

How to Configure SIP Trunk for RoutIT TLS NL

About this document

This configuration guide describes an example of how to set up the SIP trunk **RoutIT TLS NL** as an ITSP connection to the OpenScape Business.

Note: The basis for this document is the current OpenScape Business V3R3. Since OpenScape Business is constantly developed, input masks and interfaces as well as requirements may change in the future. The settings and entries described here then apply accordingly.

System	OpenScape Business
Released with Version	V3R3
RoutIT TLS NL	Features & Capabilities
Account (DID/Client)	<i>DID</i>
Multisite	<i>yes - single trunk</i>
CLIP / CLIR	<i>yes</i>
CLIP no Screening	<i>yes</i>
COLP	<i>no</i>
Call Forwarding (302)	<i>no</i>
DTMF (RFC2833/4733)	<i>yes</i>
Codecs G711/G729	<i>yes / no</i>
T.38 Fax	<i>yes</i>
Secure trunk	<i>yes</i>

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Date	Version	Changes
2023-07-21	1.0	Release <i>RoutIT TLS NL</i> with OpenScape Business V3R3

Information

The **RoutIT TLS NL** SIP-Trunk will be released for the first time with OpenScape Business V3R3.

Trunk Configuration Data provided by RoutIT

The configuration data needed to setup the SIP trunk can be found on the **RoutIT Broadsoft** Portal under SIP Trunking Page > Trunk Group > Edit under the selected Trunk Group:

* Name: 312

Department: None

* Maximum Active Calls Allowed: 8

Maximum Active Incoming Calls Allowed:

Maximum Active Outgoing Calls Allowed:

☒ Enable Authentication

Authentication User Name: 312

Type new authentication password:

Re-type new authentication password:

Trunk Group Identity: @ .voipit.nl

OTG/DTG Identity:

☐ Enable Trunk Group Prefix

☐ Allow calls directly to trunk group with Trunk Identity

☐ Allow calls directly to trunk group with DTG Identity

☐ Include Trunk Identity for Calls to Trunk Group

☐ Include DTG Identity for Calls to Trunk Group

☐ Include Trunk Identity for Calls from Trunk Group

☐ Include OTG Identity for Calls from Trunk Group

☐ Enable Network Address Identity

☒ Allow Unscreended Calls

☒ Allow Unscreended Emergency Calls

☐ Route To Peering Domain

anonymous

Call Processing Policies

Following “Call Processing Policies” must be configured in **RoutIT Broadsoft Portal**

Call Processing Policies

View or modify Call Processing Policies for the group.

OK

Apply

Cancel

Calling Line ID

☐ Use group name for Calling Line Identity

☐ Allow Department Name Override

☒ Use Group Calling Line Id Policy ☐ Use Enterprise Calling Line Id Policy

External Calls: ☒ Use user phone number for Calling Line Identity
☐ Use configurable CLID for Calling Line Identity
☐ Use group/department phone number for Calling Line Identity

Enterprise Calls: ☒ Use extension
☐ Use location code plus extension
☐ Use External Calls Policy

Group Calls: ☒ Use extension
☐ Use location code plus extension
☐ Use External Calls Policy

Emergency Calls: ☒ Use user phone number for Calling Line Identity
☐ Use configurable CLID for Calling Line Identity
☐ Use group/department phone number for Calling Line Identity

