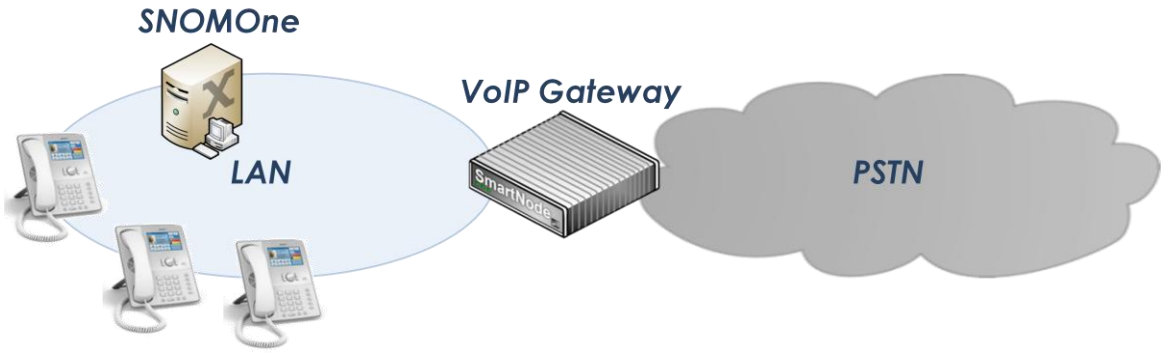
SmartNode PSTN gateway for snom ONE

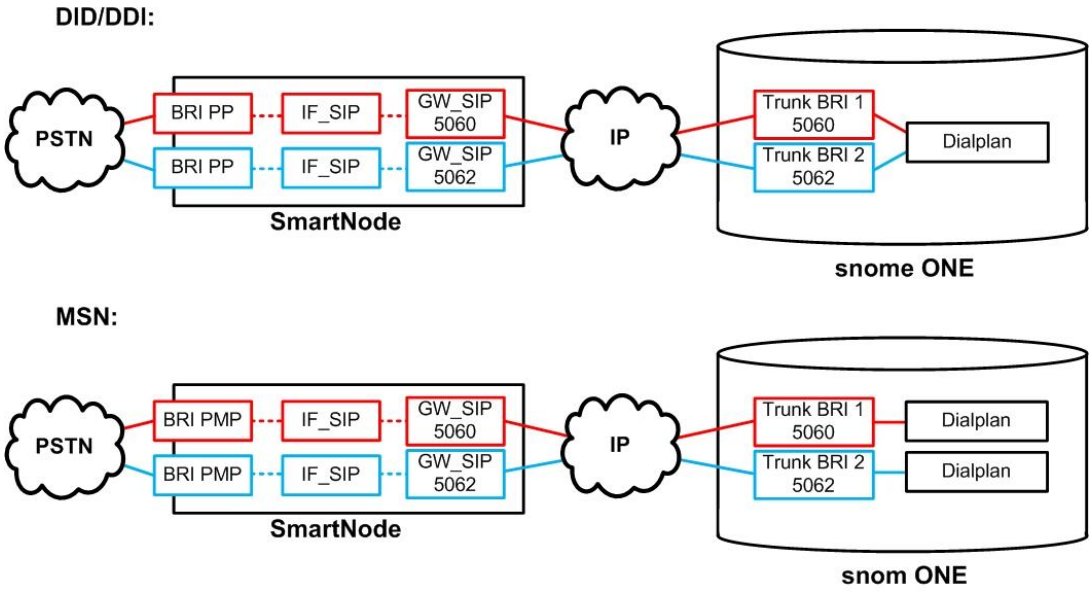
1 Snom ONE with SmartNode PSTN Gateway basic use case

The snom ONE is an innovative iPBX, which is not hardware dependent and therefore does not require proprietary ITC hardware. Instead, this powerful communication server can be installed on any standard Windows™, Linux or Apple PC.

As a standard PC does not contain ISDN interfaces, external gateways are used to connect snom ONE to the PSTN network. This page shows how to configure Patton's SmartNode family of gateways to perform this function. In a most basic scenario, the SmartNode provides the link between the SIP signaling of the snom ONE and the ISDN signaling of the PSTN:



The diagram bellow shows the concept and relation of the different elements of the SmartNode and the PBX.



