

# OpenScape Business

## How to Configure SIP Trunk for Fusion Connect

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## Table of History

Date	Version	Changes
11/20/2016	1.0	Version 1 Template Only
04/06/2017	1.2	Revised Creation of Note
04/10/2017	1.3	Revised Creation of Note Content
04/11/2017	1.4	Added License Configuration
09/10/2024	1.5	editorial changes

**Note:** The basis for this document is the current OpenScape Business at the time of certification. 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.

## Configuration Data

The following information was provided by the ITSP and was used as part of the test configuration. The information you receive may be slightly different

Information from ITSP **Fusion Connect** provided:

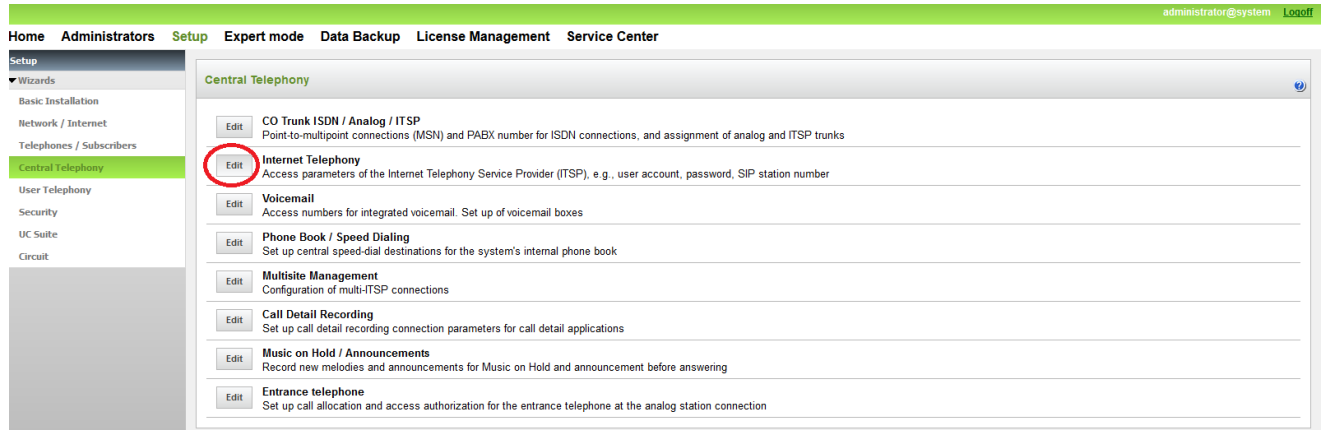
<b>Name of Customer Related Data</b>	<b>Example</b>	<b>Used in Field of OSBiz-WBM</b>
Call Number:	3302471014/4407100175	
Account:	3302471014	Internet Telephony Station
SIP Username:	3302471014	Authorization Name:
SIP Password:	*****	Password & (Confirm Password)
Number of voice-channels:	4	Assigned Lines

## Configuration Wizard

This section will provide the step by step information for the configuring the **Fusion** ITSP trunks into your system. The profile name created for the **Fusion** service is **Fusion 360**.

### Internet Telephony

This section is require to activate the ITSP and configure the customer specific information for the ITSP Using the *Path Setup > Wizards > Central Telephony > Internet Telephony* access the menus by pressing the *Edit Button*.



The overview page appears for entering the location data. The most flexible type of configuration is to enter the Country code only. In the example the US country code "1" has been entered

Overview

Note: changes done in expert mode must be reviewed/repeated after running through the wizard.  
Note: At least the configuration of the 'Country code' is needed for features such as 'Internet telephony' and 'MeetMe conference'.

**PABX number**

Country code:  (mandatory)  
Local area code:  (optional)

Figure 1

Press OK/Next to continue.

## Activate Provider

On the **Provider configuration and activation for Internet Telephony form** confirm that the **“No call via Internet”** check box is unchecked and the **“Activate Provider Check box”** associated with the **Fusion 360** offering is checked. After activating the provider press the Edit button.

Provider configuration and activation for Internet Telephony

No call via Internet:

Country specific view: United States of America ▼

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

	Activate Provider	Internet Telephony Service
Add		Other Provider
Edit	<input type="checkbox"/>	AT&T
Edit	<input type="checkbox"/>	BabyTEL
Edit	<input type="checkbox"/>	Cbeyond
Edit	<input type="checkbox"/>	CenturyLink 1
Edit	<input type="checkbox"/>	CenturyLink 2
Edit	<input type="checkbox"/>	COLT UK & Europe
Edit	<input type="checkbox"/>	COLT VPN
Edit	<input checked="" type="checkbox"/>	Fusion 360

Figure 2

Hint: If you find that the Activate Provider check boxes and or the “No Call via Internet” check box are locked try Reinitializing the LCR table under *Setup > Wizards > Basic Installation > Basic Installation > Central Functions for Stations*.

1 System Overview
 2 Central Functions for Stations
 3 ISDN Configuration
 4 Configure Internet Access
 Provider configuration

- Before configuring individual stations, it is possible to execute certain functions, which affect all stations.
- Choose one of the functions below and upon selecting the function, configure the parameter shown. The button “Execute function” will carry out
- You may proceed to the configuration of individual stations by selecting the “Next” button.

**Function selection**

- Display stations configuration
- Delete all station call numbers
- Change preconfigured call and functional numbers
- Import CSV/XML file with station data
- Delete the configured LCR data and initialize the LCR with default data

Figure 3

## Add Internet Telephony Station Account Number

On the Internet Telephony Station for **Fusion 360** form enter the Internet telephony station number, authorization name password and Default DID number information. Please insure that the “Use public number (DID) button is selected.

Internet Telephony Station for Fusion 360

Internet telephony station:

Authorization name:

Password:

Confirm Password:

**Call number assignment**

Use public number (DID)

Default Number

If using 'configurable clip' you have to change the configuration to 'Use public number (DID)' here!  
Changing trunk parameters in case of internal subscriber no. is not allowed!

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.

Help Abort Back OK & Next Delete Data

Figure 4

*Hint: Default number must be in 10 digit format. The default number is used when there is no DID configured at the station which initiates the outgoing call and there is no Intercept with configured DID defined.*

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

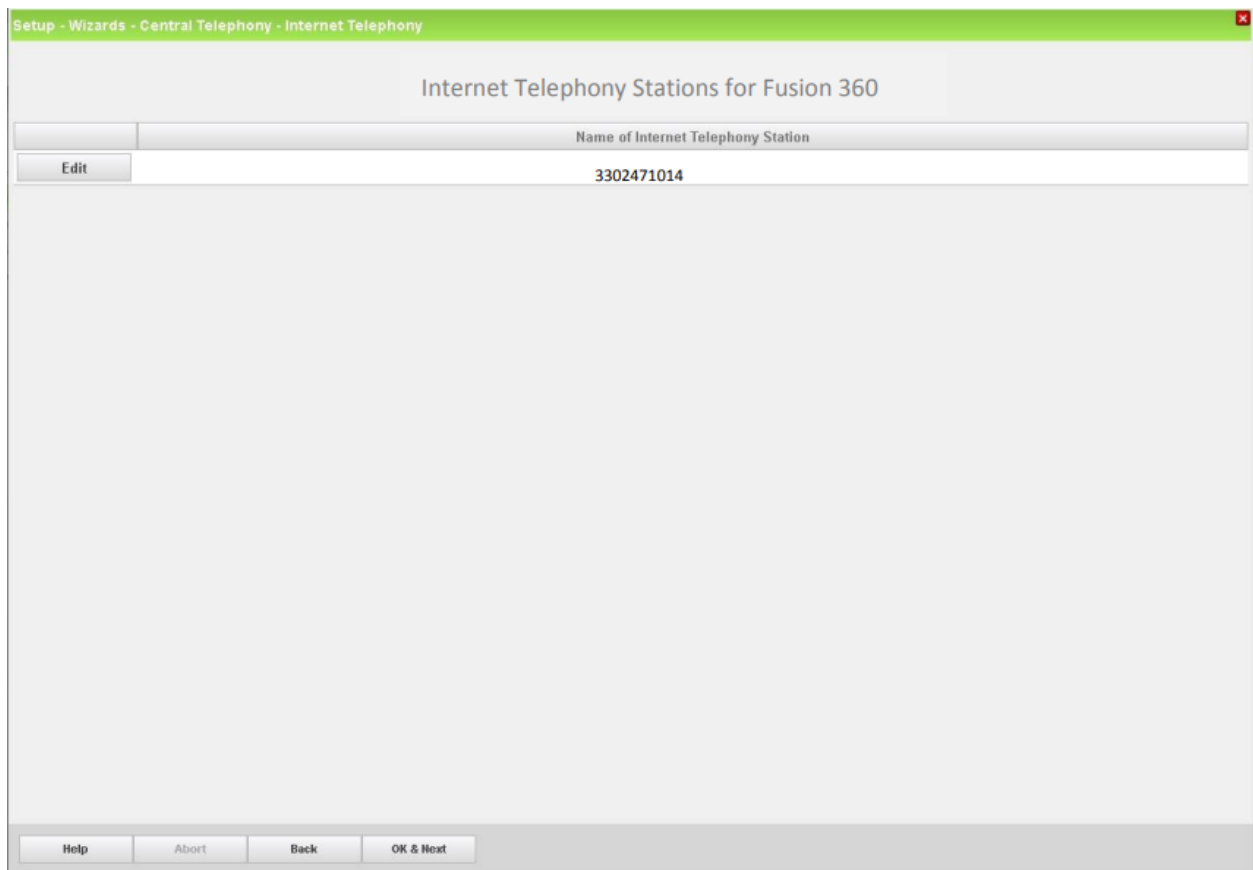


Figure 5

Click [OK & Next]

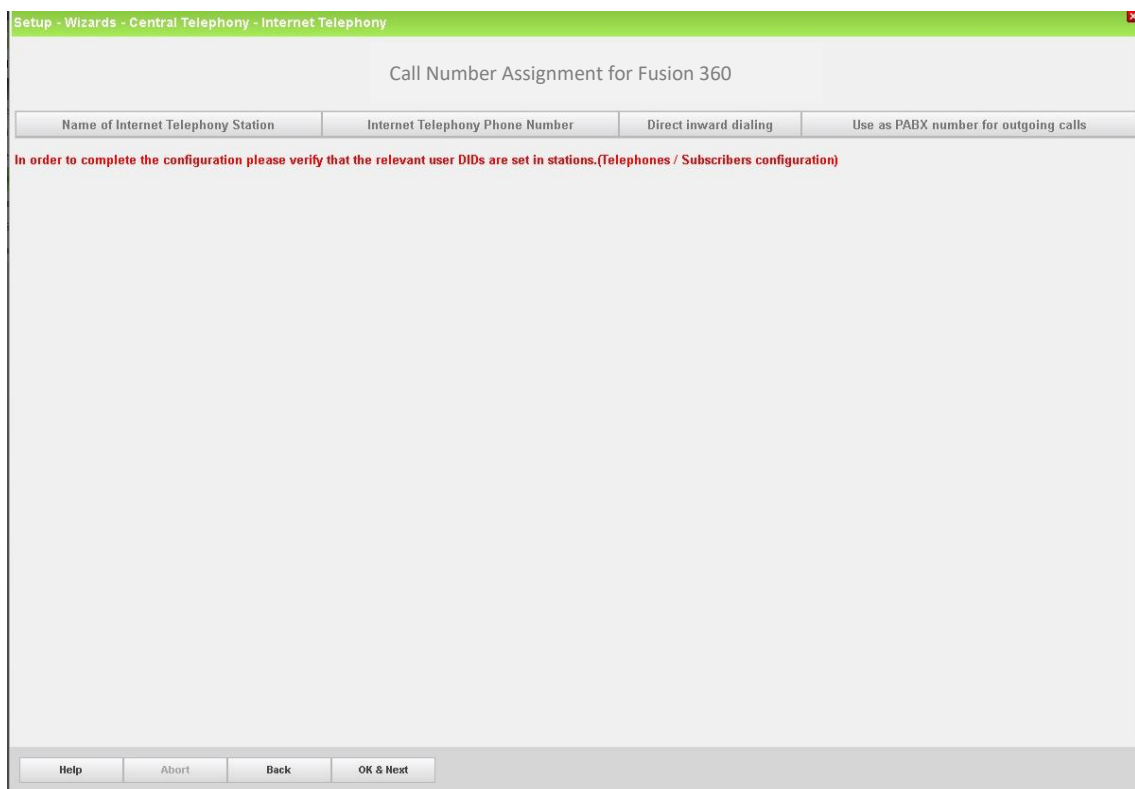


Figure 6

*Hint: As DID mode is selected, the configuration of DIDs is done directly at the Stations configuration.*

Click [OK & Next]

## Define Quantity of Concurrent Trunk Sessions

In the next part the number of simultaneous calls via the SIP trunk will be defined. The calculation of the number of trunks is done by the wizard automatically depending on the bandwidth. For each 128K, one trunk is created. If the calculated amount of lines differs from the lines according to the received data, please enter the correct value under “Assigned lines”.

Setup - Wizards - Central Telephony - Internet Telephony

Settings for Internet Telephony

**Simultaneous Internet Calls**

Available Lines for ITSP: 204

Under 'Setup - Wizards - Network / Internet - Internet Access', you have entered the value **Upstream up to (Kbps) = 16384** in the 'Change Feature -> Internet Telephony' Assistant. This upstream allows you to conduct up to **60** 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.

Number of Simultaneous Internet Calls:

**Line assignment**

Internet Telephony Service Provider	Configured Lines	Assigned Lines
cosmote	4	<input type="text" value="4"/>

Figure 7

Click [OK & Next]

## Special phone numbers

In this form it is possible to route special phone numbers. When special phone numbers are not supported over the ITSP route it is possible to change this here. In the example below 911 calls will be routed over the ITSP group.

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="9C911"/>	<input type="text" value="Fusion 360"/>
2	<input type="text"/>	<input type="text" value="Fusion 360"/>

Figure 8

Click [OK & Next]

## Status Display and Restart Options

On next page the status of ITSP is displayed.

Status for the Internet Telephony Service Provider (ITSP)

	Provider		User	
<input type="checkbox"/>	AT&T	Disabled		
<input type="checkbox"/>	BabyTEL	Disabled		
<input type="checkbox"/>	Cbeyond	Disabled		
<input type="checkbox"/>	CenturyLink 1	Disabled		
<input type="checkbox"/>	CenturyLink 2	Disabled		
<input type="checkbox"/>	COLT UK & Europe	Disabled		
<input type="checkbox"/>	COLT VPN	Disabled		
<input type="checkbox"/>	<input type="button" value="Restart"/> Fusion 360	Enabled	3302471014	registered

Figure 9

Click [Next]



## Exchange Line Seizure

The exchange line seizure normally occurs by dialing the prefix "9". Within this code, different providers are prioritized (depending on what is preset). For example, an outbound call may be first routed via an ITSP and, if the exchange line seizure fails, be then sent via ISDN. In our example the Fusion 360 group will be set up as the priority group for the dial 9 seizure code

Setup - Wizards - Central Telephony - Internet Telephony

Exchange Line Seizure

**Exchange Line Seizure**

Trunk Access Code 9

Dial over Provider Fusion 360 ▾

Figure 10

Click [OK & Next]

Setup - Wizards - Central Telephony - Internet Telephony

Seizure Code for the 'Outside line Seizure'

	Seizure code for 'Outside line Seizure'
Fusion 360	4501

Figure 11

Click [OK & Next]

## DID configuration

In general the DID has to be configured in specific format and most suggested is the long format (whole number without national prefix).

Setup - Wizards - Telephones / Subscribers - IP Telephones

Select a station -LAN Phones/WLAN Phones

Take DID from changed call number

Box	Slot	Callno	First Name	Last Name	Display	DID	Type	Fax Callno	Fax DID	Class of service
1	0	4000	Station	4000	4000, Station	3302471014	System Client	4100	-	International
1	0	4001	Station	4001	4001, Station	-	System Client	-	-	International
1	0	4002	Station	4002	4002, Station	-	System Client	-	-	International

Figure 12

## Optional Location ID (LIN) Setting

In some cases the customer may need to send a different number to the PSTN other than the DID number associated with a subscriber.

Using the Path: *Expert > Telephony Server > Basic Settings > System Flags* enable the “Configurable CLIP” flag

Using the Path, *Setup - Wizards - Telephones / Subscribers - IP Telephones*, press the Edit button next to the station to access the subscriber detail information. Enter the telephone number to be displayed to the PSTN in the CLIP/Lin field.

Take DID from changed

Box	Slot	Callno	
1	0	4000	
1	0	4001	
1	0	4002	

Change Station

Station

First Name: Station

Last Name: 4000

Display: 4000, Station  
(for Subscriber):

Call number: 4000

Direct inward dialing: 3302471014  
(Number for Direct Inward Dialing)

Mobile Call number: -

Web Feature ID: None

Type: System Client

Device Type: OpenStage 40

Clip/Lin: 8505551212

Language: English U.S.

Call signaling internal: (Ringer pitch for internal calls): Ring type 1

Call signaling external: (Ringer pitch for external calls): Ring type 1

Figure 13

## ITSP Route Parameter Settings

After the ITSP is registered with the system the next step will be to revise the route group settings for the associated trunk group. *Path: Expert > Trunks/Routing > Route > Select Route*

Using the above path select the Fusion 360 Route group. On the Change Route tab insure the Suppress Station number flag is disabled and the Digit transmission is set to en-bloc sending.

The screenshot shows the 'Route' configuration page in 'Expert mode - Telephony Server'. The left sidebar lists various trunk groups, with 'Fusion 360' highlighted. The main area is divided into several sections: 'Gateway Location' (Country code: 1, Local area code: , PABX number: ), 'PABX number-incoming' (Country code: , Local area code: , PABX number: , Location number: ), 'PABX number-outgoing' (Country code: , Local area code: , PABX number: , Suppress station number: ), 'Overflow route' (Overflow route: None), and 'Digit transmission' (Digit transmission: en-bloc sending). A red box highlights the 'Digit transmission' dropdown menu.

Figure 14

Click Apply

On the Change Routing Parameters tab insure that the “Add direction prefix for incoming and outgoing call flags” are disabled and the “No and type outgoing” entry is set to Local Area Code and the Call number type is set for Direct inward dialing. Press the “Apply” Button to confirm the information.

The screenshot shows the 'Route' configuration page in 'Expert mode - Telephony Server' with the 'Change Routing Parameters' tab active. The left sidebar shows 'Fusion 360' selected. The main area contains various routing parameters: '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 2 s', 'Type of seizure: linear', 'Route type: CO', 'No. and type, outgoing: Local area code', and 'Call number type: Direct inward dialing'. Red boxes highlight the 'Add direction prefix incoming/outgoing' checkboxes and the 'No. and type, outgoing' and 'Call number type' dropdowns.

Figure 15

Click Apply then [OK & Next]

## Voice Gateway Codecs and RFC Parameters

Please note that our tests have shown that fax transmission using the T.38 protocol with the Fusion 360 trunks was not successful. The T.38 Fax flag should be disabled. Our tests using the G.711 fax standard were successful however fax transmission over the SIP trunks may not work consistently.

Using the path Expert > Voice Gateway > Codec Parameters uncheck the T.38 fax check box

Codec	Priority	Voice Activity Detection	Frame Size
G.711 A-law	Priority 4	VAD: <input type="checkbox"/>	20 msec
G.711 μ-law	Priority 1	VAD: <input type="checkbox"/>	20 msec
G.729A	Priority 2	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): 138UDPRedundancy

**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:

Figure 16

Click Apply then [OK & Next]

## Least Cost Routing Changes (Information Only)

In some cases additional changes to the Least Cost Routing configuration may be required. Normally, the default entries which are created automatically when an ITSP is activated should allow you to place local, long distance and International calls. Custom entries should always be placed at the end of the default entry section. The following diagram provides you with the flow of a typical call through LCR.

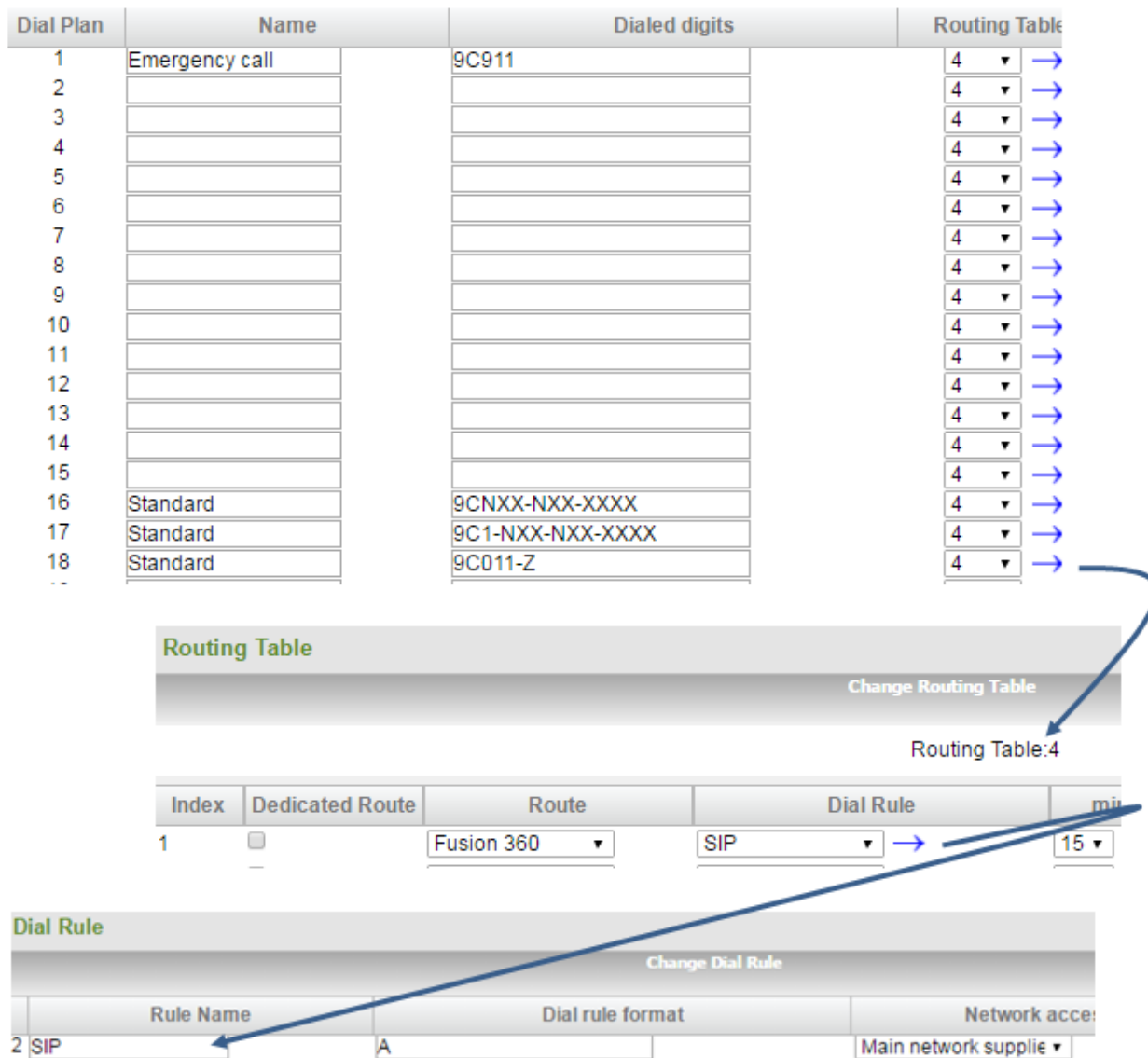


Figure 17

## Licensing Activation

The final step is to insure the SIP Trunk sessions are licenses.

Each SIP Trunk session will require an S2M/T1 channel license. You can confirm if the licenses have been purchased by displaying the License Management > License Information form. In the example below 4 S2M channel licenses have been purchased and activated.

License Information						
Licenses with Locking ID: 001AE8732C63			SIEL-ID: SID:149100001015			
	Product Name	Feature	used licenses			Status
1	OpenScape Business V2	Java Husim Phonetester	0 of 5			valid
2	OpenScape Business V2	OpenScape Business Application Launcher	1 of 1			valid
3	OpenScape Business V2	OpenScape Business Base	1 of 1			valid
4	OpenScape Business V2	OpenScape Business Company Autoattendant	1 of 1			valid
5	OpenScape Business V2	OpenScape Business Conference	0 of 1			valid
6	OpenScape Business V2	OpenScape Business Contact Center E-Mail	0 of 1			valid
7	OpenScape Business V2	OpenScape Business Contact Center Fax	0 of 1			valid
8	OpenScape Business V2	OpenScape Business Fax	1 of 2			valid
9	OpenScape Business V2	OpenScape Business Gate View Cameras	0 of 1			valid
10	OpenScape Business V2	OpenScape Business Groupware User	2 of 2			valid
11	OpenScape Business V2	OpenScape Business IP User	5 of 7			valid
12	OpenScape Business V2	OpenScape Business myAgent	2 of 2			valid
13	OpenScape Business V2	OpenScape Business myAttendant	1 of 1			valid
14	OpenScape Business V2	OpenScape Business myPortal Smart	0 of 2			valid
15	OpenScape Business V2	OpenScape Business myReports	1 of 1			valid
16	OpenScape Business V2	OpenScape Business Networking	1 of 1			valid
17	OpenScape Business V2	OpenScape Business OpenDirectory Base	1 of 1			valid
18	OpenScape Business V2	OpenScape Business S2M/SIP Trunks	4 of 4			valid

OpenScape Business S2M/SIP Trunks 4 of 4

Using the Path License Management > Local User Licenses > CO Trunks select the qty of S2M licenses and then Click [OK & Next]

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: <input type="text" value="4"/>			
PRI (S2M/T1)	Type Slot	Port	Demands