☒ Allow Alternate Numbers for Redirecting Identity

☒ Allow Configurable CLID for Redirecting Identity

☐ Allow Mobile DN for Redirecting Identity

☒ Block Calling Name for External Calls

Certificate import

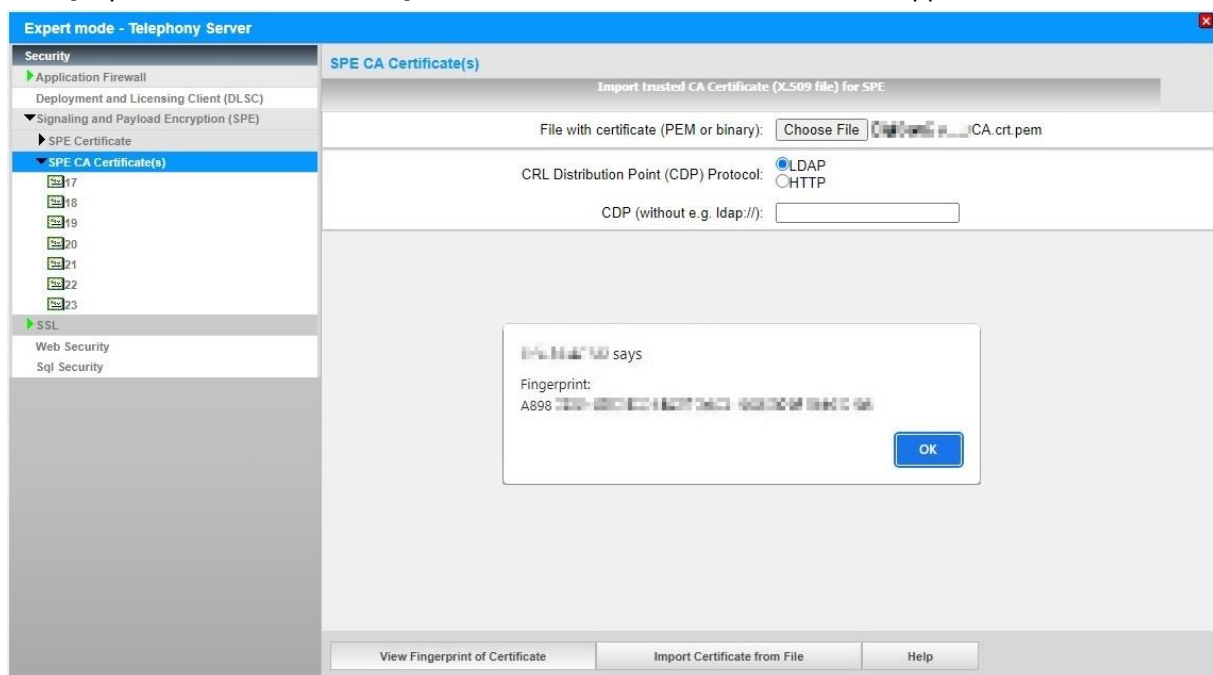
Customer needs to order the certificates from **RoutIT**.

Before OpenScape Business can establish a TLS connection to the ITSP server, the certificates provided by the ITSP must be imported.

The certificate import is performed in the WBM page Expert mode -> Telephony Server -> Security -> Signaling and Payload Encryption (SPE) -> SPE CA Certificates:

Select the *.pem file of your CA certificate and click [View Fingerprint of Certificate]. Close the window showing the fingerprint - click [OK].

Click [Import Certificate from File] and wait until the confirmation window appears.

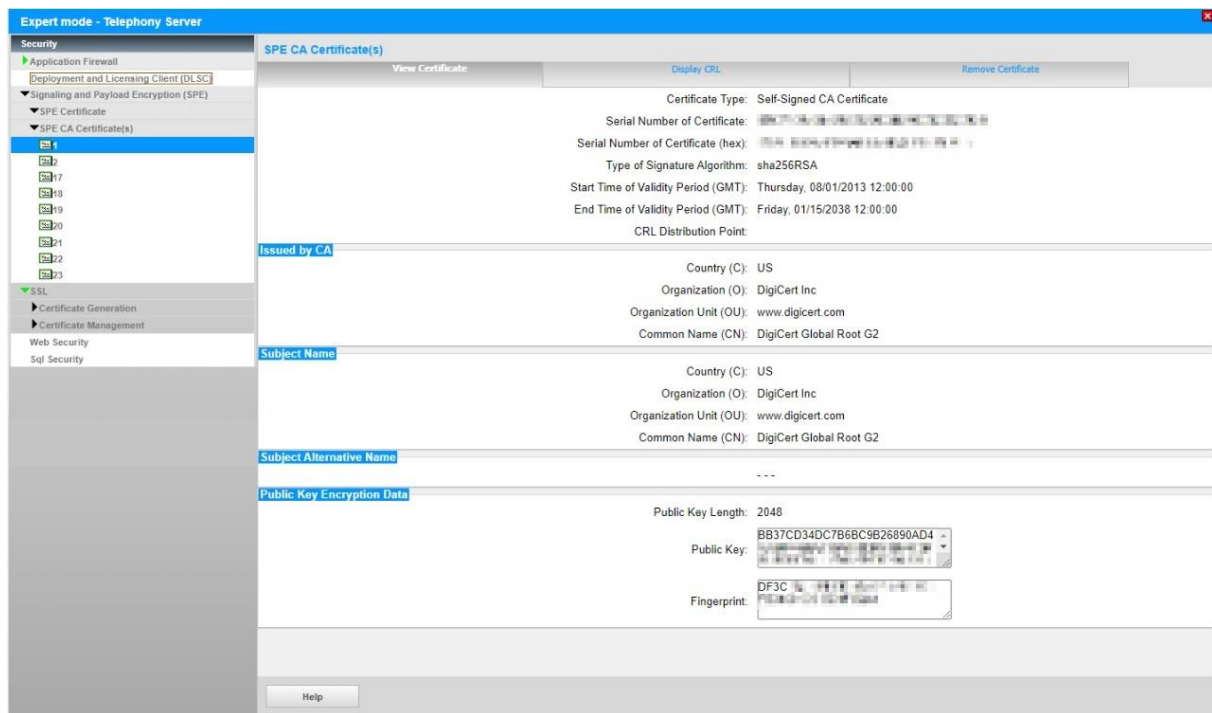


Close with [OK].



Note: OpenScape Business cannot import files with a "certificate chain". Each file can contain only one certificate.

The imported certificate can now be displayed. Click on the "number", not on the symbol.

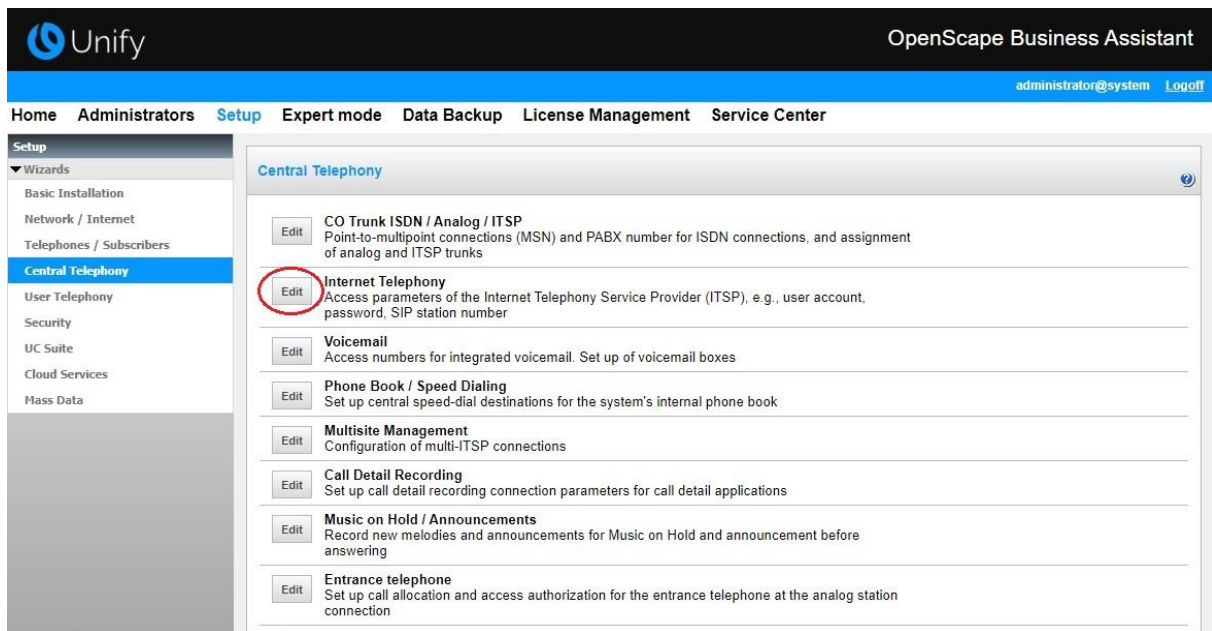


Then import the CA root certificate in the same way.

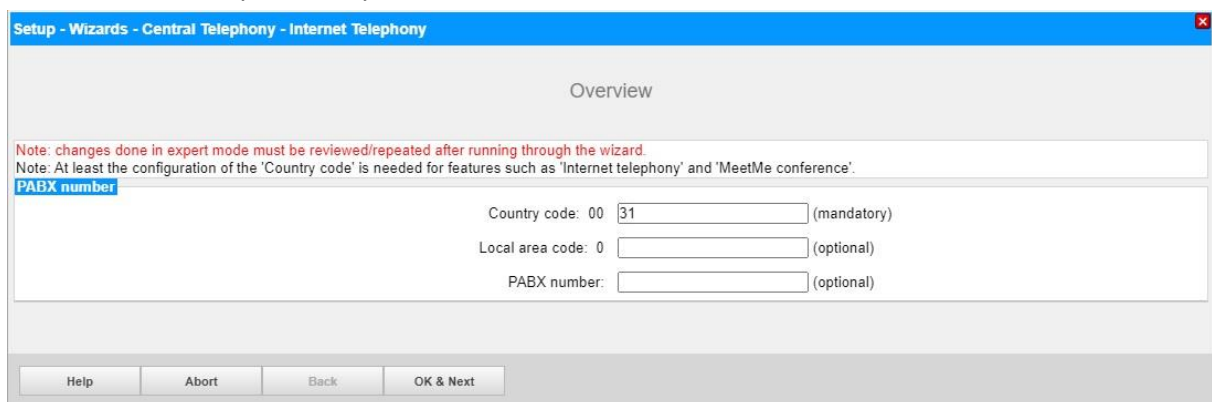
Configuration Wizard

Internet Telephony

Go to Central Telephony – “Internet Telephony”



The overview page appears for entering the location data. The most flexible type of configuration is to enter the Country code only.



Click [OK & Next].

Provider configuration and activation for Internet Telephony -> No call via Internet -> **unchecked**
Use Country specific view: **Netherlands** and select **RoutIT TLS NL**.

Setup - Wizards - Central Telephony - Internet Telephony

Provider configuration and activation for Internet Telephony

No call via Internet: ☐

Country specific view: Netherlands

Note: changes done in expert mode must be reviewed/repeated after running through the wizard.

	Activate Provider	Internet Telephony Service Provider
Add		Other Provider
Edit	<input type="checkbox"/>	Other Provider
Edit	<input type="checkbox"/>	Other Provider
Edit	<input type="checkbox"/>	Other Provider
Edit	<input type="checkbox"/>	Other Provider
Edit	<input type="checkbox"/>	Other Provider
Edit	<input type="checkbox"/>	Other Provider
Edit	<input type="checkbox"/>	Other Provider
Edit	<input checked="" type="checkbox"/>	RoutIT
Edit	<input checked="" type="checkbox"/>	RoutIT TLS NL
Edit	<input type="checkbox"/>	Other Provider
Edit	<input type="checkbox"/>	Other Provider
Edit	<input type="checkbox"/>	Other Provider
Edit	<input type="checkbox"/>	Other Provider
Edit	<input type="checkbox"/>	Other Provider

Help Abort Back OK & Next Display Status

Activate Provider and click on [Edit].

On the next page you have to enter the following information:

- **Domain Name**

The SIP Domain Name can be found on the **RoutIT Broadsoft** Portal, under SIP Trunking Page > Trunk Group > Edit under the selected Trunk Group. The part required is found on the section called Registered Domain.

____.____.voipit.nl



Trunking

Trunk Group: 312

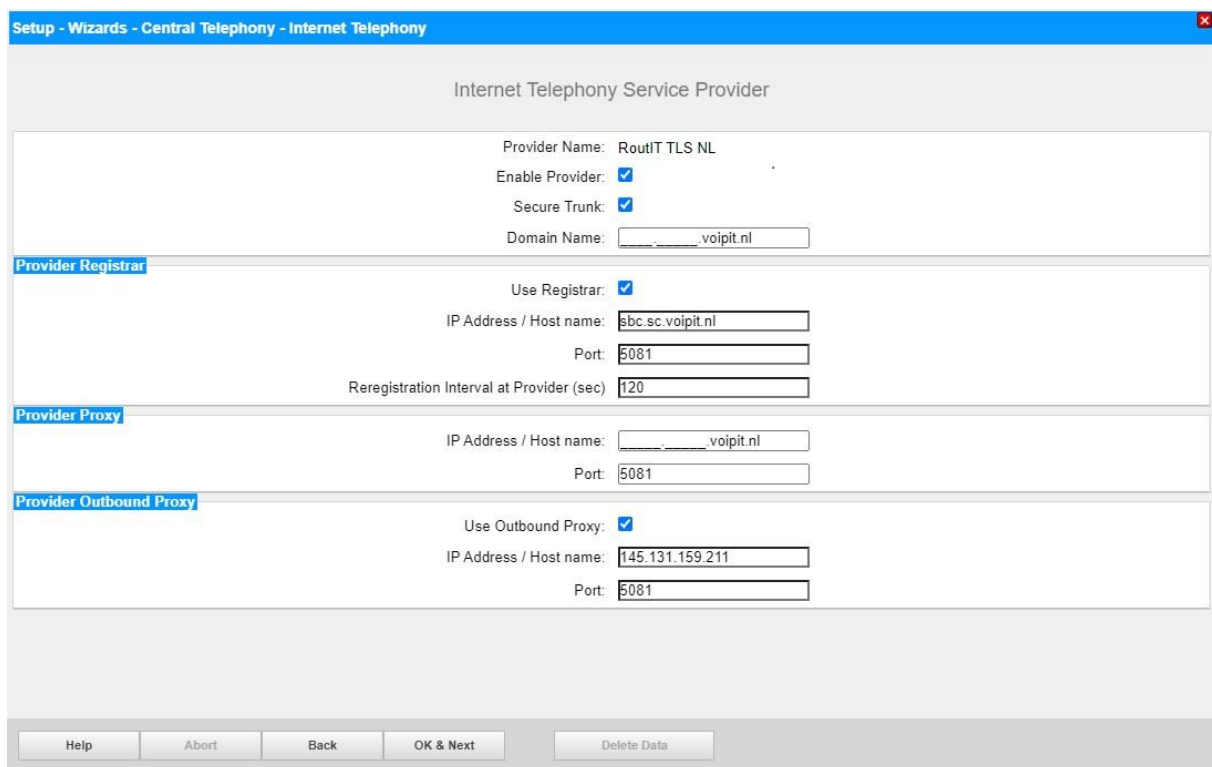
* Line/Port: 312 @ _____:voipit.nl ▼

- **Provider Registrar, Provider Proxy and the Provider Outbound Proxy:**

The **Provider Registrar** : sbc.sc.voipit.nl

The **Provider Proxy** : _____.____.voipit.nl

The **Provider Outbound Proxy** : 145.131.159.211



Setup - Wizards - Central Telephony - Internet Telephony

Internet Telephony Service Provider

Provider Name: RoutIT TLS NL

Enable Provider: ☒

Secure Trunk: ☒

Domain Name: _____.____.voipit.nl

Provider Registrar

Use Registrar: ☒

IP Address / Host name: sbc.sc.voipit.nl

Port: 5081

Reregistration Interval at Provider (sec) 120

Provider Proxy

IP Address / Host name: _____.____.voipit.nl

Port: 5081

Provider Outbound Proxy

Use Outbound Proxy: ☒

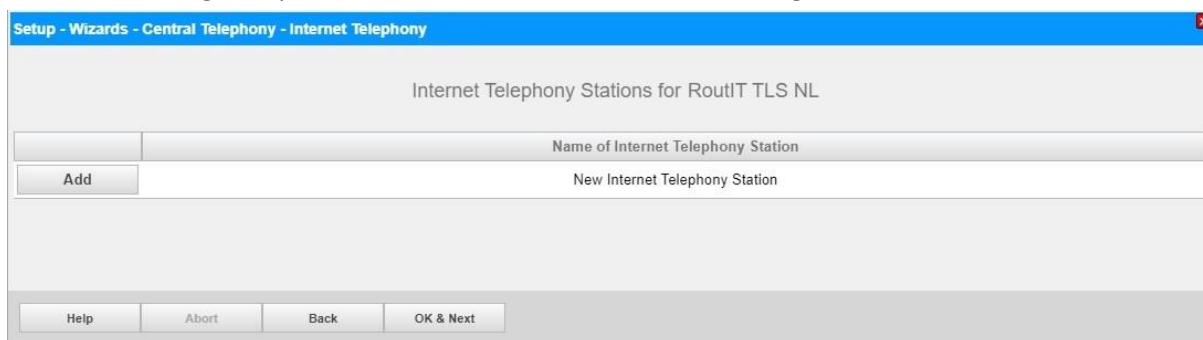
IP Address / Host name: 145.131.159.211

Port: 5081

Help Abort Back OK & Next Delete Data

Click [OK & Next].

In the next dialog the specific customer SIP User data will be configured.



Click on [Add].

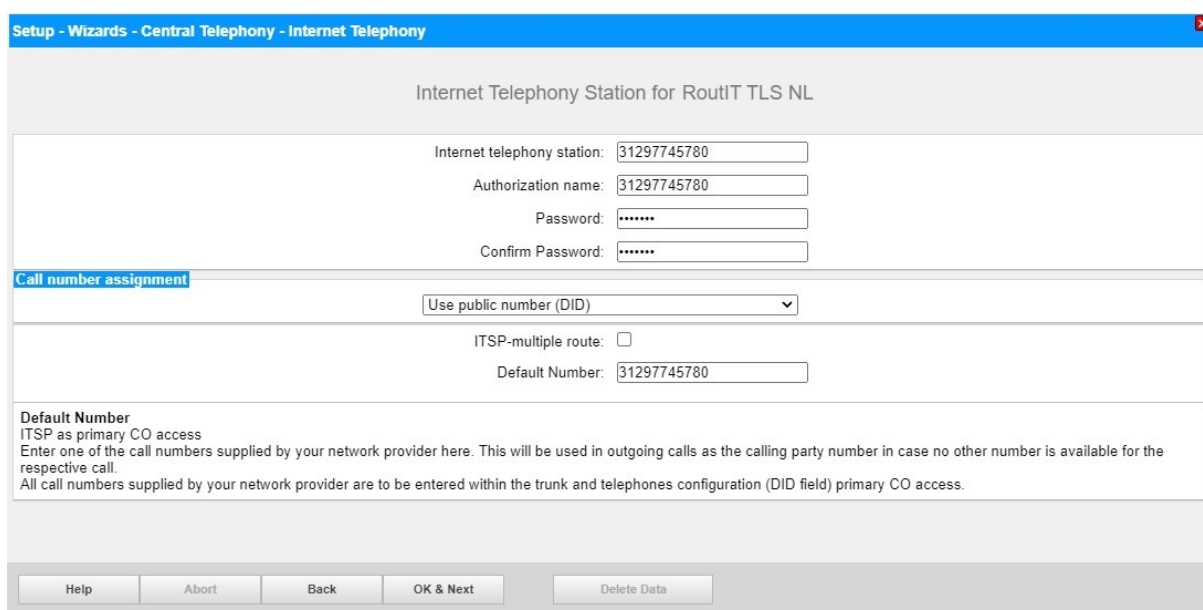
Data provided on the RoutIT Broadsoft Portal, under SIP Trunking Page > Trunk Group > Edit under the selected Trunk Group:

Internet telephony station: Username is inserted here (e.g: 31297745780)

Authorization name: Username is inserted here (e.g: 31297745780)

Password: Password provided by RoutIT

Default number: Main number of connection. The default number is used as outgoing number when no DDI number is assigned to a station. (e.g: 31297745780). Usually the **Lead Number** is entered here.



Enter the relevant data and click [OK & Next].

Setup - Wizards - Central Telephony - Internet Telephony

Internet Telephony Stations for RoutIT TLS NL

	Name of Internet Telephony Station
Edit	31297745780

Help Abort Back OK & Next

Click [OK & Next]

Setup - Wizards - Central Telephony - Internet Telephony

Call Number Assignment for RoutIT TLS NL

Name of Internet Telephony Station	Internet Telephony Phone Number	Direct inward dialing	Use as PABX number for outgoing calls
In order to complete the configuration please verify that the relevant user DIDs are set in stations.(Telephones / Subscribers configuration)			

Help Abort Back OK & Next

Click [OK & Next] (no input needed)

Setup - Wizards - Central Telephony - Internet Telephony

Provider configuration and activation for Internet Telephony

No call via Internet: ☐

Country specific view: Netherlands

Note: changes done in expert mode must be reviewed/repeated after running through the wizard.

	Activate Provider	Internet Telephony Service Provider
Add		Other Provider
Edit	<input type="checkbox"/>	...
Edit	<input type="checkbox"/>	...
Edit	<input type="checkbox"/>	...
Edit	<input type="checkbox"/>	...
Edit	<input type="checkbox"/>	...
Edit	<input type="checkbox"/>	...
Edit	<input type="checkbox"/>	...
Edit	<input type="checkbox"/>	RoutIT
Edit	<input checked="" type="checkbox"/>	RoutIT TLS NL
Edit	<input type="checkbox"/>	...
Edit	<input type="checkbox"/>	...
Edit	<input type="checkbox"/>	...
Edit	<input type="checkbox"/>	...

Help Abort Back OK & Next Display Status

Click [OK & Next]

Define bandwidth (# Trunks)

The amount of simultaneous Internet (**Assigned Lines**) calls must be aligned with the **Maximum Active Calls** assigned to the Trunk Group on the **RoutIT Broadsoft** Portal.

* Name: 312
Department: None
* Maximum Active Calls Allowed: 8
Maximum Active Incoming Calls Allowed:
Maximum Active Outgoing Calls Allowed:
☒ Enable Authentication
Authentication User Name: 312
Type new authentication password:
Re-type new authentication password:
Trunk Group Identity: @ .voipit.nl
OTG/DTG Identity:

Setup - Wizards - Central Telephony - Internet Telephony

Settings for Internet Telephony

Simultaneous Internet Calls
Available Lines for ITSP: 170
Please enter in field 'Upstream up to (Kbit/sec)' the Upstream of your Internet connection communicated by your Provider. You have typed in **Upstream up to (Kbps) = 2048**
In the 'Change Feature --> Internet Telephony' Assistant. This upstream allows you to conduct up to 16 Internet phone calls simultaneously. If the call quality deteriorates due to the network load, you will need to reduce this number of simultaneous calls.
The number of simultaneous Internet Calls also depends on the licensing.

Upstream up to (Kbps): 2048
Number of Simultaneous Internet Calls: 8 Distribute Lines

Line assignment

Internet Telephony Service Provider	Configured Lines	Assigned Lines
RoutIT TLS NL	0	8

Help Abort Back OK & Next

Click [OK & Next]

Special phone numbers

In this dialog it is possible to route special phone numbers.

The dialog box is titled "Special phone numbers". It contains a note: "Please make sure that all special call numbers are supported by the selected provider without fail." Below the note is a table with three columns: "Special phone number", "Dialed digits", and "Dial over Provider".

Special phone number	Dialed digits	Dial over Provider
1	0C112	RoutIT TLS NL ▼
2	0C14Z	RoutIT TLS NL ▼
3		RoutIT TLS NL ▼
4		RoutIT TLS NL ▼
5		RoutIT TLS NL ▼
6		RoutIT TLS NL ▼
7		RoutIT TLS NL ▼
8		RoutIT TLS NL ▼

At the bottom of the dialog are buttons: Help, Abort, Back, and OK & Next.

Click [OK & Next]

On next page status of ITSP is displayed.

The dialog box is titled "Status for the Internet Telephony Service Provider (ITSP)". It displays the status of the ITSP. On the left, there is a green status indicator and a "Restart" button. The main area shows the following information:

Provider	User
RoutIT TLS NL	31297745780 registered

Below the table is a "Diagnose" button. At the bottom of the dialog are buttons: Help, Abort, Back, and Next.

Click [Next]

„Exchange Line Seizure“:

Select which trunk will access code 0. Enter the local area code without prefix digits (needed only when local area code was not entered in first step PBX number)

The dialog box is titled "Exchange Line Seizure". It contains the following fields:

- Exchange Line Seizure** (highlighted in blue)
- Trunk Access Code: 0
- Dial over Provider: RoutIT TLS NL ▼
- Area Code** (highlighted in blue)
- Please enter the local area code.
- Local area code: 0 297

At the bottom of the dialog are buttons: Help, Abort, Back, and OK & Next.

Click [OK & Next]

Overview with all configured „Outside line Seizure“ are displayed.

The screenshot shows a window titled "Setup - Wizards - Central Telephony - Internet Telephony". Inside, there is a section labeled "Seizure Code for the 'Outside line Seizure'". Below this label is a table with two columns. The first column is labeled "Seizure code for 'Outside line Seizure'" and the second column is empty. The table contains one row with the text "RoutIT TLS NL" in the first column and the number "0" in the second column. At the bottom of the window, there are four buttons: "Help", "Abort", "Back", and "OK & Next".