For more information about snom ONE, please visit
http://www.snom.com/de/produkte/ip-pbx/snom-one/

For more information about Patton's SmartNodes, please visit
http://www.patton.com/voip

Prerequisites:

- A running snom ONE installation
- A SmartNode (see below [LINK] for applicable models) with R5.8 or higher
  SmartNode 4630
  SmartNode 4120
  SmartNode 4110 FXO

- An ISDN or Analog PSTN connection (either MSN or DID/DDI connections are OK for ISDN)

2 SmartNode configuration

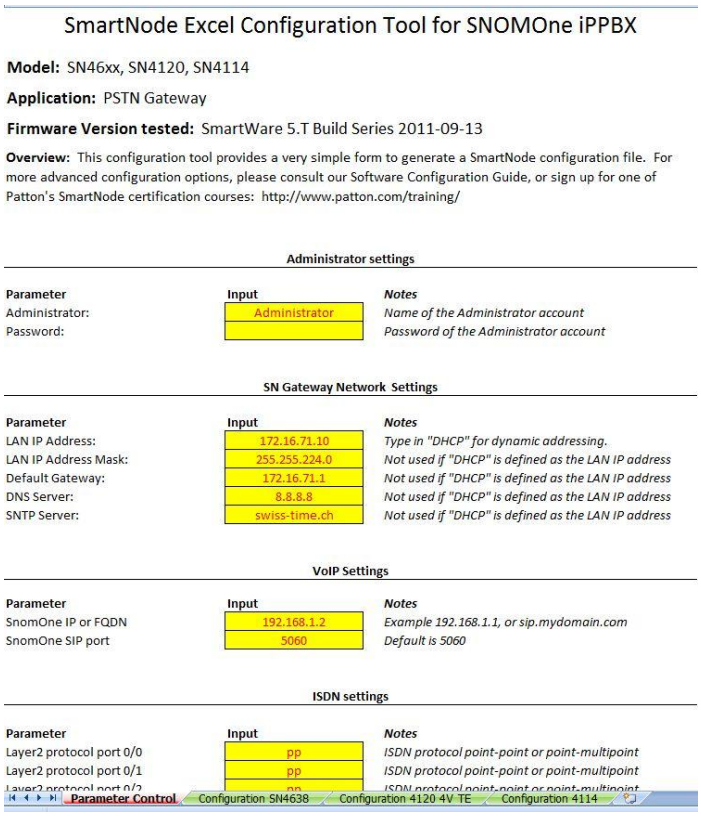
- Open the snom ONE configurator spreadsheet for SmartNode which is attached to this PDF.

- Open the spreadsheet

- On the first sheet named "Parameter Control", type in the parameters of your installation.

- Set the LAN IP Address (ETH port 0/0 on the SmartNode) according to your network topology. If your SmartNode has a second Ethernet port, it won't be used.

- Select MSN for (Mehrfachanschluss) and DID/DDI for (Anlageanschluss), which specifies what type of ISDN connection you have. All ISDN interfaces are configured the same way.



SmartNode Excel Configuration Tool for SNOMOne iPPBX

Model: SN46xx, SN4120, SN4114

Application: PSTN Gateway

Firmware Version tested: SmartWare 5.T Build Series 2011-09-13

Overview: This configuration tool provides a very simple form to generate a SmartNode configuration file. For more advanced configuration options, please consult our Software Configuration Guide, or sign up for one of Patton's SmartNode certification courses: http://www.patton.com/training/

Administrator settings

Parameter	Input	Notes
Administrator:	Administrator	*Name of the Administrator account*
Password:		*Password of the Administrator account*

SN Gateway Network Settings

Parameter	Input	Notes
LAN IP Address:	172.16.71.10	*Type in "DHCP" for dynamic addressing.*
LAN IP Address Mask:	255.255.224.0	*Not used if "DHCP" is defined as the LAN IP address*
Default Gateway:	172.16.71.1	*Not used if "DHCP" is defined as the LAN IP address*
DNS Server:	8.8.8.8	*Not used if "DHCP" is defined as the LAN IP address*
SNTP Server:	swiss-time.ch	*Not used if "DHCP" is defined as the LAN IP address*

VoIP Settings

Parameter	Input	Notes
SnomOne IP or FQDN	192.168.1.2	*Example 192.168.1.1, or sip.mydomain.com*
SnomOne SIP port	5060	*Default is 5060*

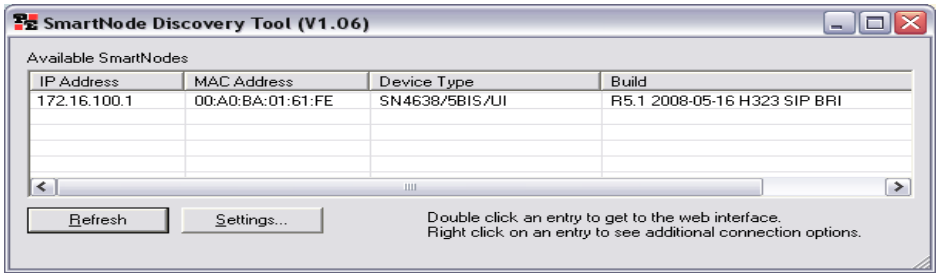
ISDN settings

Parameter	Input	Notes
Layer2 protocol port 0/0	pp	*ISDN protocol point-point or point-multipoint*
Layer2 protocol port 0/1	pp	*ISDN protocol point-point or point-multipoint*
Layer2 protocol port 0/2	pp	*ISDN protocol point-point or point-multipoint*

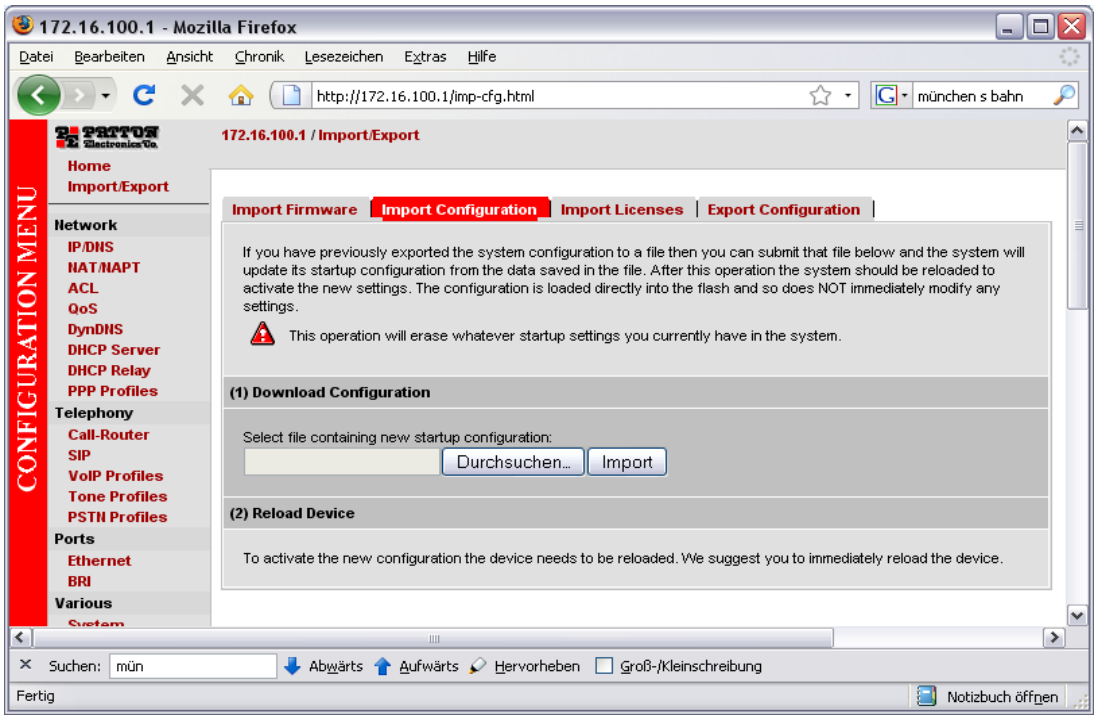
Parameter Control | Configuration SN4638 | Configuration 4120 4V TE | Configuration 4114

- Click on the sheet in green color that has the name of your SmartNode (e.g. “SN4638”). This sheet will contain an automatically generated configuration file that works with snom ONE.

- Save the spreadsheet in text format using “Save As”.
- Start the SmartNode and connect it to the LAN on port 0/0. There has to be a DHCP server on the LAN for this port to become active.
- Use the SmartNode discovery tool to find your SmartNode **Link to download**



- Open the SmartNodes web interface by double-clicking on the entry in the discovery tool
- Import the configuration file into the SmartNode clicking on “Import/Export” on the web interface, then “Import Configuration”

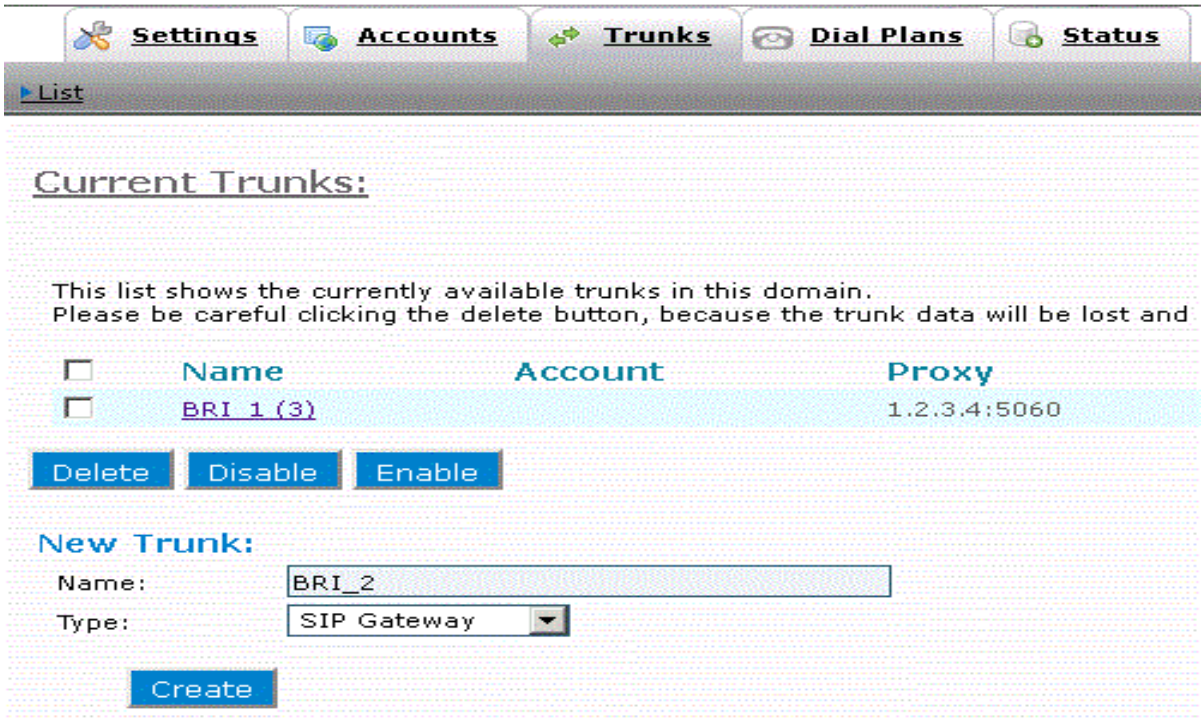


- After import, you will be prompted to restart the SmartNode. Doing so will activate the uploaded configuration.
- The SmartNode is now prepared to communicate with the snomeONE.

3 snom ONE configuration

Configuring the trunks

For each port of the SmartNode a separate trunk will be created on the snom One.



To create a trunk (port) enter the chapter “Trunks”.

New Trunk:

Name: The name of the trunk according to the corresponding port on the Gateway, e.g. BRI_1

Type: SIP Gateway

Click create after settings are done

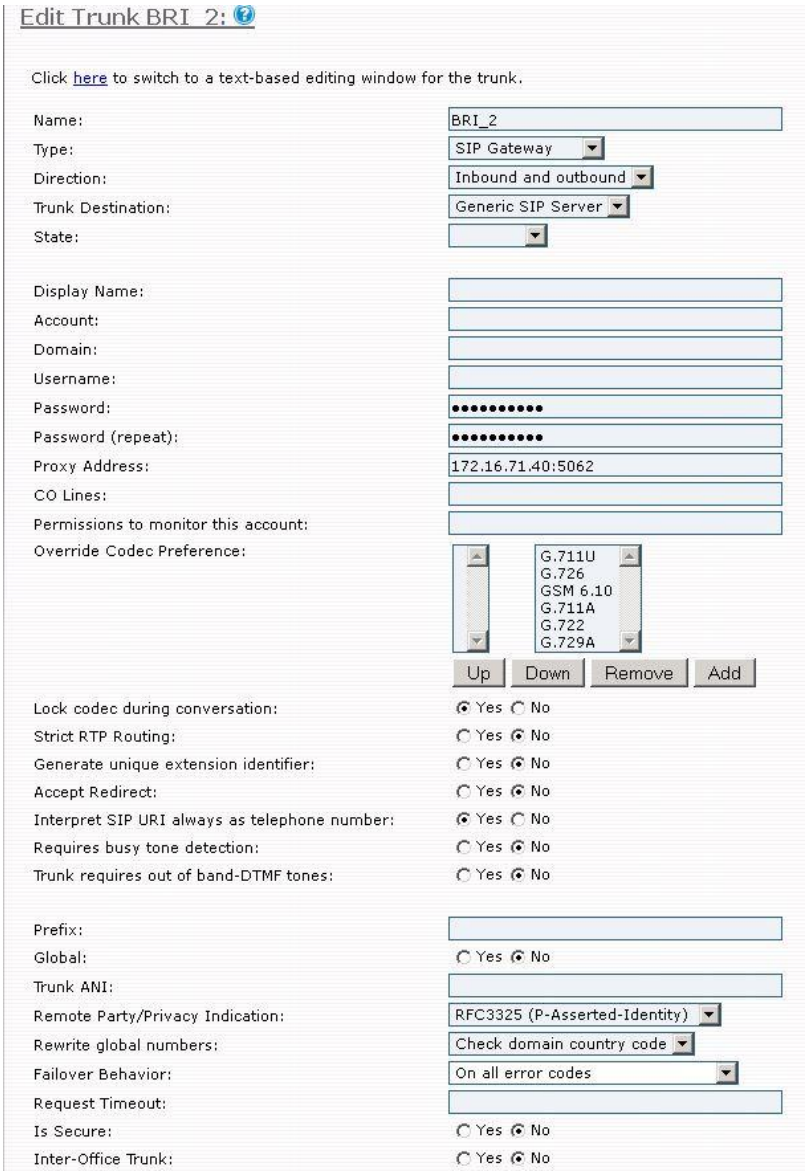
Edit the trunk

Each trunk must be configured to address the corresponding port of the SmartNode, as shown in the picture below.

Proxy Address: The IP-address and SIP port of the SmartNode

PSTN port (BRI, PRI, FXO)	SIP port
0	5060
1	5062
2	5064
…	…

Failover Behavior: ISDN - > Always, except for busy response
FXO - > On all error codes

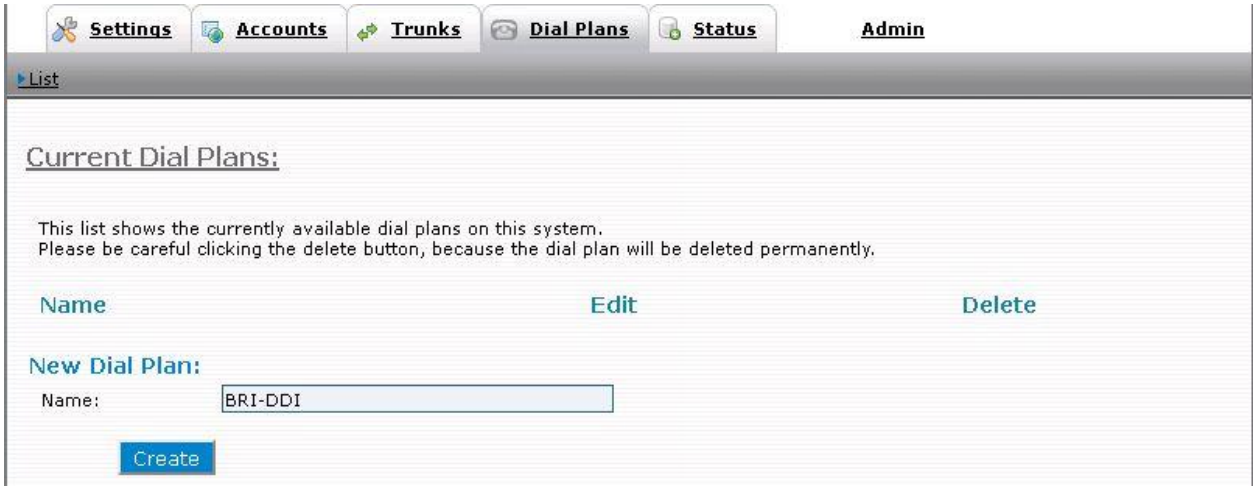


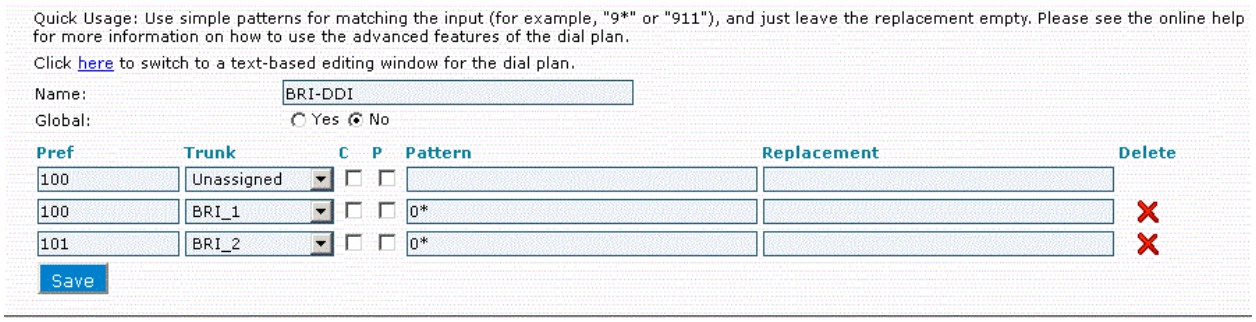
Dial plans

Depending on the type and configuration of the PSTN ports, one or more dial plans must be created.

DID/DDI

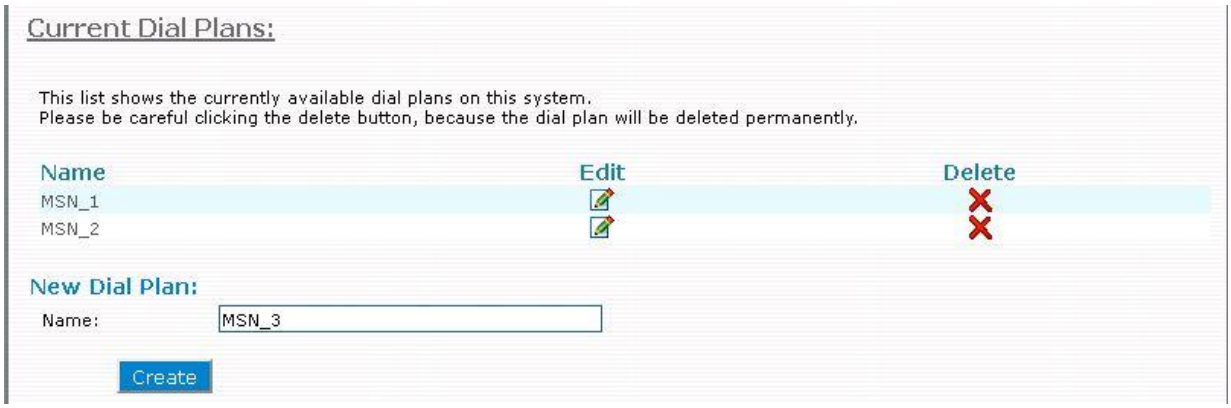
For DID/DDI, only one dial plan is needed. Call hunting between multiple PSTN ports of a DID/DDI group is done by adding a route for each port of the DID/DDI. The hunting sequence is set by different preference levels of the route (e.g. 100, 101, …)





MSN

In case where MSN is used, it is important to assign each extension to a specific ISDN port. This can be realized by creation of a separate dial plan for each port. Hunting is not used in this scenarios, thus no multiple route entries are used.



FXO

Depending of the type of FXO lines (trunk group or individual lines), refer to configuration for DDI or MSN.

Assign dial plan to extension

Depending on the settings done for DDI or MSN, select the right dial plan on each extension.