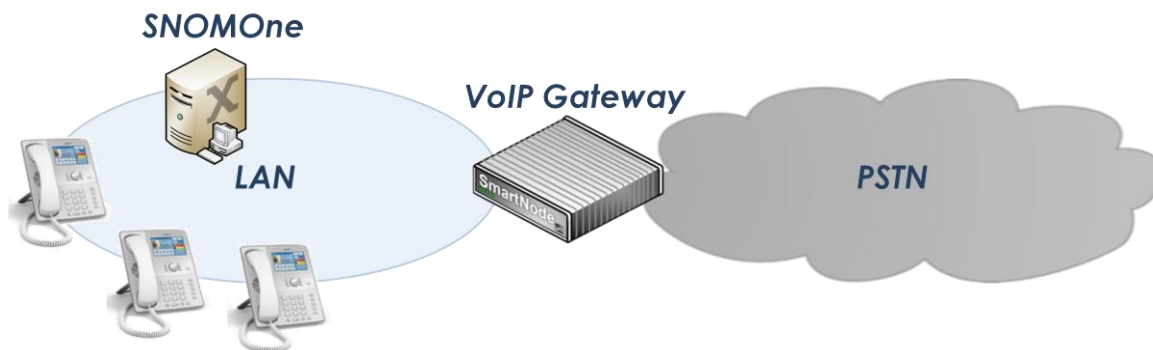


# SmartNode PSTN gateway for snom ONE

## 1 Snom ONE with SmartNode PSTN Gateway basic use case

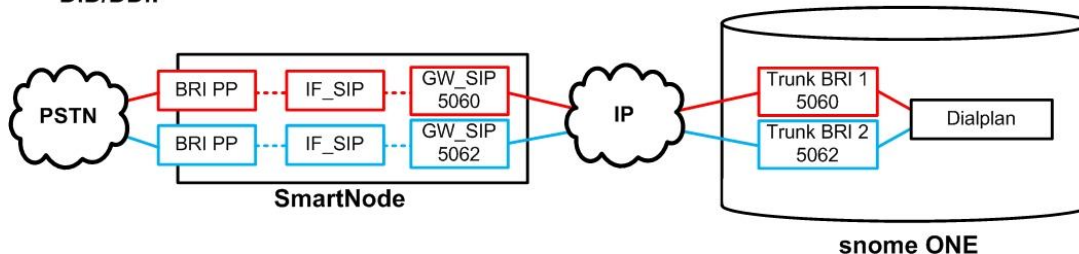
The snom ONE is an innovative iPBX, which is not hardware dependent and therefore does not require proprietary ITC hardware. Instead, this powerful communication server can be installed on any standard Windows™, Linux or Apple PC.

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:

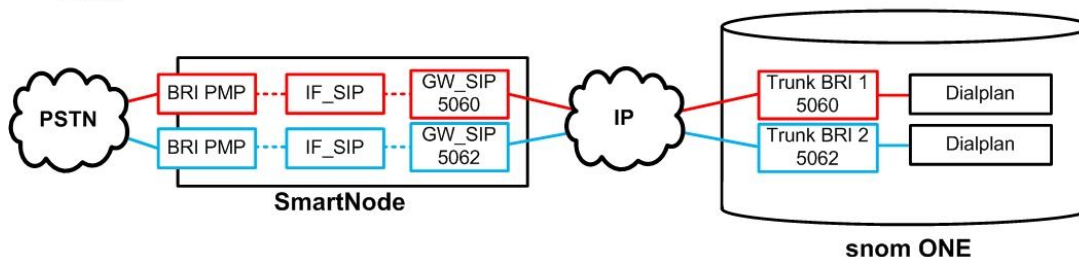


The diagram bellow shows the concept and relation of the different elements of the SmartNode and the PBX.

### DID/DDI:



### MSN:



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 |

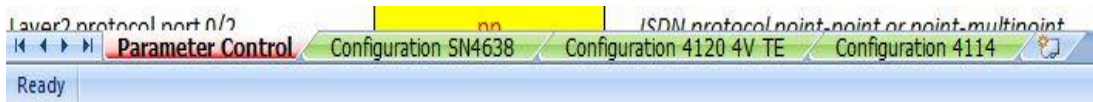
| VoIP Settings      |             |                                          |
|--------------------|-------------|------------------------------------------|
| Parameter          | Input       | Notes                                    |
| SnomOne IP or FQDN | 192.168.1.2 | Example 192.168.1.1, or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

