



optiPoint 410/420 S

General configuration instructions
for VoIP suppliers

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1 Introduction

This document describes how to register an optiPoint 410/420 S with a VoIP provider. You are explained step by step how to register your device and which configuration parameters must be entered on the device.

This document applies to following devices of the optiPoint 410/420 SIP family:

- optiPoint 410/420 economy/economy plus S
- optiPoint 410/420 standard S
- optiPoint 410/420 advance S

The information in this document contains general descriptions and features which may not always apply as described depending on use or which can change by the development of the products.

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1.1 Prerequisites for the configuration

- A working DSL connection must be available. If you use your VoIP connection intensively, larger data volumes can be transmitted which in case of volume tariff (billing according to data volumes) can result in higher bills. Therefore, make sure that your volume tariff allows at least 5 - 7 Gb per month. If you surf and download a lot, we recommend a DSL flat rate.
- Ensure that your VoIP provider has supplied all the required data for the configuration (e.g. SIP ID, SIP password, VoIP number).
- Install the required hardware as described in the corresponding documentation (e.g. power and network connection).
- Use Microsofts Internet Explorer for the optiPoint 410/420 S Web-based Management Tool. Ensure that Java Script is activated in Microsofts Internet Explorer.

Introduction

1.2 Preparation of the configuration

- If the device was previously used with other configuration settings we strongly recommend resetting to factory settings. More information about the factory settings can be found in the Administration Manual of the optiPoint 410/420 S (see: Reference list).



During first start-up or a restart after resetting of to the factory settings the following input command appears: **Enter Terminal Number**. Wait approx. one minute until loading continues. Alternatively you can enter your VoIP number because the input of the terminal number corresponds to the VoIP number.

You can skip other possible input commands on the display by clicking . These settings can be entered later.

1.3 Configuration on the router

- You are recommended to activate the DHCP function on your router. Usually DHCP is activated by default on most routers. If a static IP address is required, more information on configuration can be found in the Administration Manual of the optiPoint 410/420 S (see: Reference list).
- To be able to use the optiPoint 410/420 S with a router, depending on VoIP provider, **port forwarding** might need to be set up on your router. Your VoIP provider can tell you which port numbers need to be activated via port forwarding. For further information on the router configuration, please refer to the respective manufacturers' information.

2 Configuring

This document explains only the basic configuration of the SIP settings of the optiPoint 410/420 S for registration with a VoIP provider. If you should have questions on other aspects of the device configuration please refer to the user manual or the administration manual of the optiPoint 410/420 S (see: Reference list).



To configure the device, we recommend using the Web-based Management Tool (WBM Tool). More detailed information on the WBM Tool can be found in the Administration Manual of the optiPoint 410/420 S (see: Reference list). The Configuration Manual relates only to the WBM Tool of the optiPoint 410/420 S.

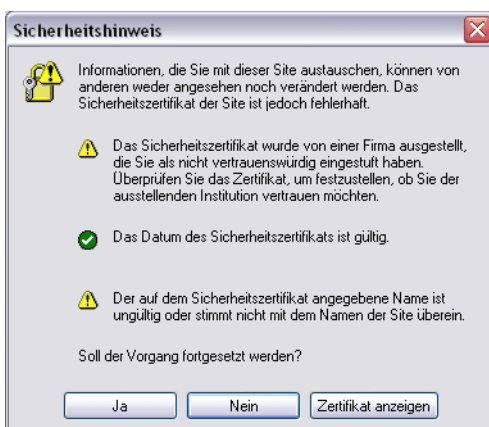
For the basic configuration of the SIP settings the following pages of the WBM Tool are important:

- **Network IP and routing**
 - **SIP environment**
 - **Time and Date**
 - **Speech**
1. Launch Microsofts Internet Explorer. Open the WBM Tool by entering the IP-address of the device in the address bar of the explorer as follows:
https://###.###.###.### (# is the IP address of the device).



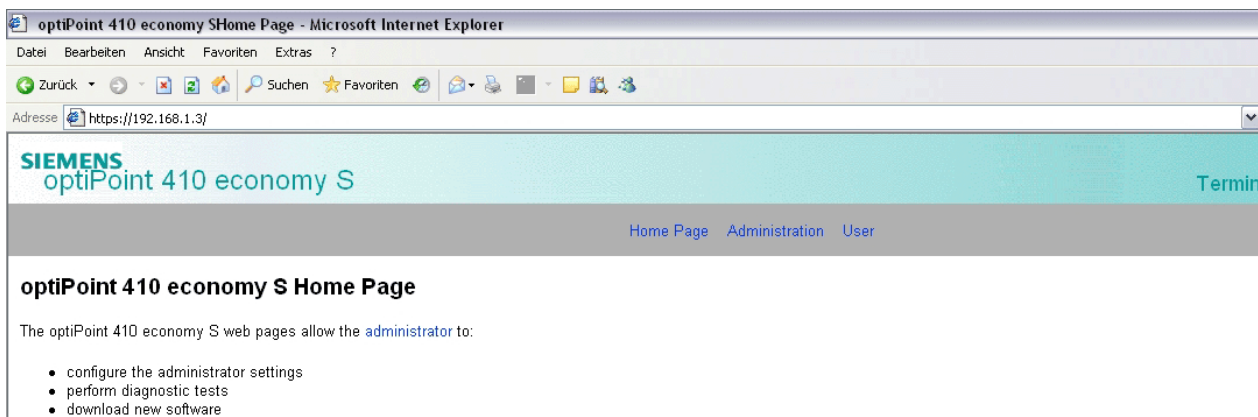
If the device is connected to a LAN and was successfully allocated an IP address by DHCP, the IP address appears after the restart in the display of the optiPoint 410/420 S.

If the following security notice opens, confirm with **Yes**.

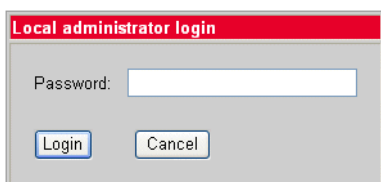


Configuring

The homepage of the WBM tool of the optiPoint 410/420 S opens:



2. Click on **Administrator**. The following window opens:




Enter the administrator password (default: 123456) and confirm by clicking **Login**. The administrator menu opens.

2.1 Network IP and routing

Open the following page: **Network IP and routing**

Network IP Address and Routing



WARNING
If you make changes to the fields marked with an asterisk (*) you will have to restart the terminal manually before they take effect.

DHCP *

Terminal IP address: *

Terminal mask: *

Primary DNS IP address:

Secondary DNS IP address:

Default Route:

Domain Name:

Terminal hostname: *

IP Routing:

Route 1: Route 2:

Gateway 1: Gateway 2:

Mask 1: Mask 2:

If DHCP is not activated, activate the checkbox for DHCP and confirm your selection with **Submit**.

If you require a static IP address due to special circumstances (e.g. for registration of several devices with one VoIP provider), deactivate the checkbox for the DHCP function. The required data for a static IP address can be found in the Administration Manual of the optiPoint 410/420 S (see: Reference list).



After all parameters are entered and confirmed with **Submit**, the display of the device will ask you to restart (**Restart required**). We recommend you restart after all settings have been made.


To restart, in the administrator menu of the WBM tool, open the page **Restart terminal**. Then click **Restart** to begin restart.

Configuring

2.2 SIP environment

Open the following page: **SIP Environment**

SIP Environment

 **WARNING**
If you make changes to the fields marked with an asterisk (*) you will have to restart the terminal manually before they take effect.

Terminal details:

Phone number:

Phone name:

Register by name:

Display ID:

Use Display ID:

SIP details:

SIP routing:

Registrar IP address or DNS name: Port:

Server IP address or DNS name: Port:

Gateway IP address or DNS name: Port:

SIP port:

RTP Base port: *

Outbound proxy:

Default OBP domain name:

SIP transport: *

SIP server type: *

SIP session timer enabled:

SIP session timer value: seconds

Registration timer value: seconds

SIP realm:

SIP user ID:

New SIP password:

Confirm SIP password:

Miscellaneous:

Message Waiting IP address or DNS name:

Emergency number:

Voicemail number:

Branding/identity name:

The following fields are relevant for the basic SIP configuration:

Parameter	Explanation
Terminal details	
Phone number	Enter your VoIP number here.
Phone name	Enter your SIP ID here.
Register by name	When the checkbox is activated, the SIP ID entered under Phone name is used for registration (recommended).
Display ID	To personalize the display (e.g. work number etc.), enter text here which should be displayed on the device if the checkbox Use Display ID was activated.
Use Display ID	See Display ID .
SIP Details	
Registrar IP address or DNS name	Host name of the SIP registrar.
Port	Port number of the SIP registrar.
Server IP address or DNS name	Host name of the SIP server.
Port	Port number of the SIP server.
SIP port	SIP port number.
RTP Base Port	The base port number for RTP data.
Outbound proxy	IP address or host name of the SIP outbound proxy server.
Default OBP domain name	Port number of the SIP outbound proxy server.
SIP session timer enabled	This checkbox activates the timer function for a SIP session.
SIP realm	Domain name of the VoIP provider.
SIP user ID	Enter your SIP ID here.
New SIP password	Enter your SIP password here.
Confirm SIP Password	Reenter your SIP password here to confirm it.



After resetting to factory settings, the SIP password must be entered once. For the following changes on this page, the SIP password must only be reentered if the SIP password has changed.

Configuring



Only enter your SIP ID under **Phone Name** and be sure to activate the checkbox under **Register by name**.

All other parameters do not need to be taken into consideration here and can remain in factory settings provided your VoIP provider has not specified any special values to be entered on this page.

Confirm the parameters entered by clicking the **Submit** button.

2.3 Time and Date

The SNTP function allows the synchronization of time and date of the optiPoint 410/420 S via the internet with a time server. Check with your VoIP provider whether an SNTP server is available. If your provider does not provide an SNTP server, you can also use different time server such as e.g. the SNTP server of the Physikalisch-Technische Bundesanstalt (PTB / Germany / time server address: ptbtime1.ptb.de).

Open the following page: **Time and date**

Time & date

SNTP server IP address:

Entering a blank (or invalid) address will cause the SNTP client to listen for broadcasts.

Timezone offset (hours):

This is the number of hours by which time sourced via SNTP (UTC) must be adjusted to give local time. Valid range is -12 to +12.

Daylight saving

Local Time (hh:mm): :

Date (day, month, year):

Date Format:

Note - If SNTP is being used, a user-specified value for Time & Date will be overwritten when an SNTP update next occurs.

The following fields are relevant for the basic SIP configuration:

Parameter	Explanation
SNTP server IP address	Host name of the time server.
Time zone offset	Time zone / Germany: GMT +1.

Using the following fields and options **Daylight Saving** (Summer time), **Date Format**, you can adapt the time and date format of the optiPoint 410/420 S to your geographical location. The input fields **Local Time** and **Date** are automatically overwritten if the SNTP function is activated.

Confirm the parameters entered by clicking **Submit** button. The time and date display is updated.

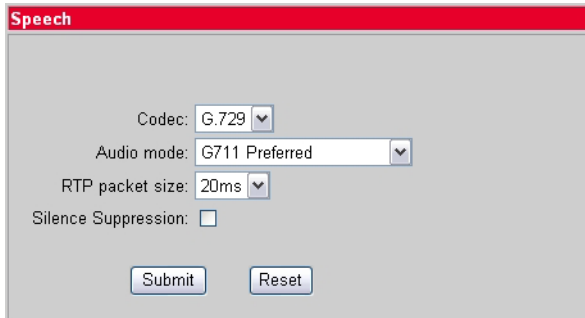


For time and date display a time server is not obligatory. If you leave the input field for the host name of the time server in factory setting (0.0.0.0), you can use the input fields **Local Time** and **Date** to manually set the time in the display. In the event of a power loss or forced restart, this data is reset as there is no automatic update.

