

# OpenScape Business V2



## How to Configure SIP Trunk for Telia Estonia

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## Table of History

Date	Version	Changes
05.03.2019	1.0	First version for SW V2R6.2

## Information

The Telia Estonia provider is available and released for the country Estonia.

### Trunk Configuration Data provided by Telia Estonia

The configuration data needed to setup the SIP trunk is provided by ITSP contact person directly to customer's contact person.

Login username with password are sent Telia via 2 e-mails.

Example:

E-mail 1

„SIP kontode andmed“

Tere tulemast kasutama Vahendusjaama IP ühenduse teenust!

Teie tellitud **Vahendusjaama IP ühendus** on loodud. Saadame Teile SIP kontode andmed. Turvalisuse tagamiseks soovime Teile saadetud esialgse salasõna Teenuste portaalis kindlasti ära muuta. Teenuste portaali pääsete ligi aadressilt [teenused.elion.ee](https://teenused.elion.ee).

[sip.PXXXXXXX@pbx.elion.ee](mailto:sip.PXXXXXXX@pbx.elion.ee); xzxzxzx

Heade soovidega,  
Telia

E-mail 2

„Vahendusjaama IP ühenduse Peakasutaja sisselogimise andmed“

Tere tulemast kasutama Vahendusjaama IP ühenduse teenust!

Teie tellitud **Vahendusjaama IP ühendus** on loodud.

Teenusele pääsete ligi [Telia Teenuste Portaalist](#).

Teenuste portaali sisse logimine on turvalisuse tagamiseks kahe tasemeline. Esmalt palume Teil sisestada kasutajatunnuse [PXXXXXXX@pbx.elion.ee](mailto:PXXXXXXX@pbx.elion.ee) ning esialgse salasõna **z123456z**. Seejärel sisestage palun Teie mobiilile 1234567 saadetud PIN kood.

Turvalisuse tagamiseks soovime Teil kindlasti teenuste portaalis muuta ära esialgne salasõna.

Kui soovite teenuse kohta lisainfot või vajate abi, siis helistage palun ärikliendi teeninduse telefonil 1551.

Heade soovidega,  
Telia

Go to website <https://teenused.elion.ee> and login with account name and password obtained from initial e-mail.

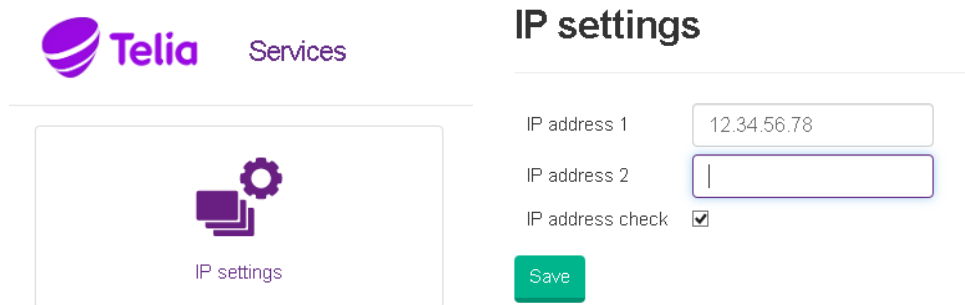
## Sisene haldusveebi

Telefoninumber/Kasutajatunnus:

Salasõna:

Here user has the option to define trunk specific IP address and/or change account password if required.

Clicking IP Settings allows modification/entry of Trunk IP address



**Telia Services**

**IP settings**

IP address 1

IP address 2

IP address check

Clicking "Profile and password" allows modification of SIP trunk account authentication password.

## SIP password

Kehtiv SIP salasõna:

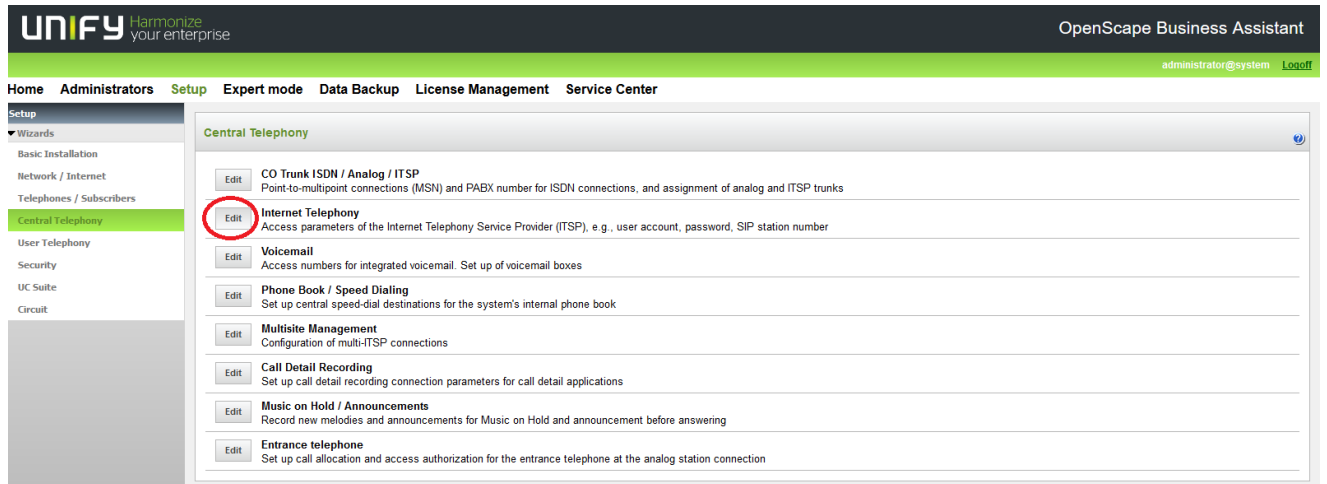
New SIP password:

Repeat new SIP password:

# Configuration Wizard

## Internet Telephony

Go to Central Telephony – “Internet Telephony“



The overview page appears for entering the location data. Enter Country Code and PABX number depending on required length of DID number.

The screenshot shows the 'Overview' page for 'Internet Telephony' configuration. The page title is 'Setup - Wizards - Central Telephony - Internet Telephony'. Below the title, there is a note: 'Note: changes done in expert mode must be reviewed/repeated after running through the wizard.' and another note: 'Note: At least the configuration of the 'Country code' is needed for features such as 'Internet telephony' and 'MeetMe conference'. Below the notes, there is a section for 'PABX number' with three input fields: 'Country code: 00 372 (mandatory)', 'Local area code: (optional)', and 'PABX number: 6123 (optional)'. The 'Country code' field is highlighted in green.

Click [OK & Next].

Provider configuration and activation for Internet Telephony -> No call via Internet -> uncheck Use County specific view: Estonia and select "Telia Estonia".

' and 'Country specific view: Estonia' (with a dropdown arrow). A red note states: 'Note: changes done in expert mode must be reviewed/repeated after running through the wizard.' Below this is a table with two columns: 'Activate Provider' and 'Internet Telephony Service Provider'. The table lists several providers, with 'Telia Estonia' selected (checkbox checked and row highlighted in yellow). At the bottom, there are buttons for 'Help', 'Abort', 'Back', 'OK & Next', and 'Display Status'."/>

	Activate Provider	Internet Telephony Service Provider
Add		Other Provider
Edit	<input type="checkbox"/>	Broadcloud
Edit	<input type="checkbox"/>	COLT UK & Europe
Edit	<input type="checkbox"/>	COLT VPN
Edit	<input type="checkbox"/>	gnTel
Edit	<input type="checkbox"/>	Skype Connect
Edit	<input type="checkbox"/>	Skype for Business
Edit	<input checked="" type="checkbox"/>	Telia Estonia
Edit	<input type="checkbox"/>	Verizon
Edit	<input type="checkbox"/>	Vodafone Anlagenanschluss R3
Edit	<input type="checkbox"/>	VolPXS

Activate Provider and click on [Edit].

On the next page the address data is displayed. All addresses are preconfigured to the needs of Telia, nothing has to be entered on this page.

', 'Secure Trunk: ', 'Domain Name: pbx.elion.ee'. Below this is the 'Provider Registrar' section with 'Use Registrar: ', 'IP Address / Host name: pbx.elion.ee', 'Port: 5060', and 'Reregistration Interval at Provider (sec): 120'. The 'Provider Proxy' section has 'IP Address / Host name: pbx.elion.ee' and 'Port: 5060'. The 'Provider Outbound Proxy' section has 'Use Outbound Proxy: ', 'IP Address / Host name: proxy.pbx.elion.ee', and 'Port: 0'. At the bottom, there are buttons for 'Help', 'Abort', 'Back', 'OK & Next', and 'Delete Data'."/>

Provider Name: Telia Estonia  
Enable Provider:   
Secure Trunk:   
Domain Name: pbx.elion.ee

**Provider Registrar**  
Use Registrar:   
IP Address / Host name: pbx.elion.ee  
Port: 5060  
Reregistration Interval at Provider (sec): 120

**Provider Proxy**  
IP Address / Host name: pbx.elion.ee  
Port: 5060

**Provider Outbound Proxy**  
Use Outbound Proxy:   
IP Address / Host name: proxy.pbx.elion.ee  
Port: 0

Click [OK & Next].

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

Internet Telephony Stations for BroadCloud	
Add	Name of Internet Telephony Station New Internet Telephony Station

Click on [Add].

Data provided by the ITSP technical contact:

**Internet telephony station:** Account name without domain is inserted here (e.g: sip.P12345678)

**Authorization name:** Account name with domain is inserted here (e.g:  
sip.P12345678@pbx.elion.ee)

**Password:** Password provided by Telia Estonia

**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: 3726123450). Usually the **Lead Number** is entered here.

Internet telephony station:

Authorization name:

Password:

Confirm Password:

ITSP-multiple route:

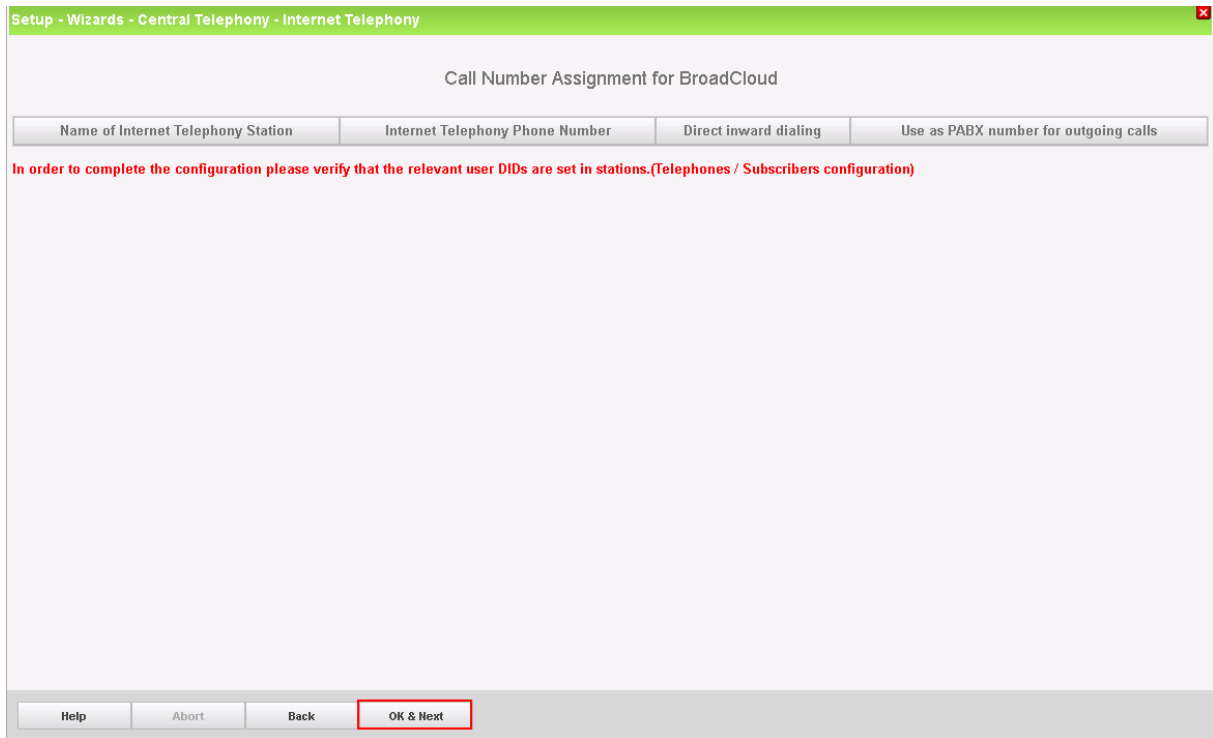
Default Number:

**Default Number**  
ITSP as primary CO access  
Enter one of the call numbers supplied by your network provider here. This will be used in outgoing calls as the calling party number in case no other number is available for the respective call.  
All call numbers supplied by your network provider are to be entered within the trunk and telephones configuration (DID field) primary CO access.

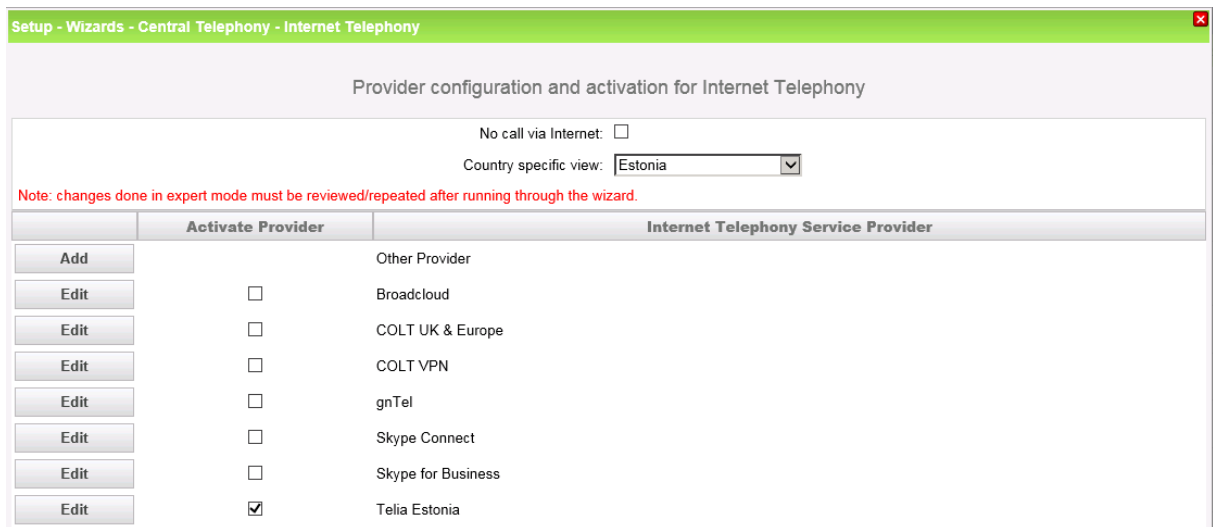
Enter the relevant data and click [OK & Next].

Internet Telephony Stations for Telia Estonia	
Edit	Name of Internet Telephony Station sip.P12345678

Click [OK & Next]



Click [OK & Next] (no input needed)



Click [OK & Next] (no further input needed)



## Define bandwidth (# Trunks)

The amount of simultaneous Internet (**Assigned Lines**) calls is defined.

Setup - Wizards - Central Telephony - Internet Telephony

Settings for Internet Telephony

**Simultaneous Internet Calls**

Available Lines for ITSP: 190

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) = 5120**

In the 'Change Feature --> Internet Telephony' Assistant. This upstream allows you to conduct up to **40** 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):

Number of Simultaneous Internet Calls:

**Line assignment**

Internet Telephony Service Provider	Configured Lines	Assigned Lines
Telia Estonia	6	<input type="text" value="6"/>

Click [OK & Next]

## Special phone numbers

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

Setup - Wizards - Central Telephony - Internet Telephony

Special phone numbers

Note:  
Please make sure that all special call numbers are supported by the selected provider without fail.

Special phone number	Dialed digits	Dial over Provider
1	<input type="text" value="DC112"/>	<input type="text" value="Telia Estonia"/>
2	<input type="text"/>	<input type="text" value="Telia Estonia"/>
3	<input type="text"/>	<input type="text" value="Telia Estonia"/>
4	<input type="text"/>	<input type="text" value="Telia Estonia"/>
5	<input type="text"/>	<input type="text" value="Telia Estonia"/>
6	<input type="text"/>	<input type="text" value="Telia Estonia"/>
7	<input type="text"/>	<input type="text" value="Telia Estonia"/>
8	<input type="text"/>	<input type="text" value="Telia Estonia"/>
9	<input type="text"/>	<input type="text" value="Telia Estonia"/>
10	<input type="text"/>	<input type="text" value="Telia Estonia"/>
11	<input type="text"/>	<input type="text" value="Telia Estonia"/>
12	<input type="text"/>	<input type="text" value="Telia Estonia"/>
13	<input type="text"/>	<input type="text" value="Telia Estonia"/>
14	<input type="text"/>	<input type="text" value="Telia Estonia"/>
15	<input type="text"/>	<input type="text" value="Telia Estonia"/>

Click [OK & Next]

On next page status of ITSP is displayed.

Setup - Wizards - Central Telephony - Internet Telephony

Status for the Internet Telephony Service Provider (ITSP)

Provider	User	Status
Telia Estonia	sip.P12345678	registered

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)

Setup - Wizards - Central Telephony - Internet Telephony

Exchange Line Seizure

Exchange Line Seizure

Trunk Access Code 0

Dial over Provider Telia Estonia

Click [OK & Next]

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

Setup - Wizards - Central Telephony - Internet Telephony

Seizure Code for the 'Outside line Seizure'

Seizure code for 'Outside line Seizure'	
Telia Estonia	0

Click [OK & Next] and on the next page [Finish]

## DID configuration

In the DID Section, the DID will need to be entered excluding the country code and PABX number.

Expert mode - Telephony Server

Station

IP Clients

Edit Subscriber

CallNo	DID	First Name	Last Name	Display	Type	Clip/Lin	Active
167	167				System Client		✓
168	168				SIP Client		✓

## Additional Configuration

### License

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

Home Administrators Setup Expert mode Data Backup License Management Service Center

**License Management**

- License information
- ▼ Additional Products
  - OpenScape Personal Edition
- ▼ Local User licenses
  - Overview
  - IP User
  - Mobility User
  - Deskshare User
- CO Trunks**

**CO Trunks**

Access to the Central Office via Internet telephony is licensed by CO trunk licenses

Available licenses for SIP trunks: 244

**SIP trunks**

The configured number of simultaneous Internet calls for each Internet Telephony Service Provider is: 6

License number of simultaneous Internet calls in this node: 6

License demand for number of simultaneous Internet calls in this node:

## Known limitations and restrictions:

### Fax:

Fax over IP functionality is not fully tested.

T.38 Fax protocol not explicitly supported by Telia when calls leave IP -> See T.38 configuration

### Codec support:

G729 is not supported when calls leave the IP network -> See codec configuration

Certain calling scenarios require use of OSB X internal DSP (installing OCCB board is recommended)

## Mandatory configuration in Expert Mode

### Codec Parameters

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

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

1. Transmission of Fax/Modem Tones according to RFC2833 **MUST** be activated.
2. G.729 is **NOT** supported by Telia Estonia therefore G.729A and G.729AB **SHOULD** be disabled.
3. T38 fax protocol is not supported by Telia Estonia. Fax is supported via G.711 only. For this reason you **MUST** disable T38 protocol

The screenshot shows the 'Expert mode - Telephony Server' configuration window. The left sidebar lists navigation options: Voice Gateway, SIP Parameters, ITSP Loc-ID Settings, Codec Parameters (selected), Destination Codec Parameters, Internet Telephony Service Provider, Networking, SIPQ-Interconnection, and Native SIP Server Trunk. The main area is titled 'Codec Parameters' and contains a table of codec settings.

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

Below the table, there are several sections:

- 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
- 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: 98; Redundant Transmission of RFC2833 Tones according to RFC2198:

## Routing parameters

Go to Expert Mode → Telephony Server → Trunks/Routing → Route → Change Routing Parameters  
 Check option “Always use DSP”

**Route**

Change Route
Change Routing Parameters
Special Parameter change

**Routing flags**

Digit repetition on:

Analysis of second dial tone / Trunk monitoring:

Intercept per direction:

Over. service 3.1 kHz audio:

Add direction prefix incoming:

Add direction prefix outgoing:

Call No. with international / national prefix:

Ringback tone to CO:

Name in CO:

Segmentation:

deactivate UUS per route:

Always use DSP:

## LCR modification

Go to Expert Mode → Telephony Server → LCR

Delete preconfigured entries from LCR table.

Assign required dialing string to eg. Dial Plan 77 with Routing Table 77

77    →

Configure LCR dial rule to dial on Telia Estonia trunk

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Routing Table 77 must point to trunk Telia Estonia with respective dialling rule

Routing Table:77				en-bloc sending			
Index	Dedicated Route	Route	Dial Rule	min. COS	Warning	Dedicated Gateway	GW Node ID
1	<input type="checkbox"/>	<input type="text" value="Telia Esto"/>	<input type="text" value="TeliaEstonia"/> →	<input type="text" value="15"/>	<input type="text" value="None"/>	<input type="text" value="No"/>	<input type="text"/>