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NETWORK ACCESS SOLUTIONS

ONE521 Proximus Wifi Web Interface User Guide

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1 ONE521 Wifi Web Interface

This document describes the web interface of the ONE521.

The following gives an overview of this document:

1.1 Introduction

- The web interface allows the user to configure wireless network settings.
- It is also possible to perform basic diagnostic functions, i.e. ping and traceroute.

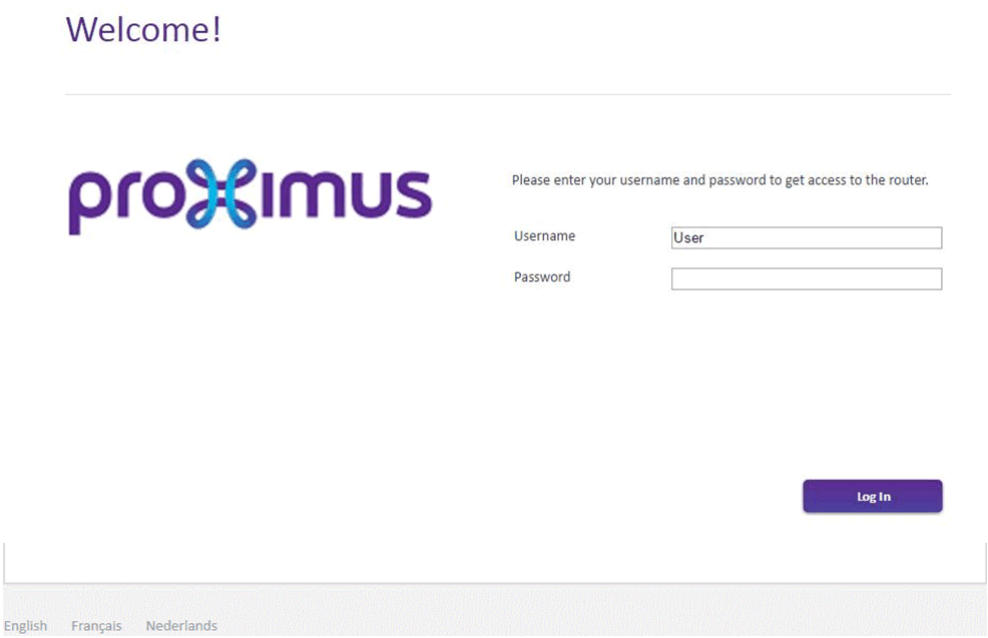
1.2 Logging into the device

- If the device has a default configuration, IP address 192.168.1.1 can be used to log in; section 1.2.1 - Device with Default Configuration on page 4 explains the login procedure.

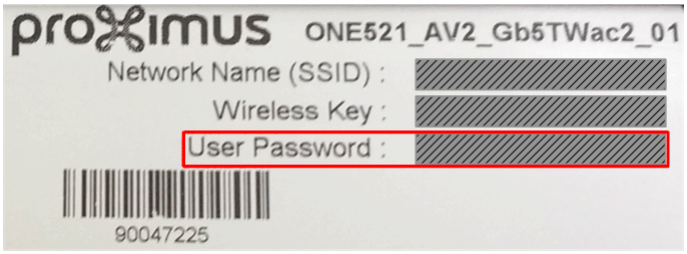
- If the device has been (re)configured with another IP address, refer to section 1.2.2 - Device with Non-Default Configuration on page 5.
  This section explains how the IP address to log in with, can be retrieved.

1.2.1 Device with Default Configuration

- Connect to the device using an Ethernet cable.
- Connect the Ethernet cable to any of the ports of the Ethernet switch, labeled ETH 0/0 up to ETH 0/3, with the gateway IP address as indicated on the label on the bottom of the CPE. By default this is 192.168.1.1.
- Start a web browser and enter the gateway IP address in the address bar of the browser.
  - If this does not work, refer to section 1.2.2 - Device with Non-Default Configuration on page 5 to find the gateway IP address.
- The following login screen will appear:



- The default Username is *User*, as shown in the figure above.
- Enter the Password as indicated on the label on the bottom of the CPE, and click the *Log In* button. The following figure is an example of the label:



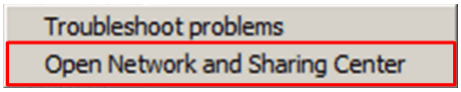
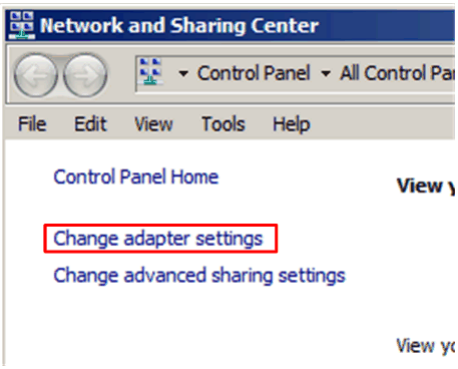
- After logging in, the *System Information* page is displayed.

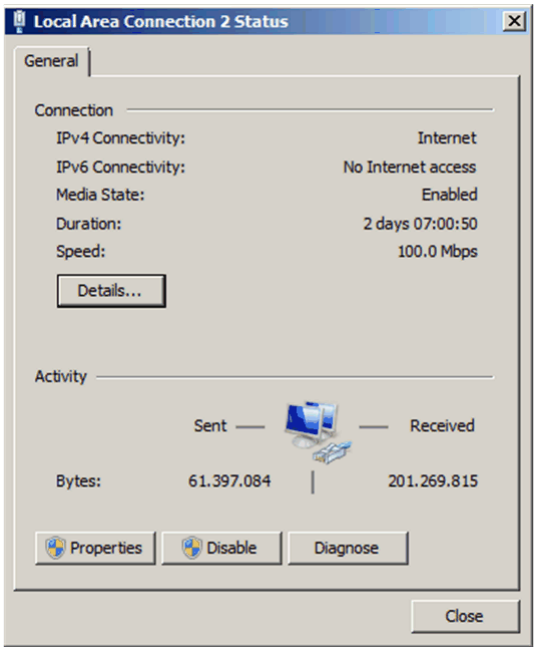
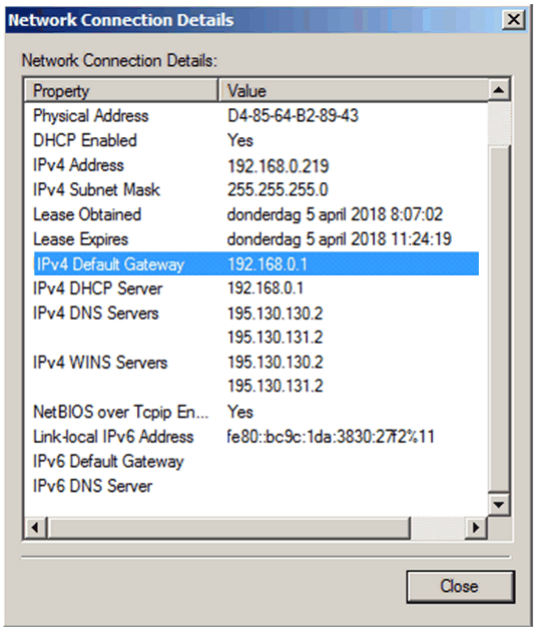
Note that, at the bottom of each page, the language of the web interface can be changed to English, French or Dutch, by clicking on the related link, *English*, *Français* or *Nederlands*.
Note that these links are not always shown in the figures in this user guide.

1.2.2 Device with Non-Default Configuration

- If the device has been (re)configured with another IP address, it is not possible to use 192.168.1.1 to login (this is the default gateway IP address as the procedure in 1.2.1 - Device with Default Configuration on page 4 explains).
- If this is the case, the best approach is to find out the configured gateway IP address from your PC and to use that as reference to log in.
- To find out what the gateway IP address is, currently used by your PC, refer to the user manual of your operating system.

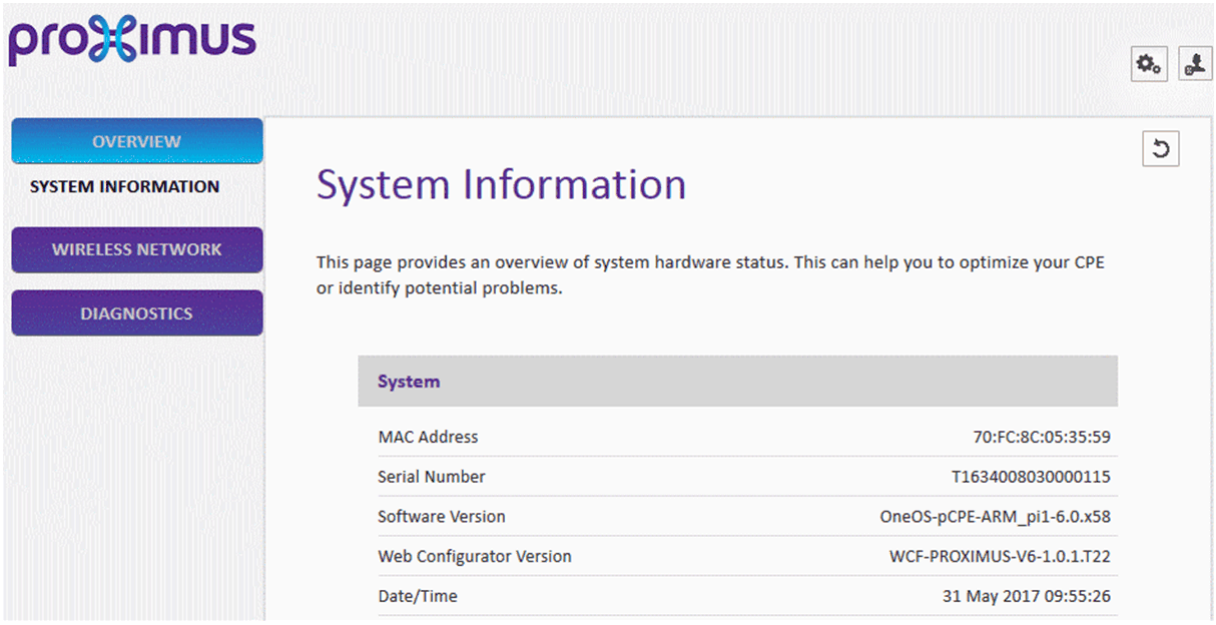
  The following procedure explains how to find out the gateway IP address in Windows 7.

Step	Action
1	Right-click on the *network* icon  in the lower right corner of your screen and select *Open Network and Sharing Center*:  This opens the *Network and Sharing Center* window.
2	In the *Network and Sharing Center* window, click on *Change adapter settings*:  This opens the *Network Connections* window.

Step	Action
3	In the *Network Connections* window, double-click the active network connection. This opens the status window of the active network connection; for example: 
4	In this window, click the *Details* button. This opens the *Network Connection Details* window:  One of the items that is shown in this window, is the *IPv4 Default Gateway* address; this is 192.168.0.1 in this example.
5	Use this address as *gateway IP address* to log in into the device.

1.3 System Information

- After logging in, the *System Information* window is shown:



- To refresh the information on the page, click the *Reload Page* button at the top right of the page.

- Use the buttons at the top right of the page for user management and logging out; refer to:
  - 1.6 - User Management on page 20
  - 1.7 - Logging Out on page 21

  Note that these buttons are present on all web pages.

1.4 Wireless Network

1.4.1 Some Remarks to Keep in Mind

There are a number of things that can affect the WiFi performance, such as:

- Interference and obstructions
- Wireless frequency, frequency channel and channel width
- Wireless spectrum
- Transmit Power

Frequency band

- The ONE521 can use 2 WiFi frequency bands: 2.4GHz and 5GHz.
- The 2.4GHz band offers a better range; it handles obstacles better than 5.0GHz.
  Although 5GHz offers much faster throughput for maximum performance, it does not handle obstructions and channel noise quite as well.
- The disadvantage of 2.4 GHz is that this frequency is used for many things: cordless phones, baby monitors, microwaves, garage door openers, etc. And because there are more 2.4GHz Wifi networks, the frequency channels can become crowded in some areas.
- Interference, caused by other devices, and obstructions, like walls and trees or large metal objects, greatly affect the range and quality of the wireless signal.
- If greater distance is the primary objective, it is advisable to use the 2.4GHz band.

Channels

- The 2.4GHz and 5GHz frequencies each have their own set of channels.
- Crowded channels produce low quality signals that lead to instability and intermittent connectivity problems. Signal quality can often be increased by changing the channel.
- If there are many 2.4GHz wireless networks around, and the wireless performance is unreliable, first try changing the channel; channels 1,6 and 11 are preferable for the 2.4Ghz band, because with a channel width of 20 MHz, these channels do not overlap.
  If after changing the channel, the connection is still unreliable, it may be better to switch to the 5GHz band. 5GHz is not as strong at penetrating obstacles, but the link quality can be very good because there are less users broadcasting on this frequency.

Channel width

- Channel width basically controls how broad the signal is for transferring data.
- By default, the 2.4 GHz frequency uses a 20 MHz channel width; for the 5 GHz frequency, the default setting is *Auto* (see further down).
- A 20MHz channel width is wide enough to span one channel.
- It is possible to bond two 20 MHz channels together, forming a 40 MHz channel width; this in theorie allows for greater speed and faster transfer rates.

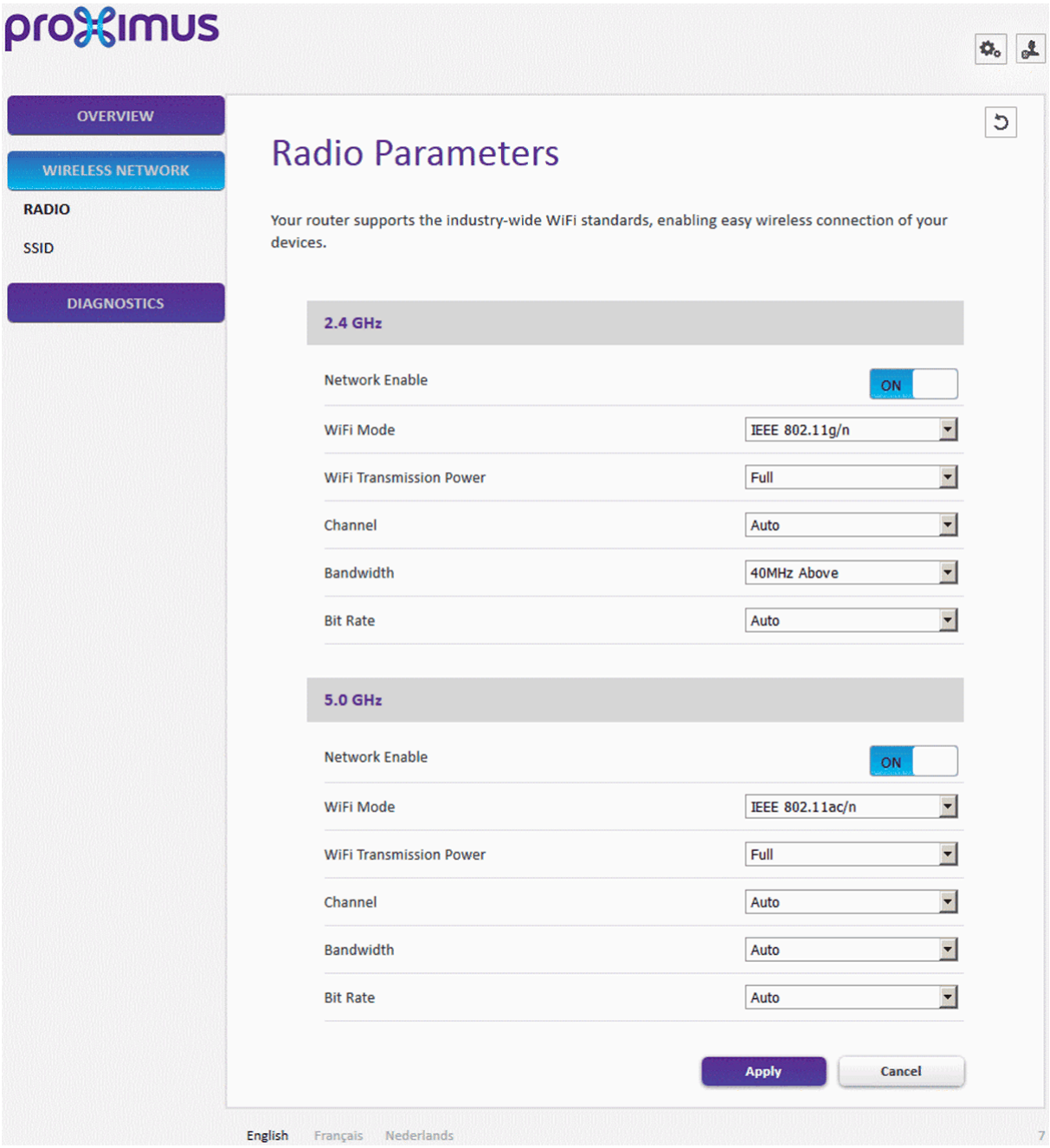
  However, if 2 channels are bonded together, and these channels are crowded with noise and interference, the connection will not be as stable, actually resulting in worse performance.
  So, in crowded areas with a lot of frequency noise and interference, a single 20MHz channel will be more stable, resulting in better performance.
- In general, a 40Mhz channel width is best used with 5Ghz bands or *uncrowded* 2.4GHz bands.
- A channel width of 80 MHz is supported when the 5GHz frequency band is used and `ac` mode is selected.

Transmission power

- In addition to changing channels or frequency, sometimes you can achieve more wireless stability by changing the transmission power of the wireless broadcast.
- The transmission power on the ONE521 is by default set to the maximum value, 100%.
- Limiting the transmission power may be necessary if interferences between neighboring cells must be reduced.

1.4.2 Radio

- Clicking WIRELESS NETWORK => RADIO on the left, shows the Radio Parameters window:



- On this page, the wireless settings of the device can be configured.
- The 2.4GHz interface and 5GHz interface can be switched ON or OFF with the sliding buttons behind *Network Enable*.
- When changing the settings, it must be confirmed with the *Apply* button at the bottom of the page.
- To cancel the change, click the *Cancel* button at the bottom of the page.

2.4 GHz Interface

The following parameters can be set:

- Network Enable. Use this sliding button to switch the interface ON or OFF.

- Wifi Mode. The following Wifi modes can be selected:

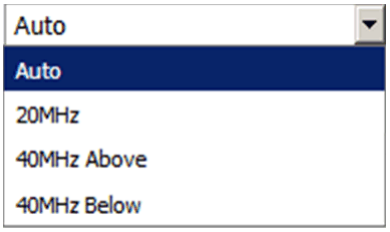
  - IEEE 802.11n. This mode supports transmit rates up to 130 Mbps.
  - IEEE 802.11g/n. 802.11g (up to 54 Mbps), or 802.11n (up to 130 Mbps) is used, depending on the connected device.
  - IEEE 802.11b/g/n. 802.11b (up to 11 Mbps), 802.11g (up to 54 Mbps), or 802.11n (up to 130 Mbps) is used, depending on the connected device. This is the default setting.

- Wifi Transmission Power. The following values can be selected:

  - The default setting is: Full.
  - Limiting the transmission power may be necessary if interferences between neighboring cells must be reduced.

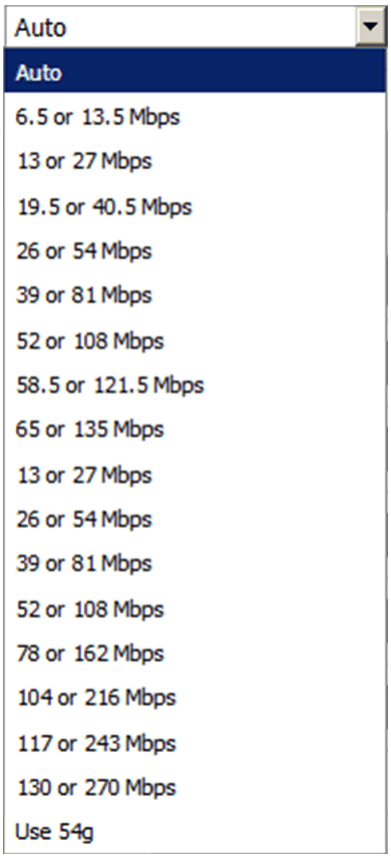
- Channel.
  - *Auto* can be selected, for automatic channel selection.
  - Channel 1 up to 13 can be selected manually.
  - The default channel is 11.
  - Refer to 1.4.1 - Some Remarks to Keep in Mind on page 8 for further details.

- Bandwidth. This is the channel width; the following values can be selected:



  - The default setting is: 20 MHz.
  - With *40MHz Above* and *40MHz Below*, the channel width is 40 MHz; i.e. 2 20 MHz channels are bonded together.
    Above and *Below* refer to the *control side band* in the channel, whether the upper or the lower part of the channel is used.
  - In crowded areas with a lot of frequency noise and interference, a single 20MHz channel will be more stable, resulting in better performance.
  - Refer to 1.4.1 - Some Remarks to Keep in Mind on page 8 for further details.

- Bit Rate. This is the transmission rate; the following values can be selected:



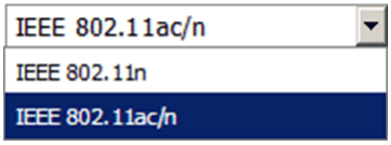
  - The default setting is: Auto; i.e. the best possible speed will be used.

5 GHz Interface

The following parameters can be set:

- Network Enable. Use this sliding button to switch the interface ON or OFF.

- Wifi Mode. The following Wifi modes can be selected:

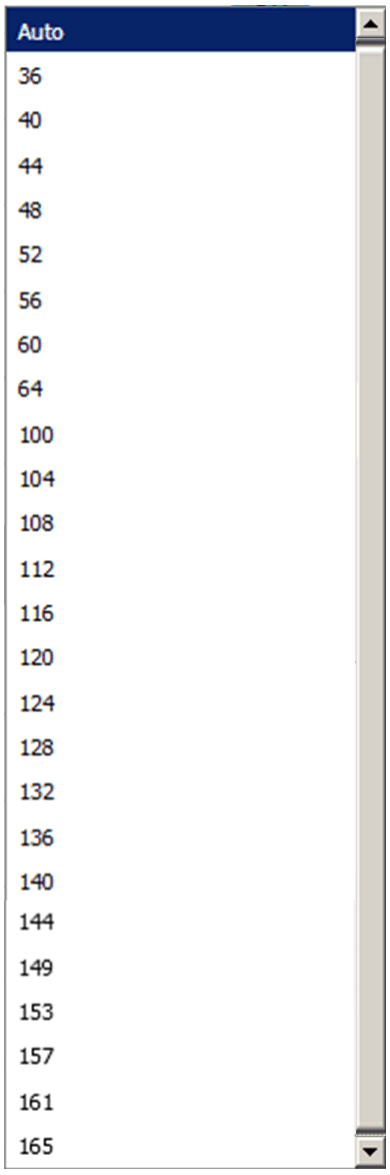


  - IEEE 802.11n. This mode supports transmit rates up to 130 Mbps.
  - IEEE 802.11ac/n. 802.11n (up to 130 Mbps) or 802.11ac (up to 1 Gbps) is used, depending on the connected device. This is the default setting.

- Wifi Transmission Power. The following values can be selected:

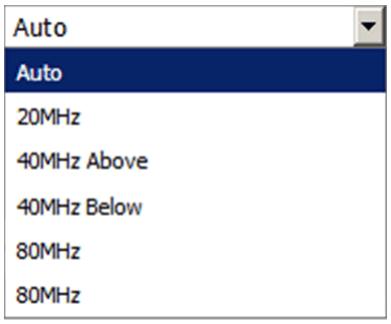
  - The default setting is: Full.
  - Limiting the transmission power may be necessary if interferences between neighboring cells must be reduced.

- Channel.
  - The following channels can be selected manually:



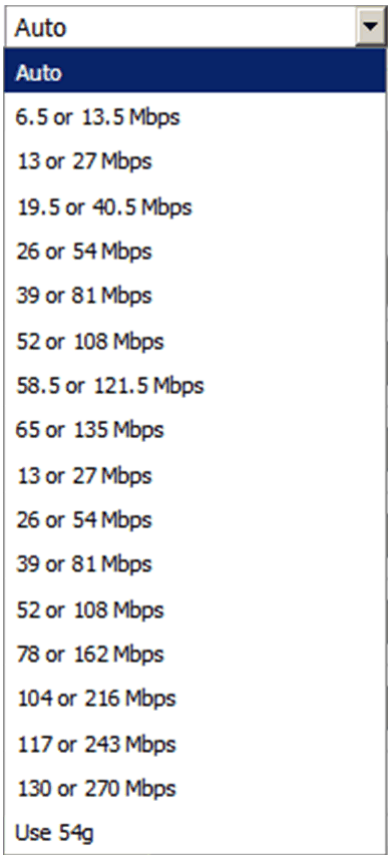
  - *Auto* can be selected, for automatic channel selection; this is the default setting.
  - Refer to 1.4.1 - Some Remarks to Keep in Mind on page 8 for further details.

- Bandwidth. This is the channel width; the following values can be selected:



  - The default setting is: Auto.
  - Refer to 1.4.1 - Some Remarks to Keep in Mind on page 8 for further details.

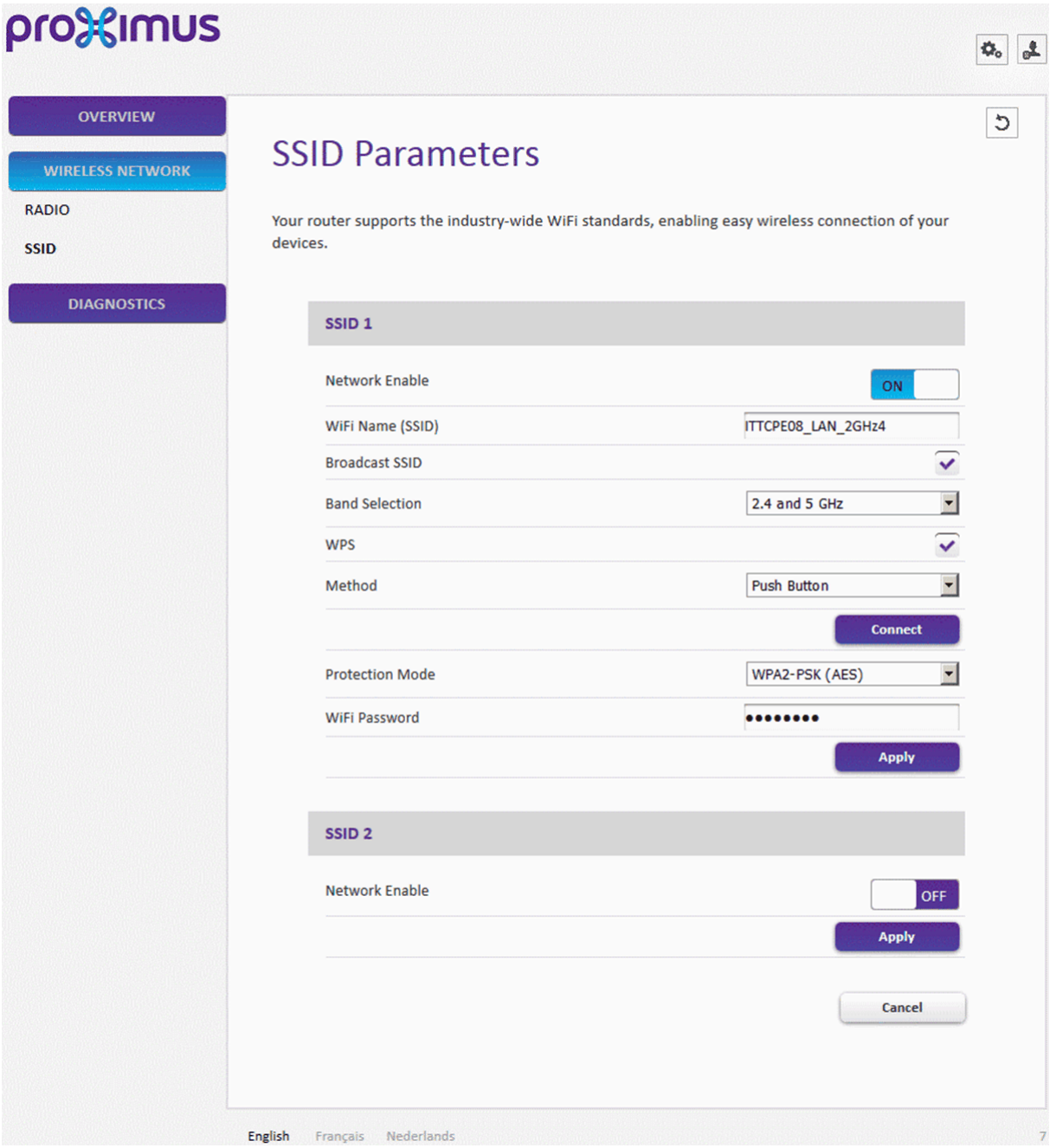
- Bit Rate. This is the transmission rate; the following values can be selected:



  - The default setting is: Auto; i.e. the best possible speed will be used.

1.4.3 SSID

- Clicking WIRELESS NETWORK => SSID on the left, shows the SSID Parameters window:



- On this page, the SSID settings of the device can be configured.
- SSID 1 and SSID 2 can be switched ON or OFF with the sliding buttons behind *Network Enable*.
- When changing the settings, it must be confirmed with the *Apply* button.
- To cancel the change, click the *Cancel* button at the bottom of the page.
- In the figure above, SSID 2 has been disabled. When it is enabled, the same parameters can be set as for SSID 1.

SSID 1

The following parameters can be set:

- Network Enable. Use this sliding button to switch the SSID ON or OFF.
- WiFi Name (SSID). Enter the SSID name in this text box.
- Broadcast SSID. Tick this box to enable the broadcasting of the SSID; untick the box to stop the broadcasting.
- Band Selection. Possible selections are:
  - 2,4 GHz. In this case, the SSID is only broadcast on the 2,4 GHz band.
  - 5 GHz. In this case, the SSID is only broadcast on the 5 GHz band.
  - 2,4 GHz or 5 GHz. In this case, the SSID is broadcast on both bands.
- WPS. Use the tick box to enable or disable *WiFi Protected Setup* (*WPS*).
  - When the box is ticked, the next parameter, *Method*, appears.
  - When the box is not ticked, *Method* remains invisible.
- Method. Use the drop-down box to select *Push Button* or *PIN*. Depending on the selection, other extra parameters appear:
  - Push Button.

    › Select *Push Button* from the drop-down box.
    › Click the *Connect* button; this turns on the discovery of new devices.
    › Start the WPS process on the device that is going to be authenticated; this can also be via a WPS button, or via the WPS option of the wireless network settings on the remote device.
    › The device can then join the WLAN domain.

  - PIN.

    › Select *PIN* from the drop-down box.
    › Then, enter the PIN code and MAC address of the client.
    › After clicking the *Connect* button, the device can join the WLAN domain.

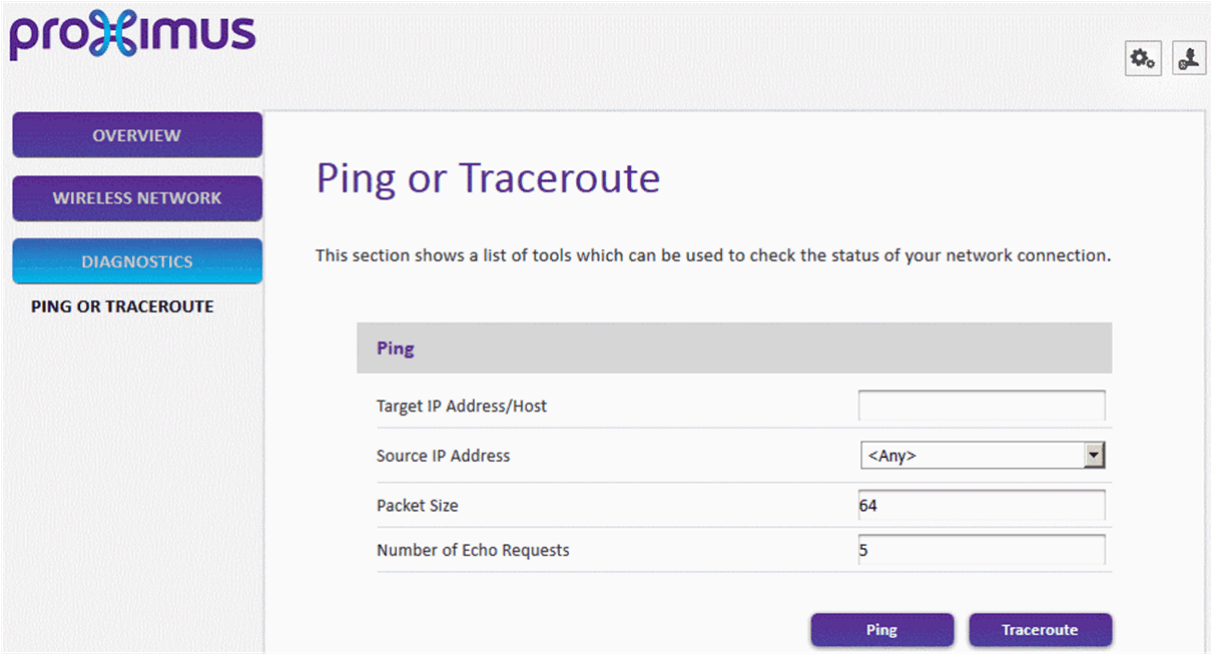
- Protection Mode. Use the drop-down box to select an authentication/encryption method. The following methods can be selected:

- WiFi Password. Enter the wifi password in this text box; the password remains masked, so it is not shown on screen.

1.5 Diagnostics

Ping or Traceroute

On this page, a ping or traceroute test can be performed.



The following parameters can be set:

- Target IP Address/Host. Enter the IP address or host name of the target device here.

- Source IP Address. In the drop-down box, one of the configured IP addresses on the device can be selected, or <*Any*> can be selected. <*Any*> means that the IP routing table will be used to send the ping; the source address will be the IP address of the outgoing interface.

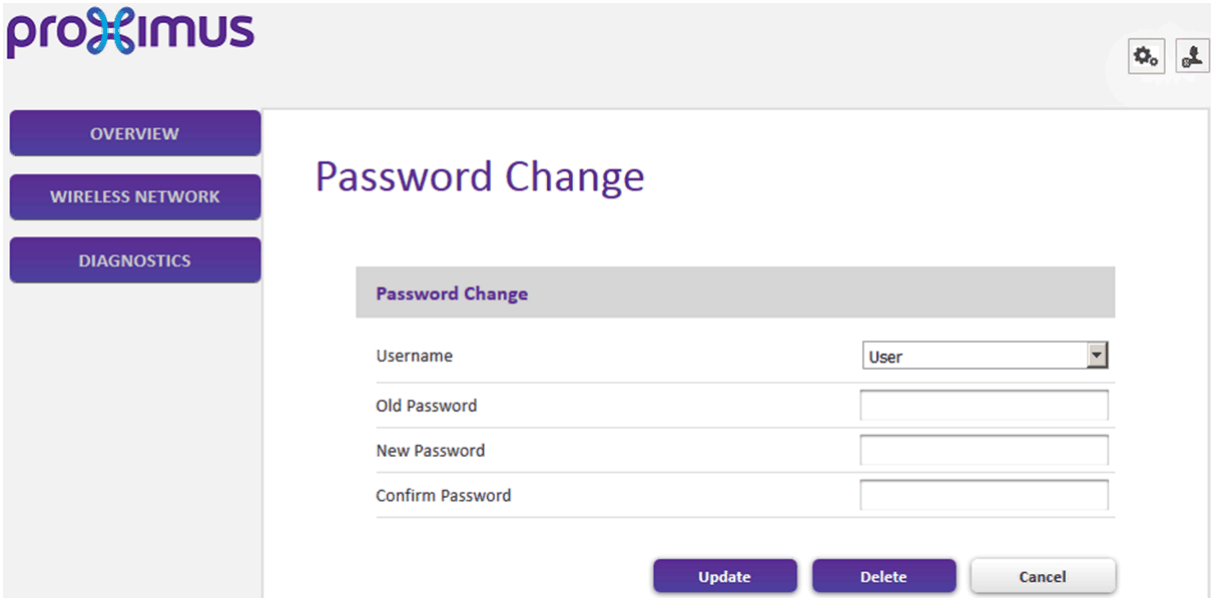
- Packet Size. Enter the size of the packets that are used for the ping or traceroute test here.
  - The default packet size is 64 bytes.
  - The packet size must range between 64 and 20000 bytes.
  - Note that ping uses ICMP packets, and traceroute uses UDP packets.

- Number of Echo Requests. Enter the number of packets that will be sent for the test here.
  - The default setting is 5 packets.
  - The number of packets must range between 1 and 20.

- Click the Ping or Traceroute button to start the respective test.

1.6 User Management

- At the top right of every web page, the following button is present:  .
- When clicking this button, the following window appears:



- Here, the password of a user can be changed, or deleted.
- To change the password, proceed as follows:
  - Make sure the correct username is selected in the *Username* drop-down box.
  - Enter the current password of the user in the *Old Password* text field.
  - Enter the new password in the *New Password* text field.
  - Enter the new password again in the *Confirm Password* text field.
  - Click the *Update* button to save the change.

- To delete the password of a user, select the correct username, enter the current password of the user in the *Old Password* text field, and click the *Delete* button.

- Forgot your password?
  If you need help resetting your login username and password, please contact Proximus.

1.7 Logging Out

- At the top right of every web page, the following button is present:  .
- Click this button to log out; after doing so, the start screen, as shown in section 1.2 - Logging into the device on page 3, is displayed again.