Configuring

2.4 Speech

Open the following page: **Speech**



Speech

Codec: G.729

Audio mode: G711 Preferred

RTP packet size: 20ms

Silence Suppression:

Submit Reset

The speech information during a call is converted to so-called speech packages via the codecs. The data is compressed at different rates which leads to different bandwidths at transmission. The optiPoint 410/420 S uses the following codec for voice transmission:

Codec	Explanation	1 Gb is enough for x hours (depending on variable package length)
G.711	The speech information is not compressed. With good speech quality greater bandwidth is required (corresponding to ISDN standard). A max. of 3 simultaneous calls are possible for an upstream of 256kbit/s.	approx. 25 hours
G.722	The speech information is slightly compressed. Nevertheless this codec still provides better speech quality than the codec G.711. A max. of 3 simultaneous calls are possible with an upstream of 256kbit/s. This codec is only available in Audio mode setting "High Quality Preferred" .	approx. 25 hours
G.723	The speech information is highly compressed. Less bandwidth is required for medium speech quality. With an upstream of 256kbit/s a max. 14 simultaneous calls are possible.	approx. 175 hours
G.729	An codec optimized for Internet telephony. Less bandwidth is required than for codec G.711. In contrast this codec achieves equally good speech quality. With an upstream of 256kbit/s max. 10 simultaneous calls are possible.	approx. 75 hours



When setting up the DSL connection, attention must be paid to the specified upstream as in the case of asymmetrical DSL connections (A-DSL) the upstream is lower than the downstream. A higher upstream is particularly necessary for the use of several devices during simultaneous calls (see table above).

The following fields are relevant for the basic SIP configuration:

Parameter	Explanation
Codec	Select the codec which should be preferred from the G.72X series: G.729 means good speech quality with low bandwidth. G.723 requires the least bandwidth.
Audio mode	Select the type of speech quality here: High Quality Preferred : uncompressed speech quality (for high bandwidths in the upload area). Low Bandwidth Preferred : compressed speech quality preferred (for low bandwidths in the upload area). Low Bandwidth Only : compressed speech quality (for low bandwidths in the upload area). G711 preferred : uncompressed speech quality (for low bandwidths in the upload area).
RTP package size	Select the length of the speech package here. Greater values save bandwidth but also increase speech delay. The factory settings should preferably not be changed.
Silence Suppression	By activating the checkbox the Silence Suppression is activated. This function prevents sending of speech data as long as there is silence on the sending end. This saves transmission capacity but the savings are associated with lower speech quality.



Only change the settings of this page if your VoIP provider explicitly recommends this. If the existing settings on the **Speech** page are changed and the new parameters are confirmed by clicking the **Submit** field, this automatically executes a restart of the optiPoint 410/420 S.

Reference list

2.5 Restart

For all settings to be active, you have to restart the device. For a restart open the administrator menu of the WBM Tool page **Restart terminal**. Then click **Restart** to restart. After the optiPoint 410/420 S is restarted, it automatically registers with the VoIP provider. The optiPoint 410/420 S is now registered with your VoIP provider and ready for use.

3 Reference list

The list provides referrals to documents with more detailed information.
The list does not claim to be complete.

- Administration Manual for the optiPoint 410/420 S:
Part number: **A31003-A2056-D414-*-76A9**
- Operation Manual for optiPoint 410/420 advance S:
Part number: **A31003-A2056-E413-*-7619**
- Operation Manual for optiPoint 410/420 economy S/economy plus S/standard S
Part number: **A31003-A2056-E412-*-7619**

You can find all manuals to print out on the Internet at
<http://www.siemens.com/hipath/> > Downloads > manuals in pdf.

You need Adobe Acrobat Reader to read the manuals.

Adobe Acrobat Reader can be found on the Internet at <http://www.adobe.com/>.

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