COS), -, **None** (Warning)
SIP INT 2 (Route), **E.164 National.** (Dial rule), **14** (min. COS), -, **Display + tone**

International calls:

Dialed digits: **CO** (name), **0C00-Z** (Dialed digits), 40 (Routing table)
Routing table: **CO** (Route), **CO** (Dial rule), **14** (min. COS), **-**, **None** (Warning)
SIP INT 2 (Route), **E.164 Interatio.** (Dial rule), **14** (min. COS), **-**, **Display + tone**

Routing Table:40 en-bloc sending

Route	Dial Rule	min. COS	Warning
CO	CO	14	None
SIP INT 2	E.164 Internatio	14	Display + Tone

Dial Rule

Change Dial Rule

	Rule Name	Dial rule format	Network access	Type
26	E.164 Local	D4969E2A	Corporate Network	Country code
27	E.164 National	D49E3A	Corporate Network	Country code
28	E.164 Internatio	E3A	Corporate Network	Country code
29	CO	A	Main network supplier	Unknown

Warning!

All outdial rules for OpenScape Voice must be configurable in the international E.164 number format.

Step by step configuration

For local calls

Proceed as follows:

1. **Expert Mode** -> **Telephony Server** -> **LCR** -> select **Dial plan**. The tab "Change Dial plan" is displayed.

2. In a free row configure the dial plan for CO access, named OSV Local:

- Name: **OSV Local**
- Dialed digits: **0CZ**
- Routing table: **20**(will be configured in step 4).

3. **Expert Mode** -> **Telephony Server** -> **LCR** -> select **Dial Rule**. In the "Change Dial Rule" tab configure two new dial rules for CO called **CO** and **E.164 Local**. CO is the main CO rule and E.164 Local rule is used for rerouting via OSV in case of CO failure.

- Rule name: **CO**
- Dial rule format: **A**
- Network access: **Main network supplier**
- Type of Number (TON): **Unknown**
- Click Apply. The Dial rule wizard is saved.

- Rule name: **E.164 Local**
- Dial rule format: **D4969E2A**
- Network access: **Corporate Network**
- Type of Number (TON): **Country Code**
- Click Apply. The Dial rule wizard is saved.

4. **Expert Mode** -> **Telephony Server** -> **LCR** -> select **Routing Table**. Go to **Routing Table 20:**

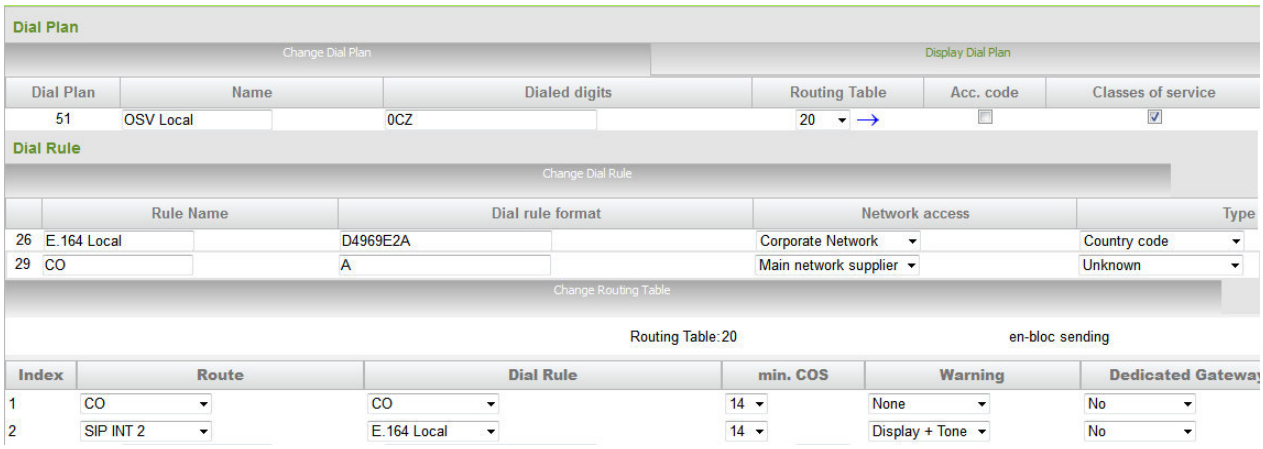
First Route (CO route):

- Select the route **CO** in the column "Route".
- In the "Dial rule" column, select **CO** as dial rule.
- min. COS: **14**
- Warning: **none**
- Dedicated Gateway: **No**
- Click Apply. The Routing Table configuration is saved.

Second Route (Rerouting via OSV):

- Select the route **SIP INT 2** in the column "Route".
- In the "Dial rule" column, select **E.164 Local** as dial rule.
- min. COS: **14**
- Warning: **Display + Tone**
- Dedicated Gateway: **No**
- Click Apply. The Routing Table configuration is saved.

5. Click **Apply**. Your changes are saved.



For National calls

Proceed as follows:

1. **Expert Mode** -> **Telephony Server** -> **LCR** -> select **Dial plan.** The tab "Change Dial plan" is displayed.

2. In a free row configure the dial plan for CO access, named OSV National:

- Name: **OSV National**
- Dialed digits: **0C0-Z**
- Routing table: **30**(will be configured in step 4).

3. **Expert Mode** -> **Telephony Server** -> **LCR** -> select **Dial Rule**. In the “Change Dial Rule” tab configure two new dial rules for CO called **CO** and **E.164 National.** CO is the main CO rule and E.164 National rule is used for rerouting via OSV in case of CO failure.

- Rule name: **CO**
- Dial rule format: **A**
- Network access: **Main network supplier**
- Type of Number (TON): **Unknown**
- Click Apply. The Dial rule wizard is saved.

- Rule name: **E.164 National**
- Dial rule format: **D49E3A**
- Network access: **Corporate Network**
- Type of Number (TON): **Country Code**
- Click Apply. The Dial rule wizard is saved.

4. **Expert Mode** -> **Telephony Server** -> **LCR** -> select **Routing Table**. Go to **Routing Table 30:**

First Route (CO route):

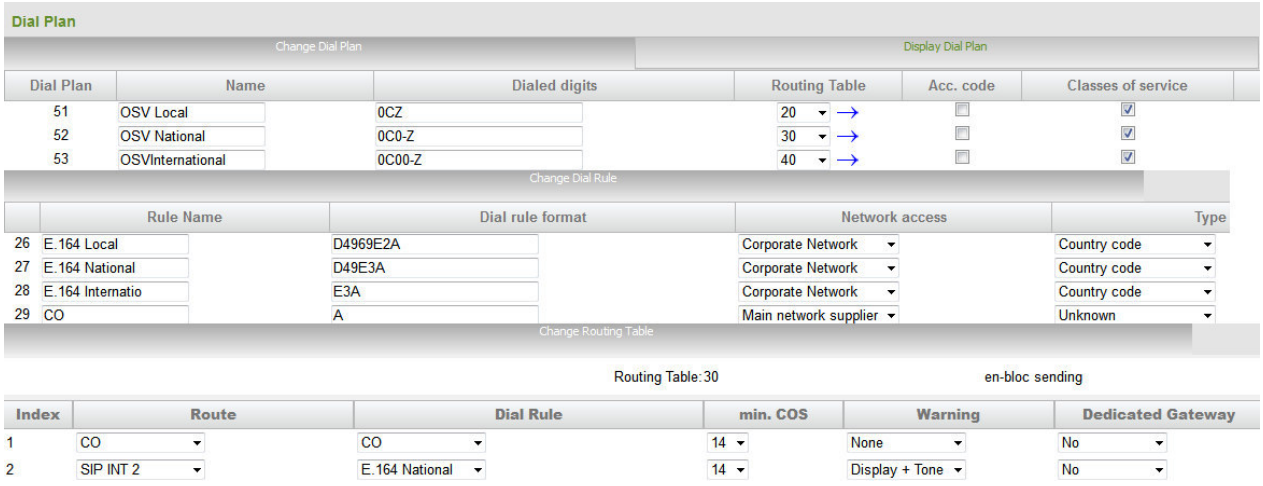
- Select the route **CO** in the column "Route".
- In the "Dial rule" column, select **CO** as dial rule.
- min. COS: **14**
- Warning: **none**
- Dedicated Gateway: **No**
- Click Apply. The Routing Table configuration is saved.

Second Route (Rerouting via OSV):

- Select the route **SIP INT 2** in the column "Route".

- In the "Dial rule" column, select **E.164 National** as dial rule.
- min. COS: **14**
- Warning: **Display + Tone**
- Dedicated Gateway: **No**
- Click Apply. The Routing Table configuration is saved.

5. Click **Apply**. Your changes are saved.



For international calls

Proceed as follows:

1. **Expert Mode** -> **Telephony Server** -> **LCR** -> select **Dial plan**. The tab "Change Dial plan" is displayed.

2. In a free row configure the dial plan for CO access, named OSV National:

- Name: **OSV International**
- Dialed digits: **0C00-Z**
- Routing table: 4**0**(will be configured in step 4).

3. **Expert Mode** -> **Telephony Server** -> **LCR** -> select **Dial Rule**. In the “Change Dial Rule” tab configure two new dial rules for CO called **CO** and **E.164 International**. CO is the main CO rule and E.164 International rule is used for rerouting via OSV in case of CO failure.

- Rule name: **CO**
- Dial rule format: **A**
- Network access: **Main network supplier**
- Type of Number (TON): **Unknown**
- Click Apply. The Dial rule wizard is saved.

- Rule name: **E.164 International**
- Dial rule format: **E3A**
- Network access: **Corporate Network**
- Type of Number (TON): **Country Code**
- Click Apply. The Dial rule wizard is saved.

4. **Expert Mode** -> **Telephony Server** -> **LCR** -> select **Routing Table**. Go to **Routing Table 30:**

First Route (CO route):

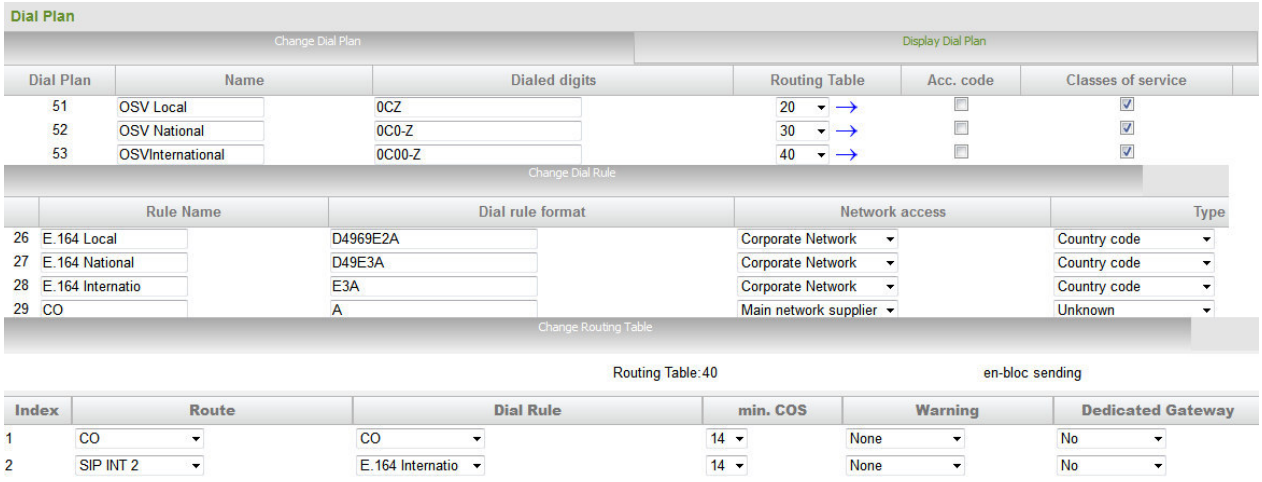
- . Select the route **CO** in the column "Route".
- . In the "Dial rule" column, select **CO** as dial rule.
- min. COS: **14**
- Warning: **none**
- Dedicated Gateway: **No**
- Click Apply. The Routing Table configuration is saved.

Second Route (Rerouting via OSV):

- Select the route **SIP INT 2** in the column "Route".

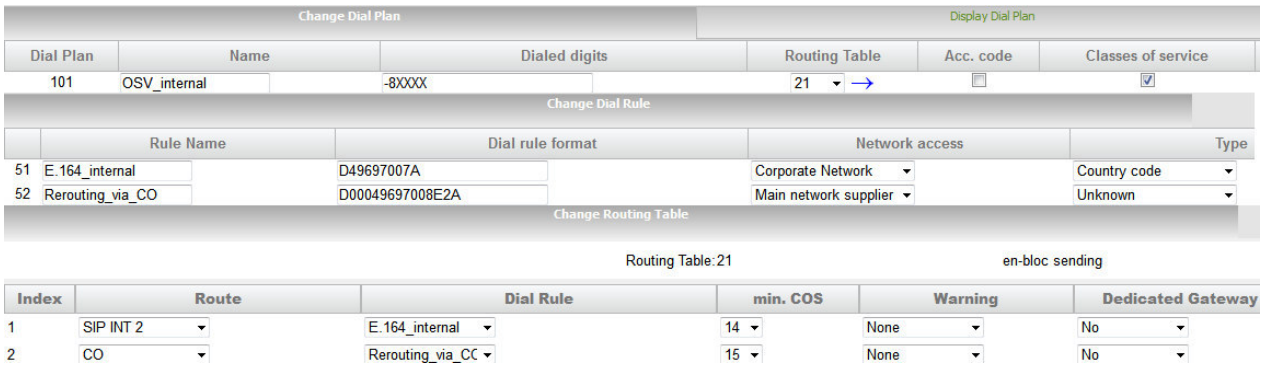
- In the "Dial rule" column, select **E.164 International** as dial rule.
- min. COS: **14**
- Warning: **Display + Tone**
- Dedicated Gateway: **No**
- Click Apply. The Routing Table configuration is saved.

5. Click **Apply**. Your changes are saved.



1.2.5.3. Least cost routing to OpenScape Voice

Overview



Dialing a short number in the same location in OpenScape Voice

Dialed digits: **OSV Internal** (name), **-8xxxx** (Dialed digits), **21** (Routing table)
Routing table: **SIP INT 2** (Route), **E.164_internal** (Dial rule), **14** (min. COS), **-**, **None** (Warning)
CO (Route), **Rerouting_via_CO** (Dial rule), **14** (min. COS), **-**, **Display + tone**

Warning!

All outdial rules for OpenScape Voice must be configurable in the international E.164 numbering format.

Step by step configuration

Dialing a short number in the same location in OpenScape Voice

The first route should lead to OpenScape Voice. As an option, a second route can be configured for least cost routing via the CO. The second route bridges the gap in the case of LAN failure. During LAN failure, calls are routed via the local CO to another OpenScape Voice gateway.

Proceed as follows:

Proceed as follows:

1. **Expert Mode** -> **Telephony Server** -> **LCR** -> select **Dial plan**. The tab "Change Dial plan" is displayed.

2. In a free row configure the dial plan for CO access, named OSV National:

- Name: **OSV_internal**
- Dialed digits: -**8xxxx**
- Routing table: **21**(will be configured in step 4).

3. **Expert Mode** -> **Telephony Server** -> **LCR** -> select **Dial Rule**. In the “Change Dial Rule” tab configure two new dial rules for CO called **Rerouting_via_CO** and **E.164_internal**. CO is the main CO rule and E.164_internal rule is used for outbound calls to OSV internal endpoints.

- Rule name: **Rerouting_via_CO**
- Dial rule format: **D00049697008E2A**
- Network access: **Main network supplier**
- Type of Number (TON): **Unknown**
- . Click Apply. The Dial rule wizard is saved.

- Rule name: **E.164_internal**
- Dial rule format: **D49697007A**
- Network access: **Corporate Network**
- Type of Number (TON): **Country Code**
- . Click Apply. The Dial rule wizard is saved.

