



## OpenScape Business V2

# How To Configure SIP Trunk for your ITSP (**SIGNET NL**)

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## Table of Contents

Configuration Data .....	3
Configuration Wizard .....	4
Internet Telephony.....	4
Define bandwidth (# Trunks).....	8
Special phone numbers .....	8
Multisite configuration.....	9
DID configuration .....	9
Multisite Table.....	10
Additional manual Configuration .....	11
LCR settings .....	11
Route configuration.....	12
Troubleshooting/Maintenance .....	13
Status OpenScape Business.....	13
How to get Traces in case of problem.....	15
Wireshark traces.....	15
Internal traces .....	15

## Table of History

Date	Version	Changes
2016-06-21	1.0	First version
2016-07-15	1.1	Updated to final tests
2016-09-30	1.2	Update contents



## Configuration Data

Information from ITSP **SIGNET** provided:

Name	Example
Call Number:	(085) 7470048 0049 ,0028 0407470093
Number of DID digits:	9
SIP Domain:	Sip.wlvoip.net
SBC_IP:	31.226.168.234 UDP 5060
digest Auth.:	Yes
SIP Username:	certifytest01
SIP Password:	*****
Clip no Screening:	no
Number of voice-channels:	8



## Configuration Wizard

### Internet Telephony

Go to „Central Telephony – Internet Telephony“

The screenshot shows the OpenScope Business Assistant interface. The top navigation bar includes 'Home', 'Setup', 'Expert mode', 'Data Backup', 'License Management', 'Service Center', and 'Networking'. The left sidebar lists 'Setup' options: 'Wizards', 'Basic Installation', 'Network / Internet', 'Telephones / Subscribers', 'Central Telephony' (highlighted), 'User Telephony', 'Security', and 'UC Smart'. The main content area is titled 'Central Telephony' and contains several configuration items, each with an 'Edit' button. The 'Internet Telephony' item is highlighted with a red box. Below it are 'Phone Book / Speed Dialing', 'Call Detail Recording', 'Music on Hold / Announcements', 'Entrance telephone', and 'SmartVM'.

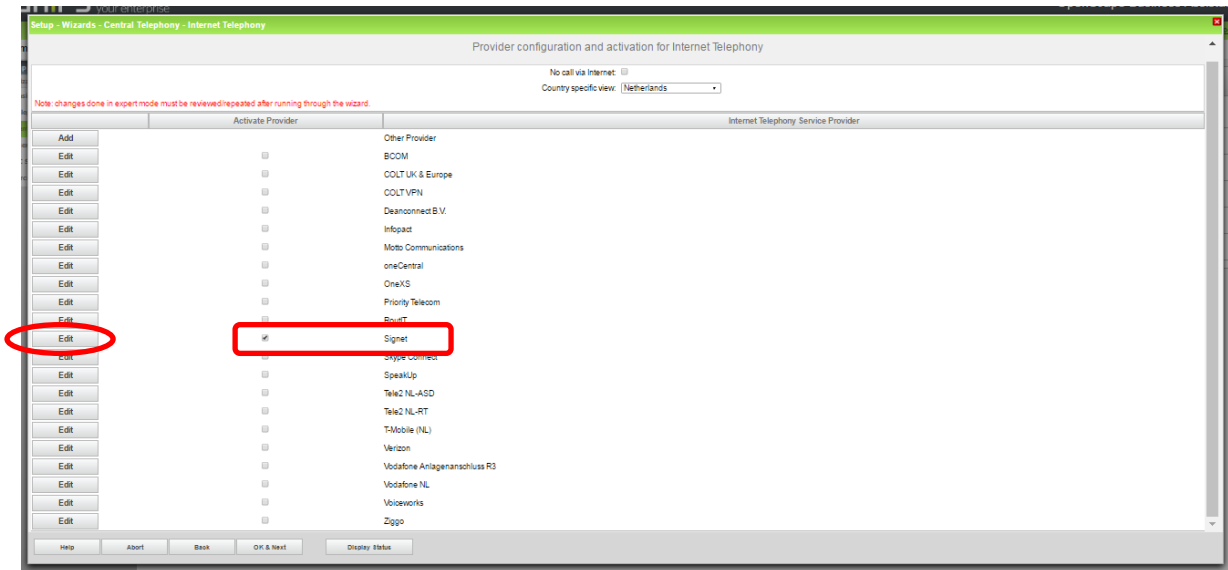
The overview page appears for entering the location data. The most flexible type of configuration is to enter the Country code only.

The screenshot shows the 'Overview' page for 'Internet Telephony' configuration. The title bar reads 'Setup - Wizards - Central Telephony - Internet Telephony'. The main content area has a note: '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'. Below the note is a form with three input fields: 'Country code: 31 (mandatory)', 'Local area code: (optional)', and 'PABX number: (optional)'. At the bottom, there are buttons for 'Help', 'Abort', 'Back', and 'OK & Next'.



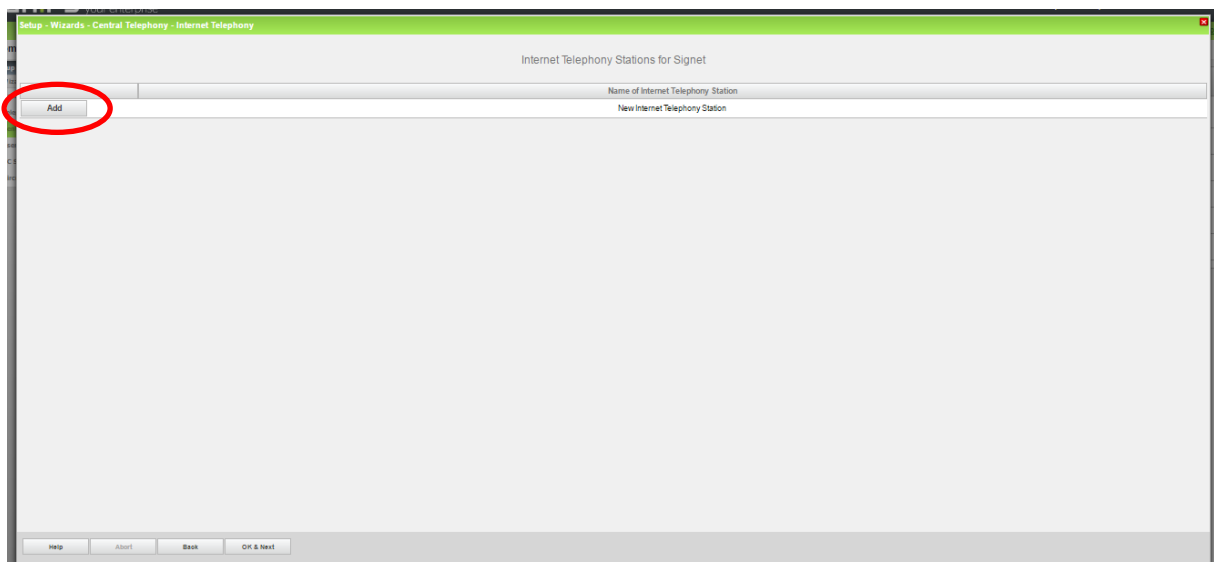
As outgoing number only the port assigned phone numbers are used.  
In this case, remaining digits are filled in DID field.  
Click [OK & Next]

Provider configuration and activation for Internet Telephony -> No call via Internet -> uncheck  
Use County specific view: Netherlands and select **SIGNET**.



Activate Provider and click on [Edit].

In this dialog the specific customer SIP Userdata will be configured.

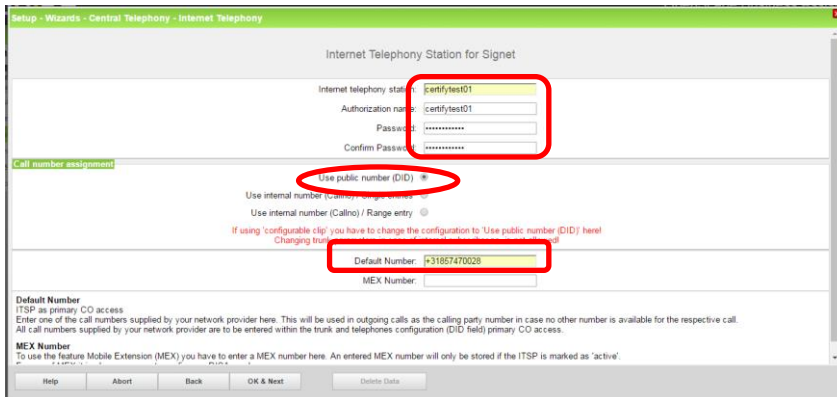


Click on [Add].

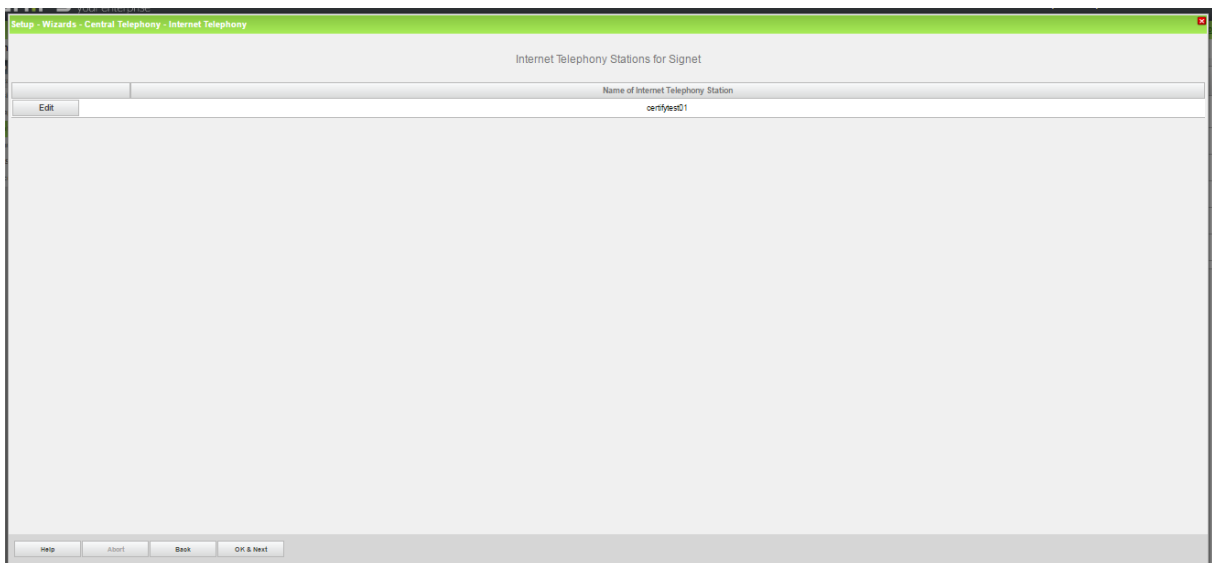
Data provided by ITSP SIGNET is inserted here.



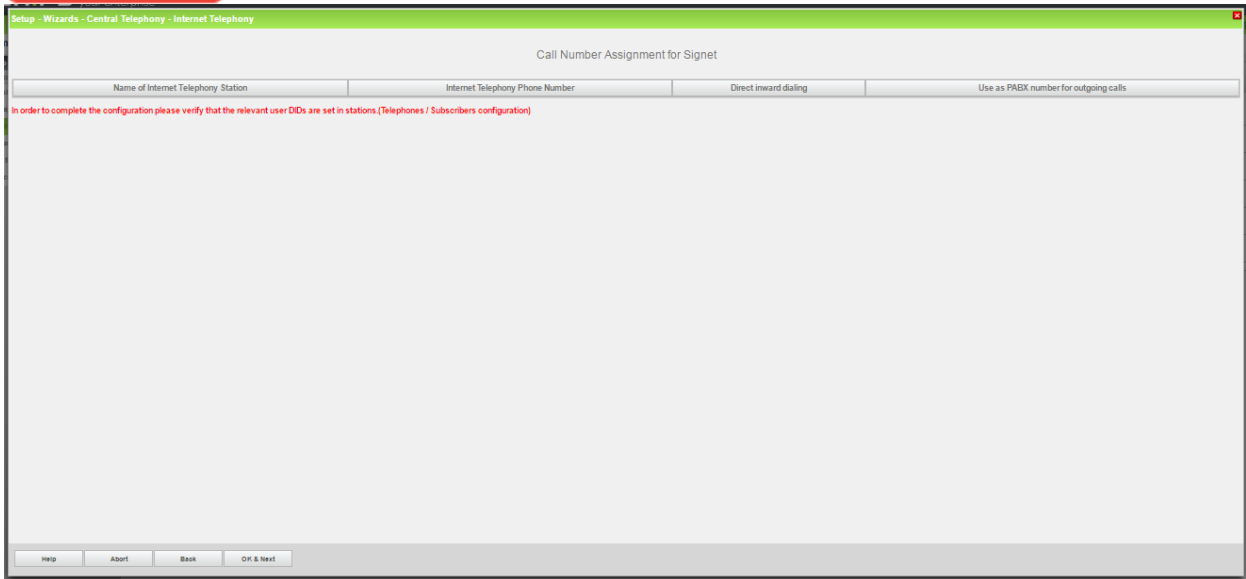
- Internet telephony station: SIP Username is inserted here (gebruikersnaam / account)
- Authorization name: SIP Username is inserted here (gebruikersnaam / account)
- Password: Password provided by ITSP SIGNET. (wachtwoord)
- Default number: Main number of connection. The default number is used as outgoing number when no DDI number is assigned to a station,.



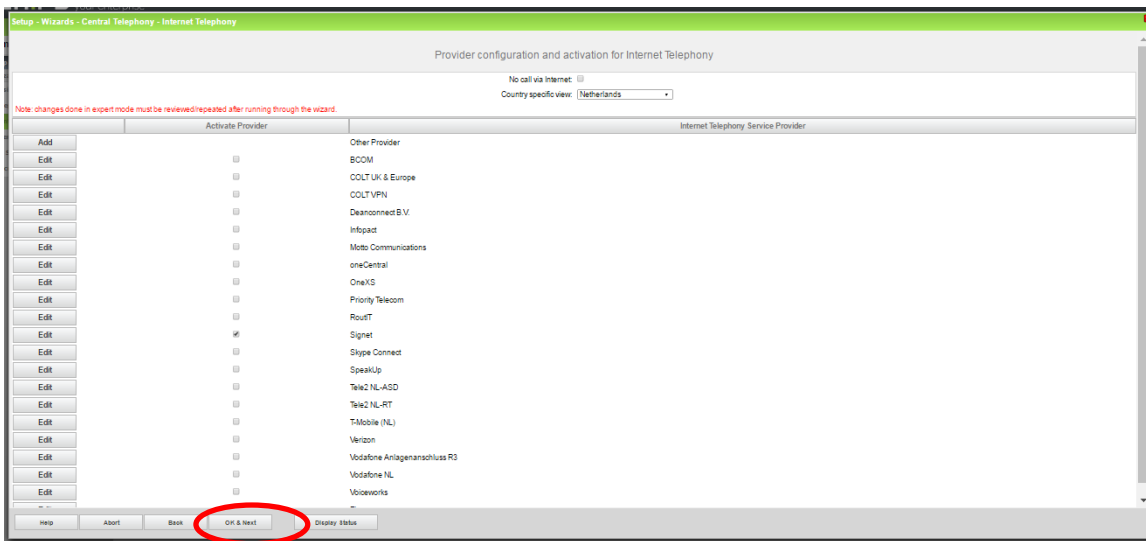
Click [OK & Next].



Click [OK & Next].

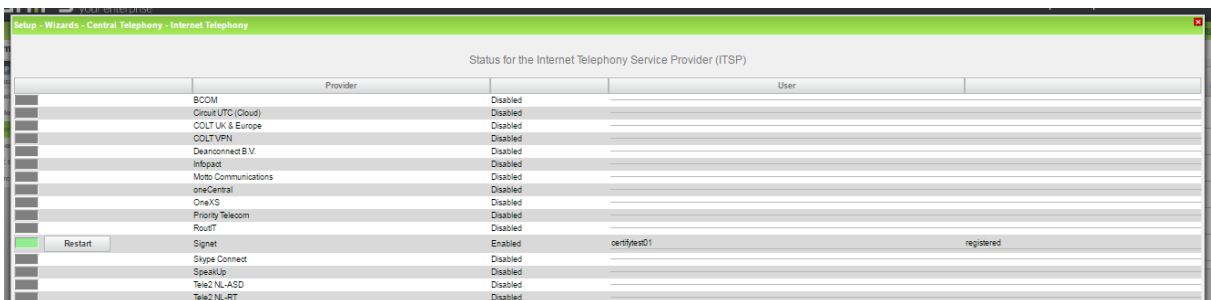


Click [OK & Next] (no input needed)



Click on "Display Status"

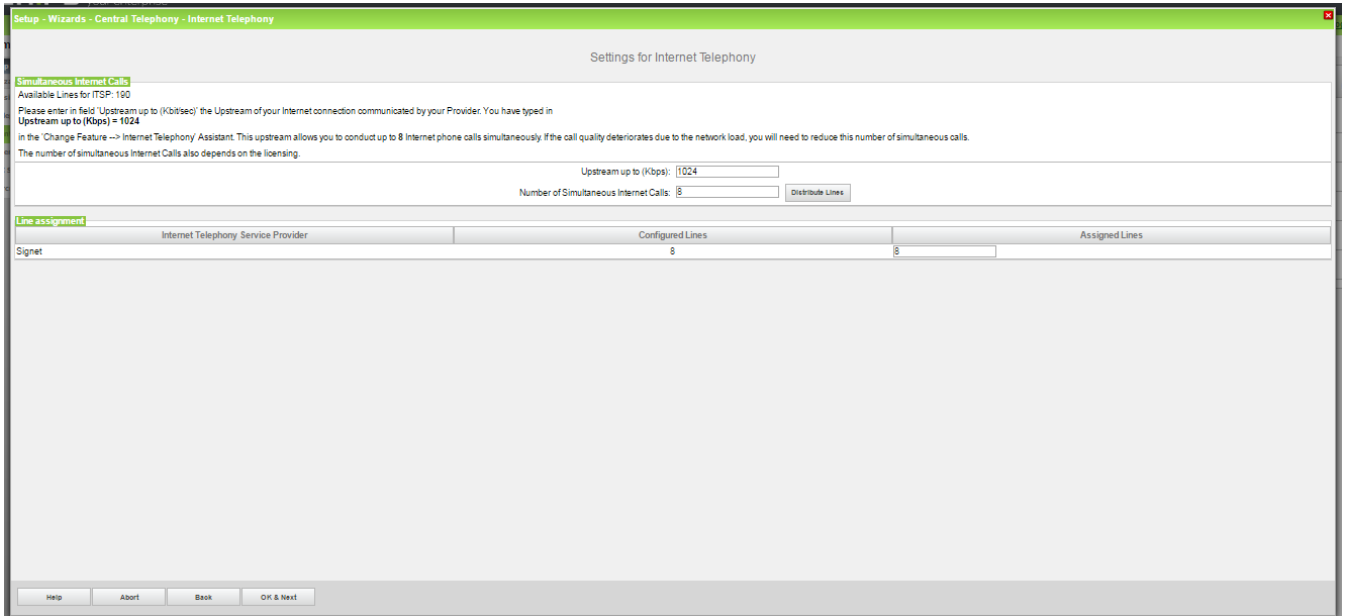
Next page status of ITSP is displayed. In case of a wrong SBC Address in Expert mode status of ITSP is „not registered“





## Define bandwidth (# Trunks)

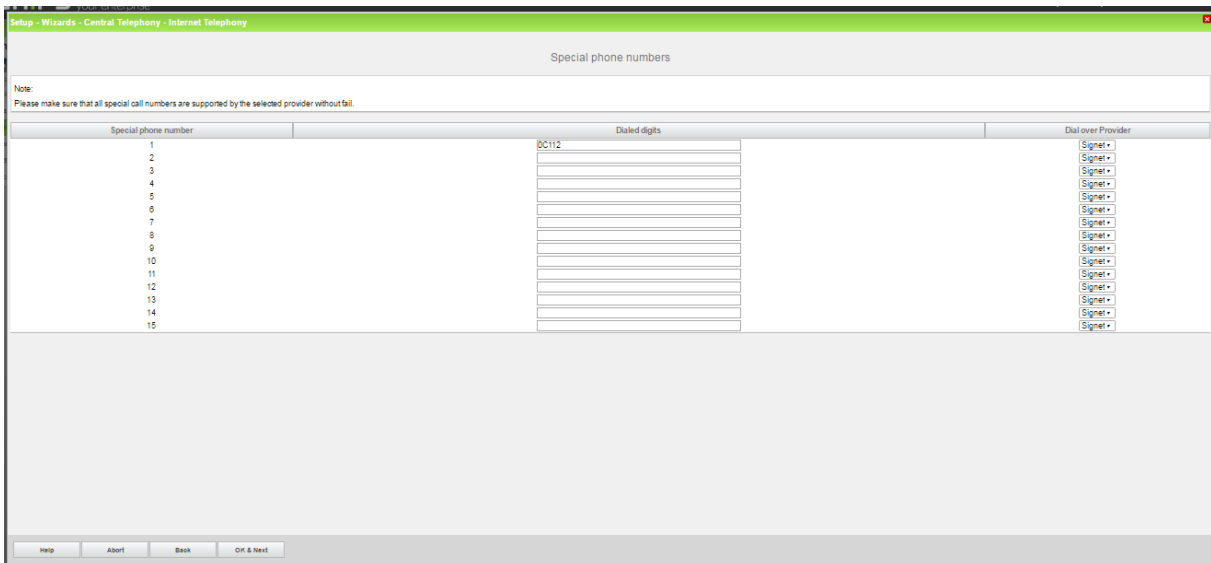
In the next part the number of simultaneous calls via the SIP trunk will be defined. The calculation of the number of trunks is done by the wizard automatically depending on the bandwidth. For each 128K, one trunk is created.



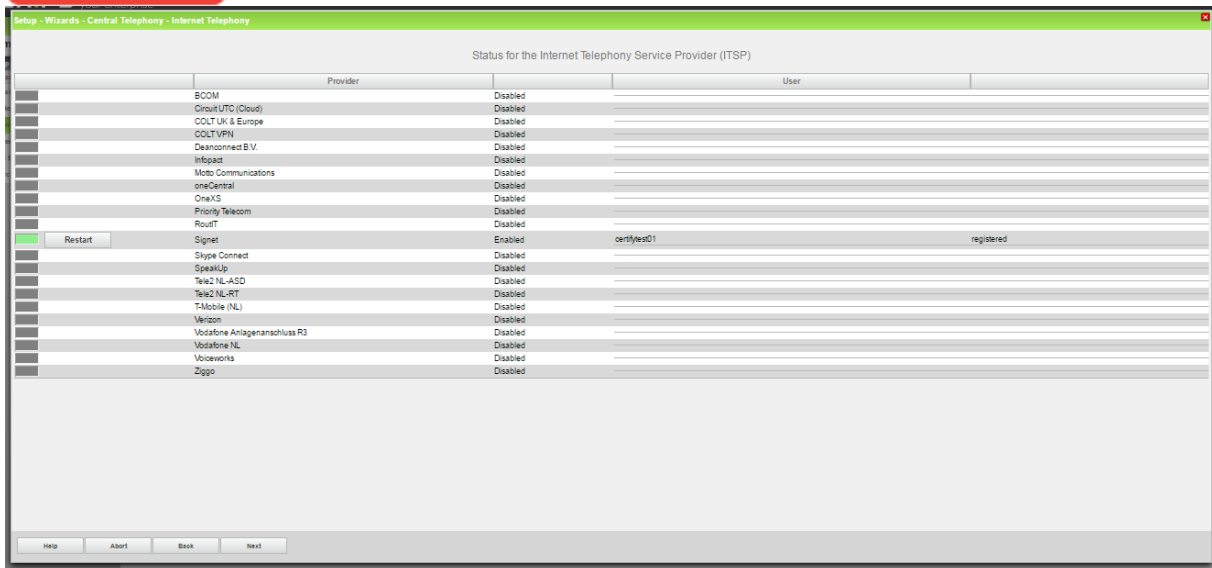
Click [OK & Next]

## Special phone numbers

In this dialog 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.







After this status page two more dialogs with „Exchange Line Seizure“ and an overview with all configured „Outside line Seizure“ are displayed.

### Multisite configuration

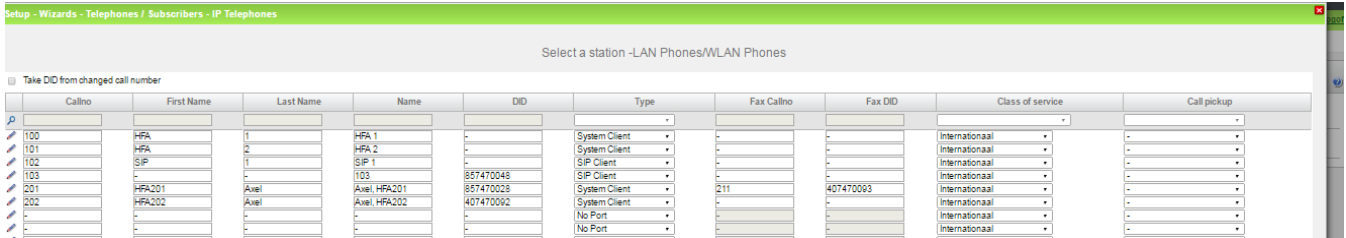
Multi-site refers to the integration of currently up to 8 different local area codes in a single system via the same or different ITSP connections. (For example, numbers from Rotterdam 010 xxx, Amsterdam 020, etc.). All up to 8 area codes must be within one country.

Additional configuration notes:

### DID configuration

In general the DID has to be configured in long format. E.g. Axel HFA201 857470028 for a user regionfree, Axel HFA202 407470092 for user in Eindhoven.

The country code 31 has to be configured as described before.







## Additional manual Configuration

### LCR settings

Important “Dial rule format settings” for local calls for OSBiz software <V2R2.

You need to modify the LCR Rules (more specifically the Dial rule format) in the way so as the dialed number will be finally sent with E.164 format (e.g:+3185xxxxxx)

Rule Name	Dial rule format	Network access	Type
1 CO	A	Main network supplier	Country code
2 SIP	D31E3A	Main network supplier	Country code
3 SIP local	D31HE2A	Main network supplier	Country code
4 MEB	E1A	Corporate Network	PABX number
5 IP-Network	A	Corporate Network	Unknown
6 Multi-Location	BA	Corporate Network	Unknown
7 Gateway call	E1A	Corporate Network	Unknown
8 COInternat	E1A	Corporate Network	Unknown
9		Unknown	Unknown
10 Signet overig	E2A	Main network supplier	Unknown
11 Signet Internati	E3A	Main network supplier	Country code
12		Unknown	Unknown
13		Unknown	Unknown
14		Unknown	Unknown
15		Unknown	Unknown
16		Unknown	Unknown
17		Unknown	Unknown
18		Unknown	Unknown

In case of sw>=V2R2, the default LCR rules (Dialed digits, Routing tables and Dial Rule formats) have been modified in order to avoid doing further manual configuration. Consequently, it's not necessary to change anything since the default values are well applied with SIGNET. The LCR will look like the screen below.

Dial Plan	Name	Dialed digits	Routing Table	Acc. code	Classes of service	Emergency
5	Services	DCZ	4		<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	National	DCO-Z	28		<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	Local	DC1Z	5		<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	Local	DCNZ	5		<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	International	DCOO-Z	38		<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	SIGNET	BOCZ	4		<input checked="" type="checkbox"/>	<input type="checkbox"/>
11	SIGNET	BOCO-Z	28		<input checked="" type="checkbox"/>	<input type="checkbox"/>
12	SIGNET	BOC1Z	5		<input checked="" type="checkbox"/>	<input type="checkbox"/>
13	SIGNET	BOCNZ	5		<input checked="" type="checkbox"/>	<input type="checkbox"/>
14	SIGNET	BOCOO-Z	38		<input checked="" type="checkbox"/>	<input type="checkbox"/>



## Route configuration

After activation of SIGNET profile, the Route settings (e.g No. And type outgoing, call number with or without national/international prefix) are automatically applied properly. So you have nothing to configure in addition.

If don't keep the default seizure code, this can be changed at will (like in the example screenshot below). But then you have to double check again the LCR entries for Dialed Digits settings, since the setup of new seizure code will modify the front part of Dialed digits (before the separator 'C') for the entries which are used by the route of SIGNET .

The screenshot shows the 'Expert mode - Telephony Server' interface. The main window is titled 'Route' and contains several sections for configuring a route named 'Signet'. The left sidebar shows a tree view with 'Signet' selected. The main area has tabs for 'Change Route', 'Change Routing Parameters', and 'Special Parameter change'. The configuration fields are as follows:

- Route Name:** Signet
- Seizure code:** 0
- OO code (2nd trunk code):** (empty)
- Gateway Location:**
  - Country code: 31
  - Local area code: (empty)
  - PABX number: (empty)
- PABX number-incoming:**
  - Country code: 31
  - Local area code: (empty)
  - PABX number: (empty)
  - Location number: (empty)
- PABX number-outgoing:**
  - Country code: (empty)
  - Local area code: (empty)
  - PABX number: (empty)
  - Suppress station number: (empty)
- Overflow route:** None
- Digit transmission:** enable sending
- Mobile Extension Number (MEX):** MEX Number (empty)

At the bottom, there are buttons for 'Apply', 'Undo', and 'Help'.

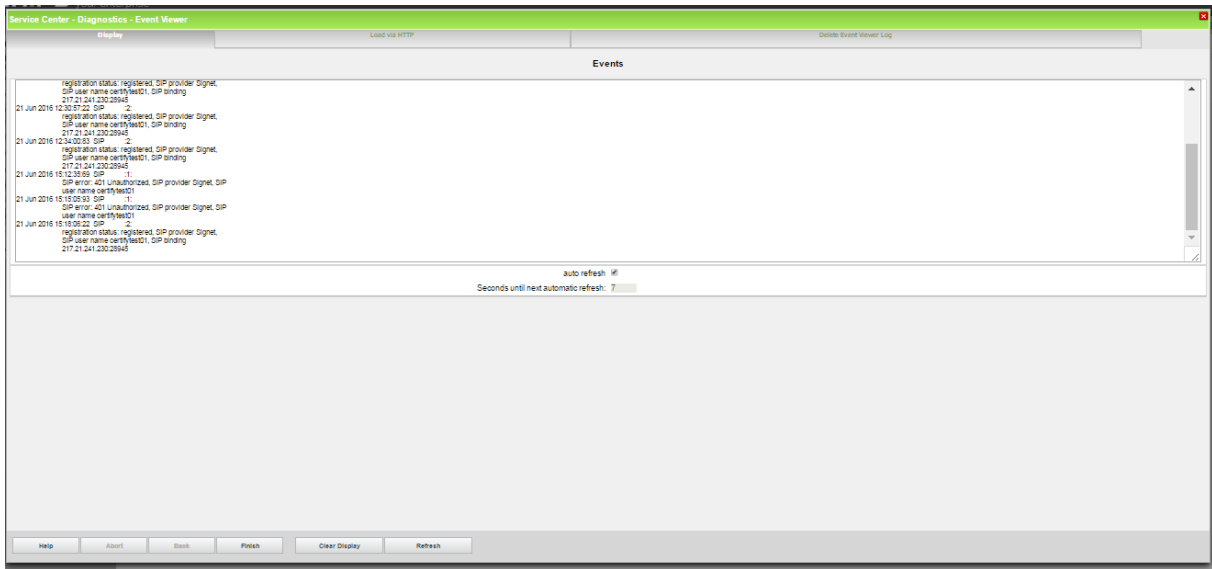


## Troubleshooting/Maintenance

### Status OpenScape Business

In the service center there is some information to check the status of the provider.

The Event Viewer shows important information about the ITSP.



“Status” provides information about the registration status of the ITSP. The ITSP registration can also be restarted here.

The screenshot shows the 'Status' window in the Service Center. The title bar reads 'Service Center - Diagnostics - Status'. The window contains a table with the following columns: Station Status, Dialup Network Status, ITSP Status, VPN Status, Overview of IP Addresses, and BLF Status. The 'Station Status' column is circled in red. The table lists various stations with their call numbers, names, device types, IP addresses, MAC addresses, current and hardware versions, and their status.

Callno	Name	Device Type	IP Address	MAC Address	Current SW Version	HW Version	Status
100	TDM 100	optiPoint 500 Basic	-	-	VM.PR2.02	-	Disabled
101	-	OpenStage 40	-	-	-	-	Disabled
102	-	optiPoint 500 Standard	-	-	P20	-	Disabled
103	-	-	-	-	-	-	Disabled
104	-	-	-	-	-	-	Disabled
105	-	optiPoint 500 Standard	-	-	P20	-	Disabled
106	-	Basestation	-	-	-	-	Disabled
107	-	Basestation	-	-	P20	-	Disabled
150	-	analog	-	-	-	-	Enabled
151	FAX 151	analog	-	-	-	-	Enabled
152	-	analog	-	-	-	-	Enabled
153	-	analog	-	-	-	-	Enabled
**131	OS60 131	OpenStage 60/80	<a href="#">192.168.5.70</a>	00:1a:e8:58:3f:f9	V3R0.28.0 HFA C01	-	Enabled
132	-	OpenStage 80	<a href="#">192.168.5.50</a>	00:1a:e8:03:02:99	V3R0.28.0 HFA C01	-	Enabled
133	OS15 133	OpenStage 15	-	-	-	387S41D0-0	Enabled
134	DP35 132	OpenScape Desk Phone IP 35G Eco	<a href="#">192.168.5.68</a>	00:1a:e8:74:f1:1a	V3R0.25.0 HFA C01	S30817-S7710-A307-06	Enabled
135	OS60 135	OpenStage 60/80	<a href="#">192.168.5.57</a>	00:1a:e8:4f:8a:ea	V3 R0.28.0	387S43B0-1	Enabled
136	-	OpenStage 40	-	-	-	387S42B0-1	Disabled

Page 1 of 1  
Items per page: 10 25 50 100



Service Center - Diagnostics - Status

Station Status | ITSP Status | SIP Status

Status for the Internet Telephony Service Provider (ITSP)

Provider	Status	User
BOOM	Disabled	
Cloud LTD (Cloud)	Disabled	
COLT UK & Europe	Disabled	
COLT VFN	Disabled	
Deconnect B.V.	Disabled	
Infopact	Disabled	
Moto Communications	Disabled	
oneCentral	Disabled	
OneXS	Disabled	
Priority Telecom	Disabled	
RoutT	Disabled	
<input type="button" value="Restart"/>	Signet	Enabled certfyas01 registered
	Skye Connect	Disabled
	SpeakUp	Disabled
	Tele2 NL-ASD	Disabled
	Tele2 NL-RT	Disabled
	T-Mobile (NL)	Disabled
	Verizon	Disabled
	Vodafone-Anlagenanschluss R3	Disabled
	Vodafone NL	Disabled
	Voiceworks	Disabled
	Ziggo	Disabled

help | Abort | Back | Patch



## How to get Traces in case of problem

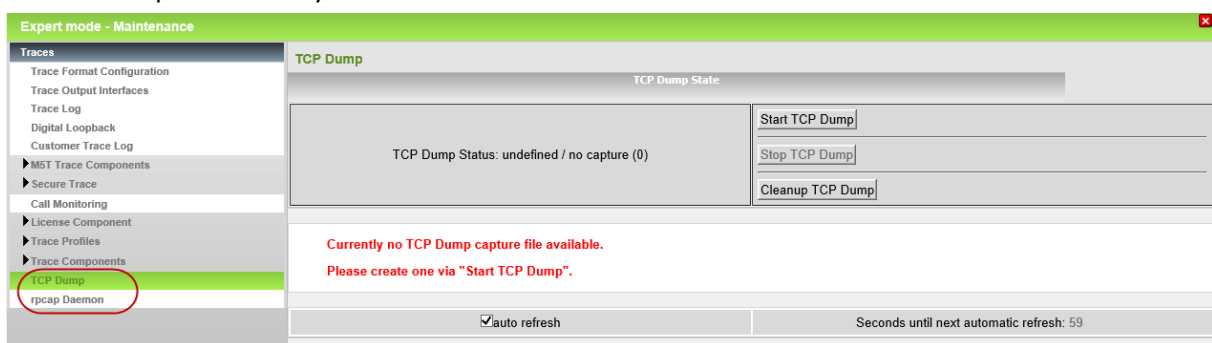
### Wireshark traces

A Wireshark trace helps you to analyse SIP issues very easily. It is possible to start traces on the system which can be analyzed via Wireshark.

Expert mode / maintenance / traces

TCP Dump: Create max. 5 files with PCAP which can be downloaded afterwards and opened in Wireshark.

Rpcap Daemon: Will start the rpcap daemon and open a server port which allows direct remote access from protocol analyzers like Wireshark.



### Internal traces

For a better analysis of problems internal system traces will be needed. Trace profiles are already pre-configured to make it easier to capture internal traces.

When issues with ITSP's occur, the following trace profiles should be activated:

- Basic
- Voice\_Fax\_Connection
- SIP\_Interconnection\_Subscriber\_ITSP

In case there are issues with the registration of an ITSP the following trace profile should also be activated.

- SIP\_Registration

The relevant traces can be downloaded via Service Center –Diagnostics-Trace menu.



The screenshot shows the 'Service Center - Diagnostics - Trace' window in the OpenScope Business Assistant. The window contains a table of diagnostic traces. The 'SIP\_Registration' trace is highlighted in yellow, and the 'SIP\_Interconnection\_Subscriber\_ITSP' trace is highlighted in orange. The table lists various diagnostic traces with their respective descriptions and status indicators.

Trace Name	Description	Status
CSMA_application	Connections to external applications or wrong functionality. Application traces have to be collected additionally.	Red
Display_problems	The displayed texts are incorrect, missing or appear after a delay. This applies to all device types with a display.	Red
Feature_Service_activation	Issues with feature/service (de-)activation via service code or menu option.	Red
Gateway_Stream_detailed	Detailed analysis of issues with missing payload in calls between IP and TDM, e.g. SIP trunk to UPDE phone or TDM trunk to IP phone. High influence on the system performance.	Red
Gateway_Stream_overview	Issues with missing payload in calls between IP and TDM, e.g. SIP trunk to UPDE phone or TDM trunk to IP phone. Overview only, but low influence on the system performance.	Red
IP_Interfaces	Issues with system IP interfaces, i.e. WAN, LAN or Admin.	Red
License_problem	Issues with licensing, e.g. with license configuration or evaluation.	Red
Network_Call_Routing_LCR	Issues with alive monitoring in between nodes, LCR dialrules or unreachable destinations.	Red
Peripheral_cards	Issues with the initialization or startup of peripheral cards.	Red
RAS_or_Internal_access	Shall be combined with the IP_Interfaces profile for detailed analysis of issues with remote administration (RAS) or internet access.	Red
Ressources_MOH_Conferencing	Issues with music on hold or conferencing.	Red
SIP_Interconnection_Subscriber_ITSP	Shall be combined with the voice_fax_connection profile for detailed analysis of issues with SIP phones, access points, ITSP interfaces or SIP interconnections, e.g. calls to or from ITSP/SIP are not signaled at phones, DTMF or fax cannot be sent or received via ITSP/SIP interconnections.	Green
SIP_Registration	ITSP / SIP-nodes / SIP-phones / SIP-access points cannot register or lose registration.	Red
Smart_VM	Shall be combined with the voice_fax_connection profile for detailed analysis of issues with Smart Voicemail.	Red
UC_Smart	Shall be combined with the voice_fax_connection profile for detailed analysis of issues with UC Smart.	Red
Voice_Fax_connection	Issues with voice or fax connections, e.g. missing or distorted connections, wrong LED signals, interrupted calls or faxes, user cannot take or answer call, call not ringing at phone, no ringback tone. This trace profile is enabled by default (factory settings). It may be combined with interface specific profiles depending on the involved device types.	Green
VPN	Issues with VPN connections, e.g. connection disrupted, unable to import or generate SSL certificate (.crt), certificate revocation list (.crl), peer certificate (.pkcs12) for VPN, unable to import or generate SPE certificate.	Red