

OpenScape Business V3

How to Configure Keyyo SIP Trunk France

About this document

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

Note: The basis for this document is the current OpenScape Business V3R2.1. 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	V3R2.1
Keyyo SIP Trunk	Features & Capabilities
Account (DID/Client)	DID
Multisite	yes - single trunk
CLIP / CLIR	yes / yes
CLIP no Screening	no
COLP	no
Call Forwarding (302)	No
DTMF (RFC2833/4733)	yes
Codecs G711/G729	yes / no
T.38 Fax	no
Secure trunk	no

Table of Contents

Information.....	4
Trunk Configuration Data provided by Keyyo	4
SIP Parameters	4
Firewall	4
Voice services	4
Fax emission	4
Network Devices.....	5
Internet Access	5
Configuration Wizard	6
Internet Telephony.....	6
Define bandwidth (# Trunks).....	11
Special phone numbers	12
DID configuration	13
Additional Configuration	14
License	14
Route configuration.....	14
Mandatory configuration in Expert Mode	15
Codec Parameters	15

Table of History

Date	Version	Changes
31.05.2022	1.0	Release for OpenScape Business V3R2
01.12.2022	1.1	Release of profile for OpenScape Business V3R2.1
10.09.2024	1.2	editorial changes

Information

The **Keyyo** SIP Trunk will be released for the first time with OpenScape Business V3R2.

Trunk Configuration Data provided by Keyyo

SIP Parameters

Mandatory parameters

- **Authentication mechanism** : MD5 digest (based on username / password)
- **Codecs**: G.711 A-Law (negotiated)
- **SIP domain** : keyyo.net
- **SIP server port** : 5060
- **SIP realm** : keyyo.net (provided by the server)
- **Number format**: E.164 (with or without "+") ¹⁾
- **DTMF Mode** : RFC 2833 (with Payload set to 101 in SDP)
- **SIP management on WAN router** : SIP ALG option disabled.
- **NAT Keepalive** : Should be adjusted regarding the router (30 seconds is OK for most)

Optional parameters

- **STUN** (on/off): off
- **Outbound proxy server** : keyyo.net
- **Outbound proxy server port** : By default
- **Registrar server** : keyyo.net
- **Registrar server port** : 5060
- **Fax codecs** :
 - Initial call: G.711 (A-Law)
 - Carrier: T38 with G.711 (A-Law) fallback

¹⁾ *Number format in signalisation from/to proxies (for a 0ZABPQMCDU French number, that means 33ZABPQMCDU or +33ZABPQMCDU).*

Firewall

If you use a firewall, make sure the communications with the Keyyo platform are authorized.

Voice services

- IP address ranges: 83.136.161.0/24, 83.136.162.0/24, 83.136.163.0/24, and 83.136.164.0/24
- UDP ports: 5060, 8060, and from 35000 to 64999

Fax emission

- IP address ranges: 83.136.161.0/24 and 83.136.162.0/24
- TCP port: 21

Network Devices

Router/Switch

If you use devices not provided by **Keyyo**, make sure the following points are OK:

- IP fragmentation.
- Only one device doing NAT.
- Private IP addresses allocation (RFC 1918).

VLAN

For enterprise deployments, it is recommended to use a VLAN (Virtual LAN) that will prioritize VoIP packets for optimal use.

CDP / LLDP

CDP (Cisco Discovery Protocol) and LLDP (Link Layer Discovery Protocol) features are not supported.

Internet Access

Bandwidth

- Standard audio quality (G.729 codec): 45 kbit/s ATM i.e., 30 kbit/s IP (symmetrical).
- Premium audio quality (G.711 codec) and HD (G.722 codec): 110 kbit/s ATM i.e., 90 kbit/s IP (symmetrical).

Misc.

Using a proxy is not supported: The access to the Internet must be direct.

Internet access aggregation and load balancing are not supported.

Configuration Wizard

Internet Telephony

Go to Central Telephony – “Internet Telephony”

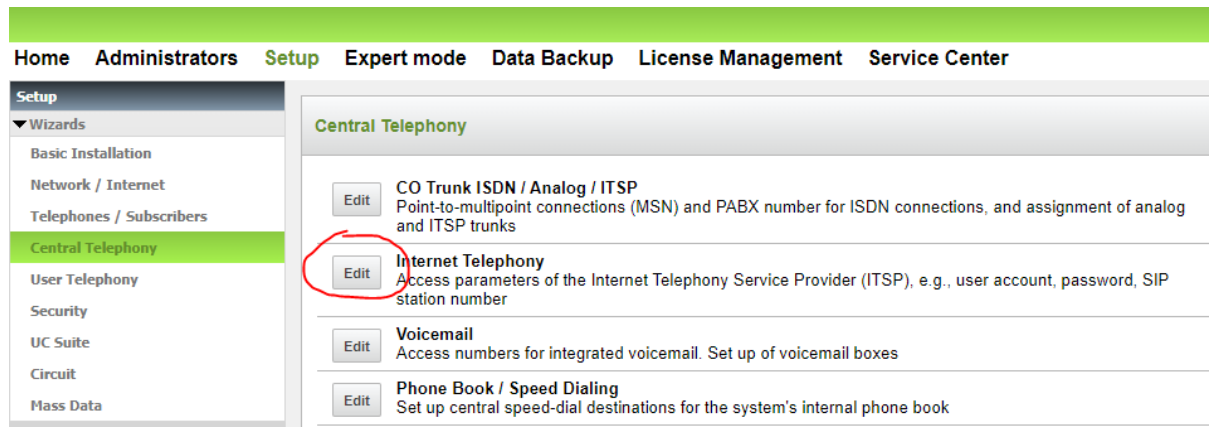


Figure 1

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

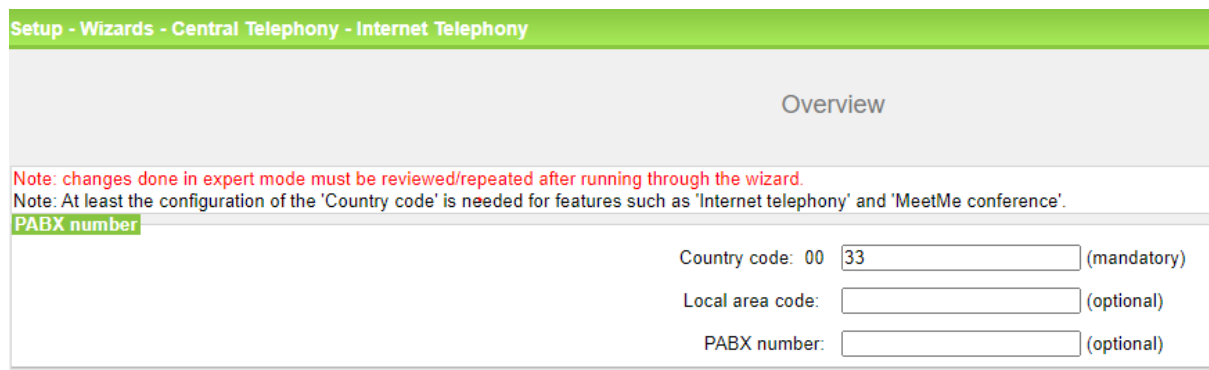


Figure 2

Click [OK & Next].

Provider configuration and activation for Internet Telephony

No call via Internet -> uncheck

Use County specific view: **France** and select **Keyyo**

Setup - Wizards - Central Telephony - Internet Telephony

Provider configuration and activation for Internet Telephony

No call via Internet: ☐

Country specific view: **France** ▼

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"/>	Bouygues
Edit	<input type="checkbox"/>	Broadcloud
Edit	<input type="checkbox"/>	CODEPI SIP-Trunk
Edit	<input type="checkbox"/>	COLT UK & Europe
Edit	<input type="checkbox"/>	COLT VPN
Edit	<input type="checkbox"/>	Comptel
Edit	<input type="checkbox"/>	Foliateam Operateur
Edit	<input type="checkbox"/>	gnTel
Edit	<input type="checkbox"/>	Hexatel
Edit	<input type="checkbox"/>	IP Directions
Edit	<input type="checkbox"/>	Jaguar Network Marseille
Edit	<input type="checkbox"/>	Jaguar Network Paris
Edit	<input checked="" type="checkbox"/>	Keyyo
Edit	<input type="checkbox"/>	MyStream

Figure 3

Activate Provider and click on [Edit].

On the next page the server addresses are predefined:

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:

Figure 4

Click [OK & Next].

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

Setup - Wizards - Central Telephony - Internet Telephony

Internet Telephony Stations for Keyyo

Name of Internet Telephony Station
New Internet Telephony Station

Add

Figure 5

Click on [Add].

Data provided by the technician:

Internet telephony station: Username is inserted here (e.g: 33175430236)

Authorization name: Username is inserted here (e.g: 33175430236)

Password: Password provided by **Keyyo**

Default number: Main number of connections. The default number is used as outgoing number when no DDI number is assigned to a station. (e.g: 33175430236). Usually, the **Lead Number** is entered here.

Setup - Wizards - Central Telephony - Internet Telephony

Internet Telephony Station for Keyyo

Internet telephony station: 33175430236

Authorization name: 33175430236

Password: *****

Confirm Password: *****

Call number assignment

Use public number (DID)

ITSP-multiple route: ☐

Default Number: 33175430236

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.

Help Abort Back OK & Next Delete Data

Figure 6

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

Setup - Wizards - Central Telephony - Internet Telephony

Internet Telephony Stations for Keyyo

Name of Internet Telephony Station
33175430236

Edit

Figure 7

Click [OK & Next]

Setup - Wizards - Central Telephony - Internet Telephony

Call Number Assignment for Keyyo

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)

Figure 8

Click [OK & Next] (no input needed)

The next page displays the different ITSPs again.

Setup - Wizards - Central Telephony - Internet Telephony

Provider configuration and activation for Internet Telephony

No call via Internet: ☐

Country specific view: France

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"/>	Bouygues
Edit	<input type="checkbox"/>	Broadcloud
Edit	<input type="checkbox"/>	CODEPI SIP-Trunk
Edit	<input type="checkbox"/>	COLT UK & Europe
Edit	<input type="checkbox"/>	COLT VPN
Edit	<input type="checkbox"/>	Completel
Edit	<input type="checkbox"/>	Foliateam Operateur
Edit	<input type="checkbox"/>	gnTel
Edit	<input type="checkbox"/>	Hexatel
Edit	<input type="checkbox"/>	IP Directions
Edit	<input type="checkbox"/>	Jaguar Network Marseille
Edit	<input type="checkbox"/>	Jaguar Network Paris
Edit	<input checked="" type="checkbox"/>	Keyyo
Edit	<input type="checkbox"/>	MyStream
Edit	<input type="checkbox"/>	OpenIP
Edit	<input type="checkbox"/>	Orange Business Services SIP trunking

Help Abort Back **OK & Next** Display Status

Figure 9

Click [OK & Next]

Define bandwidth (# Trunks)

The amount of simultaneous Internet calls (**Assigned Lines**) must be aligned with the **Number of channels** assigned by **Keyyo** for this particular trunk. The information is provided from the technician at the time of the installation of the service.

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) = 20000**

In the 'Change Feature --> Internet Telephony' Assistant. This upstream allows you to conduct up to **156** 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
Keyyo	4	<input type="text" value="4"/>

Help Abort Back **OK & Next**

Figure 10

Click [OK & Next]

Special phone numbers

In this dialog it is possible to route special phone numbers. Please make sure that the numbers are routed to the primary trunk.

The screenshot shows a window titled "Setup - Wizards - Central Telephony - Internet Telephony". The main heading is "Special phone numbers". Below this is a "Note:" box stating: "Please make sure that all special call numbers are supported by the selected provider without fail." The main area contains a table with three columns: "Special phone number", "Dialed digits", and "Dial over Provider". The "Special phone number" column lists numbers 1 through 15. The "Dialed digits" column has input fields; the first field contains "0C112", and the others are empty. The "Dial over Provider" column shows a dropdown menu for each row, all currently set to "Keyyo". At the bottom of the window are buttons for "Help", "Abort", "Back", and "OK & Next".

Special phone number	Dialed digits	Dial over Provider
1	0C112	Keyyo ▾
2		Keyyo ▾
3		Keyyo ▾
4		Keyyo ▾
5		Keyyo ▾
6		Keyyo ▾
7		Keyyo ▾
8		Keyyo ▾
9		Keyyo ▾
10		Keyyo ▾
11		Keyyo ▾
12		Keyyo ▾
13		Keyyo ▾
14		Keyyo ▾
15		Keyyo ▾

Figure 11

Click [OK & Next]

On next page status of ITSP is displayed.

The screenshot shows a window titled "Setup - Wizards - Central Telephony - Internet Telephony". The main heading is "Status for the Internet Telephony Service Provider (ITSP)". Below this is a table with columns for "Provider" and "User". The "Provider" column shows "Keyyo" and "Enabled". The "User" column shows "33175430236" and "registered". There is a "Restart" button next to the "Provider" column and a "Diagnose" button next to the "User" column. At the bottom of the window are buttons for "Help", "Abort", "Back", and "Next".

Provider	User
Keyyo Enabled	33175430236 registered

Figure 12

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)

Figure 13

Click [OK & Next]

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

Figure 14

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

DID configuration

In this example the location data is chosen with the most flexible type of configuration: *Country code* only. Therefore in the DID Section, the full DID will need to be entered without the country code.

Callno	DID	First Name	Last Name	Display	Type	Active
100	33175430847	Digital	-	Digital	UP0 Stations	- SLU
101	33175433282	Analogica	Fax	Fax, Analogica	Analog Stations	✓ 4SL
-	-	Salon	-	Salon	CMI Station	✓ SLU
-	-	Dormitorio	-	Dormitorio	CMI Station	✓ SLU
102	33175430236	CP 600	-	CP 600	System Client	✓ LAN
103	33175430838	CP 400	-	CP 400	System Client	✓ LAN
104	-	CP 205	-	CP 205	SIP Client	✓ LAN
105	-	CP 400	-	CP 400	System Client	- LAN

Figure 15

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

TDM User

Mobility User

Deskshare User

CO Trunks

System Licenses

CO Trunks

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: 0

SIP trunks

The configured number of simultaneous Internet calls for each Internet Telephony Service Provider is: 4

License number of simultaneous Internet calls in this node: 4

License demand for number of simultaneous Internet calls in this node: 4

Type	Slot	Port	Feature	Demands
SIP trunks				4

Figure 16

Route configuration

Check “Add direction prefix incoming” and uncheck “Call No. with international / national prefix”

In “No and type outgoing” select PABX Number

Expert mode - Telephony Server

Trunks/Routing

Trunks

Route

ISDN

Circuit

Trk Grp. 3

Trk Grp. 4

Trk Grp. 5

Trk Grp. 6

Trk Grp. 7

UC Suite

Trk Grp. 9

Trk Grp. 10

Trk Grp. 11

Keyyo SIP

Trk Grp. 13

Trk Grp. 14

Trk Grp. 15

Networking

QSIG-Feature

MSN assign

ISDN Parameters

Route

Change Route

Change Routing Parameters

Special Parameter ch

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: yes

deactivate UUS per route: ☐

Always use DSP: ☐

Analog trunk seizure: no pause

Trunk call pause: Pause 6 s

Type of seizure: linear

Route type: CO

No. and type, outgoing: PABX number

Call number type: Direct inward dialing

Rerouting

Change route allowed: ☐

Route optimize active: No

Figure 17

Mandatory configuration in Expert Mode

Codec Parameters

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

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

1. Unsupported G729AB codec must be disabled.
2. G.729 disabled. Use G.711 only.
3. T38 fax protocol is not supported by **Keyyo**, fax is supported via G.711 only. For this you **MUST** disable T38 protocol

Codec	Priority	Voice Activity Detection	Frame Size
G.711 A-law	Priority 1	VAD: <input type="checkbox"/>	20 msec
G.711 u-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 type="checkbox"/>	20 msec

Enhanced DSP Channels

Use G.711 only ☐

T.38 Fax

T.38 Fax: ☐

Use F#B#R Removal: ☒

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

Error Correction Used for T.38 Fax (UDP): 138UDPRedundancy

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

Figure 18

After disabling T.38 OpenScape Business **MUST** be restarted.