4. **Expert Mode** -> **Telephony Server** -> **LCR** -> select **Routing Table**. Go to **Routing Table 21:**

First Route (Internal):

- . Select the route **SIP INT 2** in the column "Route".
- . In the "Dial rule" column, select **E.164_internal** as dial rule.
- min. COS: **14**
- Warning: **none**

- Dedicated Gateway: **No**
- Click Apply. The Routing Table configuration is saved.

Second Route (Rerouting via CO):

- Select the route **CO** in the column "Route".
- In the "Dial rule" column, select **E.164_internal** as dial rule.
- min. COS: **14**
- Warning: **Display + Tone**
- Dedicated Gateway: **No**
- Click Apply. The Routing Table configuration is saved.

5. Click **Apply**. Your changes are saved.

1.3. Configuration of OpenScape Voice

Overview

OpenScape Business as a gateway (endpoint) and the OpenScape Voice subscribers shall be located in different Private Numbering Plans but in the same business group.
That means every location gets an own Private Numbering Plan for subscriber and an own Private Numbering Plan for gateways/endpoints (OpenScape Business).

Contents

This section covers the following topics:

1.3.1. Settings in Common Management Portal

Procedure

1. Start the Common Management Portal.

2. Follow the remaining steps in sequence.

Contents

This section covers the following topics:

1.3.1.1. Administration of an new Gateway Private Numbering Plan

Proceed as follows:

1. **OpenScape Voice** -> select **Business Group**.

2. On the left side of the window, select the following:

    • Available Switches: Select the OpenScape Voice

    • Available Business Groups: Select the business group for which the endpoint profile is to be created, e.g. **bg_sol**.

3. On the left side of the window, select **Private Numbering Plans**. On the right side of the window, a list of all Private Numbering Plans is displayed.

4. To create a new Private Numbering Plan, click the **Add** button. The configuration window is displayed.

5. Name: Enter a name for the Private Numbering Plan, e.g. **NP_br13_gw**.

6. Click **Save**.

1.3.1.2. Administration of an Endpoint Profile for an OpenScape Business Endpoint

Proceed as follows:

1. **OpenScape Voice** -> select **Business Group**.

2. On the left side of the window, select the following:

    • Available Switches: Select the OpenScape Voice

    • Available Business Groups: Select the business group for which the endpoint profile is to be created, e.g. **bg_sol**.

3. On the left side of the window, select **Profiles** -> **Endpoint Profiles**. On the right side of the window, a list of endpoint profiles is displayed.

4. To create a new endpoint profile, click the **Add** button. The configuration window for this endpoint profile is displayed.

5. Make the following settings in the **General** tab

    Endpoint Profiles

    • Name: Enter a name for the endpoint profile, e.g. **EP_hg1500.br13**.

    • Numbering Plan: Select the numbering plan which was create before, e.g.

    NP_br13_gw.

    Management Information

    • Class of Service: No setting necessary.

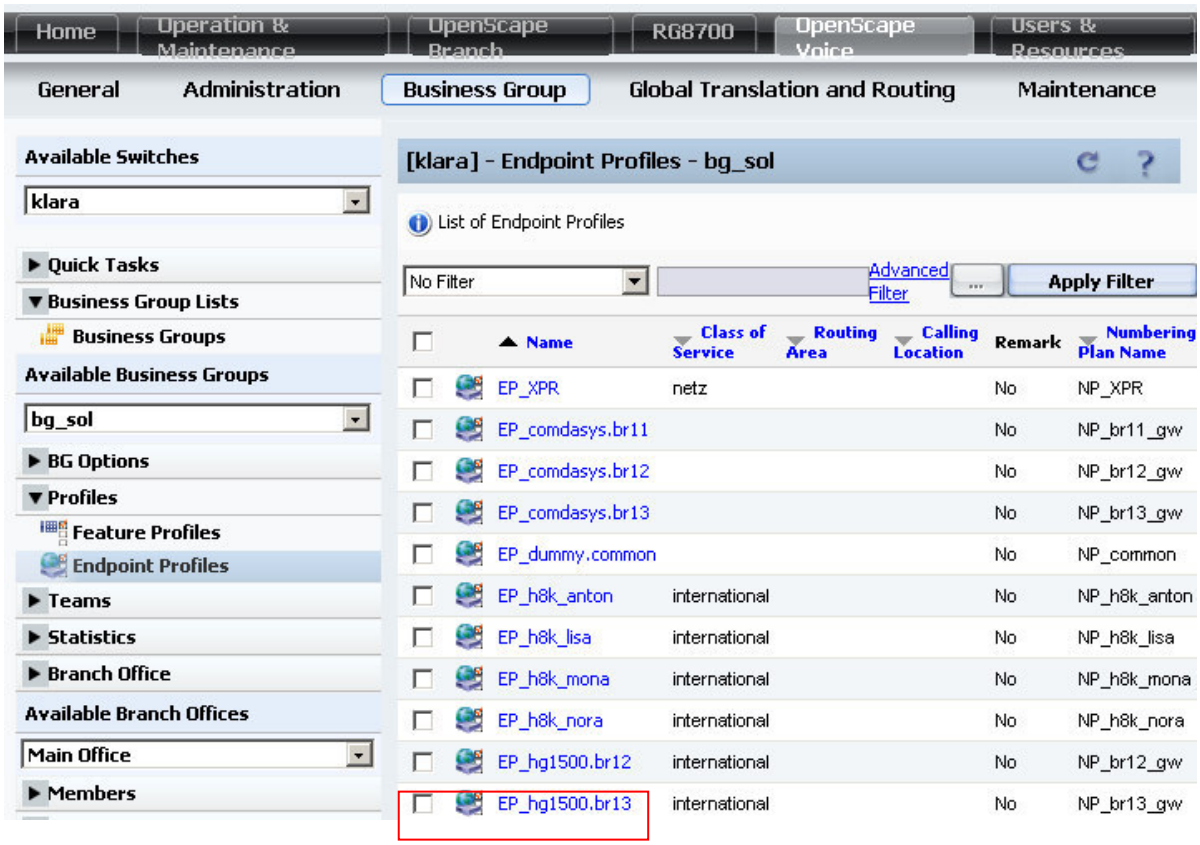
    • Routing Area: No setting necessary.

    • Calling Location: No setting necessary.

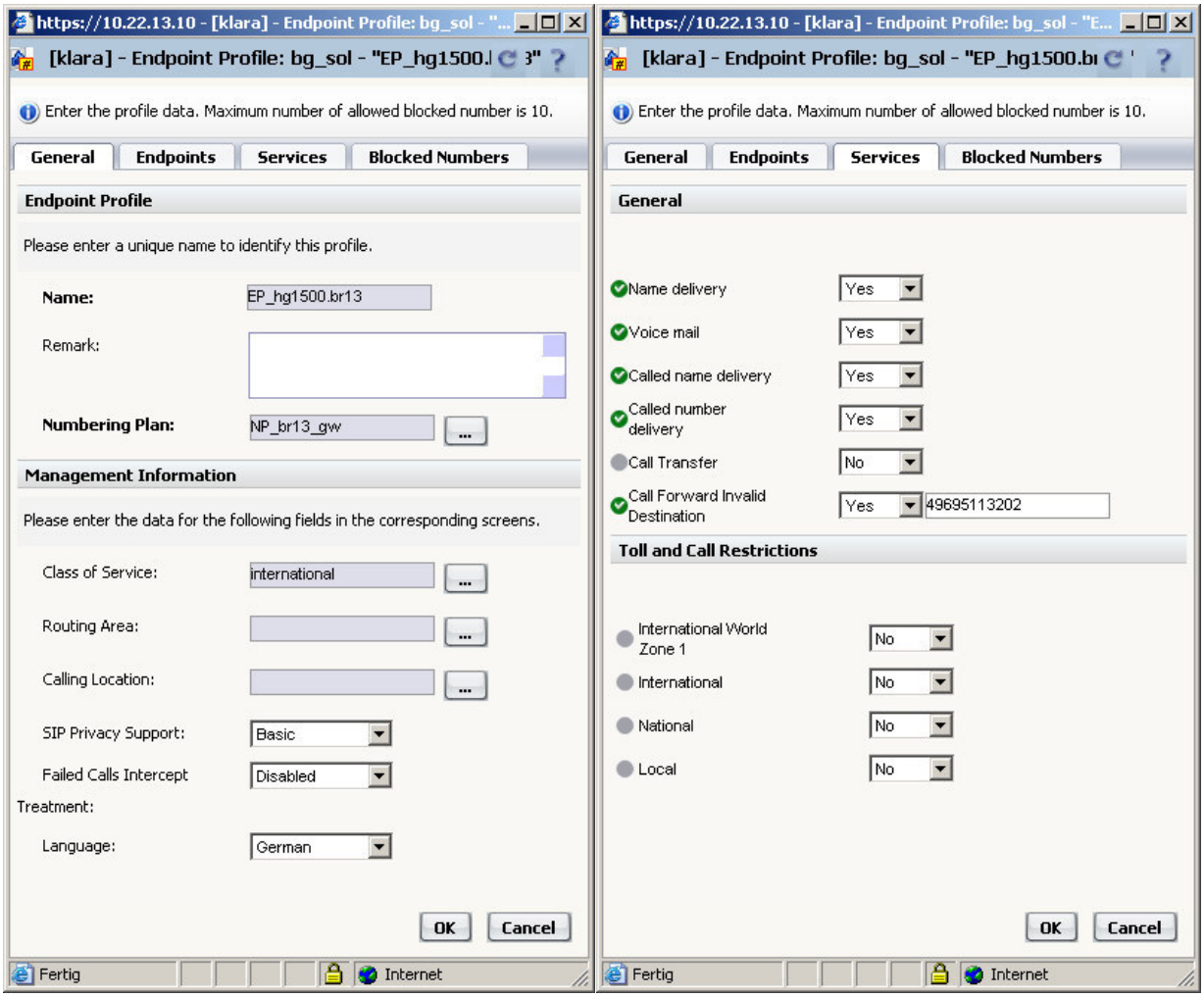
- SIP Privacy Support: **Basic**
- Failed Calls Intercept: **Disabled**
- Language: e.g. **German**

6. Open the **Services** tab. Make the following settings in this tab:
   - Voice mail: **Yes**
   - Call Transfer: **No**
   - Call Forward Invalid Destination: **Yes** and enter station number.
   - Toll and Call Restrictions: **No**

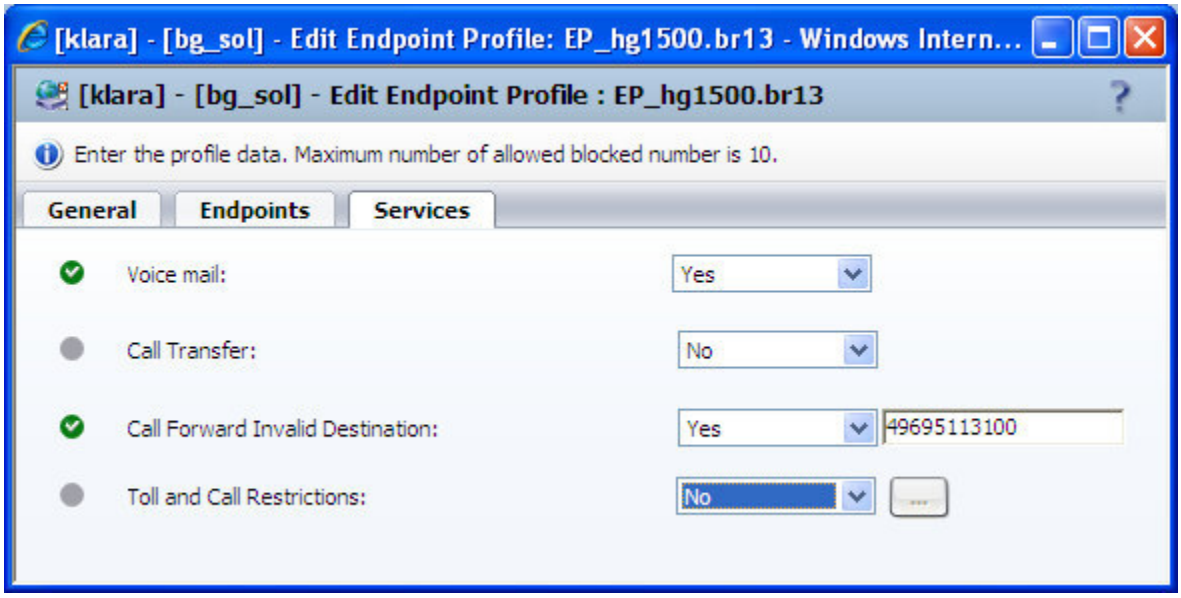
8. Click **Save**. Your changes are saved.



OpenScape Voice V7R1



OpenScape Voice V7R1



1.3.1.3. Creating and configuring an endpoint for OpenScape Business

Proceed as follows:

1. **OpenScape Voice** -> select **Business Group**.
2. On the left side of the window, select the following:
   - Available Switches: Select the OpenScape Voice
   - Available Business Groups: Select the business group for which the endpoint profile is to be created, e.g. **bg_sol**.
   - Available Branch Offices: Select the branch office for which the endpoint is supposed to be created, e.g. **BR13**.
3. On the left side of the window, select **Members** -> **Endpoints**.
4. To create a new endpoint, click the **Add** button. The configuration window for this endpoint is displayed.
5. Make the following settings in the **General** tab:
   - Name: Enter a name for the endpoint, e.g. **hg1500.br13**.
   - Profile: Select the endpoint profile selected in the previous step, e.g. **EP_hg1500.br13**.
6. Open the **SIP** tab. Make the following settings in this tab:

   SIP Configuration

   1. SIP-Q Signaling: Activate the checkbox.
   2. for: Select **HiPath 4000/3000**.
   3. Transport protocol:
      - Select TCP for traditional network.
      - Select MTLS for secure network.
7. Open the **Attributes** tab. Make the following setting in this tab:
   - Activate the "Rerouting Forwarded Calls" checkbox.
8. Open the **Aliases** tab. Make the following settings in this tab:
   1. Click the **Add** button and enter the OpenScape Business registration number, e.g. **13310**.
   2. Click the **Add** button and enter the OpenScape Business IP address, e.g. **10.22.113.191**.
9. Open the **Aliases** tab. Make the following setting in this tab:
   - Accounting Type: PSTN Gateway
10. Click **Save**. Your changes are saved.

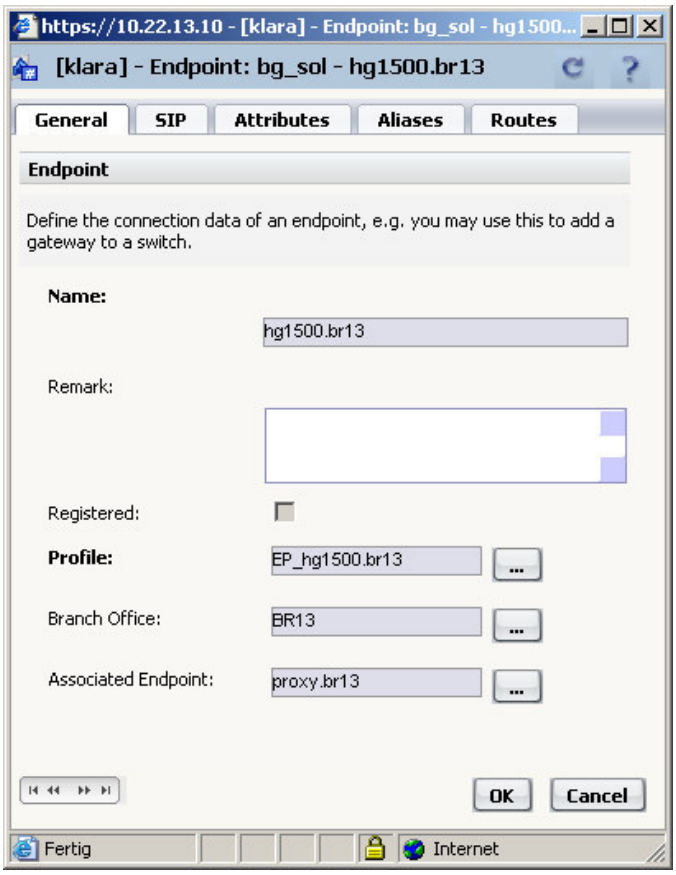
The endpoint is created and configured.

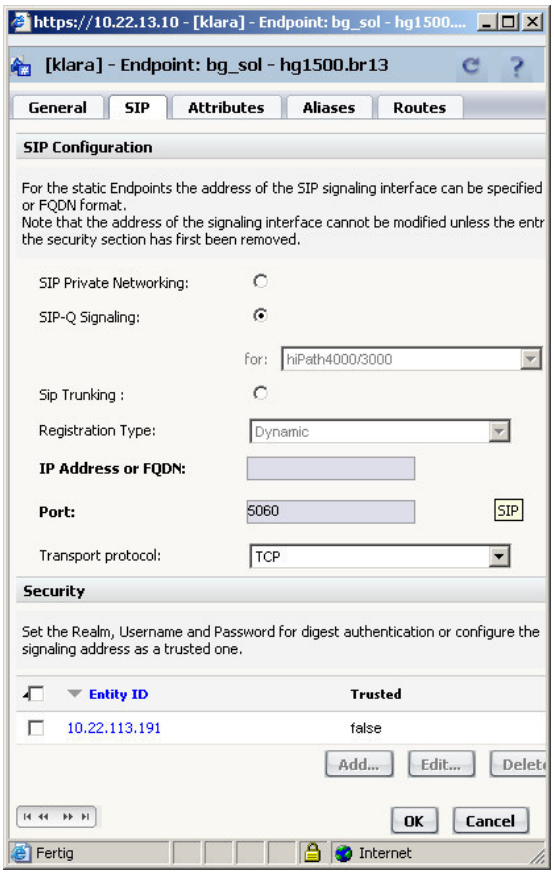
Note:

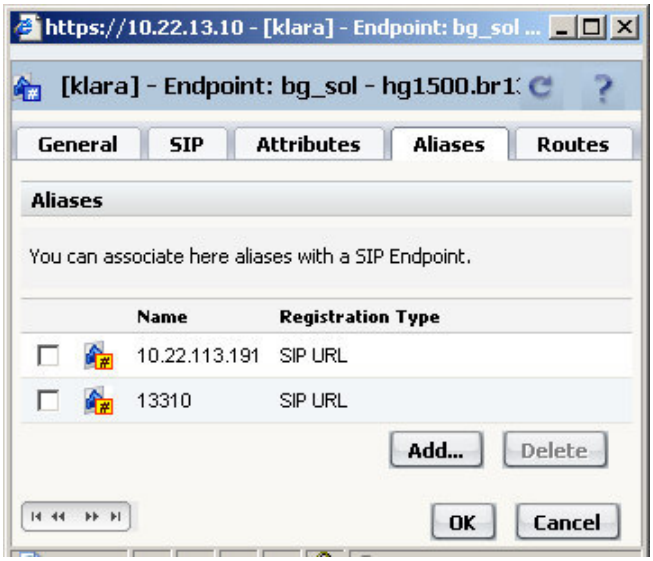
OpenScape Business supports OSV SIP interconnection with;

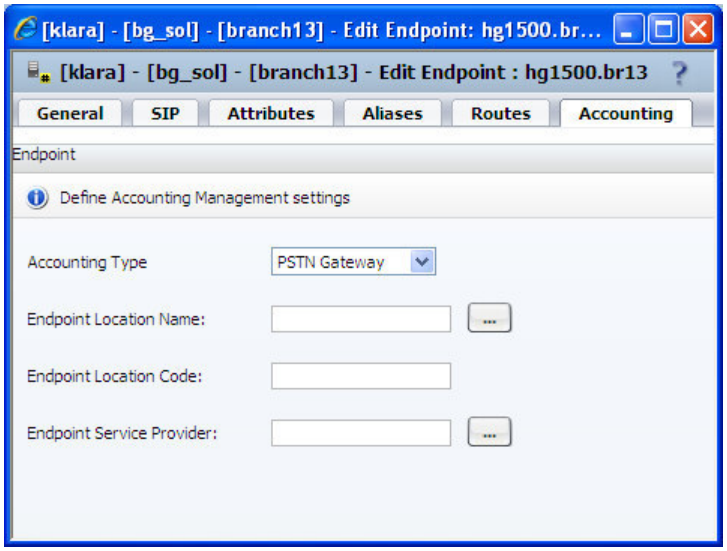
direct registration or TCP persistence retransmission.

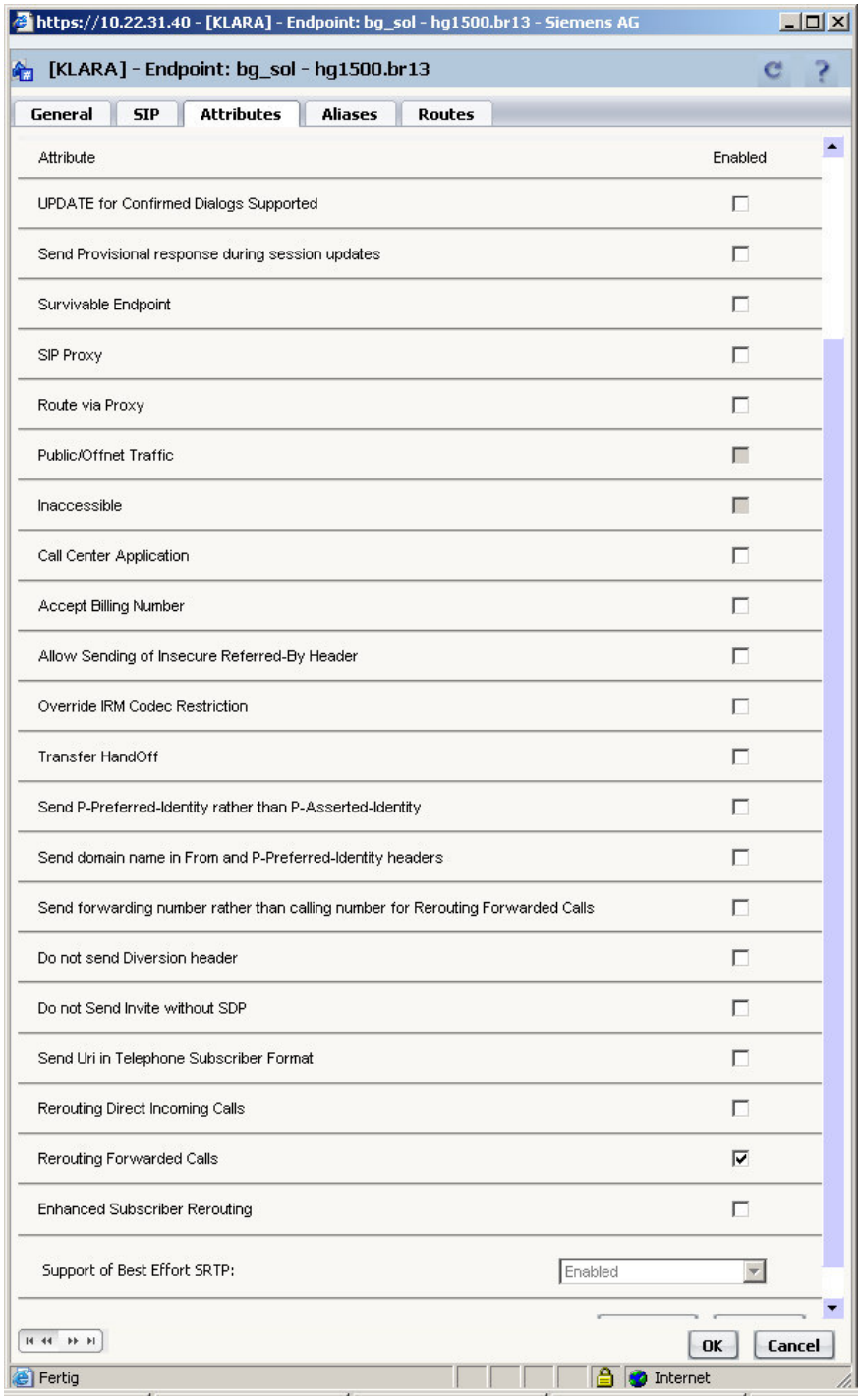
- if set @ OpenScape Business – SIP Interconnection "direct registration" then @ OpenScapeVoice the endpoint should be set as Dynamic
- if set @ OpenScape Business – SIP Interconnection "TCP persistence retransmission" then @ OpenScapeVoice the endpoint should be set as Static






https://10.22.13.10 - [klara] - Endpoint: bg_sol ...
[klara] - Endpoint: bg_sol - hg1500.br1
General
SIP
Attributes
Aliases
Routes
Aliases
You can associate here aliases with a SIP Endpoint.
Name
Registration Type
10.22.113.191
SIP URL
13310
SIP URL
Add...
Delete
OK
Cancel

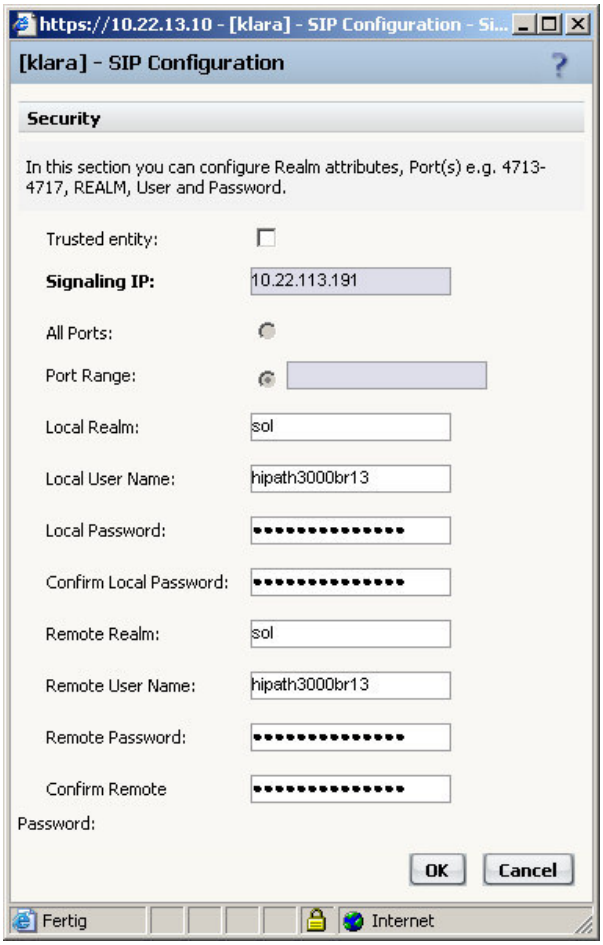

[klara] - [bg_sol] - [branch13] - Edit Endpoint: hg1500.br...
[klara] - [bg_sol] - [branch13] - Edit Endpoint : hg1500.br13
General
SIP
Attributes
Aliases
Routes
Accounting
Endpoint
Define Accounting Management settings
Accounting Type
PSTN Gateway
Endpoint Location Name:
Endpoint Location Code:
Endpoint Service Provider:


https://10.22.31.40 - [KLARA] - Endpoint: bg_sol - hg1500.br13 - Siemens AG
[KLARA] - Endpoint: bg_sol - hg1500.br13
General
SIP
Attributes
Aliases
Routes
Attribute
Enabled
UPDATE for Confirmed Dialogs Supported
Send Provisional response during session updates
Survivable Endpoint
SIP Proxy
Route via Proxy
Public/Offnet Traffic
Inaccessible
Call Center Application
Accept Billing Number
Allow Sending of Insecure Referred-By Header
Override IRM Codec Restriction
Transfer HandOff
Send P-Preferred-Identity rather than P-Asserted-Identity
Send domain name in From and P-Preferred-Identity headers
Send forwarding number rather than calling number for Rerouting Forwarded Calls
Do not send Diversion header
Do not Send Invite without SDP
Send Uri in Telephone Subscriber Format
Rerouting Direct Incoming Calls
Rerouting Forwarded Calls
Enhanced Subscriber Rerouting
Support of Best Effort SRTP:
Enabled
OK
Cancel
Fertig
Internet

1.3.1.4. Creating "Digest Authentication" access for OpenScape Business

Proceed as follows:

1. **OpenScape Voice** -> select **Administration**.
2. On the left side of the window, select **Signaling Management** -> **Digest Authentication**.
3. Open the **Realms** tab:
4. To create "Digest Authentication" access, click **Add**.
5. Make the following settings:
   - Trusted entity: Deactivate the checkbox.
   - Signaling IP: Enter the OpenScape Business IP address, e.g. **10.22.113.191**.
   - All Ports: Optional field not activated.
   - Port Range: Optional field not activated.
   - Local Realm: Enter the realm, e.g. **sol**.
   - Local User Name: Enter the user name, e.g. **hipath3000br13**.
   - Local Password: Enter the password.
   - Confirm Local Password: Enter the password once more.
   - Remote Realm: Enter the realm, e.g. **sol**.
   - Remote User Name: Enter the user name, e.g. **hipath3000br13**.
   - Remote Password: Enter the password.
   - Confirm Remote Password: Enter the password once more.
6. Click **OK** and the Sip Configuration window is closed.
7. Click **Save**. Your changes are saved and the Digest Authentication window is closed.


https://10.22.13.10 - [klara] - SIP Configuration - Si...
[klara] - SIP Configuration
Security
In this section you can configure Realm attributes, Port(s) e.g. 4713-4717, REALM, User and Password.
Trusted entity:
Signaling IP:
10.22.113.191
All Ports:
Port Range:
Local Realm:
sol
Local User Name:
hipath3000br13
Local Password:
Confirm Local Password:
Remote Realm:
sol
Remote User Name:
hipath3000br13
Remote Password:
Confirm Remote Password:
OK
Cancel
Fertig
Internet

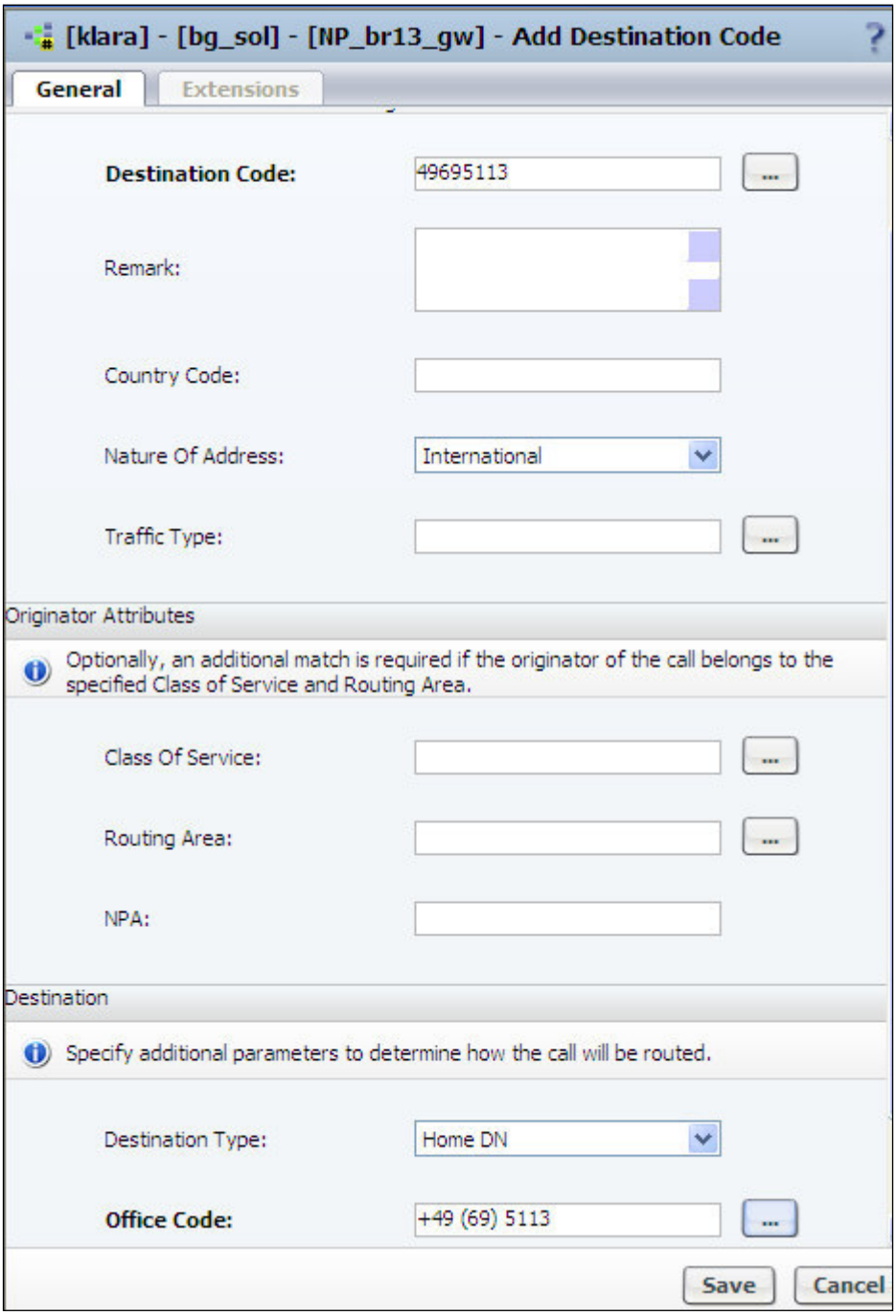
1.3.1.5. Configuring a Gateway Numbering Plan for Incoming Calls

This is only a short description how to route an incoming call. This is only a simplified example.

A detailed description is available in the routing concept described in the reference architecture.

Proceed as follows:

1. **OpenScape Voice** -> select **Business Group**.
2. On the left side of the window, select the following:
    - Available Switches: Select the OpenScape Voice
    - Available Business Groups: Select the business group for which the endpoint profile is to be created, e.g. **bg_sol**.
    - Available Private Numbering Plan: Select the private numbering plan in which the endpoint was created.
3. On the left side of the window, select **Translation** -> **Destination Codes.**
4. To create new destination code click **Add**.
5. Make the following settings:
    - Destination Code: e.g. **49695113**
    - Nature of Address: **International**
    - Destination Type: **Home**
    - Office Code: e.g. **+49 (69) 5113**
6. Click Save. Your changes are saved.


[klara] - [bg_sol] - [NP_br13_gw] - Add Destination Code
General
Extensions
Destination Code:
49695113
Remark:
Country Code:
Nature Of Address:
International
Traffic Type:
Originator Attributes
Optionally, an additional match is required if the originator of the call belongs to the specified Class of Service and Routing Area.
Class Of Service:
Routing Area:
NPA:
Destination
Specify additional parameters to determine how the call will be routed.
Destination Type:
Home DN
Office Code:
+49 (69) 5113
Save
Cancel

1.3.1.6. Configuring Outgoing Calls

This is only a short description how to route an outgoing call. This is only a simplified example.

A detailed description is available in the routing concept described in the reference architecture.

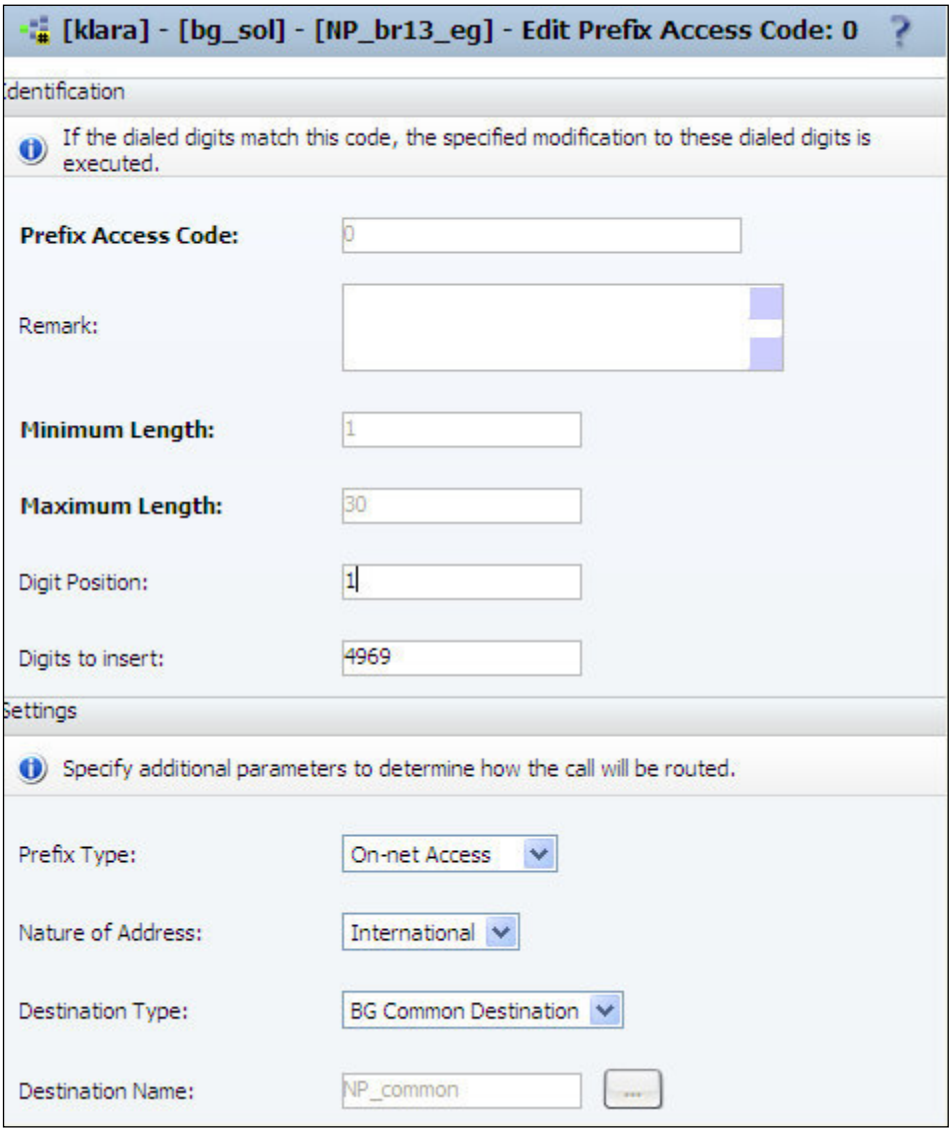
Subscriber Numbering Plan - Prefix Access Codes

Proceed as follows:

1. **OpenScape Voice** -> select **Business Group**.
2. On the left side of the window, select the following:
    - Available Switches: Select the OpenScape Voice
    - Available Business Groups: Select the business group for which the endpoint profile is to be created, e.g. **bg_sol**.
    - Available Private Numbering Plan: Select the private numbering plan in which the subscribers are in.
3. On the left side of the window, select **Translation** -> **Prefix Access Codes.**
4. To create new Prefix Access Codes click **Add**. The configuration window

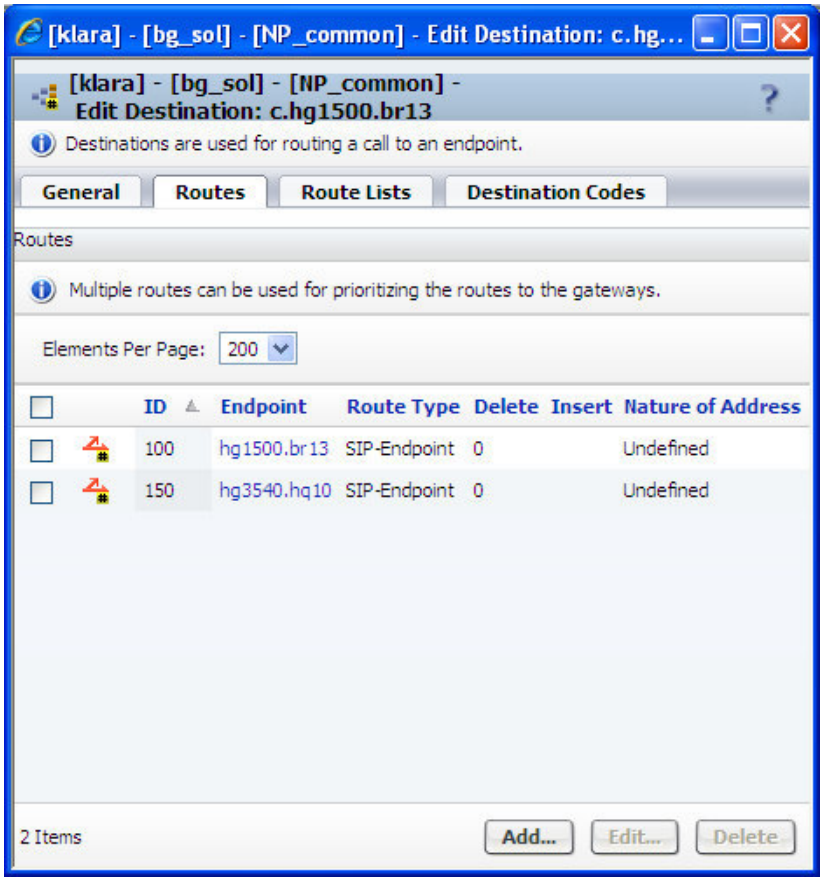
for this prefix access code is displayed.

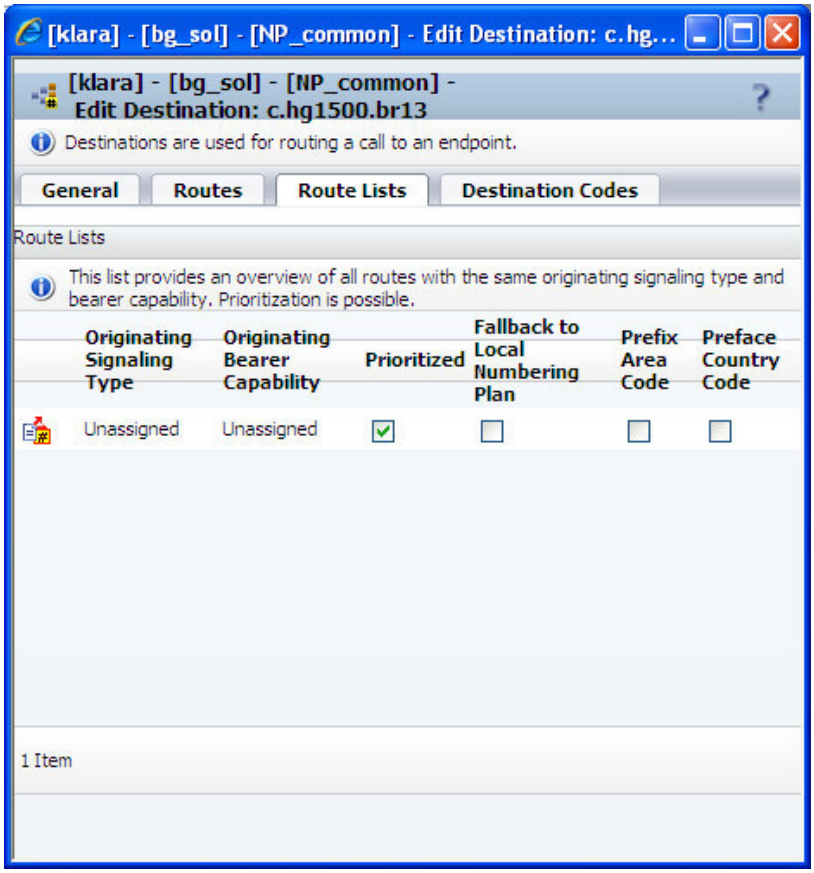
5. Make the following settings:
    - Prefix Access Codes: e.g. **0**
    - Minimum Length: **1**
    - Maximum Length: **30**
    - Digits Position: **1**
    - Digits to insert: **4969**
    - Prefix Type: **On-net Access**
    - Nature of Address: **International**
    - Destination Type: **BG Common Destination**
6. Click Save. Your changes are saved.


[klara] - [bg_sol] - [NP_br13_eg] - Edit Prefix Access Code: 0
dentification
If the dialed digits match this code, the specified modification to these dialed digits is executed.
Prefix Access Code:
0
Remark:
Minimum Length:
1
Maximum Length:
30
Digit Position:
1
Digits to insert:
4969
Settings
Specify additional parameters to determine how the call will be routed.
Prefix Type:
On-net Access
Nature of Address:
International
Destination Type:
BG Common Destination
Destination Name:
NP_common

Common Numbering Plan – Destination

1. **OpenScape Voice** -> select **Business Group**.
2. On the left side of the window, select the following:
    - Available Switches: Select the OpenScape Voice
    - Available Business Groups: Select the business group for which the endpoint profile is to be created, e.g. **bg_sol**.
    - Available Private Numbering Plan: Select the common numbering plan.
3. On the left side of the window, select **Destinations and Routes** -> **Destinations.**
4. To create a new Destination click **Add**.
5. Make the following setting in the **General** tab:
    - Name: e.g. **c.hg1500.br13**
6. Click Save. Your changes are saved.
7. Open the new Destination to edit.
8. Open the **Routes** tab.
9. To add an endpoint to this destination, click Add.
10. Make the following settings:
    - ID: e.g. **100**
    - Type: **SIP Endpoint**
    - SIP Endpoint: e.g. **hg1500.br13**
    - Nature of Address: **Undefined**
11. Click Save.
12. Add an additional endpoint to have a fallback when OpenScape Business is not in service.
Follow the instruction above.
13. Open the **Route Lists** tab.
14. Make the following settings:
    - Prioritized: Activate the checkbox.
    - Fallback to Local Numbering Plan: leave the checkbox unchecked.
15. Click Save. Your changes are saved.


[klara] - [bg_sol] - [NP_common] - Edit Destination: c.hg...
[klara] - [bg_sol] - [NP_common] -
Edit Destination: c.hg1500.br13
Destinations are used for routing a call to an endpoint.
General
Routes
Route Lists
Destination Codes
Routes
Multiple routes can be used for prioritizing the routes to the gateways.
Elements Per Page: 200
ID
Endpoint
Route Type
Delete
Insert
Nature of Address
100
hg1500.br13
SIP-Endpoint
0
Undefined
150
hg3540.hq10
SIP-Endpoint
0
Undefined
2 Items
Add...
Edit...
Delete



Common Numbering Plan - Prefix Access Codes

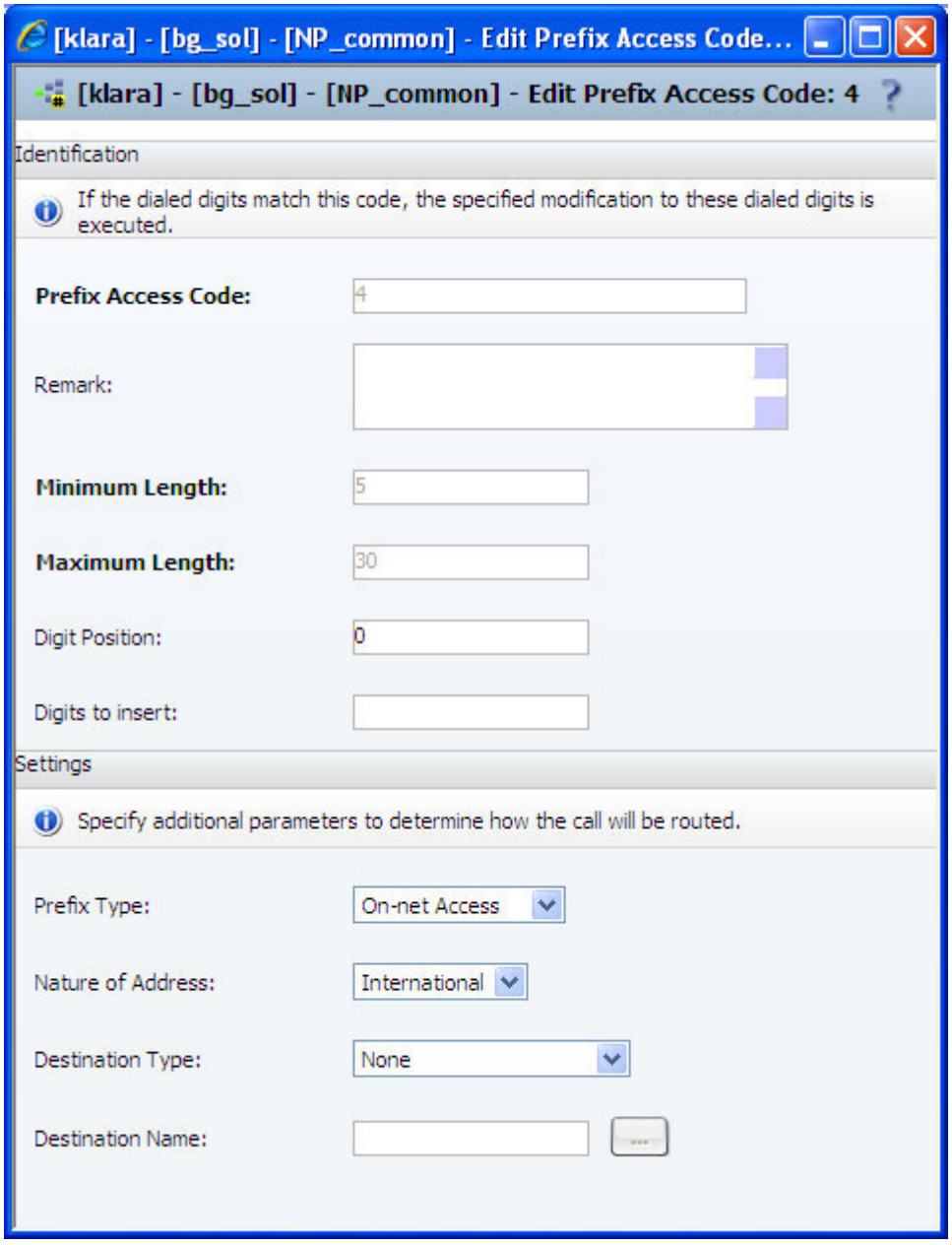
1. **OpenScape Voice** -> select **Business Group**.
2. On the left side of the window, select the following:
   - Available Switches: Select the OpenScape Voice
   - Available Business Groups: Select the business group for which the endpoint profile is to be created, e.g. **bg_sol**.
   - Available Private Numbering Plan: Select the common numbering plan.
3. On the left side of the window, select **Translation** -> **Prefix Access Codes.**
4. To create a new Prefix Access Codes click **Add**. The configuration window

for this prefix access code is displayed.

5. Make the following settings:
   - Prefix Access Codes: e.g. **4**
   - Minimum Length: **1**

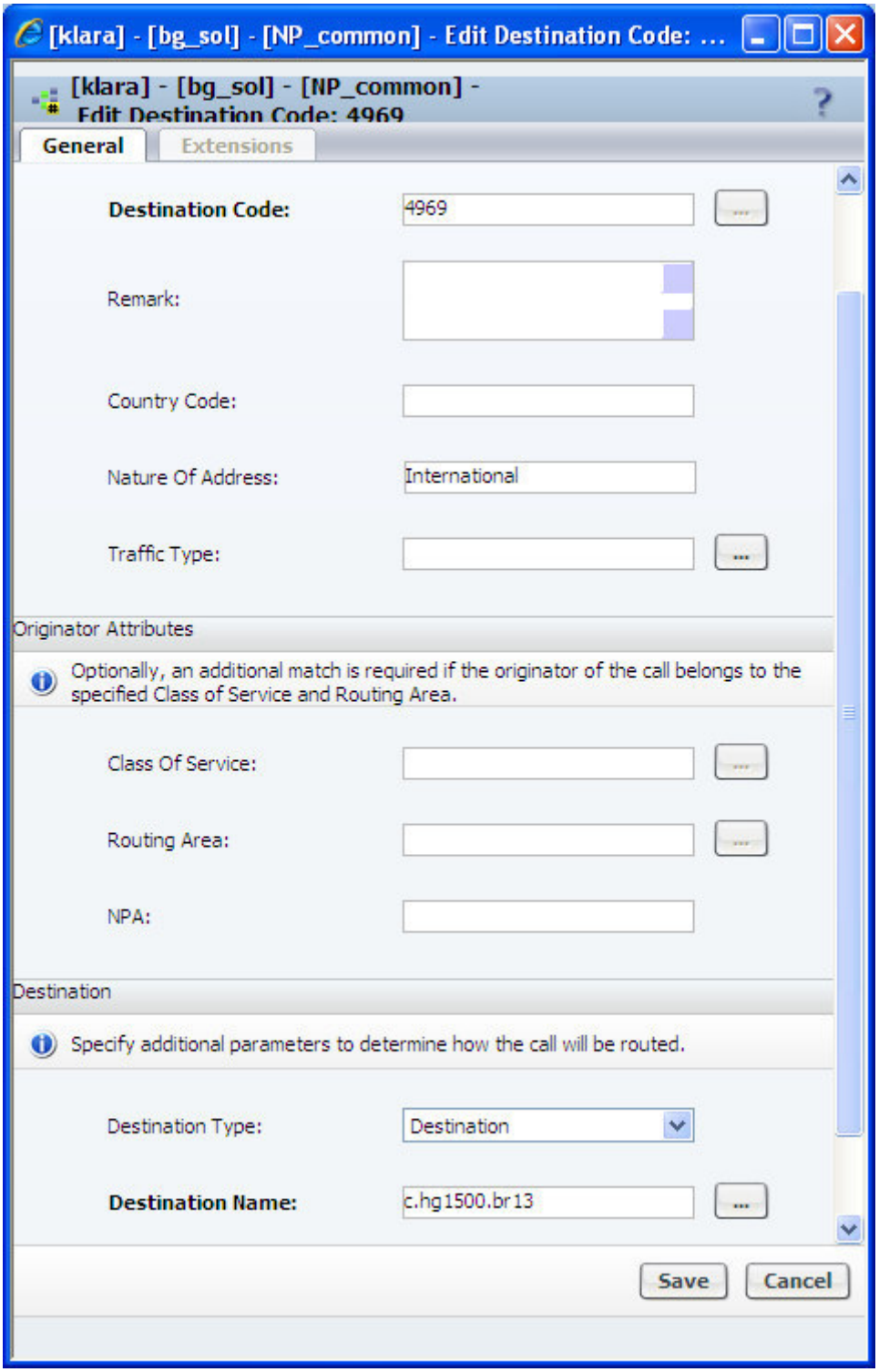
- Maximum Length: **30**
- Digits Position: **0**
- Digits to insert: leave empty
- Prefix Type: **On-net Access**
- Nature of Address: **International**
- Destination Type: **None**

6. Click Save. Your changes are saved.


[klara] - [bg_sol] - [NP_common] - Edit Prefix Access Code...
[klara] - [bg_sol] - [NP_common] - Edit Prefix Access Code: 4
Identification
If the dialed digits match this code, the specified modification to these dialed digits is executed.
Prefix Access Code:
4
Remark:
Minimum Length:
5
Maximum Length:
30
Digit Position:
0
Digits to insert:
Settings
Specify additional parameters to determine how the call will be routed.
Prefix Type:
On-net Access
Nature of Address:
International
Destination Type:
None
Destination Name:

Common Numbering Plan - Destination Codes

1. **OpenScape Voice** -> select **Business Group**.
2. On the left side of the window, select the following:
    - Available Switches: Select the OpenScape Voice
    - Available Business Groups: Select the business group for which the endpoint profile is to be created, e.g. **bg_sol**.
    - Available Private Numbering Plan: Select the common numbering plan.
3. On the left side of the window, select **Translation** -> **Destination Codes.**
4. To create a new Destination Code click **Add**.
5. Make the following settings:
    - Destination Code: e.g. **4969**
    - Nature Of Address: **International**
    - Destination Type: **Destination**
    - Destination Name: select the destination which was created before e.g. **c.hg1500.br13**
6. Click Save. Your changes are saved.

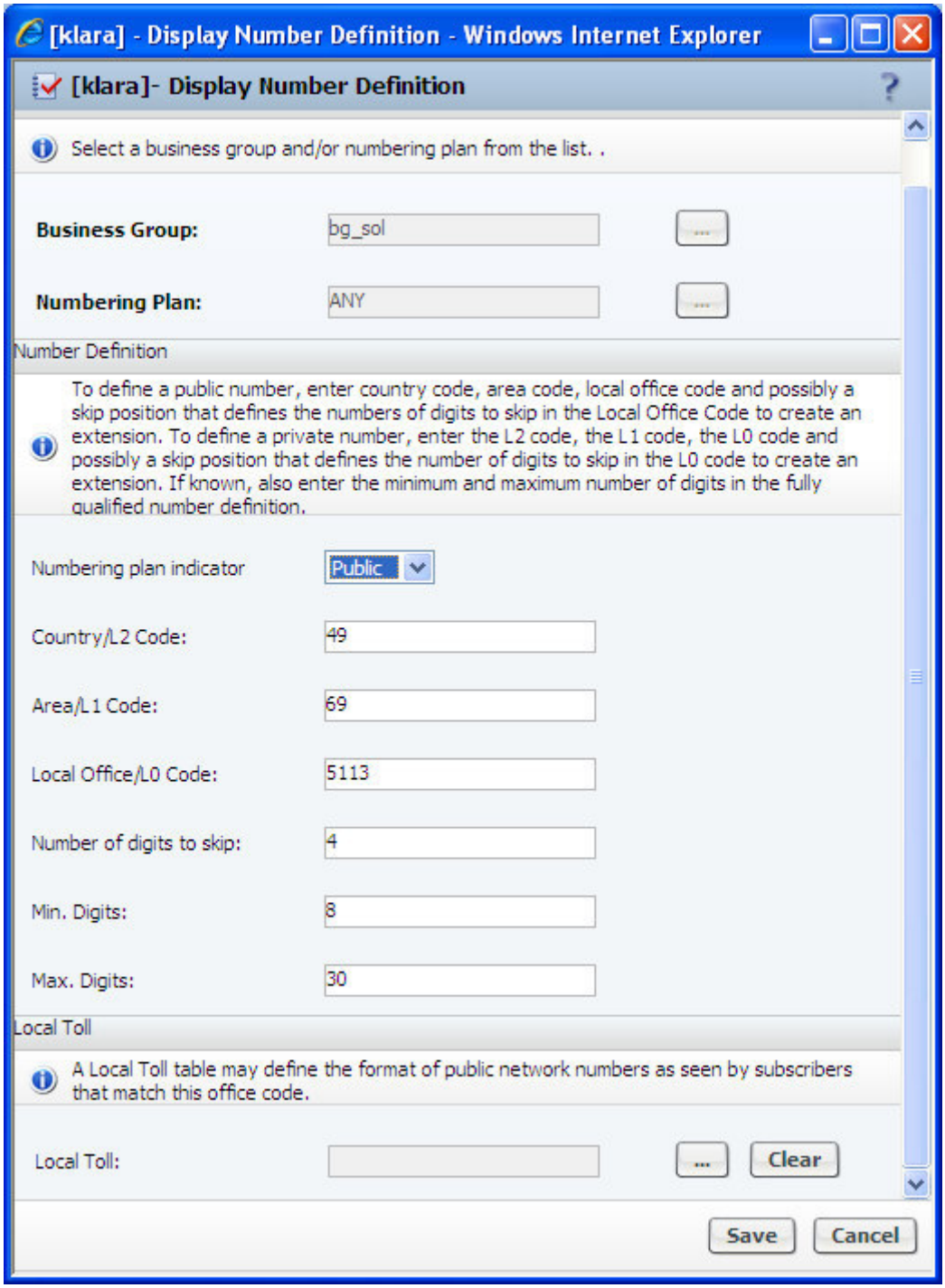

[klara] - [bg_sol] - [NP_common] - Edit Destination Code: ...
[klara] - [bg_sol] - [NP_common] -
Edit Destination Code: 4969
General
Extensions
Destination Code:
4969
Remark:
Country Code:
Nature Of Address:
International
Traffic Type:
Originator Attributes
Optionally, an additional match is required if the originator of the call belongs to the specified Class of Service and Routing Area.
Class Of Service:
Routing Area:
NPA:
Destination
Specify additional parameters to determine how the call will be routed.
Destination Type:
Destination
Destination Name:
c.hg1500.br13
Save
Cancel

1.3.1.7. Display Number Modification for OpenScape Voice V7 R1

Definitions

Proceed as follows:

1. **OpenScape Voice** -> select **Business Group**.
2. On the left side of the window, select the following:
    - Available Switches: Select the OpenScape Voice
    - Available Business Groups: Select the business group for which the endpoint profile is to be created, e.g. **bg_sol**.
3. On the left side of the window, select **Display Number Modification** -> **Definitions.**
4. To enter a new Number definition click **Add**.
5. Make the following settings:
    - Business Group: Select the used business group e.g. **bg_sol**
    - Numbering Plan: **ANY**
    - Numbering plan indication: **Public**
    - Country/L2 Code: **49**
    - Area/L1 Code: **69**
    - Local Office/L0 Code: **5113**
    - Number of digits to skip: enter the number length of the Local Office Code e.g. **4**
    - Min. Digits: **8**
    - Max. Digits: **30**
6. Click Save. Your changes are saved.


[klara] - Display Number Definition - Windows Internet Explorer
[klara]- Display Number Definition
Select a business group and/or numbering plan from the list. .
Business Group:
bg_sol
Numbering Plan:
ANY
Number Definition
To define a public number, enter country code, area code, local office code and possibly a skip position that defines the numbers of digits to skip in the Local Office Code to create an extension. To define a private number, enter the L2 code, the L1 code, the L0 code and possibly a skip position that defines the number of digits to skip in the L0 code to create an extension. If known, also enter the minimum and maximum number of digits in the fully qualified number definition.
Numbering plan indicator
Public
Country/L2 Code:
49
Area/L1 Code:
69
Local Office/L0 Code:
5113
Number of digits to skip:
4
Min. Digits:
8
Max. Digits:
30
Local Toll
A Local Toll table may define the format of public network numbers as seen by subscribers that match this office code.
Local Toll:
Clear
Save
Cancel

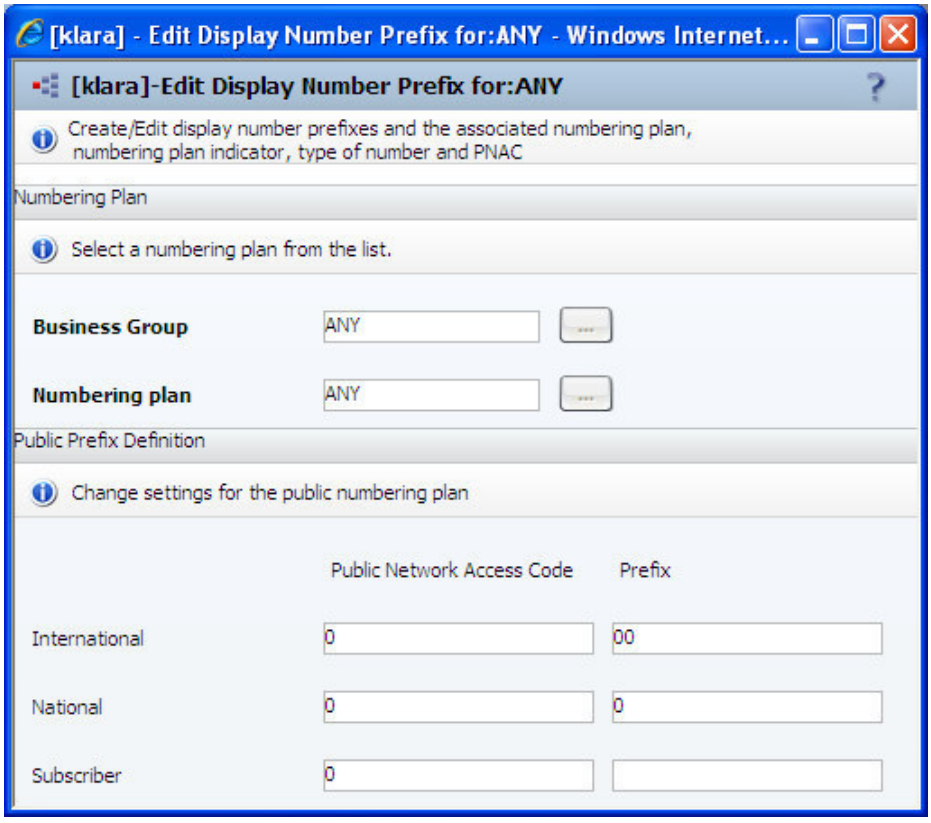
Prefixes

Proceed as follows:

1. **OpenScape Voice** -> select **Business Group**.
2. On the left side of the window, select the following:
    - Available Switches: Select the OpenScape Voice
    - Available Business Groups: Select the business group for which the endpoint profile is to be created, e.g. **bg_sol**.
3. On the left side of the window, select **Display Number Modification** -> **Prefixes**.
4. To enter a global prefix definition click **Add**.
5. Make the following settings:

	Public Network Access Code	Prefix
International	0	00
National	0	0
Subscriber	0	

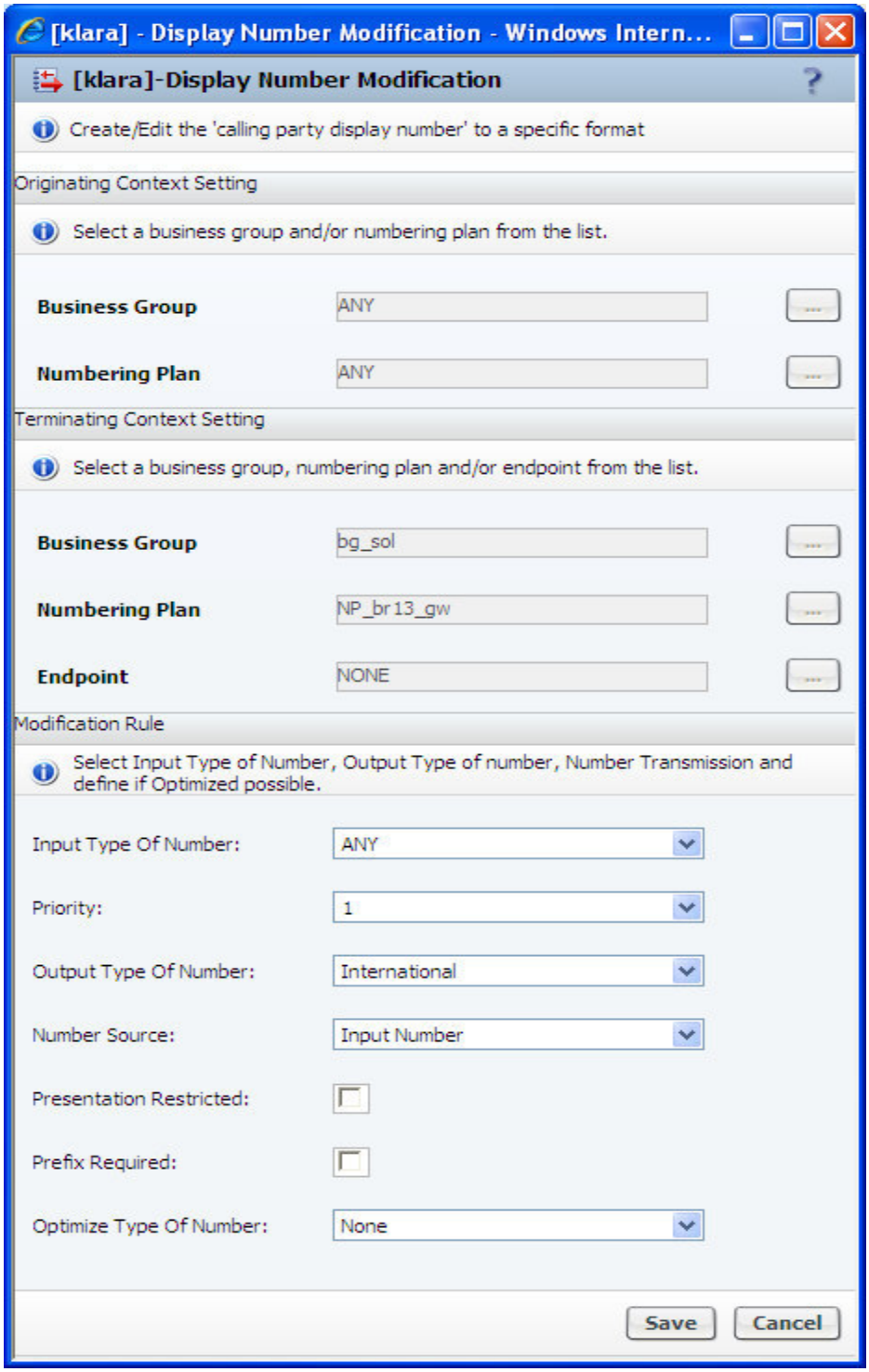
6. Click Save. Your changes are saved.


[klara] - Edit Display Number Prefix for:ANY - Windows Internet...
[klara]-Edit Display Number Prefix for:ANY
Create/Edit display number prefixes and the associated numbering plan, numbering plan indicator, type of number and PNAC
Numbering Plan
Select a numbering plan from the list.
Business Group
ANY
Numbering plan
ANY
Public Prefix Definition
Change settings for the public numbering plan
Public Network Access Code
Prefix
International
0
00
National
0
0
Subscriber
0

Modifications – Gateway Numbering Plan

Proceed as follows:

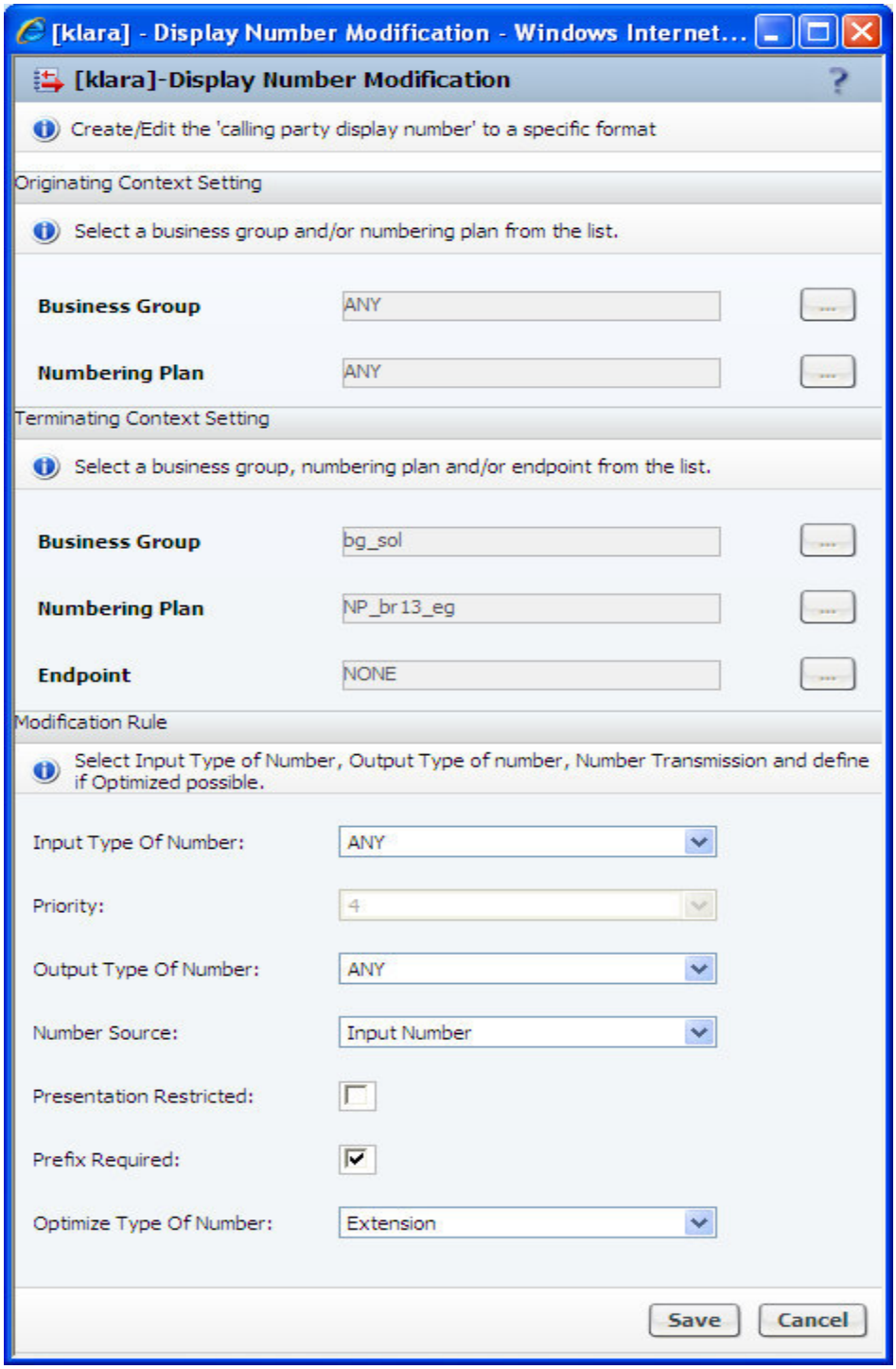
1. **OpenScape Voice** -> select **Business Group**.
2. On the left side of the window, select the following:
    - Available Switches: Select the OpenScape Voice
    - Available Business Groups: Select the business group for which the endpoint profile is to be created, e.g. **bg_sol**.
3. On the left side of the window, select **Display Number Modification** -> **Modifications**.
4. To enter a new Modification for the Gateway Numbering plan, click **Add**.
5. Make the following settings in Origination Context Setting:
    - Business Group: **ANY**
    - Numbering Plan: **ANY**
6. Make the following settings in Terminating Context Setting:
    - Business Group: Select the used business group e.g. **bg_sol**
    - Numbering Plan: Select the numbering plan of the endpoint e.g. **NP_br13GW**
    - Endpoint: **NONE**
7. Make the following settings in Modification Rule:
    - Input Type Of Number: **ANY**
    - Priority: **1**
    - Output Type Of Number: **International**
    - Number Source: **Input Number**
    - Presentation Restricted: **unselected**
    - Prefix Required: **unselected**
    - Optimize Type Of Number: **None**
8. Click Save. Your changes are saved.


[klara] - Display Number Modification - Windows Intern...
[klara]-Display Number Modification
Create/Edit the 'calling party display number' to a specific format
Originating Context Setting
Select a business group and/or numbering plan from the list.
Business Group
ANY
Numbering Plan
ANY
Terminating Context Setting
Select a business group, numbering plan and/or endpoint from the list.
Business Group
bg_sol
Numbering Plan
NP_br13_gw
Endpoint
NONE
Modification Rule
Select Input Type of Number, Output Type of number, Number Transmission and define if Optimized possible.
Input Type Of Number:
ANY
Priority:
1
Output Type Of Number:
International
Number Source:
Input Number
Presentation Restricted:
Prefix Required:
Optimize Type Of Number:
None
Save
Cancel

Modifications – Subscriber Numbering Plan

Proceed as follows:

1. **OpenScape Voice** -> select **Business Group**.
2. On the left side of the window, select the following:
    - Available Switches: Select the OpenScape Voice
    - Available Business Groups: Select the business group for which the endpoint profile is to be created, e.g. **bg_sol**.
3. On the left side of the window, select **Display Number Modification** -> **Modifications**.
4. To enter a new Modification for the Subscriber Numbering plan, click **Add**.
5. Make the following settings in Origination Context Setting:
    - Business Group: **ANY**
    - Numbering Plan: **ANY**
6. Make the following settings in Terminating Context Setting:
    - Business Group: Select the used business group e.g. **bg_sol**
    - Numbering Plan: Select the numbering plan of the subscriber e.g. **NP_br13eg**
    - Endpoint: **NONE**
7. Make the following settings in Modification Rule:
    - Input Type Of Number: **ANY**
    - Priority: **4**
    - Output Type Of Number: **ANY**
    - Number Source: **Input Number**
    - Presentation Restricted: **unselected**
    - Prefix Required: Activate the checkbox.
    - Optimize Type Of Number: **Extension**
8. Click Save. Your changes are saved.


[klara] - Display Number Modification - Windows Internet...
[klara]-Display Number Modification
Create/Edit the 'calling party display number' to a specific format
Originating Context Setting
Select a business group and/or numbering plan from the list.
Business Group
ANY
Numbering Plan
ANY
Terminating Context Setting
Select a business group, numbering plan and/or endpoint from the list.
Business Group
bg_sol
Numbering Plan
NP_br13_eg
Endpoint
NONE
Modification Rule
Select Input Type of Number, Output Type of number, Number Transmission and define if Optimized possible.
Input Type Of Number:
ANY
Priority:
4
Output Type Of Number:
ANY
Number Source:
Input Number
Presentation Restricted:
Prefix Required:
Optimize Type Of Number:
Extension
Save
Cancel

1.3.2. Settings in StartCli

In Openscape Voice V4R1 and earlier: the follow CLI parameter must be set
Srx/Main/OutGoingCallingPartyNumberType to Value=**0**
This needs to send the Calling Party Number with Typ of Number International.

In Openscape Voice V5 and newer: The Parameter above is not more available. Calling Party Number definitions will be made in the Display Number Modification.

1.4. Configuration OpenBranch

Only some OpenScape Business specific information is covert in this guidline. For more detailed information about OpenScape Branch refer to official guide “Administrator Documentation”, which is available in SEN E-Docu.

Contents

This section covers the following topics:

1.4.1. Network Services

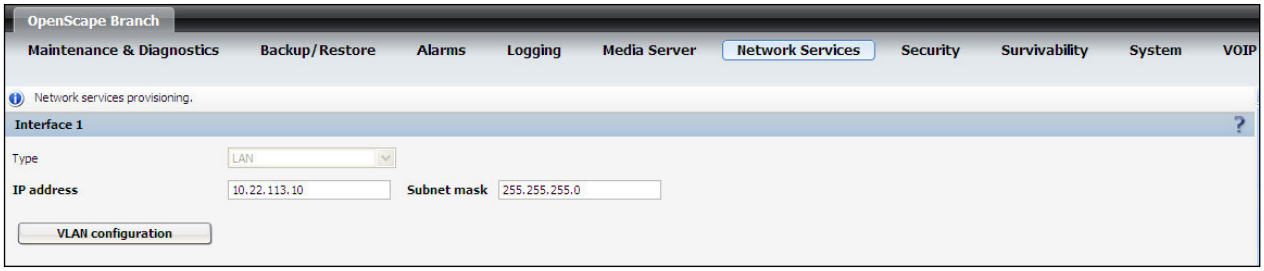
Proceed as follows:

1. **OpenScape Branch** -> select **Network Services**.

2. Make the following settings:

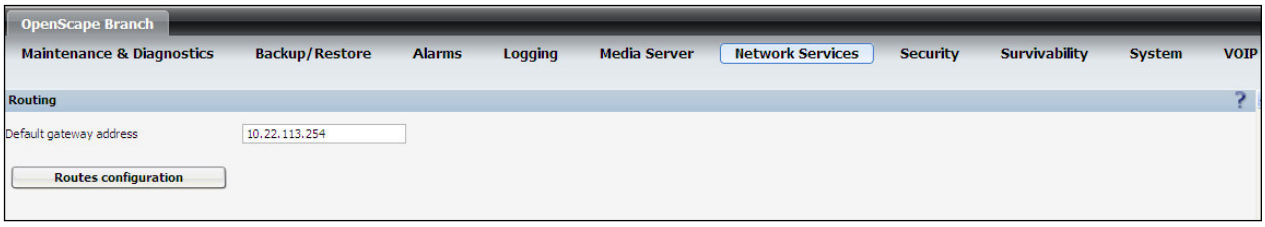
    • Interface 1

        – IP address, Subnet mask: Enter the IP address and subnet mask of the OpenScape Branch proxy server, e.g. **10.22.113.10** and **255.255.255.0**.



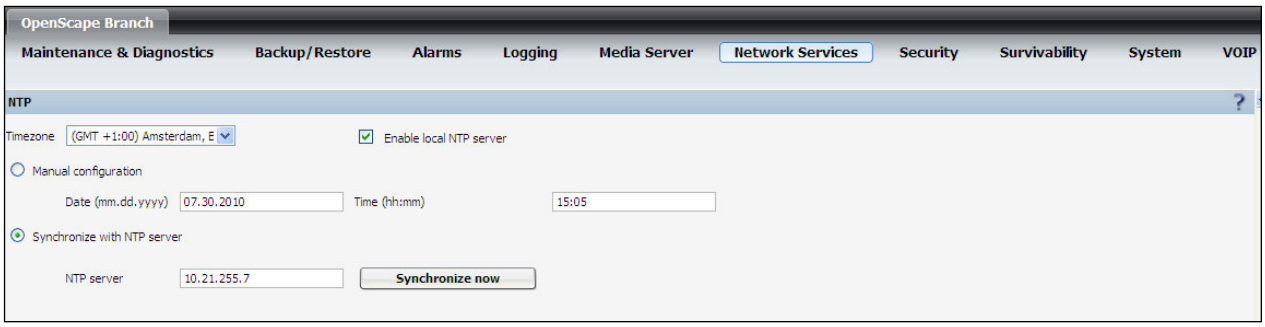
    • Routing

        – Default gateway IP address: Enter the IP address of the default gateway, e.g. **10.22.113.254**.



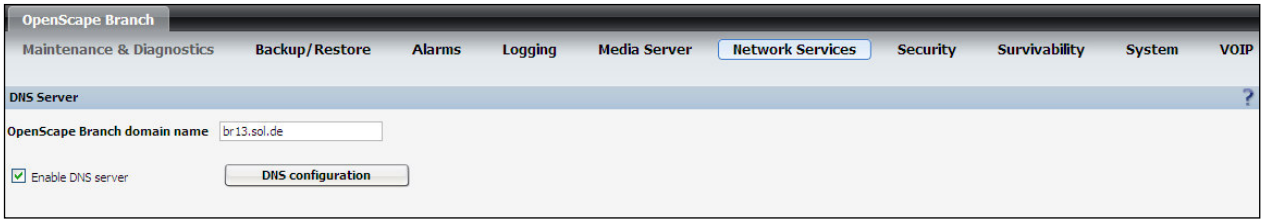
• NTP

- Timezone: e.g. **GMT+1:00**
- Synchronize with NTP server: activate this field.
- NTP server: Enter the NTP server IP address, e.g. **10.21.255.7**.
- Synchronize now: Click this button.



• DNS Server

- OpenScape Branch domain name: Enter the "DNS-SRV" name of the external office (**D**omain **N**ame System **SERV**ICE), e.g. **br13.sol.de**.
- Enable DNS server: Activate the checkbox.
- DNS configuration: Click this button for additional configuartion



• DNS configuration

Zone configuration

To do this proceed as follows:

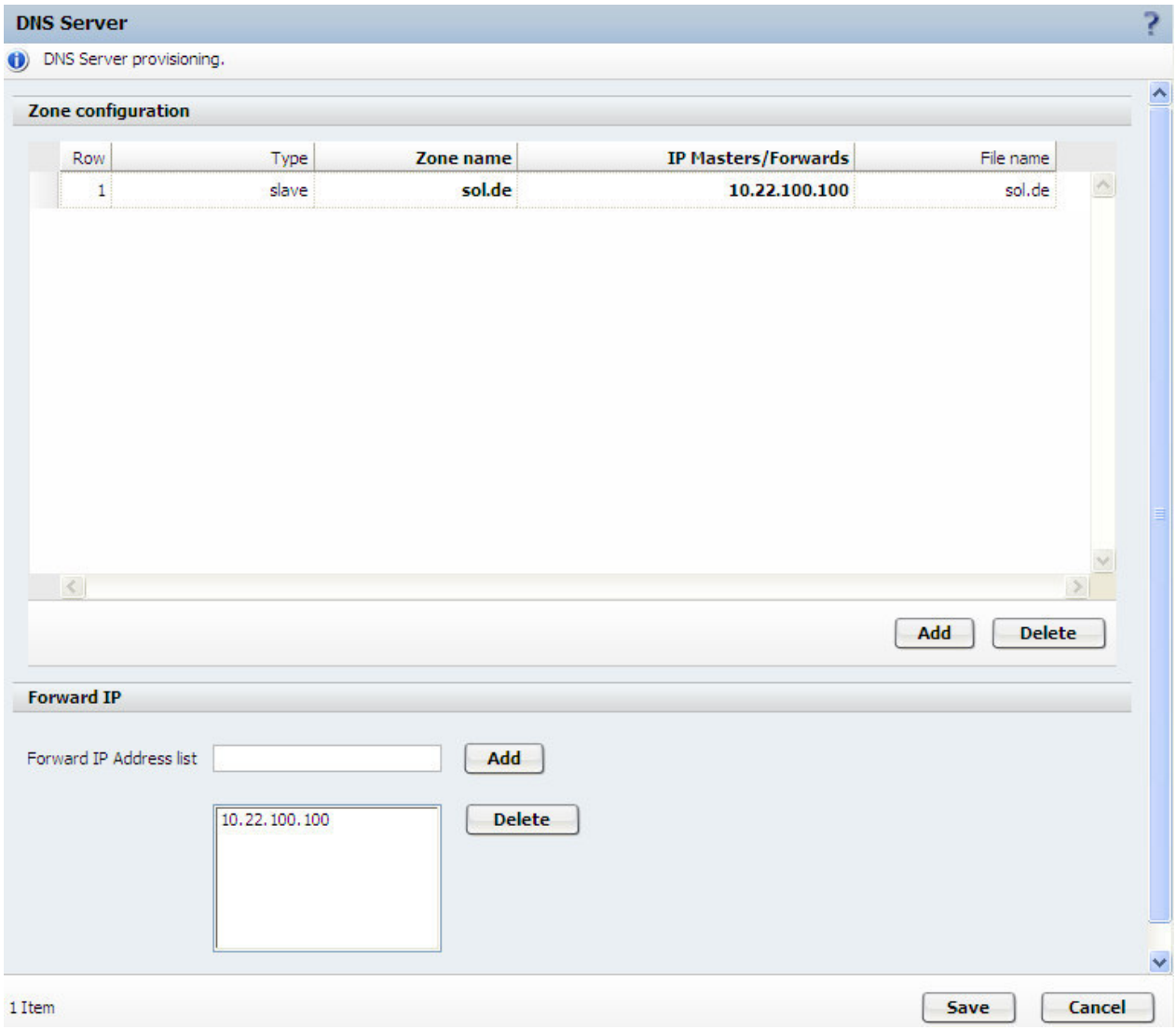
1. Click **Add**, to add a row to the table.
2. In the "Type" column, select the **slave** type.
3. In the "Zone name" column, enter the name of the DNS zone, e.g. **sol.de**.
4. In the "IP Master/Forward" column, enter the IP address of the customer DNS server.
5. In the "File name" column, enter the file name where the DNS zone data should be saved.

Forward IP

In the "Forward IP Address list", the IP address of the customer DNS server must be entered. The customer DNS server is required for queries outside of the transmitted zone. To do this proceed as follows:

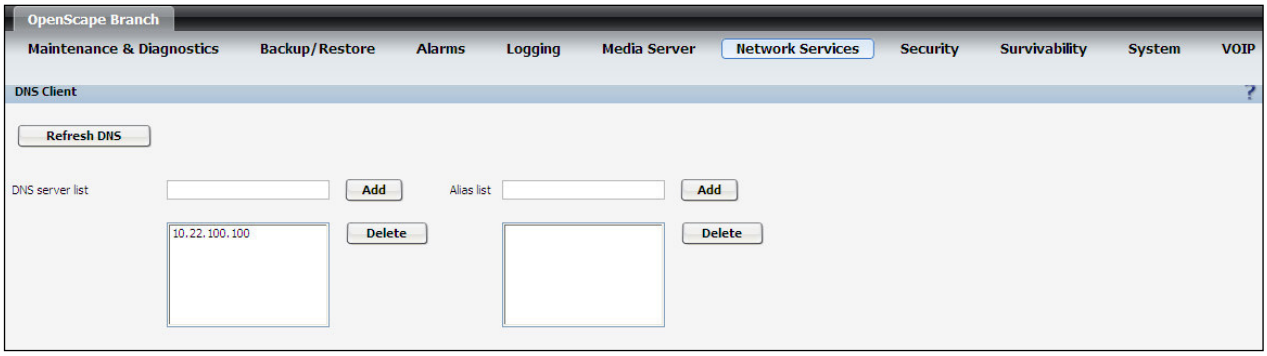
1. Enter the customer DNS server IP address in the input field, e.g. **10.22.100.100**, and click **Add**. The IP address is added to the "Forward IP Address list".

2. Click Save. Your changes are saved.



• DNS Client

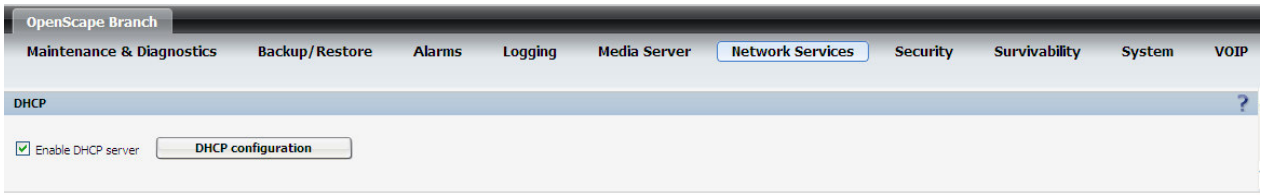
– Enter the customer DNS server IP address in the input field “DNS server list”, e.g. **10.22.100.100**, and click **Add**. The IP address is added to the "DNS server list.



• DHCP

– Enable DHCP server: Activate the checkbox.Enable DNS server: Activate the checkbox.

– DHCP configuration: Click the button to configure the DHCP Server.



• DHCP configuration

Most important setting

In the "DNS server list" of the "DHCP Server" window, the OpenScape Branch proxy server and customer DNS server IP addresses must be specified. To do this proceed as follows:

1. Enter the OpenScape Branch proxy server IP address in the input field, e.g. **10.22.113.10**, and click **Add**. The IP address is added to the "DNS server list.

2. Enter the customer DNS server IP address in the input field, e.g. **10.22.100.100**, and click **Add**. The IP address is added to the "DNS server list.

Additional settings

In the "DHCP Server" window, make the following settings:

• Subnet: e.g. **10.22.113.0**

• Netmask: e.g. **255.255.255.0**

• IP address from: e.g. **10.22.113.100** to: e.g. **10.22.113.129**

• Static IP address list configuration: Do not click.

• Lease time: **86400**

• Max. lease time: **604800**

• Interface: **Interface 1**

• Update style: **None**

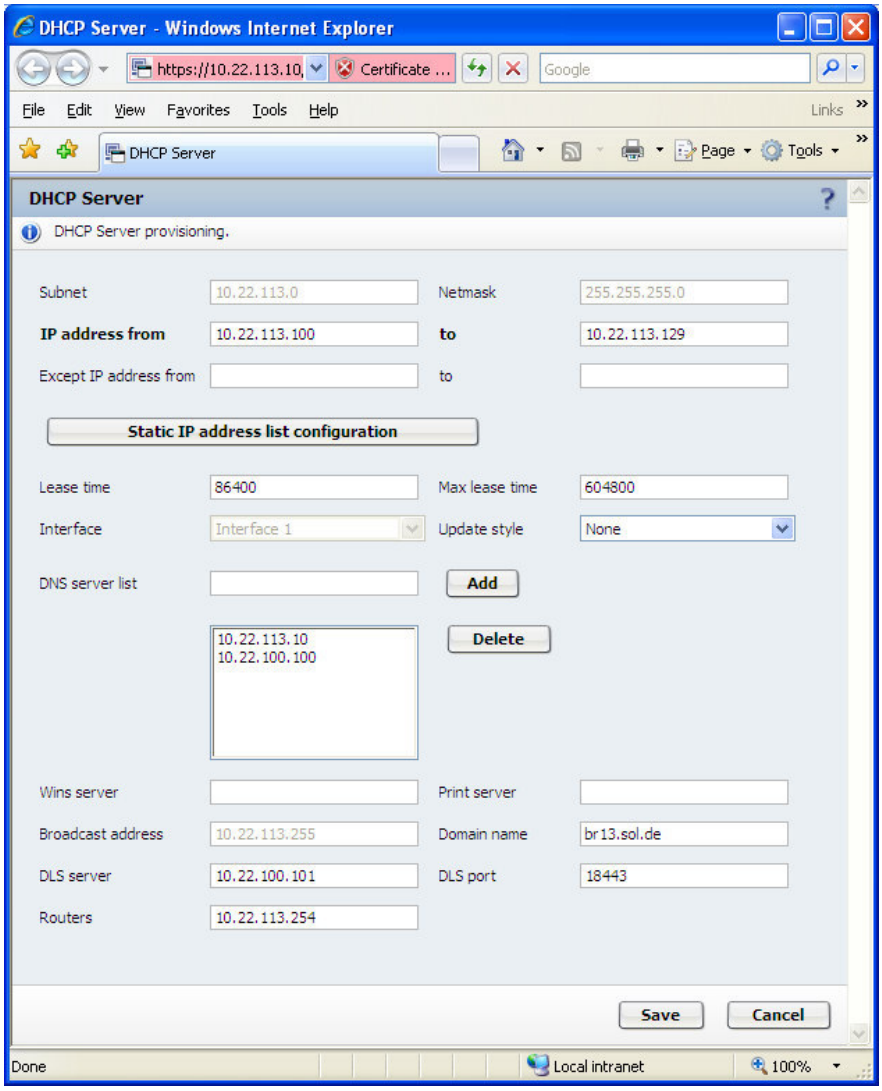
• Broadcast address: e.g. **10.22.113.255**

• Domain name: "DNS-SRV" name of the external office (Domain Name System SERVICE) e.g. **br13.sol.de**

• DLS server: IP of the DLS Server e.g. **10.22.100.101**

• DLS Port: **18443**

• Routers: e.g. **10.22.113.254**


DHCP Server - Windows Internet Explorer
https://10.22.113.10
Certificate ...
Google
File Edit View Favorites Tools Help
Links
DHCP Server
Page Tools
DHCP Server
DHCP Server provisioning.
Subnet
10.22.113.0
Netmask
255.255.255.0
IP address from
10.22.113.100
to
10.22.113.129
Except IP address from
to
Static IP address list configuration
Lease time
86400
Max lease time
604800
Interface
Interface 1
Update style
None
DNS server list
Add
10.22.113.10
10.22.100.100
Delete
Wins server
Print server
Broadcast address
10.22.113.255
Domain name
br13.sol.de
DLS server
10.22.100.101
DLS port
18443
Routers
10.22.113.254
Save
Cancel
Done
Local intranet
100%

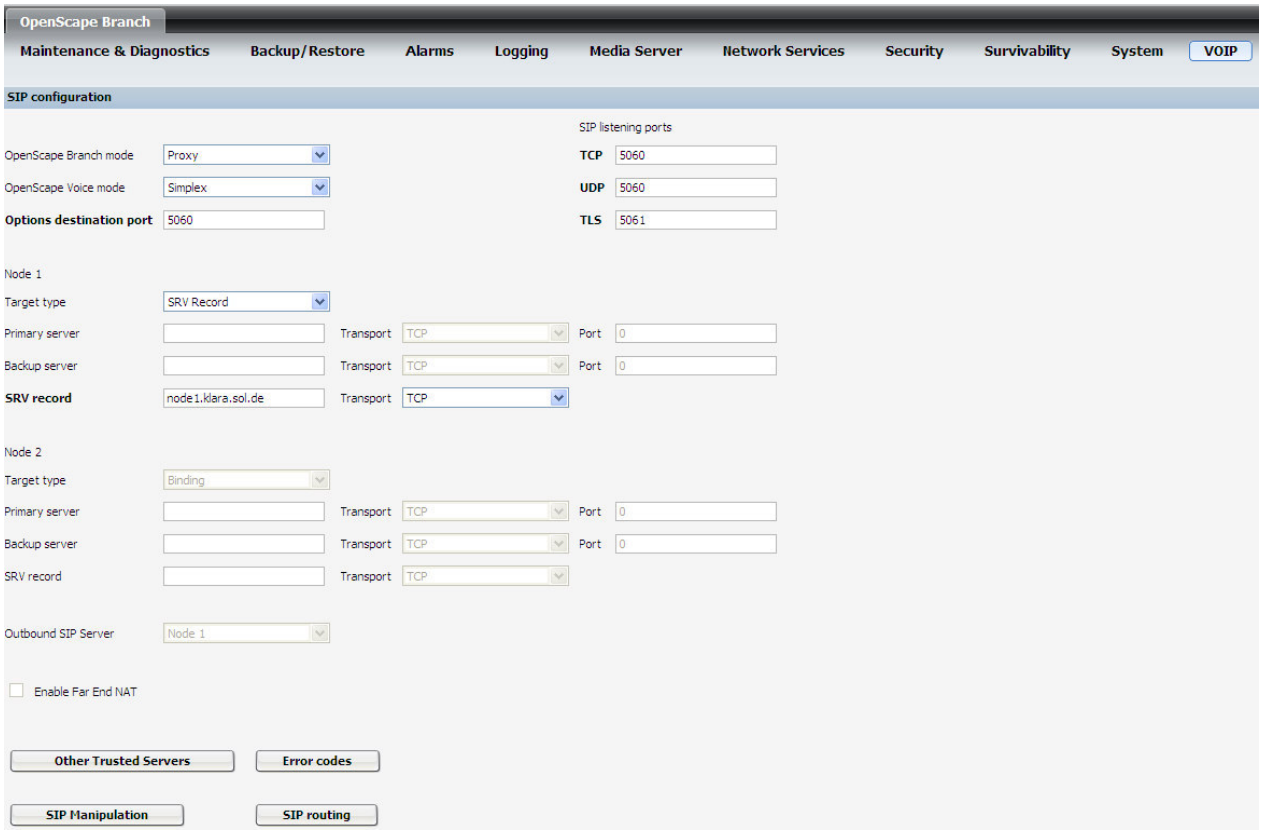
1.4.2. VOIP

Proceed as follows:

1. **OpenScape Branch** -> select **VOIP**.
2. Make the following settings:
    - SIP configuration

        SIP connectivity to OpenScape Voice will not be described here.

        – For more information see the official Openscape Branch Administrator documentation chapter “How to Configure the Communication System “.



• SIP Manipulation: Click the button to configure SIP headers.

SIP Manipulation

The settings in this table are required for emergency handling. Complete the table as follows:

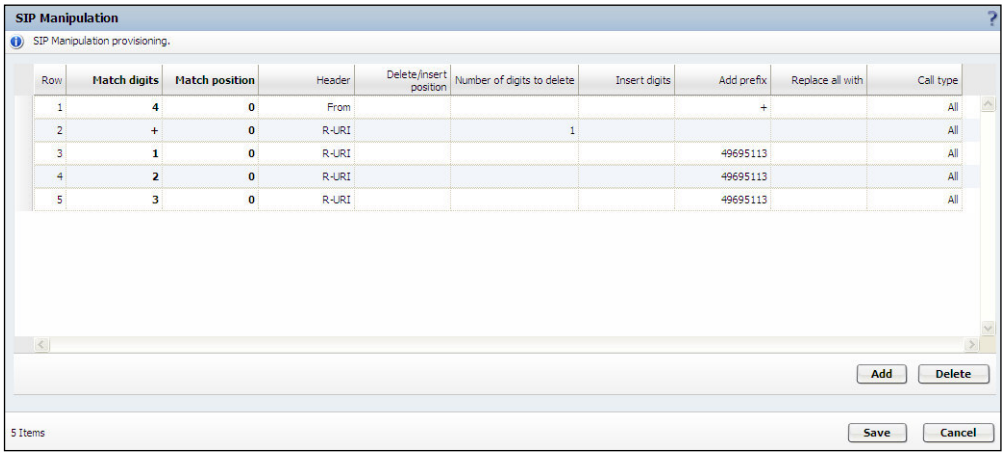
Row	Match digits	Match position	Header	Delete/ insert position	Number of digits to delete	Insert digits	Add prefix	Replace all with
1	4	0	From				+	
2	+	0	R-URI		1			
3	1	0	R-URI				e.g. 49695113	
4	2	0	R-URI				e.g. 49695113	
5	3	0	R-URI				e.g. 49695113	

Explanations:

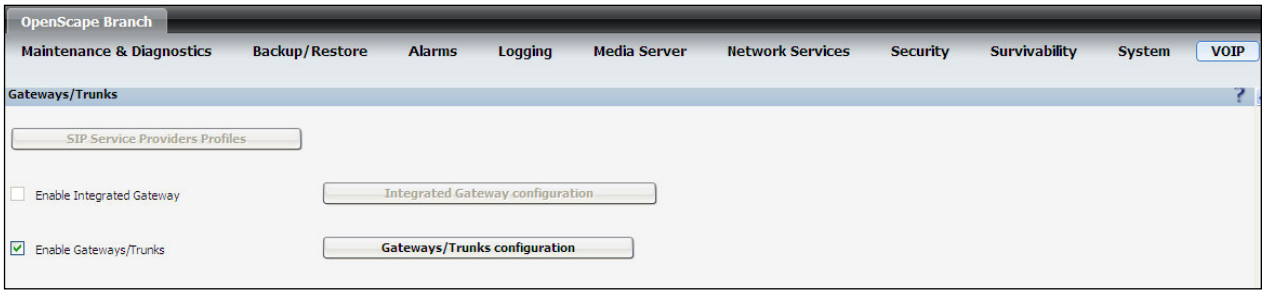
First row: The phone number must have a plus "+" at the beginning so HiPath 3000 can recognize this as an international phone number.

Second row: The plus "+" in the Request-URI (R-URI) must be deleted, as telephones are not registered with a plus "+".

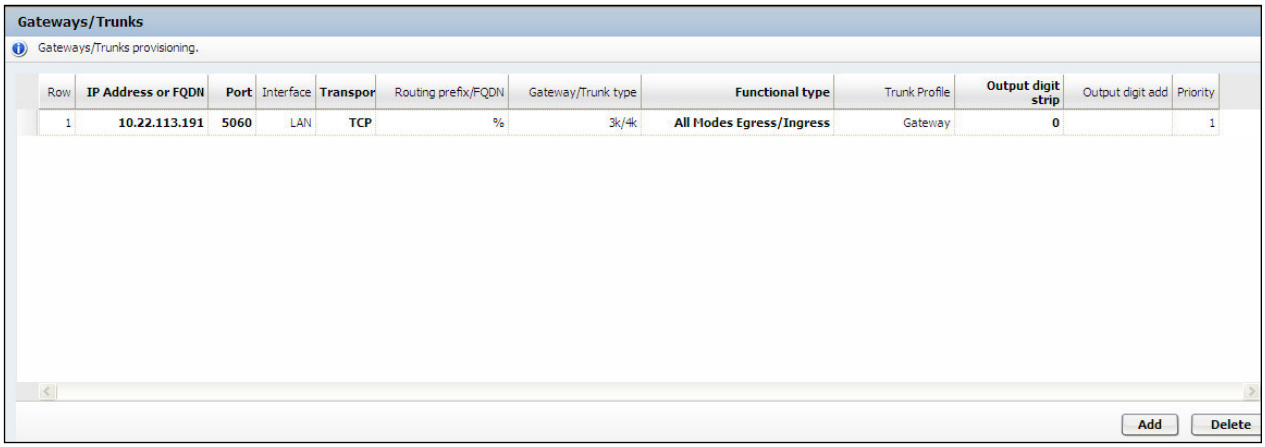
Third to fifth rows: These settings enable phones to dial a short internal number and not international dialing.



- Gateway/Trunks
  - Enable Gateways/Trunks: Activate the checkbox.
  - Gateways/Trunks configuration: Click this button for adding a gateway



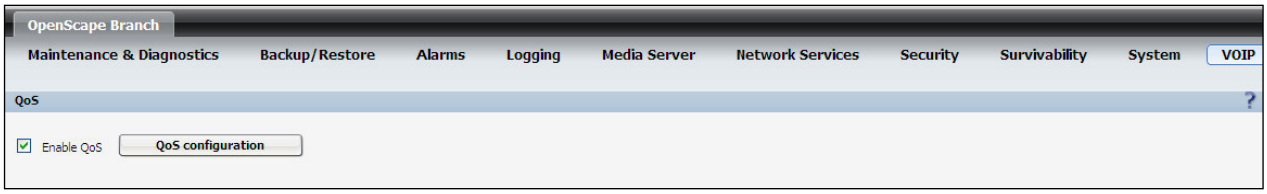
  - HG 1500 should be added as a gateway.
  - Use the screenshot below as an example. For more information see the official Openscape Branch Administrator documentation chapter “Configuration of Gateways“.



• QoS

– Enable QoS: Activate the checkbox.

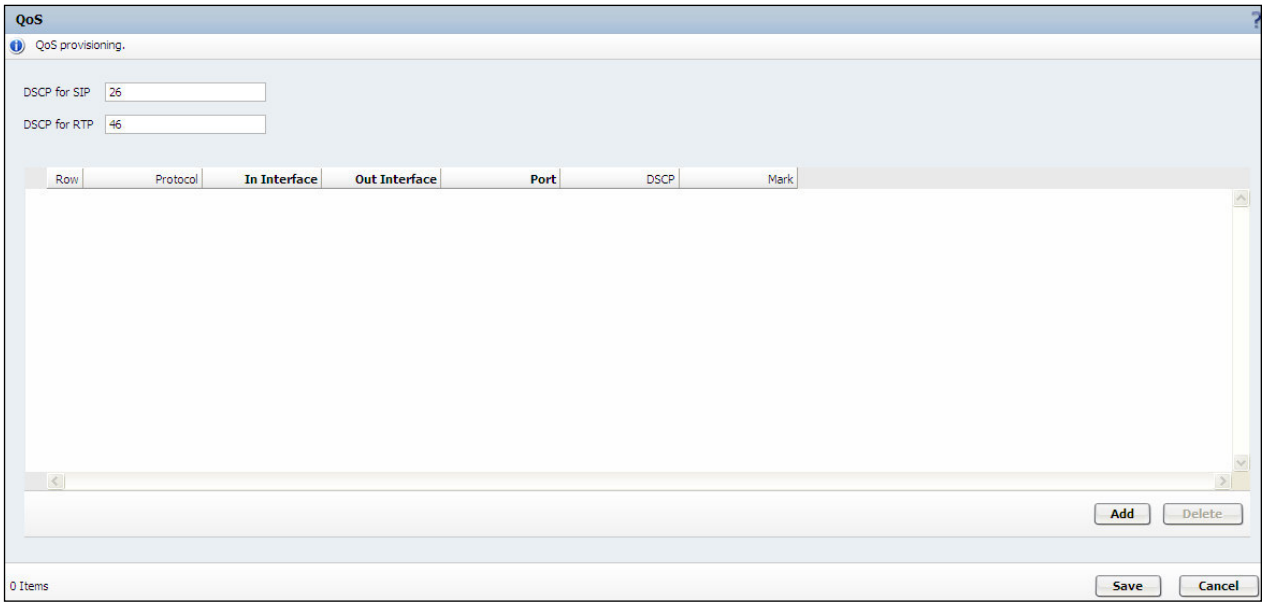
– QoS configuration: Click this button to setup the Layer 3 priority.



The DSCP priority must be entered as decimal value.

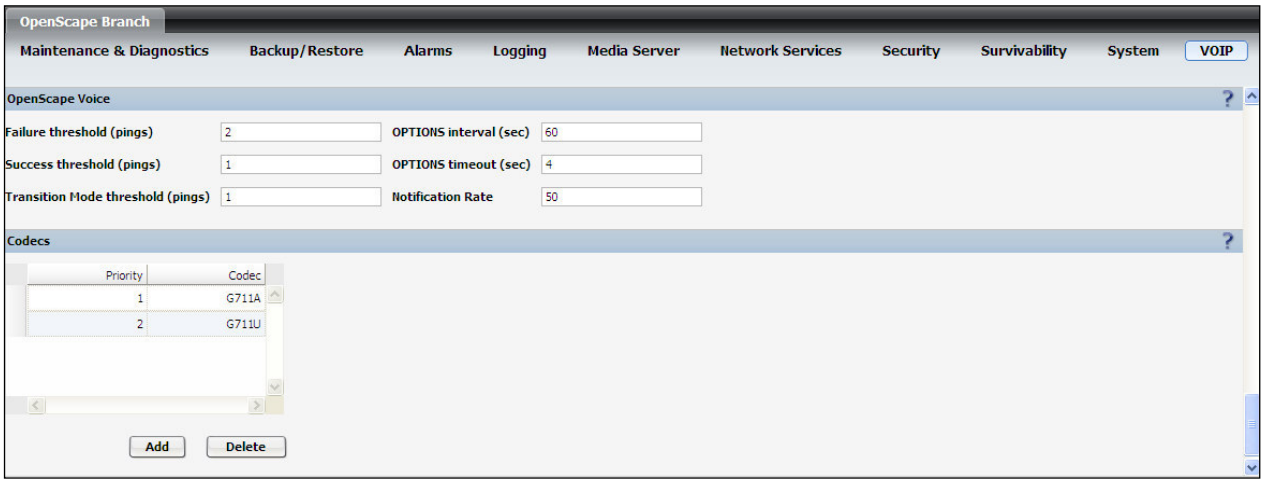
– DSCP for SIP: enter **26** for L3 QoS priority Diffserv AF31.

– DSCP for SIP: enter **46** for L3 QoS priority Diffserv EF.



- Codec
  - Set the codec priority as in HG 1500, i.e.:

Priority	Codec
1	G711A
2	G711U



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