Seizure code for 'Outside line Seizure'	
RoutIT TLS NL	0

Click [OK & Next] and

The screenshot shows the same window as before, but now it displays a completion message. The message reads: "The changes for the feature 'Internet Telephony' are completed". Below this, it states: "The Internet Telephony is switched on and configured. Once an 'Internet Telephony Service Provider' has been activated/deactivated, it is necessary to run through the 'Central Telephony - CO Trunk ISDN / Analog' wizard again." It also includes a security note: "For your own security, you should save the configuration data. To do this, upon completion of the wizard, choose 'Backup' in the main menu, and follow this by choosing 'Backup Immediately'." At the bottom, the buttons are now "Help", "Abort", "Back", and "Finish".

on the next page [Finish]

DID configuration

In the DID Section, the full DID will need to be entered without the country code.

CallNo	DID	First Name	Last Name	Display	Type	Clip/Lin	Active	Fax CallNo	Fax DID	ITSP Loc-ID
3200	-	Asterix	de Gallier	Asterix de Galli	System Client	-	-	-	-	-
3201	-	Obelix	Menhir	Obelix Menhir	System Client	-	-	3274	-	-
3202	-	Panoramix	De Druide	Panoramix De Dru	System Client	-	-	3272	-	-
3203	297745782	Dogmatix	the dog	Dogmatix the dog	System Client	297745780	-	-	-	-

Additional Configuration

License

Add the “S2M/SIP Trunk” license to the SIP-Trunk

The screenshot shows the 'OpenScape Business Assistant' interface. The top navigation bar includes 'Home', 'Administrators', 'Setup', 'Expert mode', 'Data Backup', 'License Management' (highlighted), and 'Service Center'. The left sidebar under 'License Management' lists 'License information', 'Additional Products', 'Local User licenses', 'CO Trunks' (highlighted), 'System Licenses', 'License Profiles', and 'Registration'. The main content area is titled 'CO Trunks' and contains the following text: 'The access to central office via PRI(S2m/T1) trunks or via Internet telephony is licensed by CO trunk licenses. Available licenses for SIP and PRI(S2m/T1) trunks: 242'. Below this, the 'SIP trunks' section shows 'The configured number of simultaneous Internet calls for each Internet Telephony Service Provider is: 8' and 'License number of simultaneous Internet calls in this node: 8'. The 'PRI (S2M/T1)' section features a table with columns: 'Type Slot', 'Port', 'Feature', 'Demands', and 'used licenses'. At the bottom of the table are 'Abort' and 'Apply' buttons.

Known limitations and restrictions:

- Codec G729 is not support by **RoutIT TLS NL**
- Call Deflection (SIP 302 Response) can't be configured in combination with TLS configuration
- COLP is not support by **RoutIT TLS NL** and therefore not tested in certification

Mandatory configuration in Expert Mode

Codec Parameters

Go to Expert Mode → Telephony Server → Voice Gateway → Codec Parameters

To comply with the requirements of the **RoutIT** the following codec parameters **MUST** be changed:

1. G.729 is **NOT** supported by **RoutIT** and **SHOULD** be disabled.
2. RFC 2833 payload type **MUST** be 101.

Expert mode - Telephony Server

Voice Gateway

- SIP Parameters
- ITSP Loc-ID Settings
- Codec Parameters**
- Destination Codec Parameters
- Internet Telephony Service Provider
- Networking
- SIPQ-Interconnection
- Native SIP Server Trunk

Codec Parameters

Edit Codec Parameters

Codec	Priority	Voice Activity Detection	Frame Size
G.711 A-law	Priority 1	VAD: <input type="checkbox"/>	20 msec
G.711 μ-law	Priority 2	VAD: <input type="checkbox"/>	20 msec
G.729A	not used	VAD: <input type="checkbox"/>	20 msec
G.729AB	not used	VAD: <input checked="" type="checkbox"/>	20 msec

Enhanced DSP Channels

Use G.711 only ☐

T.38 Fax

T.38 Fax: ☒

Use FillBitRemoval: ☒

Max. UDP Datagram Size for T.38 Fax (bytes): 1472

Error Correction Used for T.38 Fax (UDP): t38UDPRedundancy

T.30 Fax

Enable ECM: ☒

Misc.

ClearChannel: ☒ Frame Size: 20 msec

RFC2833

Transmission of Fax/Modem Tones according to RFC2833: ☒

Transmission of DTMF Tones according to RFC2833: ☒

Payload Type for RFC2833: 101

Redundant Transmission of RFC2833 Tones according to RFC2198: ☐

Apply Undo Help