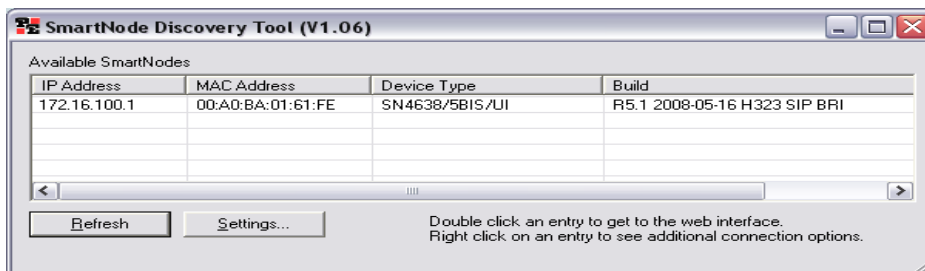
| ISDN settings            |       |                                               |
|--------------------------|-------|-----------------------------------------------|
| Parameter                | Input | Notes                                         |
| Layer2 protocol port 0/0 | pp    | ISDN protocol 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 |

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

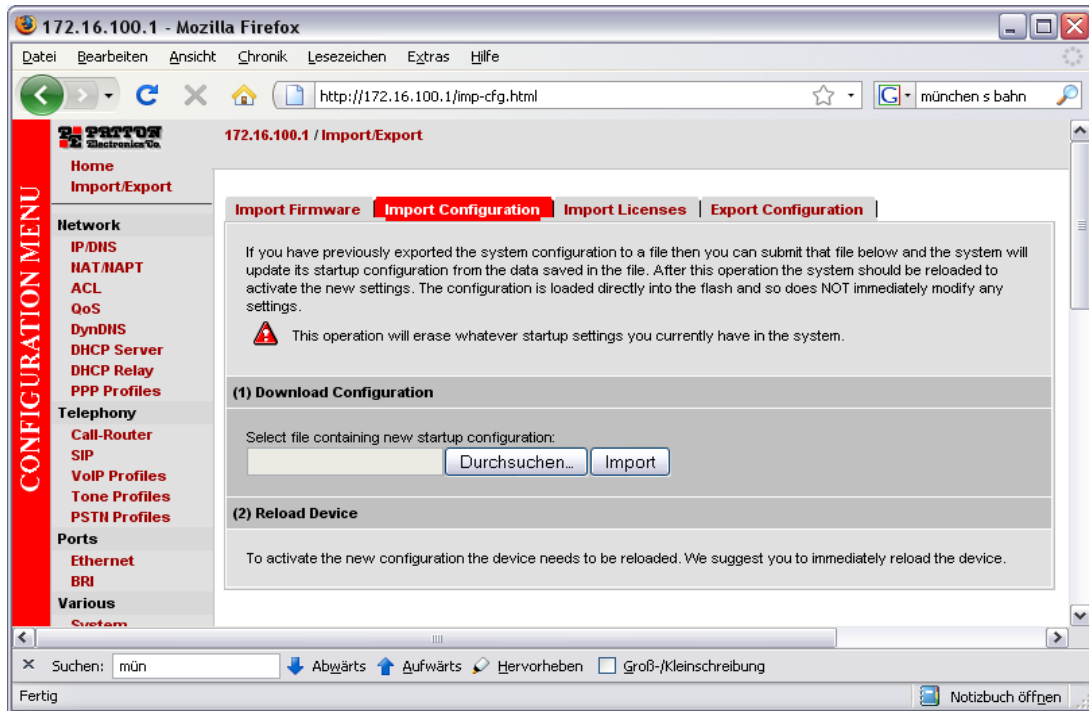
- Click on the sheet in green color that has the name of your SmartNode (e.g. "SN4638"). This sheet will contain an automatically generated configuration file that works with snom ONE.



- 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.

The screenshot shows the 'Trunks' tab in the snom ONE configuration interface. At the top, there are navigation tabs: Settings, Accounts, Trunks (selected), Dial Plans, and Status. Below the tabs is a 'List' button. The main section is titled 'Current Trunks:'. It contains a warning: 'This list shows the currently available trunks in this domain. Please be careful clicking the delete button, because the trunk data will be lost and'. Below this is a table with three columns: Name, Account, and Proxy. There is one row with the name 'BRI\_1 (3)' and proxy '1.2.3.4:5060'. Below the table are three buttons: Delete, Disable, and Enable. Below these buttons is a section titled 'New Trunk:'. It has two input fields: 'Name:' with the value 'BRI\_2' and 'Type:' with a dropdown menu showing 'SIP Gateway'. Below these fields is a 'Create' button.

| Name      | Account | Proxy        |
|-----------|---------|--------------|
| BRI_1 (3) |         | 1.2.3.4:5060 |

**New Trunk:**

Name:

Type:

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

Edit Trunk BRI\_2: ⓘ

Click [here](#) to switch to a text-based editing window for the trunk.

|                                               |                                                                                                        |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Name:                                         | BRI_2                                                                                                  |
| Type:                                         | SIP Gateway                                                                                            |
| Direction:                                    | Inbound and outbound                                                                                   |
| Trunk Destination:                            | Generic SIP Server                                                                                     |
| State:                                        |                                                                                                        |
| Display Name:                                 |                                                                                                        |
| Account:                                      |                                                                                                        |
| Domain:                                       |                                                                                                        |
| Username:                                     |                                                                                                        |
| Password:                                     | .....                                                                                                  |
| Password (repeat):                            | .....                                                                                                  |
| Proxy Address:                                | 172.16.71.40:5062                                                                                      |
| CO Lines:                                     |                                                                                                        |
| Permissions to monitor this account:          |                                                                                                        |
| Override Codec Preference:                    | <div>G.711U<br/>G.726<br/>GSM 6.10<br/>G.711A<br/>G.722<br/>G.729A</div> <div>Up Down Remove Add</div> |
| Lock codec during conversation:               | <input checked="" type="radio"/> Yes <input type="radio"/> No                                          |
| Strict RTP Routing:                           | <input type="radio"/> Yes <input checked="" type="radio"/> No                                          |
| Generate unique extension identifier:         | <input type="radio"/> Yes <input checked="" type="radio"/> No                                          |
| Accept Redirect:                              | <input type="radio"/> Yes <input checked="" type="radio"/> No                                          |
| Interpret SIP URI always as telephone number: | <input checked="" type="radio"/> Yes <input type="radio"/> No                                          |
| Requires busy tone detection:                 | <input type="radio"/> Yes <input checked="" type="radio"/> No                                          |
| Trunk requires out of band-DTMF tones:        | <input type="radio"/> Yes <input checked="" type="radio"/> No                                          |
| Prefix:                                       |                                                                                                        |
| Global:                                       | <input type="radio"/> Yes <input checked="" type="radio"/> No                                          |
| Trunk ANI:                                    |                                                                                                        |
| Remote Party/Privacy Indication:              | RFC3325 (P-Asserted-Identity)                                                                          |
| Rewrite global numbers:                       | Check domain country code                                                                              |
| Failover Behavior:                            | On all error codes                                                                                     |
| Request Timeout:                              |                                                                                                        |
| Is Secure:                                    | <input type="radio"/> Yes <input checked="" type="radio"/> No                                          |
| Inter-Office Trunk:                           | <input type="radio"/> Yes <input checked="" type="radio"/> No                                          |

## 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, ...)

SettingsAccountsTrunksDial PlansStatusAdmin

List

Current Dial Plans:

This list shows the currently available dial plans on this system.  
Please be careful clicking the delete button, because the dial plan will be deleted permanently.

NameEditDelete

New Dial Plan:

Name: BRI-DDI

Create

Quick Usage: Use simple patterns for matching the input (for example, "9\*" or "911"), and just leave the replacement empty. Please see the online help for more information on how to use the advanced features of the dial plan.  
Click [here](#) to switch to a text-based editing window for the dial plan.

Name: BRI-DDI

Global: ☐ Yes ☒ No

| Pref | Trunk      | C                        | P                        | Pattern | Replacement | Delete |
|------|------------|--------------------------|--------------------------|---------|-------------|--------|
| 100  | Unassigned | <input type="checkbox"/> | <input type="checkbox"/> |         |             |        |
| 100  | BRI_1      | <input type="checkbox"/> | <input type="checkbox"/> | 0*      |             | X      |
| 101  | BRI_2      | <input type="checkbox"/> | <input type="checkbox"/> | 0*      |             | X      |

Save

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## 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.

**Current Dial Plans:**

This list shows the currently available dial plans on this system.  
Please be careful clicking the delete button, because the dial plan will be deleted permanently.

| Name  | Edit                                                                              | Delete                                                                              |
|-------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| MSN_1 |  |  |
| MSN_2 |  |  |

**New Dial Plan:**  
Name:

## 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.

**Settings**

**Accounts**

**Trunks**

**Dial Plans**

**Status**

**Admin**

[List](#) [Create](#) [General](#) [Redirection](#) [Mailbox](#) [Email](#) [Registration](#) [Permission](#) [Buttons](#)

Search Accounts - enter at least 2 characters:

**Editing Extension 48:** 

**Administrator only:**

Account number(s):  
Dial plan:  
ANI:  
ANI for emergency calls:  
Send daily CDR report to:  
Show following ACD queues: