



SwyxWare configuration guide for BT SIP trunk

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1 Introduction

1.1 General

This guide should be used when configuring the SwyxWare with the following BT SIP Services:

- BT Wholesale SIP Trunking (WSIPT)
- BT Global Services One Voice SIP trunk UK

1.2 Network considerations

When a SIP trunk is ordered from BT, it is necessary to specify a static, public IP address (and port) which will be used for communication. Since BT is offering a static SIP trunk without registration, authentication is based on that specific, public IP address.

The SwyxWare uses the listener port 65002 to receive SIP messages from an external SIP proxy.

1.2.1 Access through a NAT gateway

The usual customer environment uses private IP addresses. The SwyxWare server, too, runs with a private IP address, which cannot be accessed externally.

Connection to the internet is realized through a NAT gateway.

The static, public IP address has to be provided by the ISP. This IP address is automatically assigned to the NAT gateway.

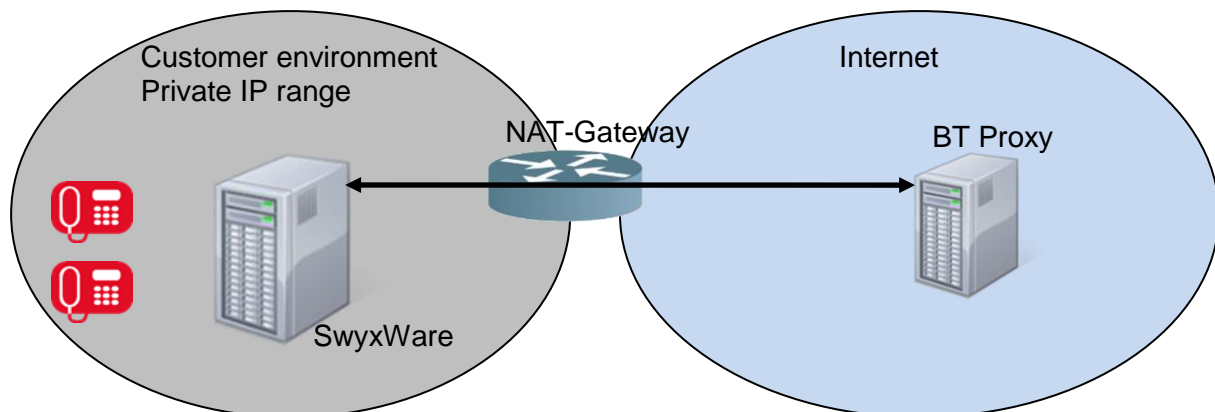


Figure 1: NAT environment

Important: It is necessary to configure the correct portforwarding on the NAT gateway.

Example:

Private IP and port of SwyxWare server:	192.168.2.30:65002
Static, public IP address and port on NAT gateway:	87.126.98.234:5060

On the NAT gateway, portforwarding has to be configured from 87.126.98.234:5060 to 192.168.2.30:65002.

Firewall settings have to be checked to allow inbound traffic and forwarding.

1.2.2 Direct access to BT network

If the SwyxWare server has a public IP address or can directly be accessed from the BT SIP proxy by any other means, the SIP listener port 65002 of the SwyxWare has to be considered by the proxy.

2 Configuration guide

Configuration data:

SIP Proxy: 192.65.221.26
 Number range: +44 55 11502000 - +44 55 11502009

2.1 Location

As a first step, a new location has to be created. Open the SwyxWare Admin tool, navigate to the locations folder, start the “Add Location” wizard, by opening the context menu in the right, larger area and selecting “Add Location ...”.

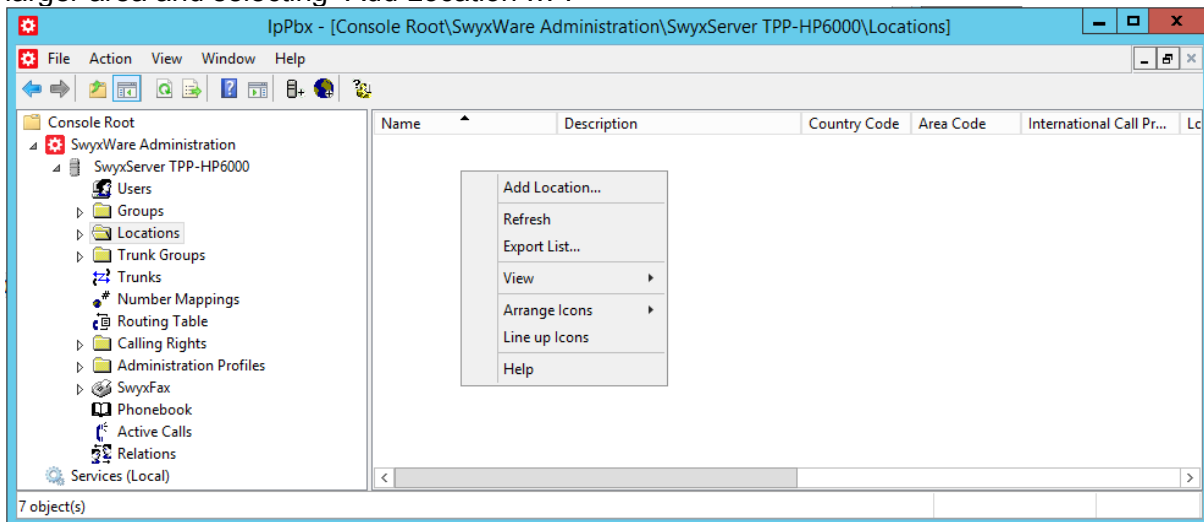


Figure 2: Start the „Add Location“ wizard

The following screenshots are showing the configuration dialogs from the wizard.

Provide a meaningful name for the new location.

