INSTALLATION INSTRUCTIONS S.A.NE CLIENT FOR TELTONIKA RUTX12

Version RUTX_R_00.02.06.1

Bondix Intelligence B.V.

Lasondersingel 33
7514 BN Enschede
Nederland

info@bondixintelligence.com

www.bondixintelligence.com

IBAN: NL78 ABNA 0254 4767 16

CoC: 68933436

VAT No.: NL85 7654 470B 01

Dear Customer,

Thank you for purchasing Bondix S.A.NE Client for Teltonika!

Installing our software on your existing, supported infrastructure is easy and you'll be finished in a few minutes. This manual will show you step by step what you need to do and be careful about. The last chapter is for troubleshooting, should you run into difficulties.

In case you won't find the answers you need in this manual or have suggestions on how to improve it, please don't hesitate to contact us:

write to info@bondixintelligence.com

or

call +49 156 78 723 101

We'll be happy to help.

For now, we wish you joyful installing!

Your Bondix team

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1 PREPARATIONS

To install the Bondix S.A.NE Client on your Teltonika RUTX12 router, you will need a few minutes of stable Internet, a web browser, and possibly some coffee or tea.

1.1 Supported browsers

The following browsers have been tested to function properly with Bondix S.A.NE:

- Google Chrome
- MS Edge
- Mozilla Firefox

1.2 Installation

We strongly recommend you reset all router settings before starting the installation.

1.2.1 TELTONIKA RUTX12 FIRMWARE

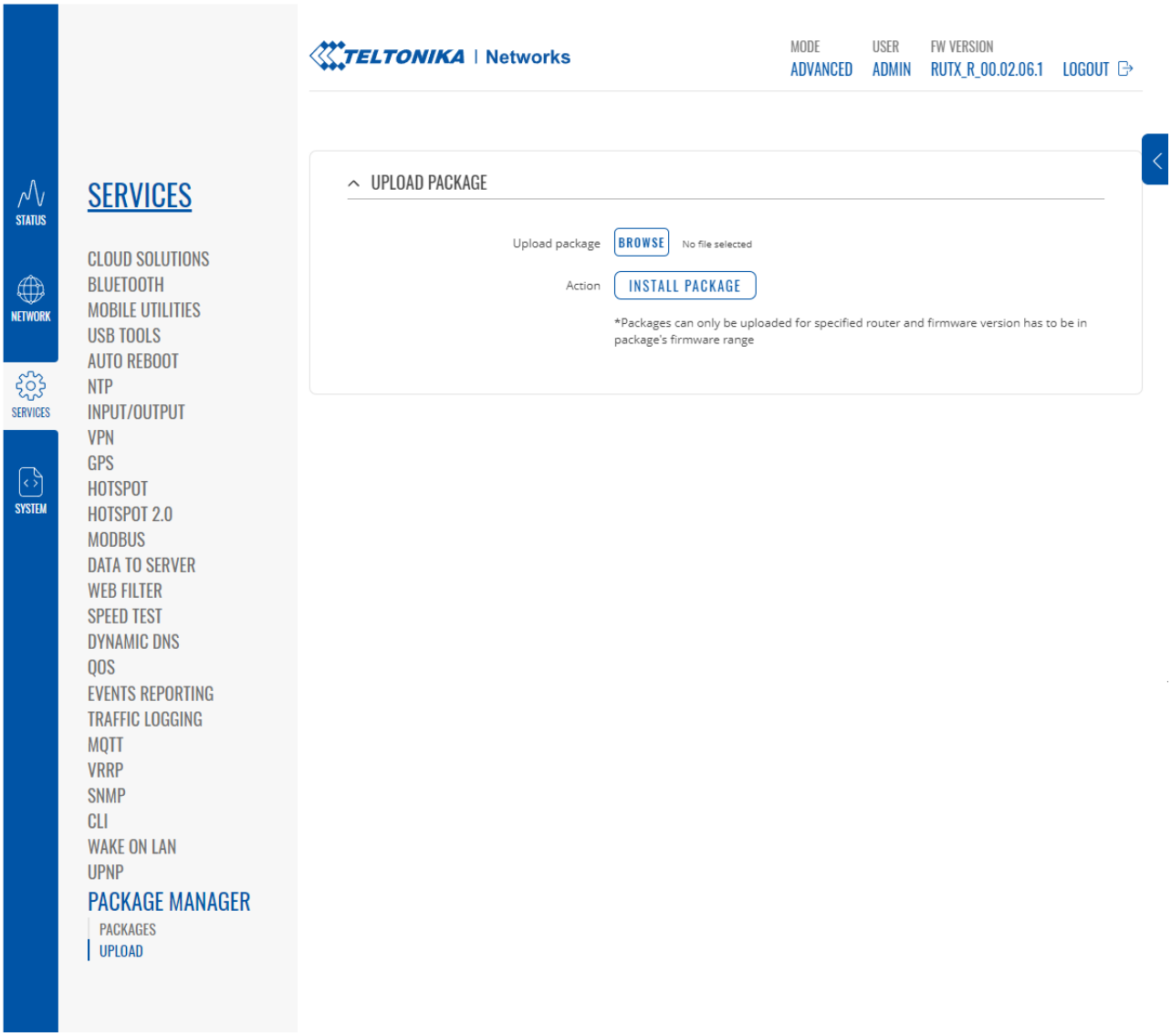
Before you begin installing, make sure that your Teltonika RUTX12 router runs on the firmware version RUTX_R_00.02.06.1.

If not, visit https://wiki.teltonika-networks.com/view/RUTX12_Firmware_Downloads and download the file https://wiki.teltonika-networks.com/wikibase/images/6/62/RUTX_R_00.02.06.1_WEBUI.bin.

1.2.2 S.A.NE CLIENT

Visit https://releases.bondix.dev/ and download the file https://releases.bondix.dev/files/saneclient-armv7-202205242339-345e1f24.ipk.

Open your Teltonika router menu, navigate to the menu item "Services" › "Package Manager" › "Upload". Click on "Browse", choose the file you just downloaded to upload it to the router, and then press "Install Package".

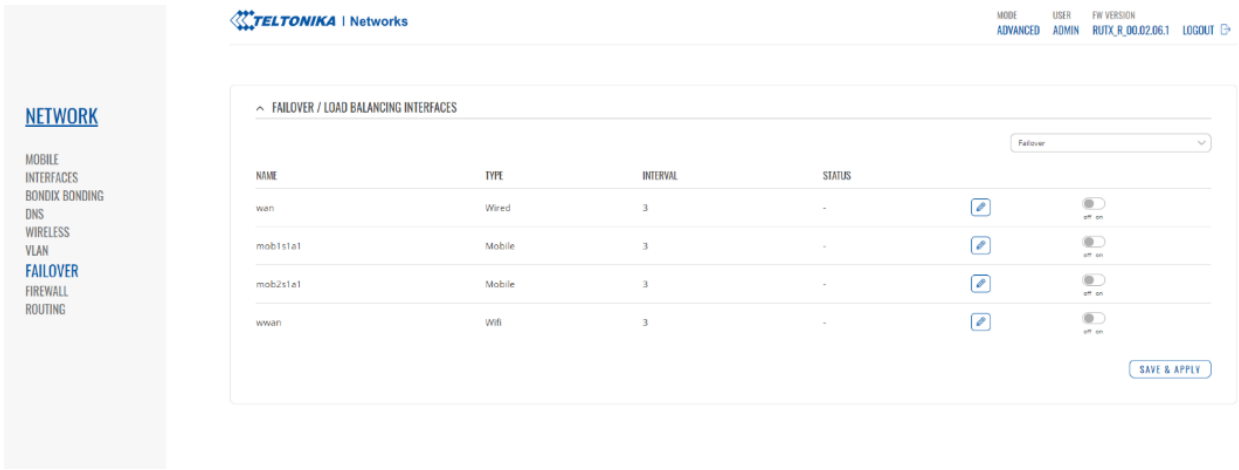


If the Bondix S.A.NE Client was installed correctly, you'll find a new menu item "Bondix Bonding" in the section "Networks" of your Teltonika router.

2 GENERAL ROUTER SETTINGS

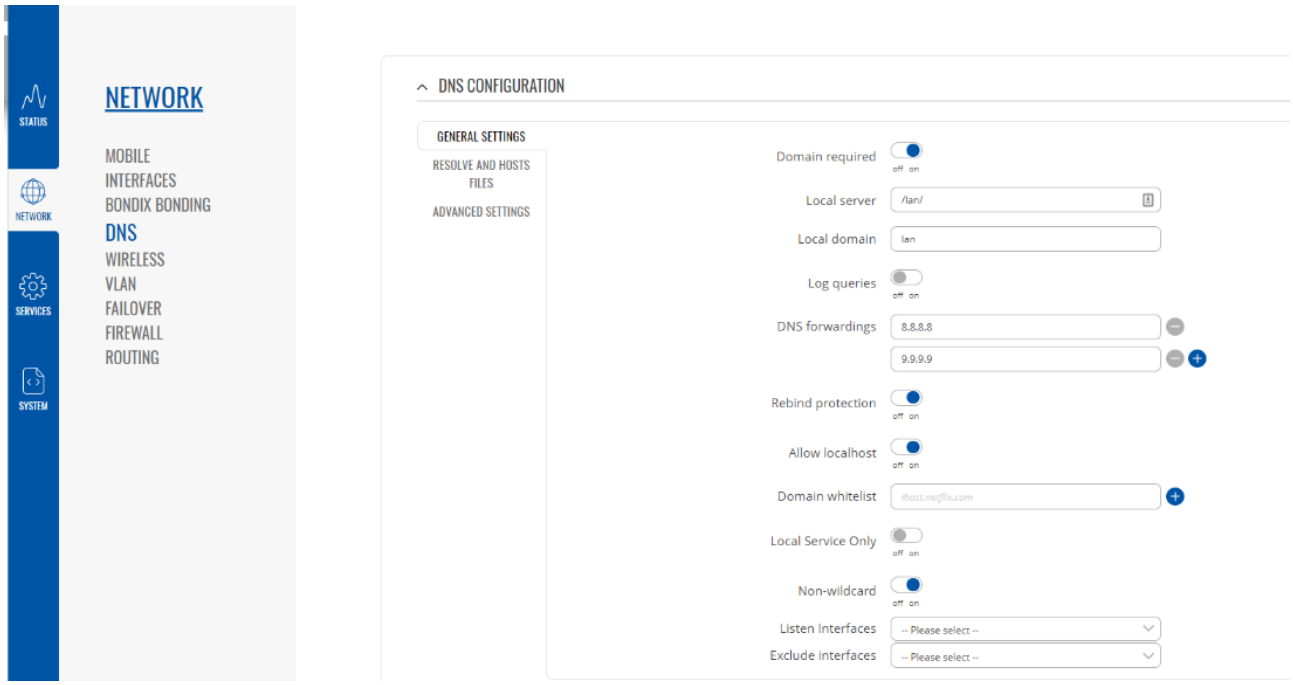
2.1 Load Balancing

Check that Teltonika Load Balancing functionality is deactivated on the router, as this would have a massive impact on Bondix S.A.NE performance.



2.2 DNS

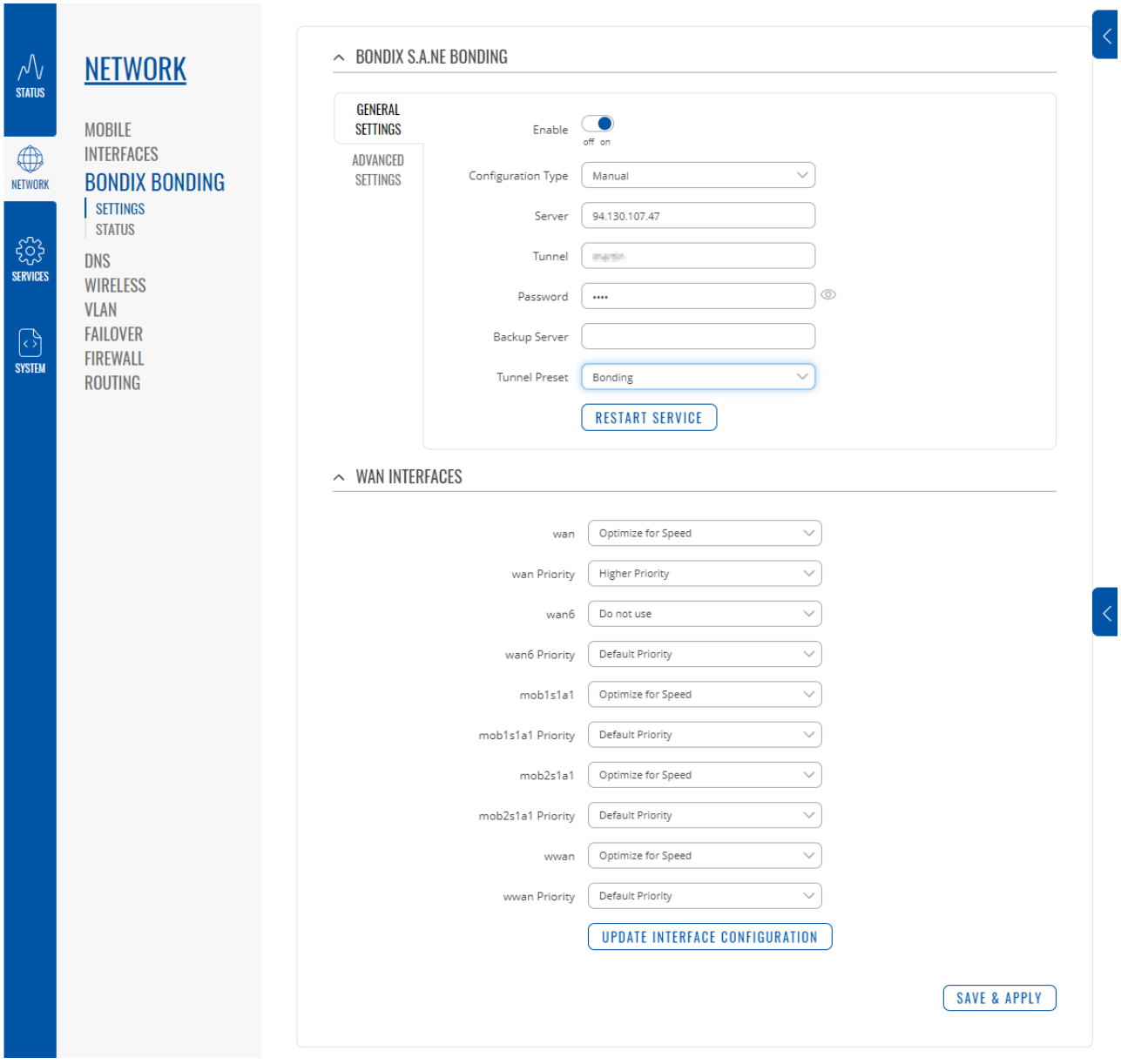
Ensure that you have configured DNS forwarding to 8.8.8.8 and 9.9.9.9 to receive DNS through the tunnel.



3 BONDIX BONDING SETTINGS

3.1 General Bondix S.A.NE Bonding

Set the following general settings for the Bondix S.A.NE Client:



Field	Value
Tunnel	Your tunnel's name. This is part of the credentials you've received via email on purchasing a Bondix S.A.NE Client license.
Password	Your password. This is part of the credentials you've received via email on purchasing a Bondix S.A.NE Client license.

Field	Value
Backup Server	A backup server acts as a fallback in case the server you've specified under "Server" in this section fails. You'll find the Backup Server IP address in your emails if you have requested this function beforehand. Otherwise, leave the field empty.
Tunnel Preset	The standard tunnel preset is "Bonding" which ensures best performance in regards to bandwidth. The preset "Packet Duplication" is used for scenarios where reliability is key. Please choose this option wisely.

Press "Save and Apply" to save your changes.

Press "Restart Service" to activate them on your router.

3.2 WAN Interfaces

In this section, you can prioritize the use WAN connections with two sets of options according to your needs.

3.2.1 TYPE / OPTIMIZATION

Every type of WAN link has different properties that make them suitable options for different needs.

You can choose from 5 settings:

Setting	Effect
Do not use	Disregards a WAN link.
Optimize for Latency	Optimizes a mobile link for reliability.
Optimize for Speed	Optimizes a mobile link for bandwidth.
Fixed Line (DSL, fiber)	Optimizes the usage of a physical WAN link.
Satellite	Optimizes the usage of a satellite link.

3.2.2 PRIORITY

Per default, WAN connections are prioritized in using their available bandwidth according to their latency. Low-latency connections have higher priority of use since, usually, ethernet connections like DSL are available physically in the vicinity of the router, decreasing their latency. The higher a connection's latency gets, the lower Bondix S.A.NE sets its priority per default.

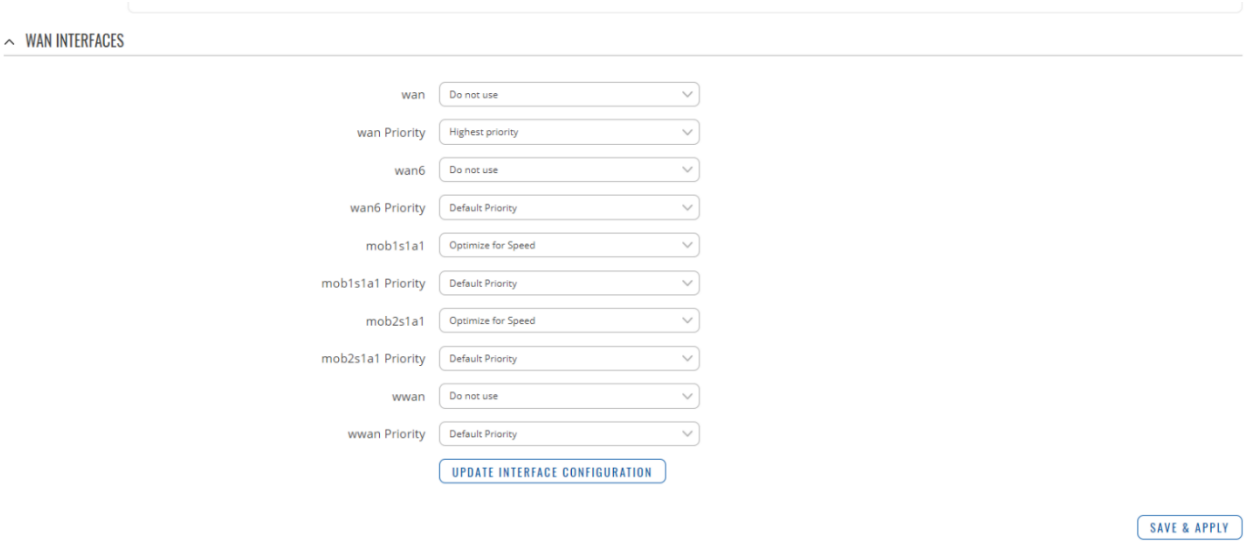
You can choose from 3 settings: Default Priority / Higher Priority / Highest Priority

To save your changes, always click on "Save and Apply", then "Update Interface Configuration".

If you change priority settings, also press "Restart Service" in the section above after you've saved your changes.

3.2.3 EXAMPLE

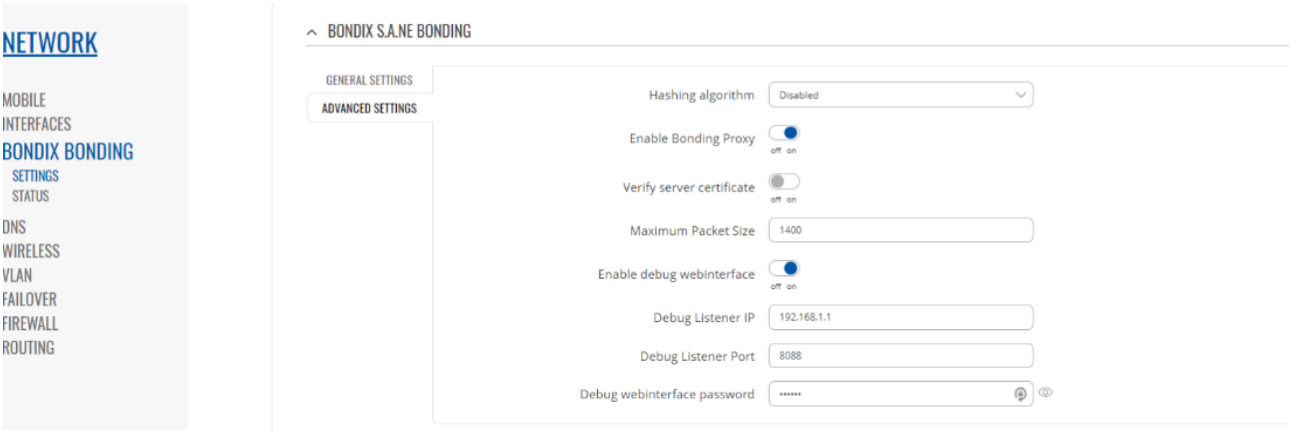
You have 5 WAN links, 2 of which are 5G/LTE connections, and you only want to use those 2 evenly. To achieve that, you set 3 WAN links to "Do not use", and your 2 mobile links to "Optimize for speed" and "Default priority":



