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

<table>
<thead>
<tr>
<th>Date</th>
<th>Version</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016-06-21</td>
<td>1.0</td>
<td>First version</td>
</tr>
<tr>
<td>2016-07-15</td>
<td>1.1</td>
<td>Updated to final tests</td>
</tr>
<tr>
<td>2016-09-30</td>
<td>1.2</td>
<td>Update contents</td>
</tr>
</tbody>
</table>
**Configuration Data**

Information from ITSP **SIGNET** provided:

<table>
<thead>
<tr>
<th>Name</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call Number:</td>
<td>(085) 7470048 0049,0028 0407470093</td>
</tr>
<tr>
<td>Number of DID digits:</td>
<td>9</td>
</tr>
<tr>
<td>SIP Domain:</td>
<td>Sip.wlvoip.net</td>
</tr>
<tr>
<td>SBC_IP:</td>
<td>31.226.168.234 UDP 5060</td>
</tr>
<tr>
<td>digest Auth.:</td>
<td>Yes</td>
</tr>
<tr>
<td>SIP Username:</td>
<td>certifytest01</td>
</tr>
<tr>
<td>SIP Password:</td>
<td>*******</td>
</tr>
<tr>
<td>Clip no Screening:</td>
<td>no</td>
</tr>
<tr>
<td>Number of voice-channels:</td>
<td>8</td>
</tr>
</tbody>
</table>
Configuration Wizard

Internet Telephony

Go to „Central Telephony – Internet Telephony“

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

![Image of Define bandwidth](image)

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.

![Image of Special phone numbers](image)
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.
The Multisite wizard is available when at least one ITSP is active. In expert mode Multisite can be found in the LCR configuration. Here you define which phone uses which area code when dialing without local area code.

**Edit Stations/Groups**
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.+3185xxxxxxx)

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.
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.
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.
### How To: Configure SIP Trunk for SIGNET NL

#### Step 1: Access the Signet NL SIP Trunk Configuration

1. Open the Open Scape Business V2 application.
2. Navigate to the Signet NL SIP Trunk configuration section.
3. Check the status of the Trunk to ensure it is active.

#### Step 2: Configure the SIP Trunk

1. Access the SIP Trunk configuration settings.
2. Enter the following details:
   - **User:** Your account username.
   - **Password:** Your account password.
   - **Host:** The SIP trunk host address.
   - **Port:** The SIP trunk port number.
   - **Domain:** The domain associated with your SIP trunk.
3. Save the configuration changes.

#### Step 3: Test the Configuration

1. Make a test call to verify the SIP trunk is functioning correctly.
2. Check for any error messages or connectivity issues.

#### Step 4: Monitor the Trunk Status

1. Regularly check the SIP trunk status to ensure it remains active and connected.
2. Address any issues or errors as soon as they are detected.
How to get Traces in case of problem

Wireshark traces
A Wireshark trace helps you to analyses 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 analyses 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 occurs, 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.
OpenScape Business V2 – How To: Configure SIP Trunk for SIGNET NL

<table>
<thead>
<tr>
<th>Service Center</th>
<th>Diagnostics Tree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start</td>
<td>Display problems</td>
</tr>
<tr>
<td>Start</td>
<td>Feature Service activation</td>
</tr>
<tr>
<td>Start</td>
<td>Gateway Stream detailed</td>
</tr>
<tr>
<td>Start</td>
<td>Gateway Stream overview</td>
</tr>
<tr>
<td>Start</td>
<td>IP Interfaces</td>
</tr>
<tr>
<td>Start</td>
<td>License problem</td>
</tr>
<tr>
<td>Start</td>
<td>Network Call Routing I-CR</td>
</tr>
<tr>
<td>Start</td>
<td>Peripheral cards</td>
</tr>
<tr>
<td>Start</td>
<td>User, Internal, access</td>
</tr>
<tr>
<td>Start</td>
<td>Resources, MOH, Conferencing</td>
</tr>
<tr>
<td>Stop SIP Trunk failed Subscriber TSP</td>
<td></td>
</tr>
</tbody>
</table>

Stop SIP Trunk failed Subscriber TSP:

- Shall be combined with the voice.fail_connection profile for detailed analysis of issues with SIP phones, access points, SIP registrations, or SIP interconnections. E.g. calls to service SIP/VPN or SIP/VPN are not accepted at phone, PRTF, or hot cannot be sent or received via HX/SIP interconnections.

Start SIP Registration:

FTP / SIP Nodes / SIP phones / SIP access points cannot register or lose registration.

Start OAC VM:

- Shall be combined with the voice.fail_connection profile for detailed analysis of issues with OAC VM.

Start UC Smart:

- Shall be combined with the voice.fail_connection profile for detailed analysis of issues with UC Smart.

Stop Voice Far connection:

- Issues with voice far connections, e.g. missing or distorted connections, wrong LED signals, incorrect calls in favor, call cannot be answered, call not ringing at phone, no ringback time. This failure profile is enabled by default (factory setting). It may be combined with interface specific profiles depending on the involved device types.

Start VPN:

- Issues with VPN connections, e.g. connection disrupted, unable to import or generate SSL certificate (certIRT certificate resynchronization lost (certIRT, certPES, certIRT for VPN), unable to import or generate SRT certificate.