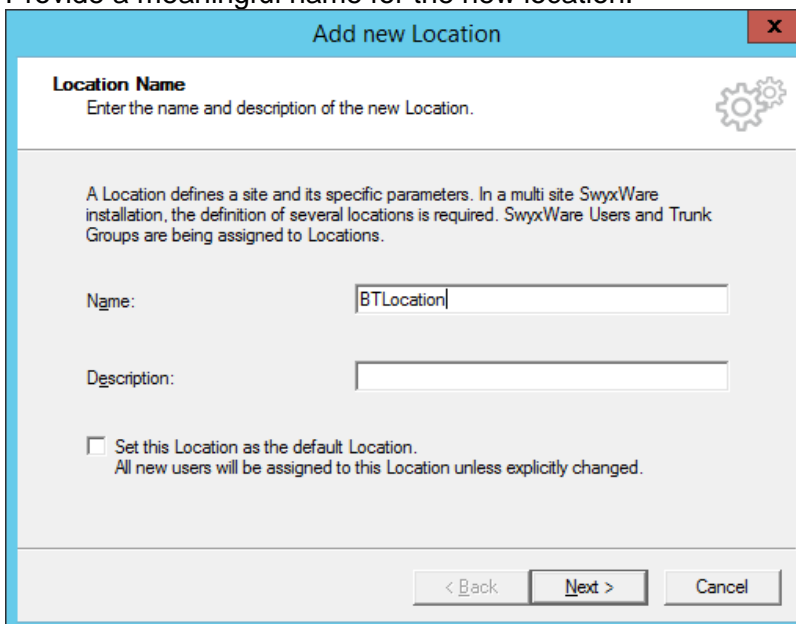


Figure 3: Location name

Configure country code, etc.

Add new Location [X]

Location specific codes and prefixes
Specify the codes and prefixes which are related to this Location.

The prompted parameters determine how the destination number of a call, originated by a SwyxWare User or a Trunk, is interpreted by the system. This is in particular needed to identify calls that remain in the same area or county.

A typical German Location in Berlin would have a Country Code set to '49', Area Code to '30', International Prefix to '00' and Long Distance Prefix to '0'.

Own Country Code:

Own Area Code:

Prefix for International Calls:

Prefix for Long Distance Calls:

< Back Next > Cancel

Figure 4: Country code, area code etc.

Provide public access number.

Add new Location [X]

Private Branch Exchange related properties
Specify the PBX settings which are related to this Location.

The Public Line Access prefix defines which number has to be dialed to obtain access to the public network.

It is possible to define multiple Public Access Prefixes, separated by a semicolon.

The Internal Number for undeliverable calls defines where incoming calls will be transferred when the called public number is not assigned to a SwyxWare User or Group.

Public Line Access Prefixes:

Route undeliverable calls to Internal Number: ...

< Back Next > Cancel

Figure 5: Public access number

Finally, set the correct time zone for the location

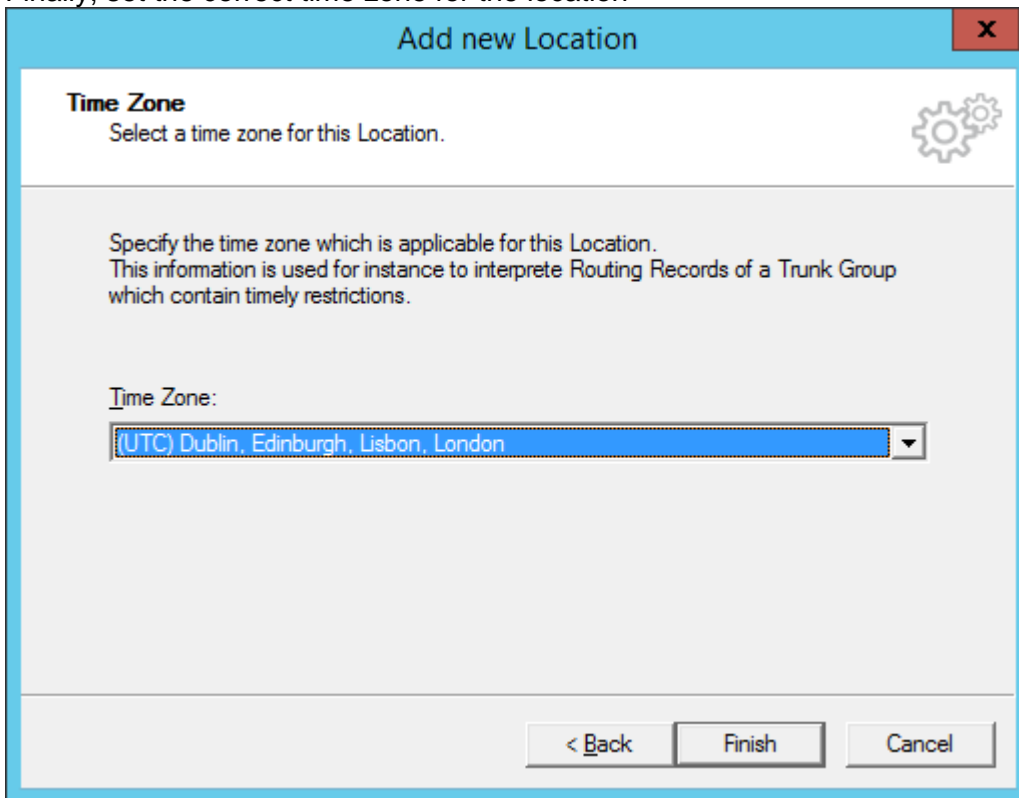


Figure 6: Time zone

2.2 SIP Trunk group

2.2.1 Creation

After creating the location, a new SIP trunk group must be created. In the SwyxWare Admin tool, navigate to the Trunk Groups folder, start the creation wizard by opening the context menu in the right, larger area and selecting “Add Trunk group ...”.

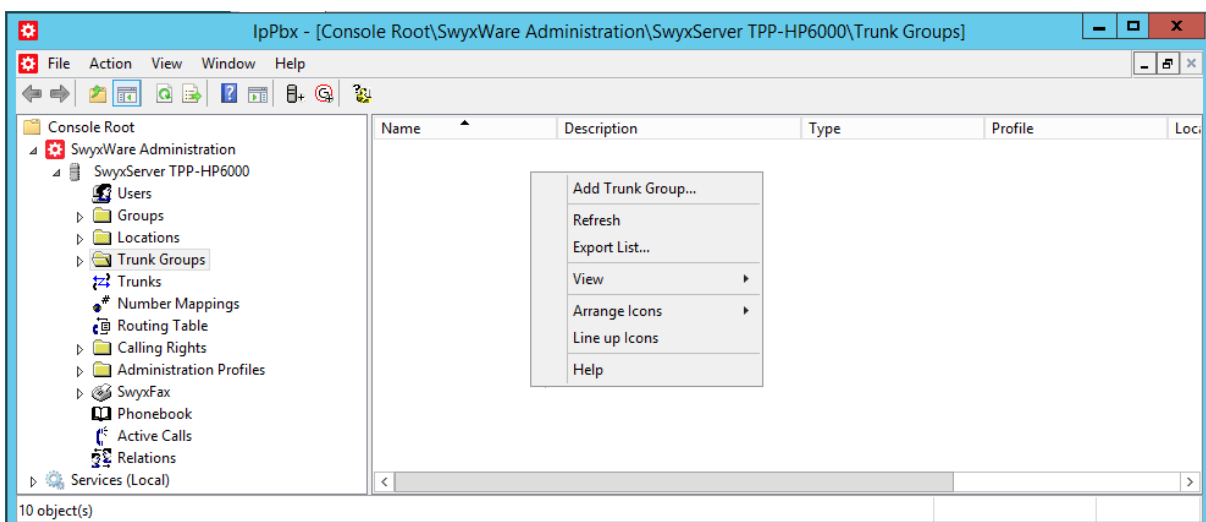


Figure 7: Start the „Add Trunk Group“ wizard

The following screenshots are showing the configuration dialogs from the wizard.

Provide a meaningful name for the new SIP Trunk group.

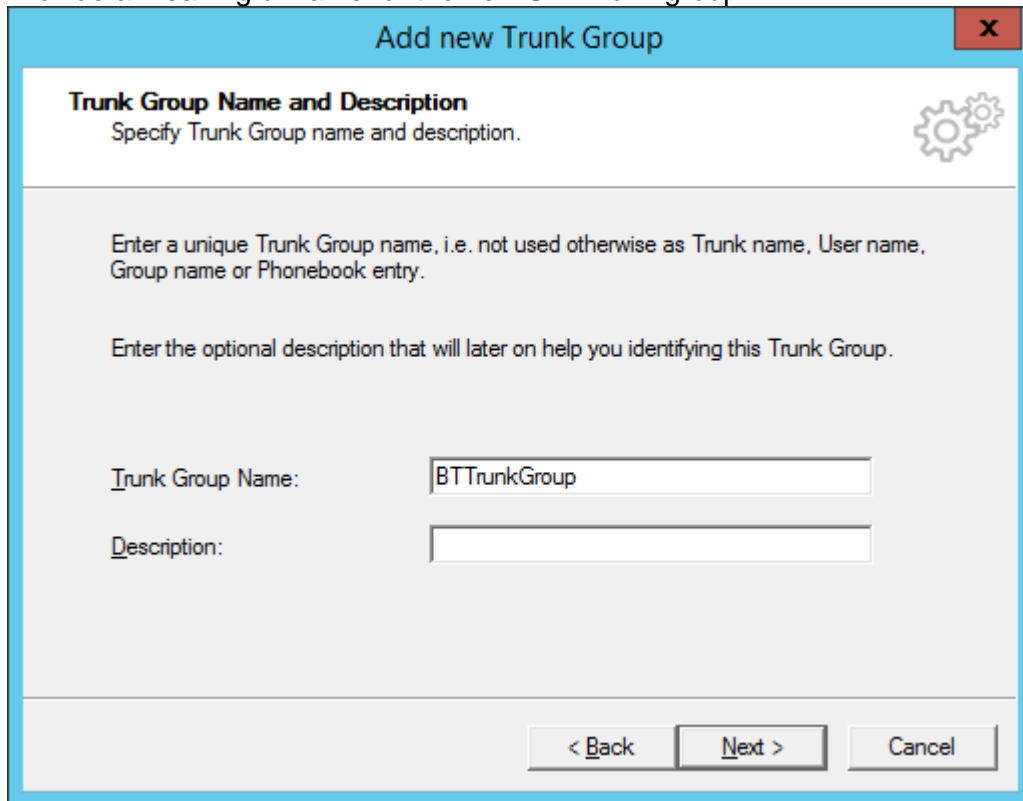


Figure 8: Trunk Group Name

Select „SIP“ as Trunk Group Type and select „British Telecom (UK)“ from the dropdown list as Profile.

In case, that a SwyxWare2015R3 or older is used, the profile for “British Telecom (UK)” first has to be imported using the CustomProviderProfiles.config file. Please read chapter [Provider profile](#) for the necessary instructions. Later SwyxWare versions have the profile integrated already.

Important note:

It is important to ensure that the BT SIP Trunk configuration aligns with the SwyxWare to reduce the risk of issues upon deployment. The table below shows the values for settings which need to be configured when ordering the BT SIP Trunking service.

SETTING	VALUE
Transport Protocol	UDP
Inbound Calling Party Format	Global
Inbound Called Party Format	Global
Network CLI	PAID
Presentation CLI	From

The provider profile „British Telecom (UK)“ does exactly meet these requirements. Therefore, it is strictly recommended not to modify the default settings.

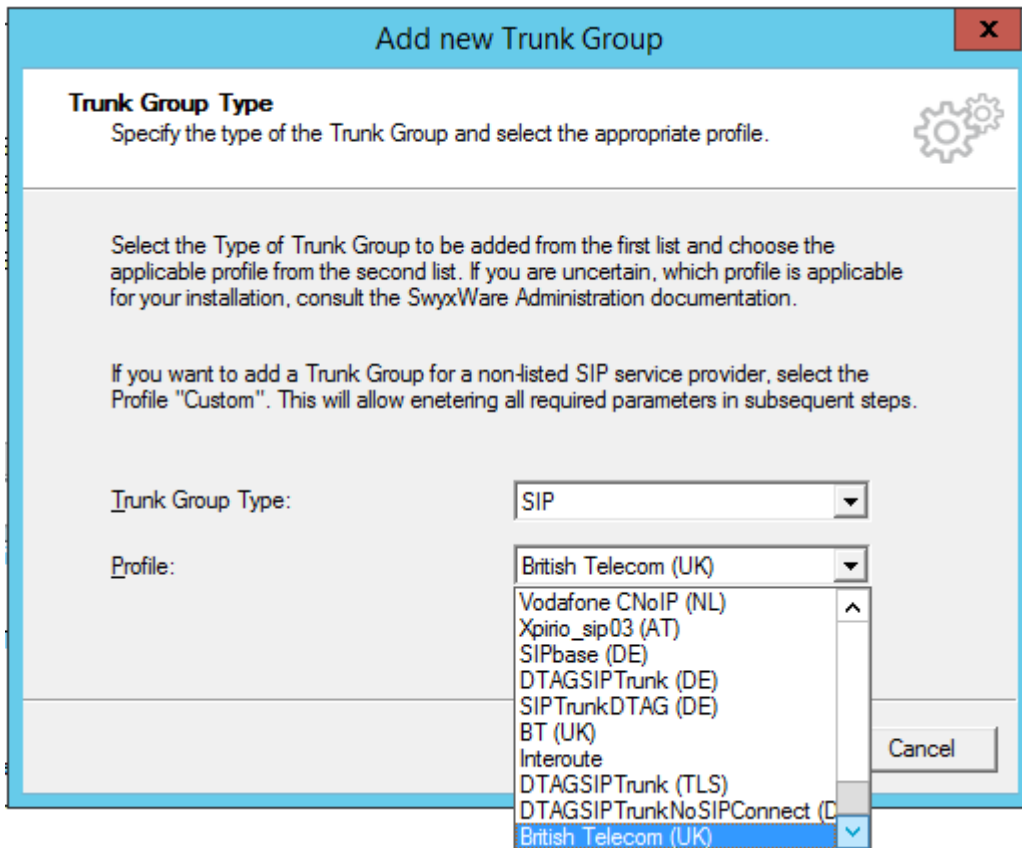


Figure 9: Choose provider profile

Accept the default settings from the next dialog.

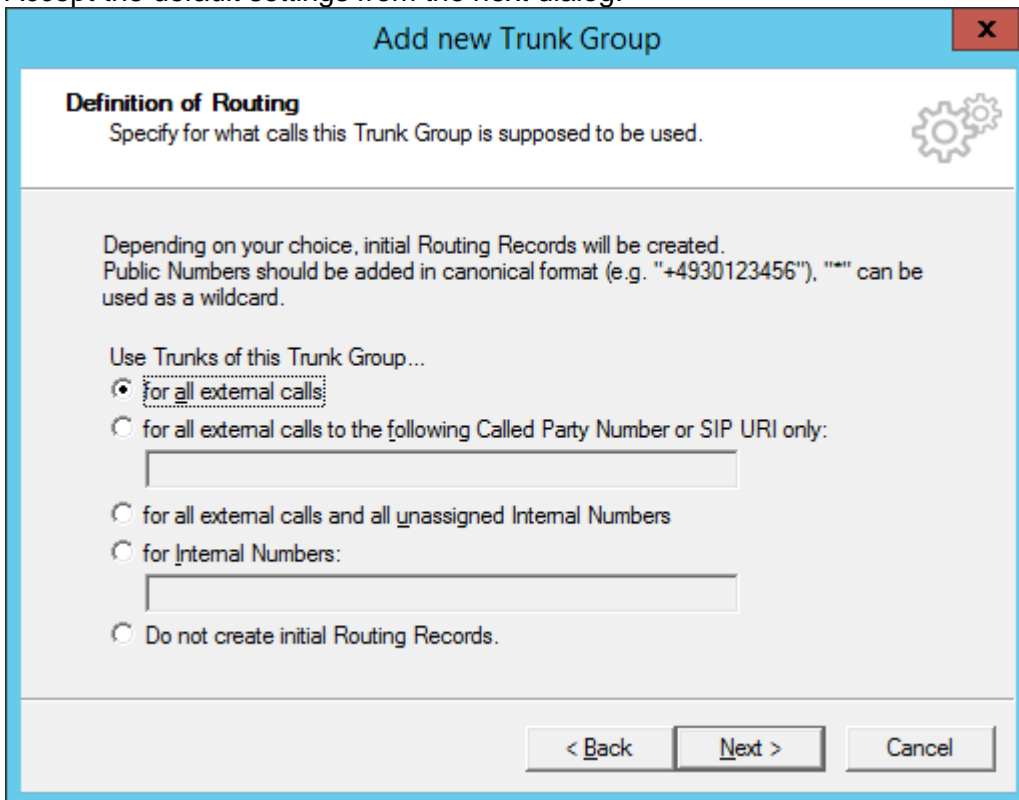


Figure 10: Initial routing records

Assign the previously created location to the SIP Trunk Group.

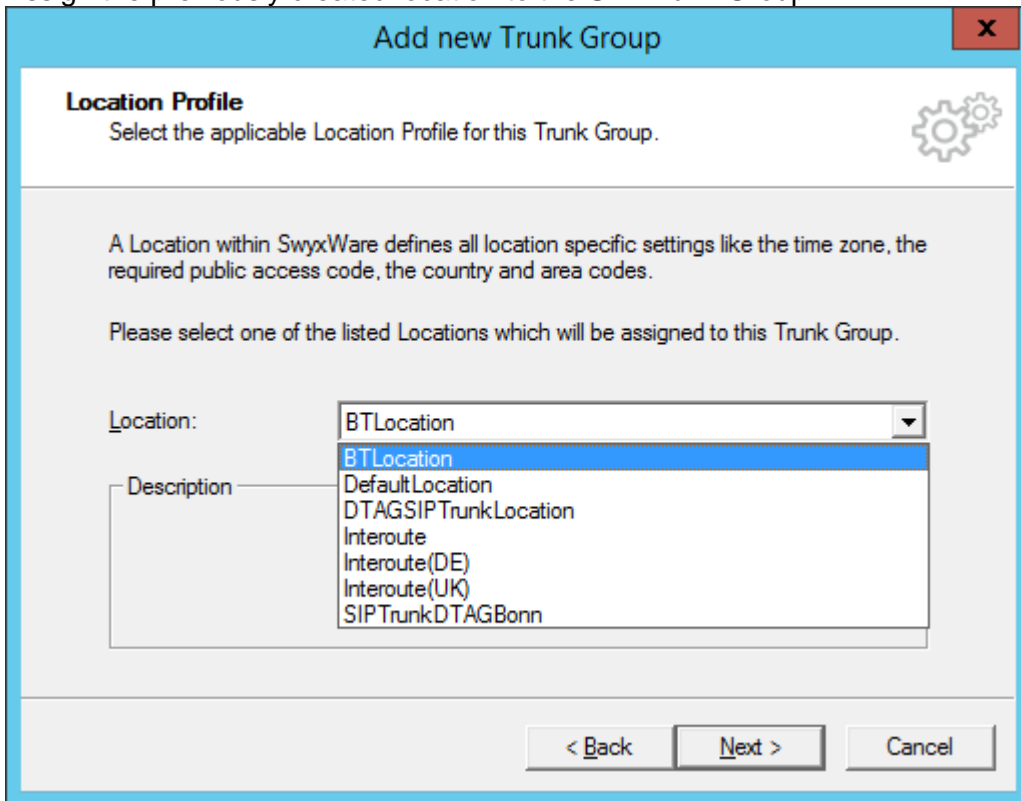


Figure 11: Assign location

2.2.2 Additional configuration

After creating the SIP Trunk Group, a few settings need to be adjusted. Navigate to the Trunk Groups folder, select the created SIP Trunk Group. Open the Trunk Group properties through the context menu.

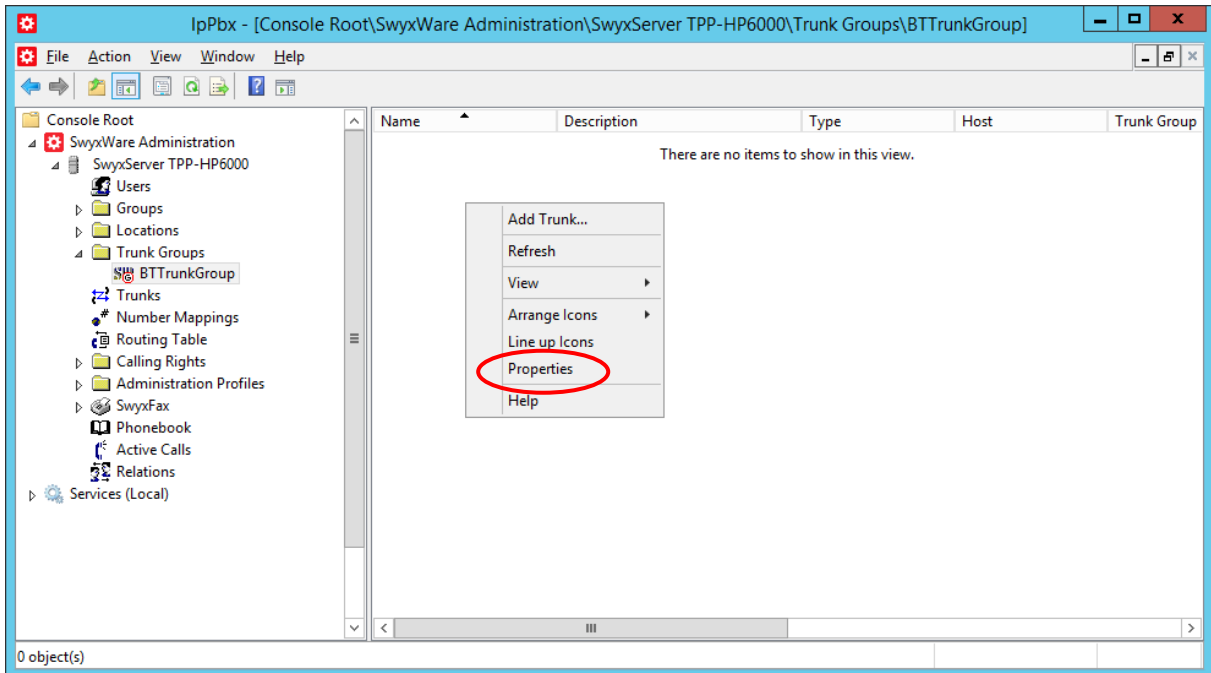


Figure 12: Properties of the Trunk Group

Select the tab “SIP” of the properties dialog.

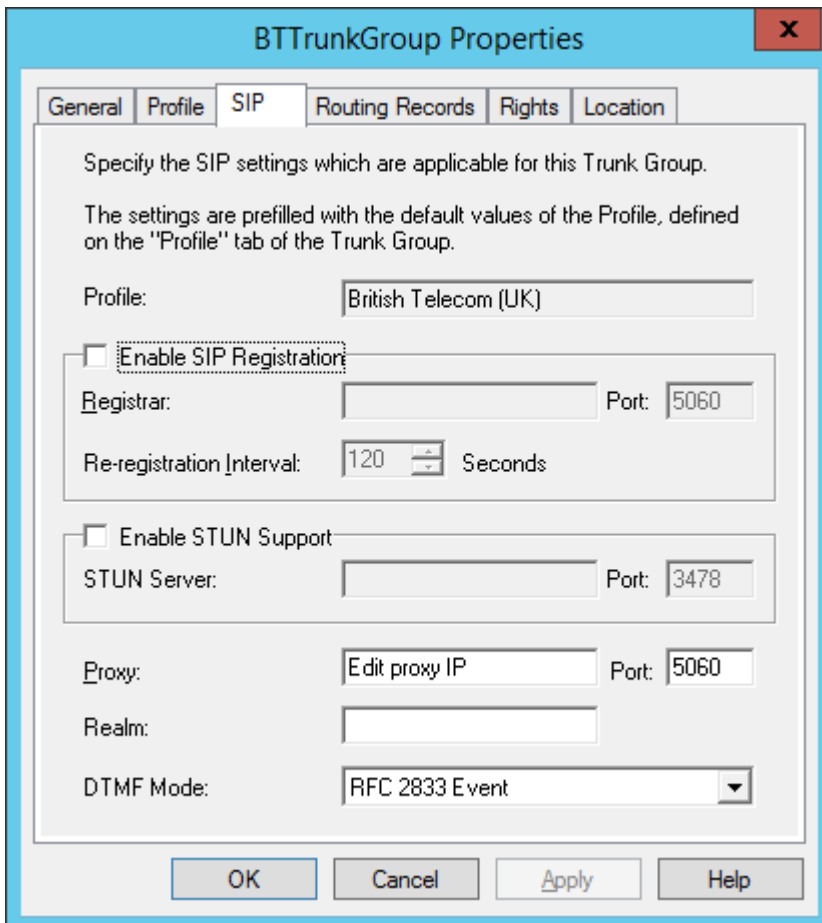


Figure 13: The “SIP” tab of the properties dialog

In the field “Proxy” the IP address or FQDN of the BT Proxyserver must be entered. If the SwyxWare is installed in a private network behind a NAT gateway as described in [Chapter 2.1](#), it is necessary to configure a STUN server in order to detect public IP addresses and ports for the SIP messages. Mark the “Enable STUN Support” checkbox and enter an IP address and ports or FQDN of a STUN server. A list of publically available STUN servers can be found [here](#).

Usually, it is not necessary to configure any additional parameter in the other tabs.

2.3 SIP trunk

After creating and configuring the SIP Trunk Group, the actual SIP Trunk can be created. Navigate to the Trunk Groups folder, select the created SIP Trunk Group. Open the Trunk Group properties through the context menu and chose “Add Trunk ...” to start the SIP Trunk creation wizard.

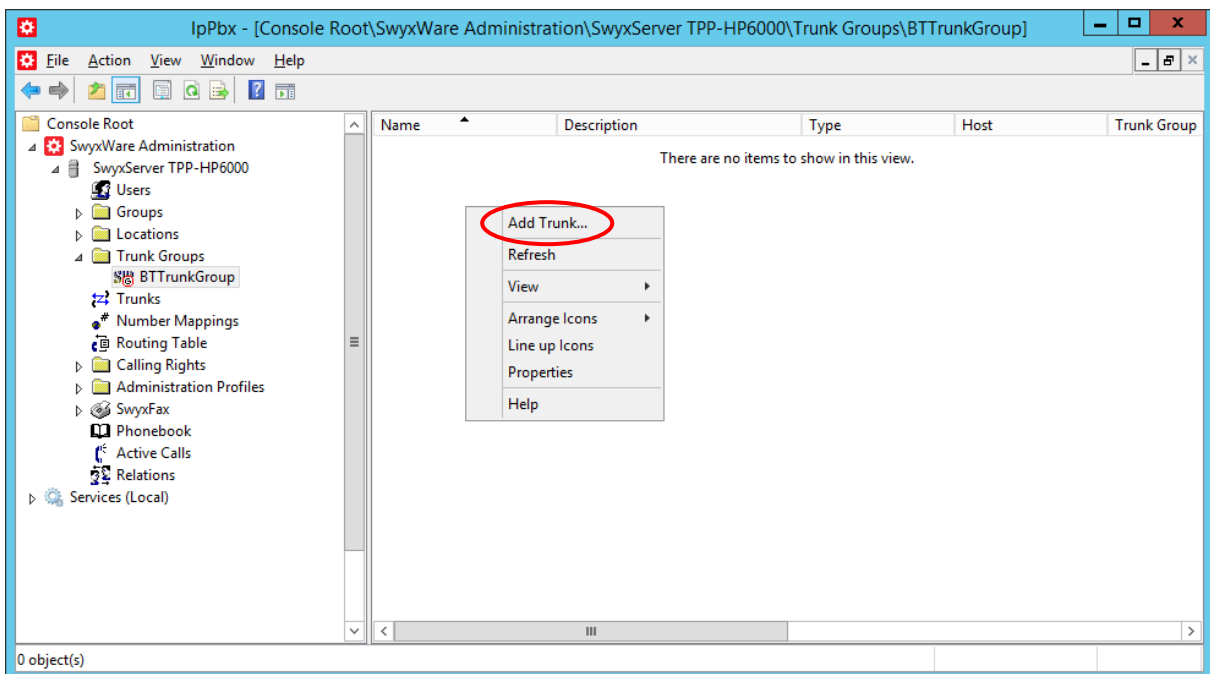


Figure 14: Adding a SIP Trunk to the SIP Trunk Group

The following screenshots are showing the configuration dialogs from the wizard.

Provide a meaningful name for the new SIP Trunk. It is useful to choose a name which reflects the dependency to the Trunk Group.

The screenshot shows a dialog box titled "Add new Trunk" with a close button (X) in the top right corner. The main heading is "Trunk Name" with a sub-heading "Choose an unique name for the new Trunk." and a gear icon. Below this, there are two paragraphs of instructions: "Enter a unique Trunk name, i.e. not used otherwise as Trunk Group name, User name, Group name or Phonebook entry." and "Enter the optional description that will later on help you identifying this Trunk." There are two input fields: "Trunk Name:" containing the text "BTSIPTrunk" and "Description:" which is empty. At the bottom, there are three buttons: "< Back", "Next >", and "Cancel".

Figure 15: Trunk name

Since BT is offering a static trunk, no user credentials for registration have to be configured.

The screenshot shows a dialog box titled "Add new Trunk" with a close button (X) in the top right corner. The main heading is "SIP Trunk Provider / User Data" with a sub-heading "Specify your account data." and a gear icon. Below this, there is a paragraph of instructions: "Enter the user identification data as provided by your SIP service provider. The user ID will be used to compose your SIP address while user name and password will be used for authentication." There are five input fields: "SIP Provider:" containing "British Telecom (UK)", "User ID:", "User Name:", "Password:", and "Repeat Password:", all of which are empty except for the first one. At the bottom, there are three buttons: "< Back", "Next >", and "Cancel".

Figure 16: User credentials

In the next dialog, the available number range is specified. Use the number range that BT has assigned.

Add new Trunk

Subscriber Numbers
Specify Subscriber Numbers.

Enter the subscriber number part of the Public Numbers that are terminated by this Trunk.
If your set of subscriber numbers is incoherent enter only the first subscriber number and add the other subscriber numbers later via the Trunk's properties.
If this Trunk does not add any Public Numbers to the system, leave all fields empty and click 'Next'.
Note: Country Code and Area Code have been pre-determined by the Trunk Group's location.

Country Code	Area Code	First Subscriber Number	Last Subscriber Number
44	55	11502000	11502009

< Back Next > Cancel

Figure 17: Number range

There is no need to configure a SIP URI in the next dialog.

Add new Trunk

SIP URI
Specify SIP URI.

If this Trunk is supposed to handle non-numeric SIP URIs (e.g. assigned by your SIP service provider) you can enter one of these below and add other URIs later via the Trunk's properties.
SIP URIs have the following format:
sip:<name1> @ <name2>
with <name1> reflecting the user's name and <name2> the realm.
For convenient input "*" can be used as wildcard so that *@company.com would address all users in the realm "company.com". The realm field shown below is pre-filled with the configured realm in the SIP properties but may be overwritten case by case.

URI: sip: @

< Back Next > Cancel

Figure 18: SIP URI

The codecs are configured in the next dialog. The default settings can be accepted.

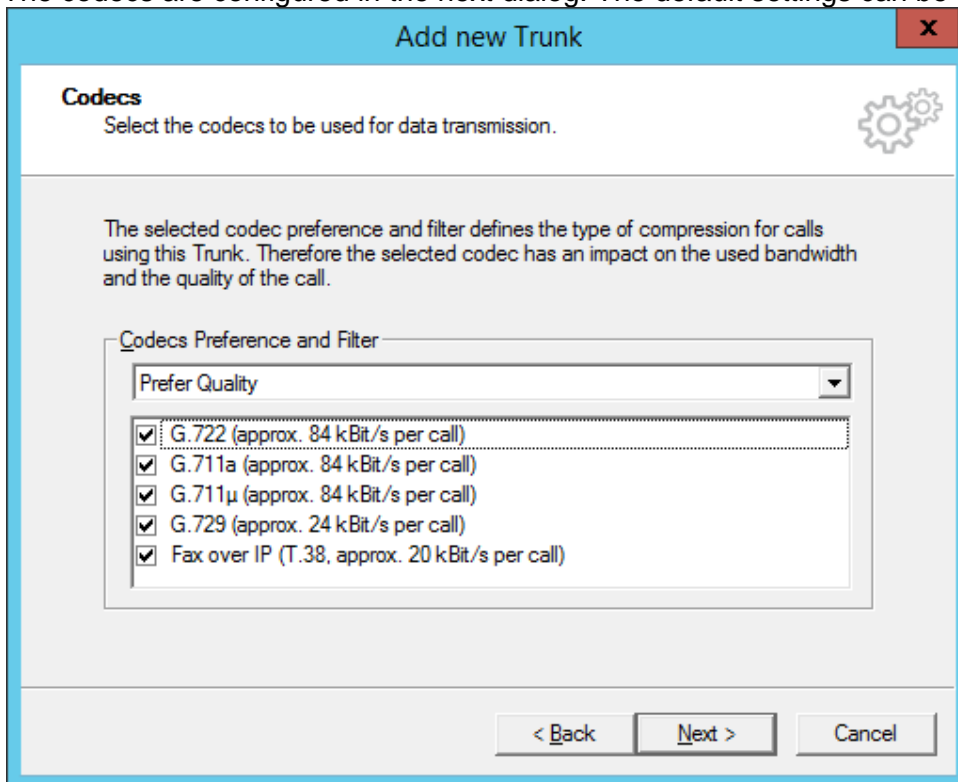


Figure 19: Codec settings

The last parameter is the number of parallel calls. This parameter depends on the installed channel licenses, the available bandwidth and possibly a specification from BT.

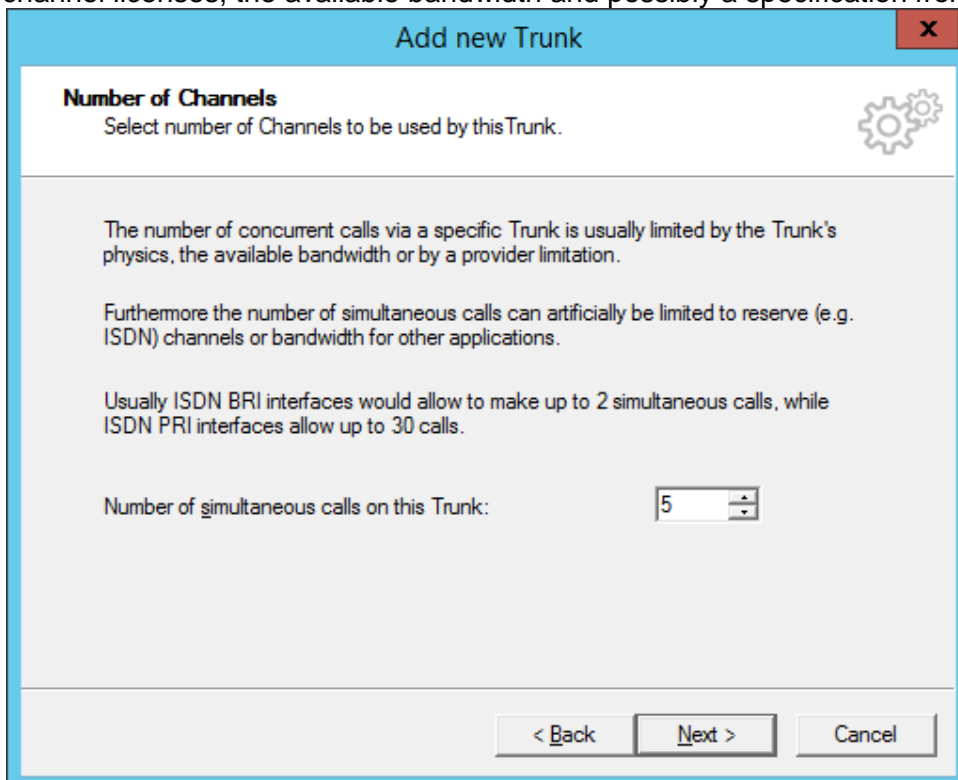


Figure 20: Number of parallel calls

Finish the creation of the SIP trunk with the next dialog.

Afterwards, the trunk should be presented as active. This may take some seconds. Pressing F5 will update the window.

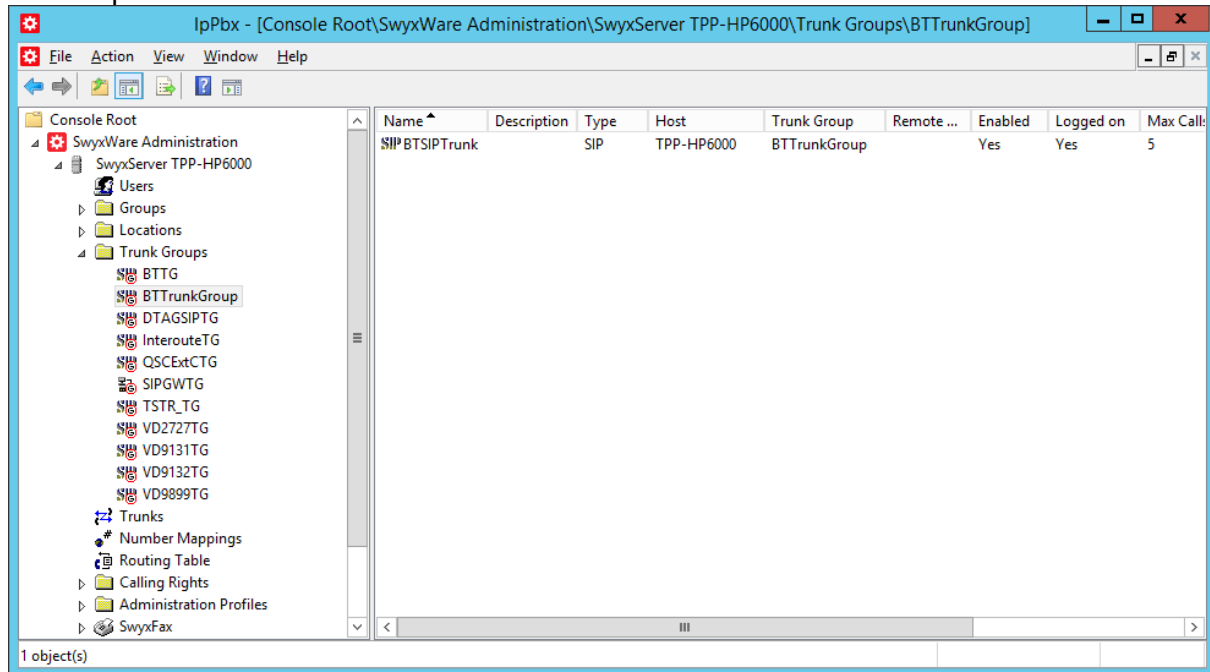


Figure 21: Active SIP trunk

2.3.1 Session Timer

British Telecom expects a Session interval of 600 (seconds) on outbound calls, whereas the SwyxWare default Session Interval of the SwyxWare is 90. In order to prevent reINVITES which would slow down the call establishment, underneath the registry key `HKLM\Software\Wow6432Node\Swyx\LinkMgr\CurrentVersion\Options` the following registry DWORD values can be created with a values of 600 (decimal)

```
SipMinSessionTimerIntervalSeconds
SipSessionTimerIntervalSeconds
```

After creating these values, the LinkMgr service must be restarted.

Important: This setting will affect all SIP Trunks.

2.4 User

Finally, the public numbers can be assigned to existing or new SwyxWare users, enabling them to make outbound, public calls and receiving public calls.

Please consult the SwyxWare manual for further details if necessary.

3 Provider profile

If the SwyxWare installation does not contain the provider profile for BT, as with SwyxWare2015R3 or newer, it is necessary to import the profile through the CustomProviderProfile.config.

Please follow these installation steps:

1. Close the SwyxWare Administration (if opened)
2. Copy the file CustomProviderProfiles.config into the SwyxWare installation folder e.g. C:\Program Files\SwyxWare
3. Open the SwyxWare Administration.
4. The newly added SIP Provider profile should appear in the list of available profiles for SIP trunks.

Further information about the CustomProviderProfiles.config file can be taken from the following Knowledgebase article: <http://www.swyx.com/support/ssdb.html?kbid=kb3436>