3.3 Advanced Bondix S.A.NE Bonding

Make sure to choose the following advanced settings for the S.A.NE Client on your Teltonika router:

Field	Value
Hashing algorithm	Disabled Enable this hashing algorithm only if you need tampering-proof data transfer, since it uses up a good portion of your bandwidth.
Enable Bonding Proxy	On Enable this proxy if you're bonding connections with vastly different latencies (e.g. DSL and 5G/LTE), since it optimizes TCP connections and increases your overall throughput.
Verify server certificate	Off Enable the server certificate verification only of you focus on secure data transfer.
Maximum Packet Size	1400



3.3.1 LOCAL BONDIX WEB MONITOR

The local Bondix Web Monitor will enable you to have a look at the performance of your WAN links and configure their settings in real time. This is especially helpful if one of your WAN links does not perform as expected.

However, any changes you make in the Web Monitor are only temporary and will be reset once the router is restarted.

3.3.1.1 Setup

To set up the Local Bondix Web Monitor, choose the following settings:

Field	Value
Enable local Bondix Web Monitor	On
Bondix Web Monitor IP	For the Bondix Web Monitor, any local IP address will do, e.g. 192.168.1.1.
Bondix Web Monitor Port	For the Bondix Web Monitor, any unused port will do, e.g. 8088.
Bondix Web Monitor password	Set a password you easily remember, e.g. 123456.

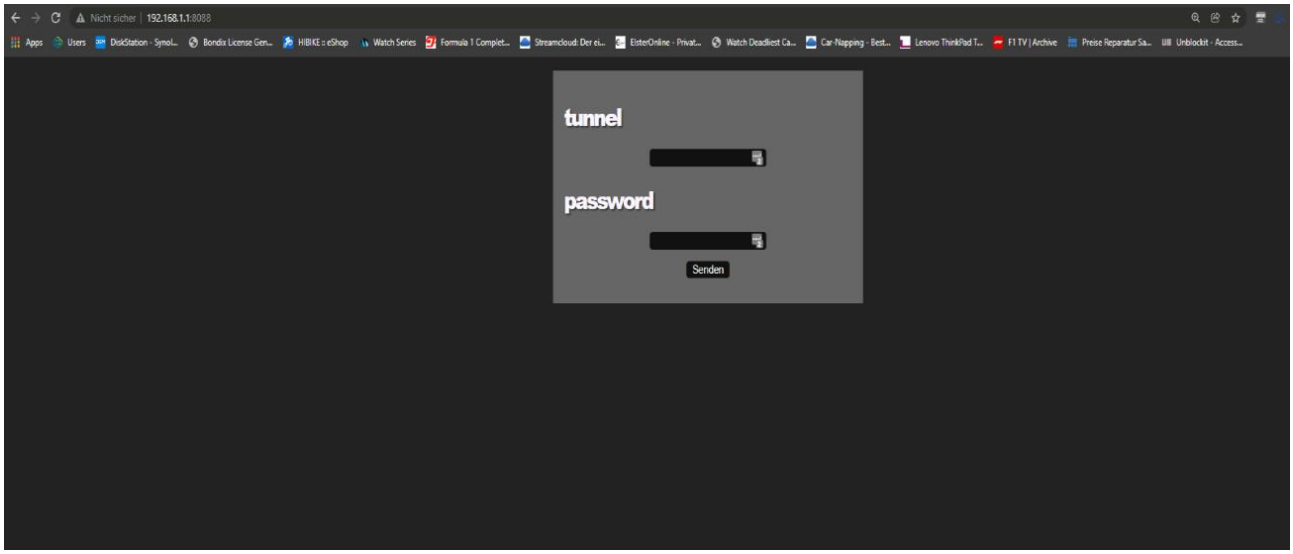
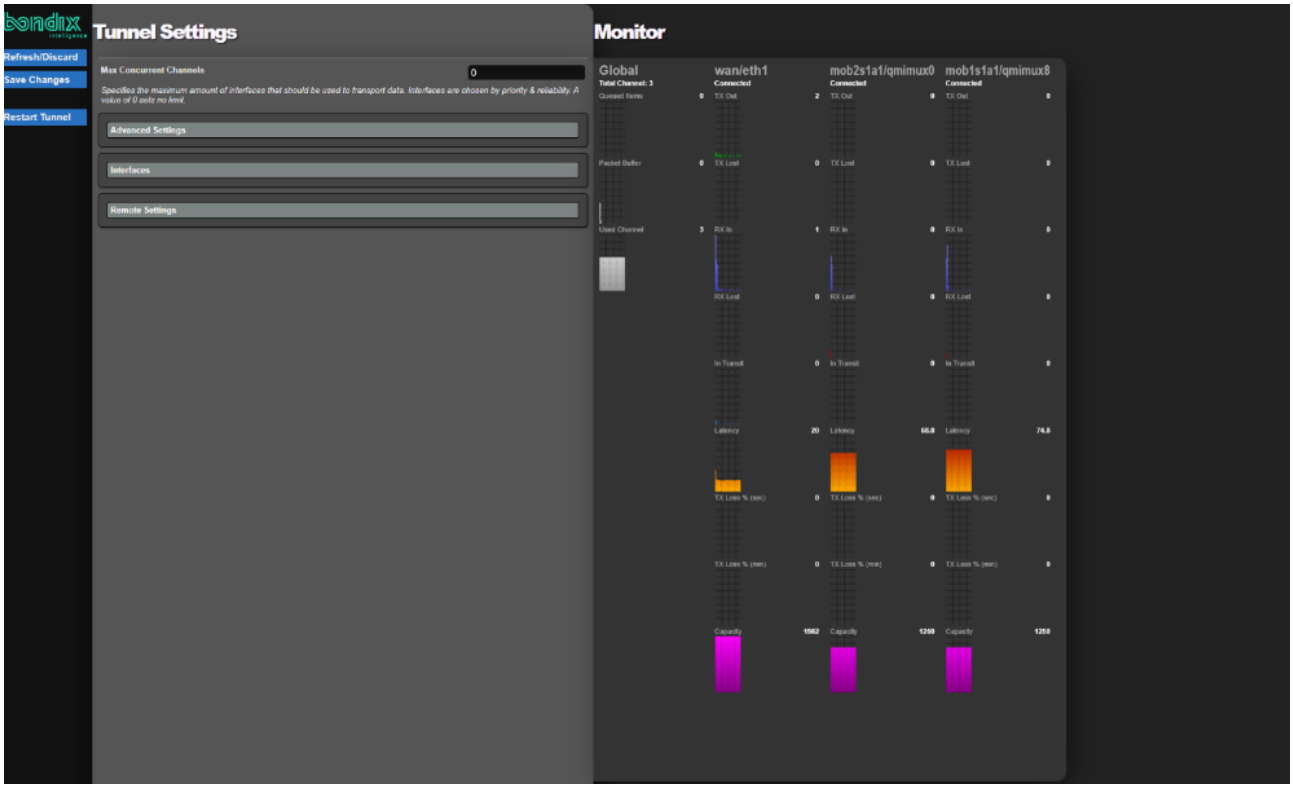
To save your changes, click on "Save and Apply", then navigate to "General Settings" in the same section and press "Restart Service".

3.3.1.2 Access

After the initial setup, you'll automatically be taken to the page

`https://[Bondix Web Monitor's IP]:[Bondix Web Monitor's port]`

Now, enter the name of the tunnel you want to monitor and the Bondix Web Monitor password, and confirm with "Senden".



This will take you right to the Bondix Web Monitor for the specific tunnel where you'll get a graphical overview of the data traffic and the connection status of your connected WAN links: