

OpenScape Business V3

Configure SIP Trunk for Telenor Norway

OpenScape Business V3 Mainboard Family
OpenScape Business S

About this document

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

Note: The basis for this document is the current OpenScape Business V3R4.2. 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	V3R4.2
Telenor Norway	Features & Capabilities
Account (DID/Client)	DID
Multisite	no
CLIP / CLIR	yes
CLIP no Screening	no
COLP	no
Call Forwarding (302)	yes ¹⁾
DTMF (RFC2833/4733)	yes
Codecs G.722/G.711/G.729	yes ²⁾ / yes / no
T.38 Fax	yes ³⁾
Secure trunk	no

Remarks:

For security reasons OpenScape Business uses dedicated SIP server ports for internal (5060) and external (5070) traffic. As **Telenor Norway** can handle SIP traffic on port 5060 only, the external SIP port in OpenScape Business MUST be configured to port 5060. It is recommended to set the SIP port (internal) to port 5070.

¹⁾ Call Forwarding (302) - Route optimize – is active in default.

²⁾ The use of the G.722 codec must be enabled on the end devices with priority 1 (first line codec). The use of G.722 depends on the characteristics of the remote device (end device, IP system connection, etc.).

³⁾ The option of sending or receiving T.38 faxes depends on the properties of the remote station.

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Table of History

Date	Version	Changes
2025-09-22	1.0	release with OpenScape Business V3R4.2

Information

The **Telenor Norway** SIP-Trunk is released for the first time with OpenScape Business V3R4.2 variants

- OpenScape Business V3 Mainboard Family
- OpenScape Business S

Trunk Configuration Data provided by Telenor Norway

The customer administrator interface "Min Bedrift" ("My company") is available at <https://www.telenor.no/bedrift/mbw/>.

More details can be found under:

<https://www.telenor.no/binaries/bedrift/kundeservice/mobilt-bedriftsnett/mbn-admin/Brukermanual-MBN-Admin-V5-2.pdf>.

Configuration Wizard

Internet Telephony

Go to Central Telephony – “Internet Telephony”

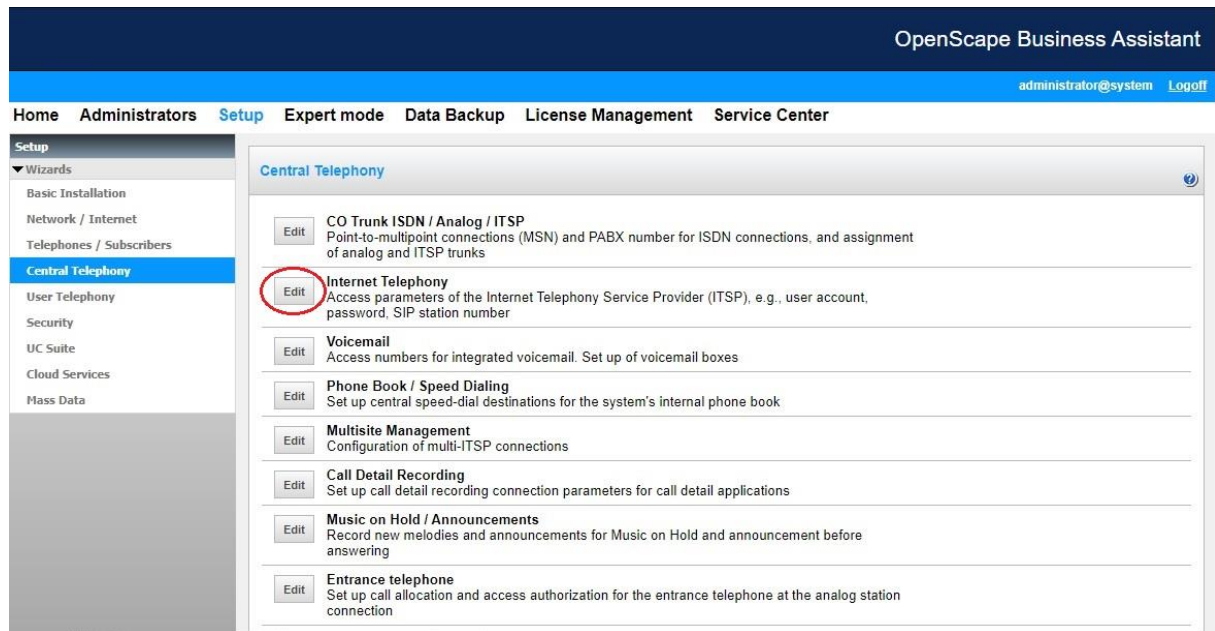


Figure 1

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

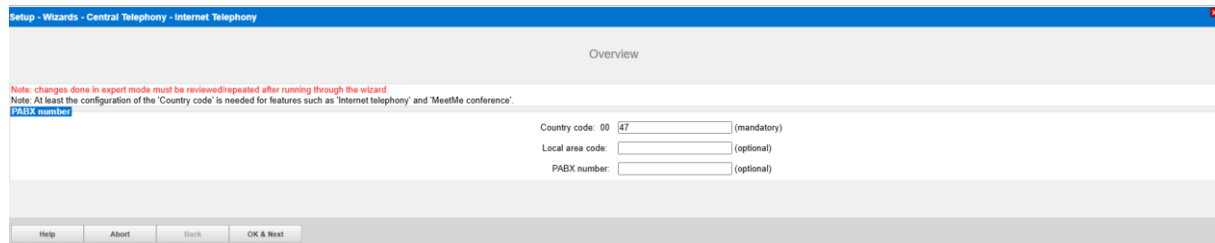


Figure 2

Click [OK & Next].

Provider configuration and activation for Internet Telephony

- No call via Internet -> uncheck
- Use County specific view: “**Norway**” and select “**Telenor Norway**”



As long as the profile **Telenor Norway** is not available, please create a private profile **TeleNor_2** (see appendix).

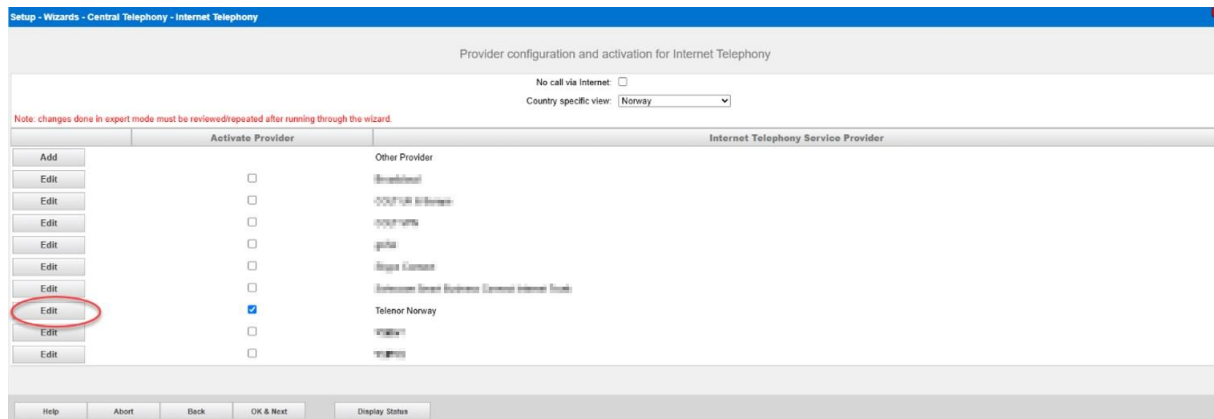


Figure 3

Activate Provider and click on [Edit].

On the next page the preconfigured **Telenor Norway** server data are displayed and need not to be changed.

Registered account is for single user/single number accounts only - primarily use case are a deskphone or SIP/analogue adapter without PBX. Trunks are static at **Telenor SBC**.

Provider STUN

The **Telenor** IPT platform requires that the layer 3 (IP) address used for the signalling is fixed.

This static address is provisioned in the **Telenor SBC**. For Internet based access, the received IP-address must be public and unique per end-customer.

Therefore 3rd party STUN servers must be used to discover what public IP address the OpenScope Business is recognized by when traversing Internet.

Route optimize active

This option is enabled by default. Rerouting is carried out by **Telenor SBC** during a call forwarding (SIP 302). The system loses further control over the call, the control of the call remains at **Telenor SBC**.

Setup - Wizards - Central Telephony - Internet Telephony

Internet Telephony Service Provider

Provider Name:

Enable Provider: ☒

Secure Trunk: ☐

Domain Name:

Transport protocol:

Provider Registrar

Use Registrar: ☐

IP Address / Host name:

Port:

Reregistration Interval at Provider (sec)

Provider Proxy

IP Address / Host name:

Port:

Provider Outbound Proxy

Use Outbound Proxy: ☐

IP Address / Host name:

Port:

Provider Inbound Proxy

Use Inbound Proxy: ☐

IP Address / Host name:

Port:

Provider STUN

Use STUN: ☒

IP Address / Host name:

Port:

Provider Feature

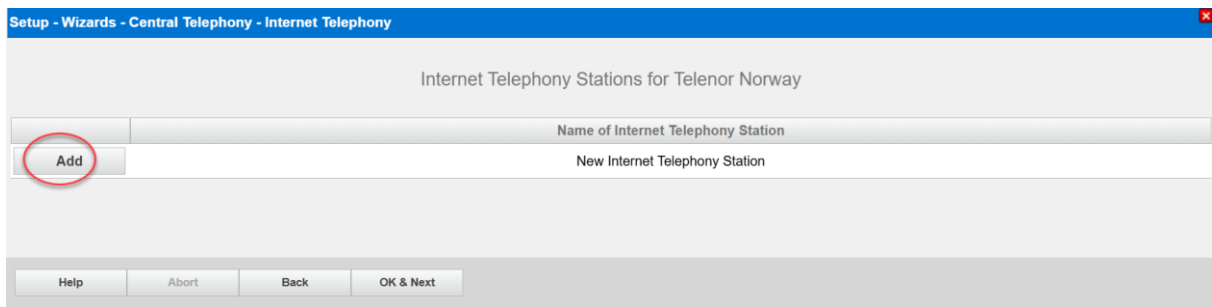
Route optimize active: ☒

Help Abort Back OK & Next Delete Data

Figure 4

Click [OK & Next].

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



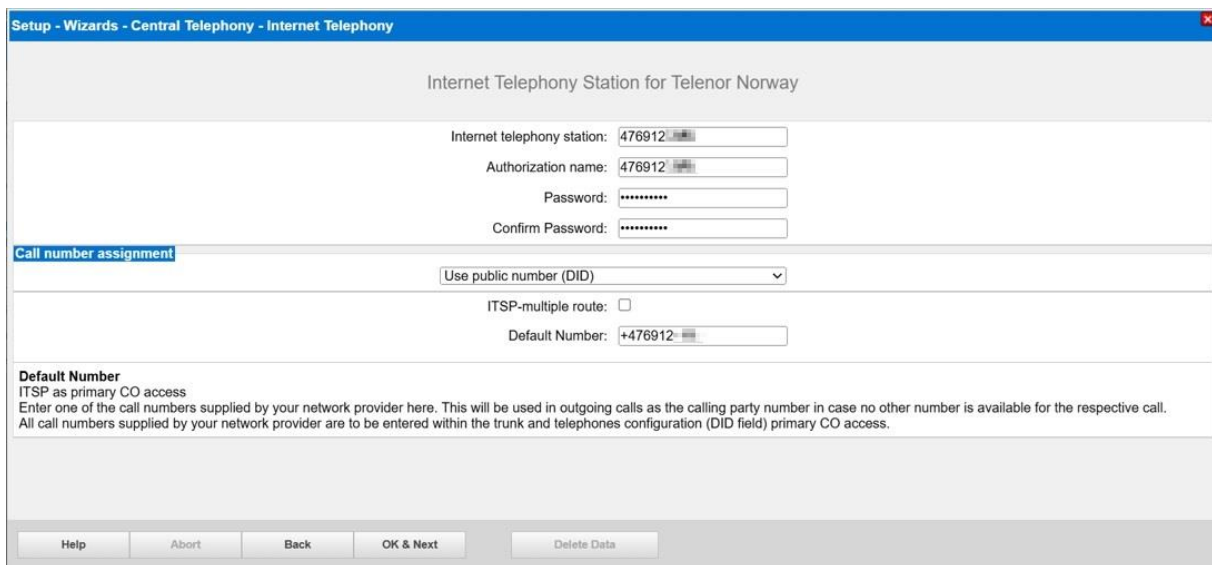
The screenshot shows a window titled "Setup - Wizards - Central Telephony - Internet Telephony". The main heading is "Internet Telephony Stations for Telenor Norway". Below this is a table with two columns: "Name of Internet Telephony Station" and "New Internet Telephony Station". The "Add" button in the first column is circled in red. At the bottom, there are buttons for "Help", "Abort", "Back", and "OK & Next".

Figure 5

Click on [Add].

Data is provided by the **Telenor Norway**.

Internet telephony station: Username is inserted here
Authorization name: Username is inserted here
Password: Password not provided by Telenor Norway, just fill main number
Default number: Main number of connection. The default number is used as outgoing number when no DDI number is assigned to a station. Usually, the **Lead Number** is entered here.



The screenshot shows the same window as Figure 5, but now with the configuration fields filled out. The "Internet telephony station:" field contains "476912-". The "Authorization name:" field contains "476912-". The "Password:" field contains "*****". The "Confirm Password:" field contains "*****". Below these fields is a section titled "Call number assignment" with a dropdown menu set to "Use public number (DID)". There is an unchecked checkbox for "ITSP-multiple route:". The "Default Number:" field contains "+476912-". At the bottom, there are buttons for "Help", "Abort", "Back", "OK & Next", and "Delete Data".

Figure 6

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

Internet Telephony Stations for Telenor Norway

Name of Internet Telephony Station
476912

Buttons: Help, Abort, Back, OK & Next

Figure 7

Click [OK & Next]

Call Number Assignment for Telenor Norway

Name of Internet Telephony Station	Internet Telephony Phone Number	Direct inward dialing	Use as PABX number for outgoing calls
------------------------------------	---------------------------------	-----------------------	---------------------------------------

Note: In order to complete the configuration please verify that the relevant user DIDs are set in stations.(Telephones / Subscribers configuration)

Buttons: Help, Abort, Back, OK & Next

Figure 8

Click [OK & Next] (no input needed)

Provider configuration and activation for Internet Telephony

No call via Internet: ☐

Country specific view: Norway

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

Activate Provider	Internet Telephony Service Provider
<input type="checkbox"/>	Other Provider
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input checked="" type="checkbox"/>	Telenor Norway
<input type="checkbox"/>	

Buttons: Help, Abort, Back, OK & Next, Display Status

Figure 9

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 of the Telenor Norway Enterprise Portal.

Setup - Wizards - Central Telephony - Internet Telephony

Settings for Internet Telephony

Simultaneous Internet Calls

Available Lines for ITSP: 174

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) = 10000**

In the 'Change Feature --> Internet Telephony' Assistant. This upstream allows you to conduct up to **78** 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
Telenor Norway	2	<input type="text" value="2"/>

Figure 10

Click [OK & Next]

Special phone numbers

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

Special phone number	Dialed digits	Dial over Provider
1	00112	Telenor Norway
2		Telenor Norway
3		Telenor Norway
4		Telenor Norway
5		Telenor Norway
6		Telenor Norway
7		Telenor Norway
8		Telenor Norway
9		Telenor Norway
10		Telenor Norway
11		Telenor Norway
12		Telenor Norway

Figure 11

Click [OK & Next]

On next page status of ITSP is displayed.

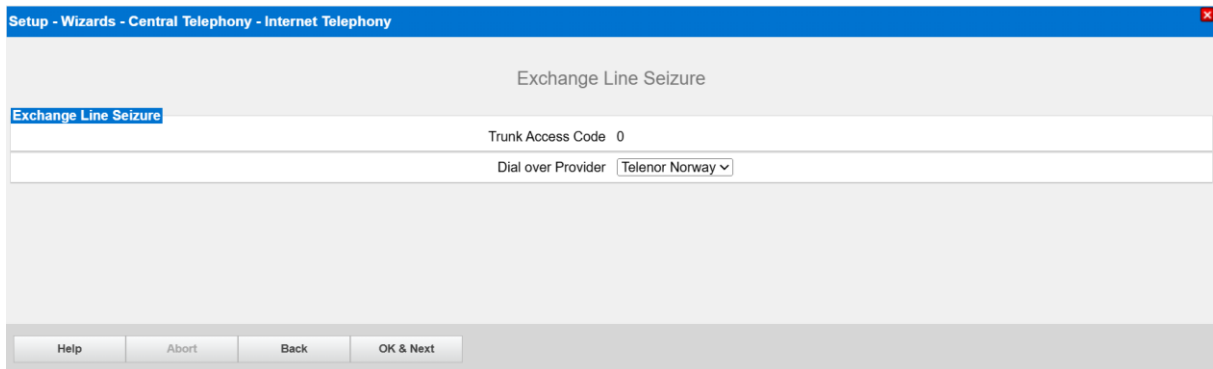
Provider	Status	Number	User
Telenor Norway	Enabled	476912	registered

Figure 12

Click [Next]

„Exchange Line Seizure“

Select which trunk will access code 0. Note: No area code necessary in Norway

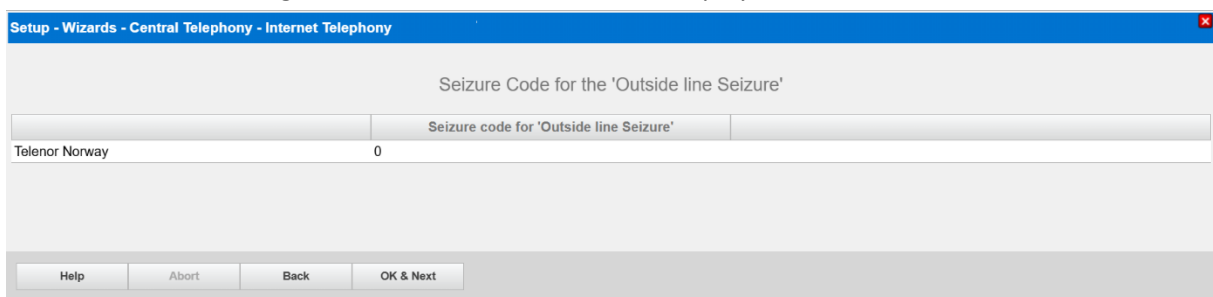


The screenshot shows a window titled "Setup - Wizards - Central Telephony - Internet Telephony". The main heading is "Exchange Line Seizure". Below it, there is a section labeled "Exchange Line Seizure" with two input fields: "Trunk Access Code" set to "0" and "Dial over Provider" set to "Telenor Norway" with a dropdown arrow. At the bottom, there are four buttons: "Help", "Abort", "Back", and "OK & Next".

Figure 13

Click [OK & Next]

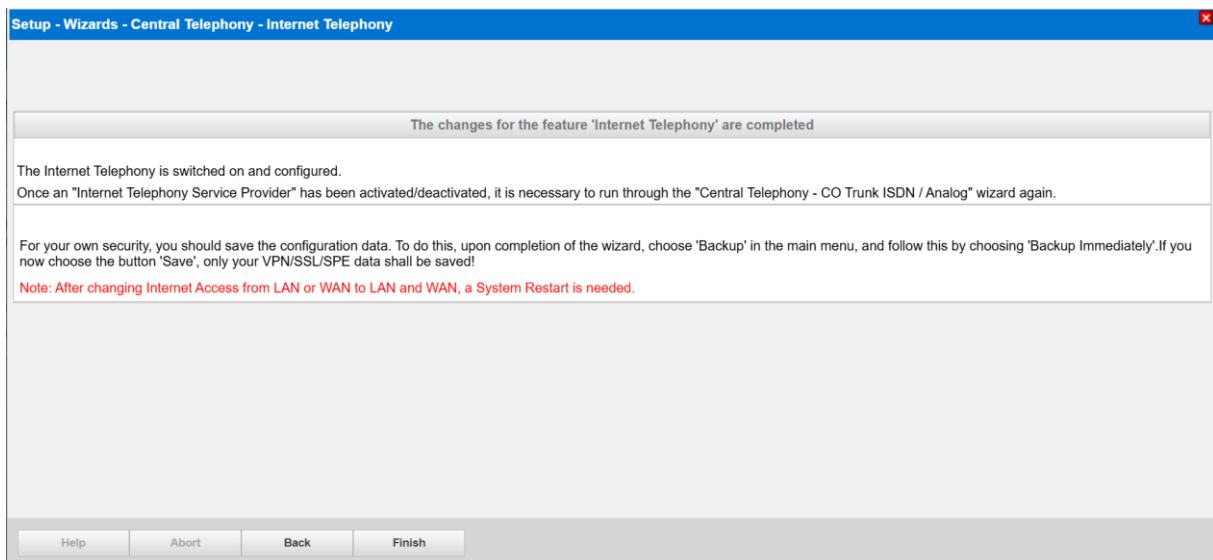
Overview with all configured „Outside line Seizure“ are displayed.



The screenshot shows a window titled "Setup - Wizards - Central Telephony - Internet Telephony". The main heading is "Seizure Code for the 'Outside line Seizure'". Below it, there is a table with two columns: "Seizure code for 'Outside line Seizure'" and "Telenor Norway". The value "0" is entered in the "Seizure code" column. At the bottom, there are four buttons: "Help", "Abort", "Back", and "OK & Next".

Figure 14

Click [OK & Next] and



The screenshot shows a window titled "Setup - Wizards - Central Telephony - Internet Telephony". The main heading is "The changes for the feature 'Internet Telephony' are completed". Below it, there is a text box with the following content: "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. 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'. If you now choose the button 'Save', only your VPN/SSL/SPE data shall be saved! Note: After changing Internet Access from LAN or WAN to LAN and WAN, a System Restart is needed." At the bottom, there are four buttons: "Help", "Abort", "Back", and "Finish".

Figure 15

on the next page [Finish].

DID configuration

In the DID Section, the DID will need to be entered (remaining part without country code, and if configured without local area code, PABX number).

Expert mode - Telephony Server

Station

- Station
- UPD Stations
- UPD Clients
- System Clients
- SIP Clients
- RAS User
- Desktop User

System Clients

Edit station parameters

Callino	DID	First Name	Last Name	Display	Type	Clip/Lin	Active	Fax Callino	Fax DID	ITSP Loc-ID
Search:										
131	6912			OS60	System Client		✓	232	6912	
132	6912			CP400	System Client		✓			
133	6912			MPW	System Client		✓			
312	6912			CP600	System Client		✓			

Figure 16

Additional Configuration

License

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

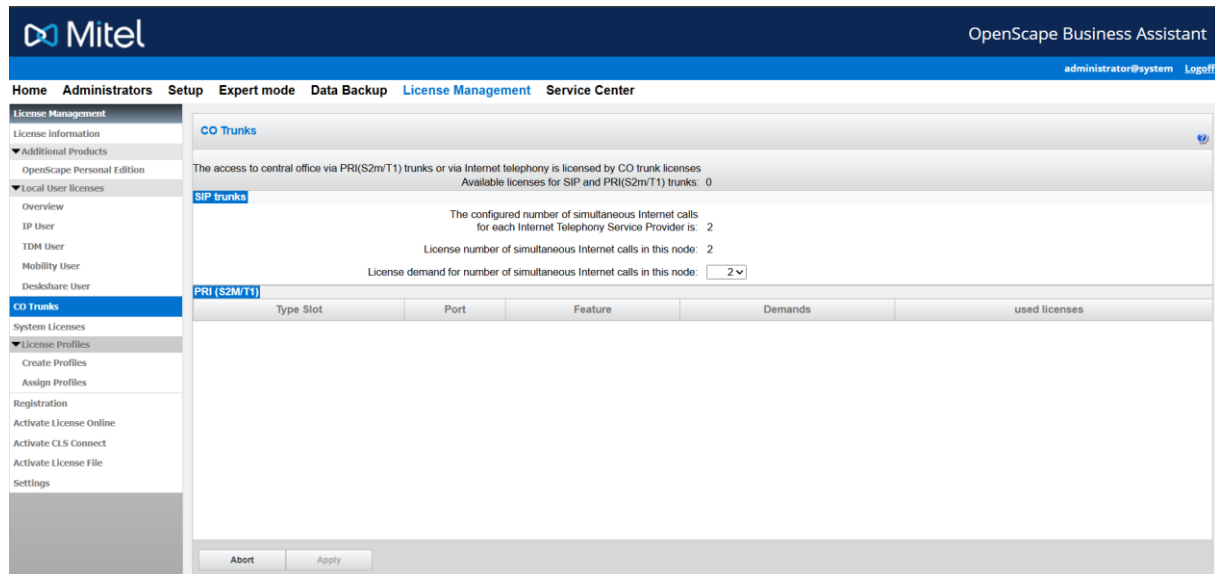


Figure 17

Known limitations and restrictions

Office router needs to be configured for use of **Telenor Norway** ITSP, IP traffic from Telenor Norway should be forwarded to internal IP address of OpenScape Business

Telenor's central IP addresses

Telenor has 3 IPT Access Points (AP) Arthur, Marvin and Trillian. These are defined by their own IP addresses, and incoming traffic to a customer will come from any of these access points. Outbound traffic can be sent any of the AP's. Please note that it is a **requirement** that you are able to receive traffic from multiple access points, and it is **recommended** that outbound traffic can be distributed between access points. You can choose which allocation method you want to use, the most common being round-robin or hunt. If your telephony server only supports 2 access points, Arthur and Marvin should be used. Note that the availability of IPT defined in the SLA agreement assumes that *at least* 2 access points have been applied.

Access point	IP address	Dns
Arthur	148.122.97.152	ipt-internet.telenor.com
Marvin	148.122.97.184	
Trillian	148.122.97.120	

It is possible to use DNS or IP addresses directly. See attachmendt for an overview of DNS records.

Mandatory configuration in Expert Mode

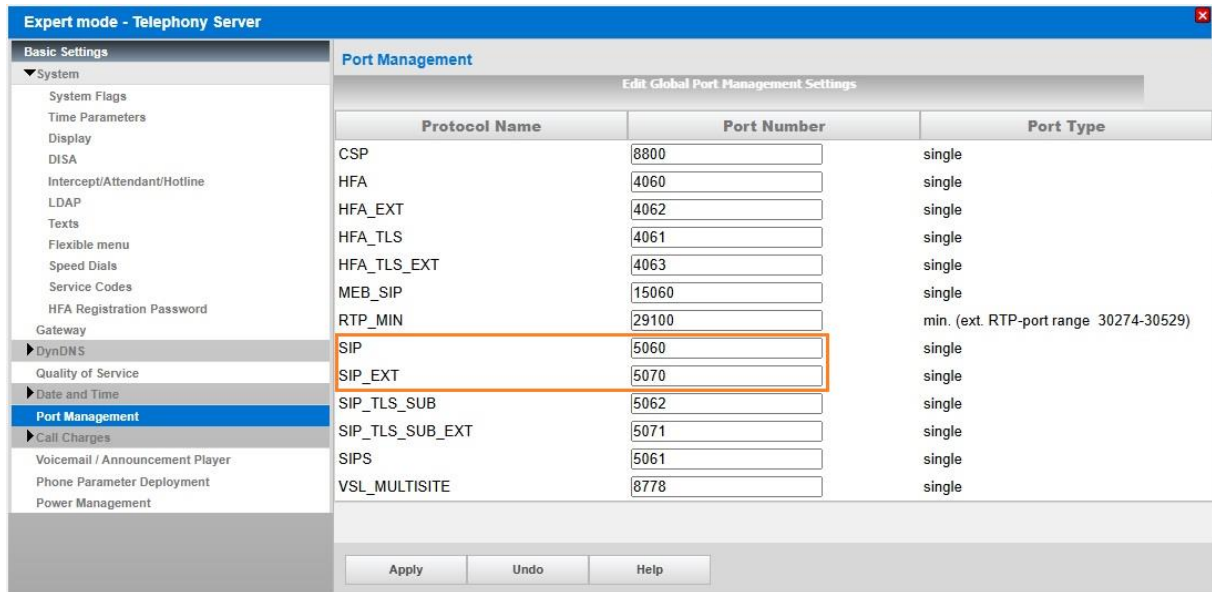
In this chapter hints about mandatory settings are listed for:

- Port Management
- Codec Parameters

Port Management

Go to Expert Mode → Telephony Server → Basic Settings → Port Management

To comply with the requirements of **Telenor Norway** the SIP_EXT port **MUST** be configured with 5060 (default is 5070).



Protocol Name	Port Number	Port Type
CSP	8800	single
HFA	4060	single
HFA_EXT	4062	single
HFA_TLS	4061	single
HFA_TLS_EXT	4063	single
MEB_SIP	15060	single
RTP_MIN	29100	min. (ext. RTP-port range 30274-30529)
SIP	5060	single
SIP_EXT	5070	single
SIP_TLS_SUB	5062	single
SIP_TLS_SUB_EXT	5071	single
SIPS	5061	single
VSL_MULTISITE	8778	single

The internal SIP port should be set to a different port (e.g. 5070). Having internal and external port with the same value is possible but may lead to significant security risks.

After the ports are changed OpenScope Business **MUST** be restarted.

Codec Parameters

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

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

1. G.729AB is **NOT** supported by Telenor Norway and **SHOULD** be disabled.

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: 98

Redundant Transmission of RFC2833 Tones according to RFC2198: ☐

Apply Undo Help

Hint: if the T.38-Fax settings are changed OpenScape Business **MUST** be restarted.

Appendix

Create profile

As long as the **Telenor Norway** SIP Trunk profile is not yet available, please first create a private profile with the name **TeleNor_2** as follows.

Please open the wizard for “Central Telephony – Internet Telephony” as described in [Figure 1](#) and [Figure 2](#) and go to:

Provider Configuration and -activation for Internet-Telephony:

- “No call via Internet” -> uncheck
- “County specific view”: **Norway** and select **Other Provider**

Setup - Wizards - Central Telephony - Internet Telephony

Provider configuration and activation for Internet Telephony

No call via Internet: ☐

Country specific view: Norway

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"/>	

Help Abort Back OK & Next Display Status

Click on [Add].

Use the **default** template with name **TeleNor_2**, enable the provider and configure the server data provided for the **Telenor Norway** SIP Trunk

- **Gateway Domain Name:** ipt-internet.telenor.com
- **Provider Proxy:** ipt-internet.telenor.com
- **STUN server:** see page 7 – [Figure 4](#)

as follows (see [Figure 4](#)):

Setup - Wizards - Central Telephony - Internet Telephony

Internet Telephony Service Provider

Base Template: default

Provider Name: TeleNor_2

Enable Provider: ☒

Secure Trunk: ☐

Domain Name: ipt-internet.telenor.com

Transport protocol: tcp

Provider Registrar

Use Registrar: ☐

IP Address / Host name:

Port: 5060

Reregistration Interval at Provider (sec) 600

Provider Proxy

IP Address / Host name: ipt-internet.telenor.com

Port: 5060

Provider Outbound Proxy

Use Outbound Proxy: ☐

IP Address / Host name: 0.0.0.0

Port: 0

Provider Inbound Proxy

Use Inbound Proxy: ☐

IP Address / Host name: 0.0.0.0

Port: 0

Provider STUN

Use STUN: ☒

Help Abort Back OK & Next Delete Data

Click [OK & Next]

In the following dialog, the access data is entered, as described in the instructions from [Figure 5](#) onwards.

Extended SIP Provider Data

To ensure compatibility with the **Telenor Norway** SIP Trunk, the following settings must be made in Expert Mode → Voice Gateway → Internet Telephony Service Provider → **TeleNor_2** for the extended SIP provider data:

Internet Telephony Service Provider	
Edit Internet Telephony Service Provider	Delete Internet Telephony Service Provider Add Internet Telephony Station
Call number formatting	
Incoming call - Called party number:	To header user part ▼
Incoming call - Calling party number:	From header user part ▼
Incoming call - Type of number (calling):	automatic ▼
Incoming call - Type of number (called):	automatic ▼
Outgoing call - Type of number (calling):	automatic ▼
Outgoing call - Type of number (called):	automatic ▼
Mapping of provider number:	off ▼
CLIP no Screening support:	CLIP in From / DID number in PAI ▼
Call No. with international/national prefix:	no ▼
Called number in E164 format:	yes ▼
Route optimization:	allowed ▼
MEX supported:	no ▼
Contact URI contains:	call number: ▼
TCP port used in Contact URI:	ephem. src-port ▼
Registration	
Register Contact contains IP-Address:	localIPAddr ▼
ContactUriWithProtocol:	<input type="checkbox"/>
BNC Registration (SIPconnect):	normal registration ▼
ReRegistration interval after failure (sec):	120
ReRegistration mode:	continuous ▼
ReRegistration after call failure:	CallFailureIsNoRegFailure ▼

Internet Telephony Service Provider

Edit Internet Telephony Service Provider Delete Internet Telephony Service Provider Add Internet Telephony Station

Security

UDP mode: symmetric UDP ▼

Approved Peer selection: trust configured Servers only ▼

Miscellaneous

Direct Payload: ☐

Media Renegotiation Avoidance: ☒

Change direction attribute: keep attribute ▼

Silence Suppression attribute: supported ▼

Mediasec extension: not supported ▼

SDP Filter: Default ▼

Check Redirection: Not supported ▼

UseRouteURIAuthentication: ☒

Ignore 100 Rel: ☒

Support 100rel: ☒

UseViaRPort: ☒

UPDATE Supported: ☒

P-Early-Media header support: not supported ▼

Session Timer support: refresher Policy Remote ▼

Send automatic 183 response timer (sec): 0

UDP-Keep Alive: UdpKeepAliveON ▼

Keep Alive interval for OPTIONS (sec): 60

Reregistration on OPTIONS Failure: NoRegisterOnFailure ▼

Answer to OPTIONS: Full Answer ▼

Click on [Apply] and restart the ITSP [Restart ITSP].

Please close the window and run through the ITSP Wizard for **TeleNor_2** again (Figure 3).