



PLMN Whitelist





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Used symbols

 *Danger* – Information regarding user safety or potential damage to the router.

 *Attention* – Problems that can arise in specific situations.

 *Information* – Useful tips or information of special interest.

 *Example* – Example of function, command or script.

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1. Changelog

1.1 PLMN Whitelist Changelog

v1.0.0 (2021-12-03)

- First release

2. Basic Information

2.1 PLMN

In telecommunication, a public land mobile network (PLMN) is a combination of wireless communication services offered by a specific operator in a specific country. A PLMN is identified by a globally unique PLMN code, which consists of a MCC (Mobile Country Code) and MNC (Mobile Network Code). Hence, it is a five- to six-digit number identifying a country, and a mobile network operator in that country, usually represented in the form 001-01 or 001-001.

In the Czech Republic has MCC 230 and MNCs for our operators are following:

MNC	Operator
01	T-Mobile
02	O2
03	Vodafone
04	Nordic Telecom

Table 1: MNC values for Czech GSM operators

In this router app the PLMN representation form drops the separating dash so for example T-Mobile PLMN would be **23001**

2.2 Blacklist vs. Whitelist

Blacklisting, or denylisting, is a security measure that keeps certain people, web sites or programs from a computer or network. In other words, it refers to the practice of blocking unauthorized access to a system resource. A blacklist is a list of hosts that are not allowed to access a certain service, and this list is often used by antivirus software as well as firewalls.

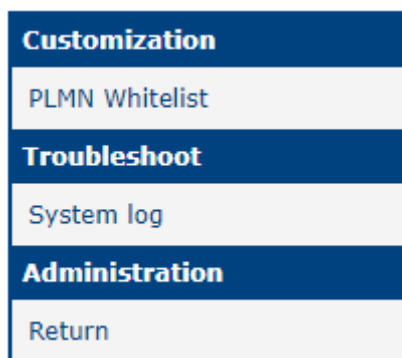
Whitelisting, or allowlisting, is a defensive measure, used to protect against malware and other malicious software. It works by allowing only trusted executables, applications and websites to run on an organization's systems. Whitelisting is a cybersecurity term that refers to the process of identifying and permitting safe content. It means blocking all other content from entering the network by default and then only permitting specific files that have been pre-approved.

3. Router App Description

3.1 Web Interface

After Router App installation, the module's GUI can be invoked by clicking the router app name on the Router Apps page of router's web interface.

Left part of this GUI contains menu with Customization menu section, Troubleshoot menu section and Administration menu section. Administration menu section contains only the Return item, which switches back from the module's web page to the router's web configuration pages. The main menu of router app GUI is shown on Figure below.

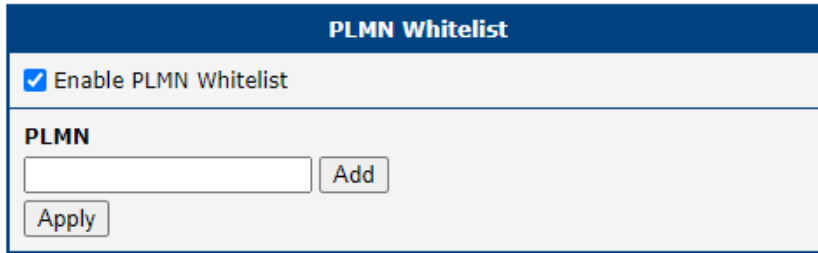


Customization
PLMN Whitelist
Troubleshoot
System log
Administration
Return

Figure 1: Menu

3.2 PLMN Whitelist

Customization menu section contains PLMN Whitelist item where all the setting of this router app takes place.



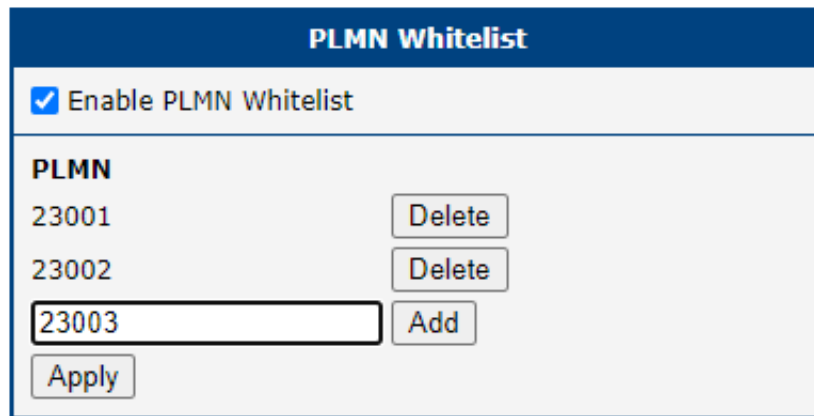
The screenshot shows a configuration window titled "PLMN Whitelist". At the top, there is a blue header bar with the title. Below it, a checkbox labeled "Enable PLMN Whitelist" is checked. Underneath, the section is titled "PLMN". There is an empty text input field followed by an "Add" button. At the bottom left of the main area, there is an "Apply" button.

Figure 2: PLMN Whitelist

Item	Description
Enable PLMN Whitelist	Enables PLMN Whitelist functionality.
PLMN	List of added PLMN items are displayed here.

Table 2: PLMN Whitelist Config Items

For adding another just type the PLMN into textbox and click add and then apply. There can be multiple PLMNs whitelisted. In the image below the T-Mobile, O2 is added and Vodafone is just being added.

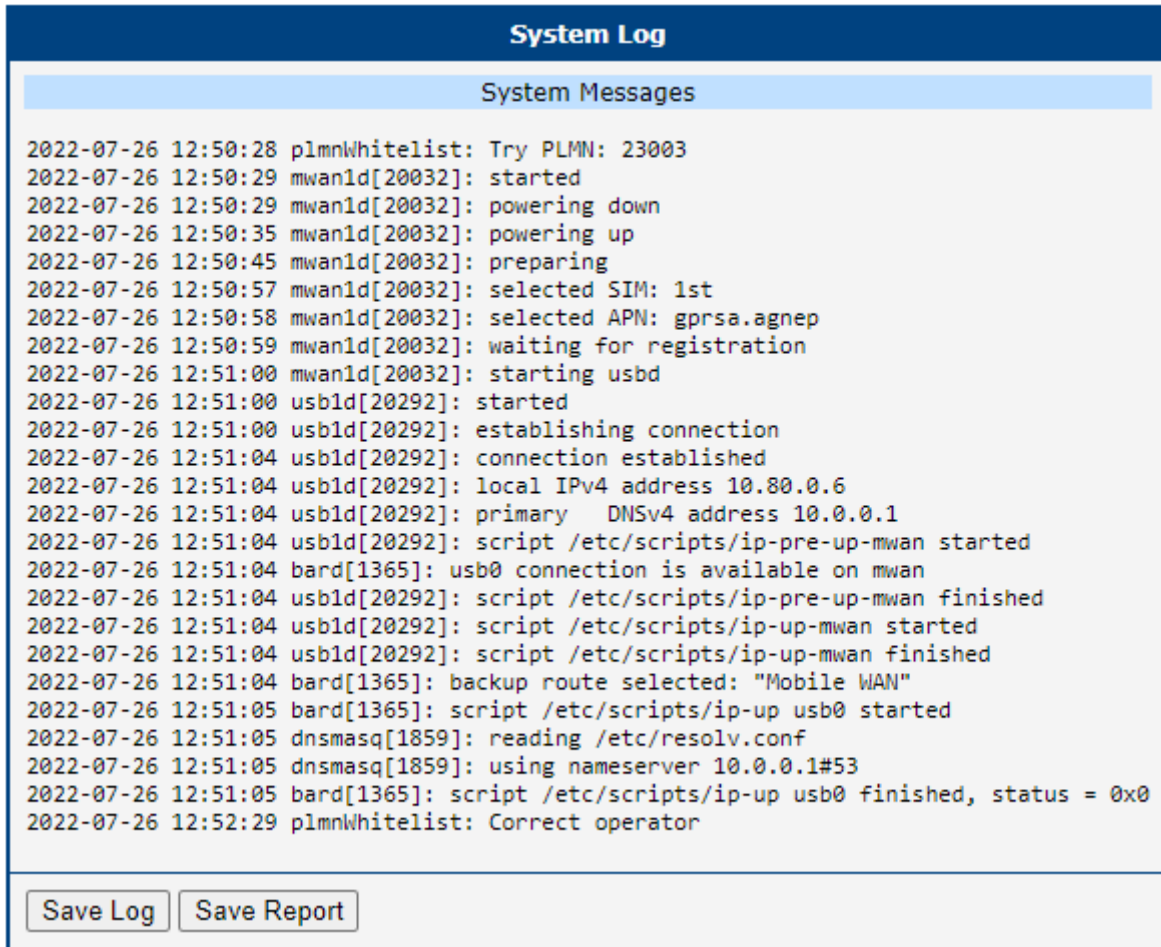


The screenshot shows the "PLMN Whitelist" configuration window. The "Enable PLMN Whitelist" checkbox is checked. Under the "PLMN" section, there is a list of three entries: "23001", "23002", and "23003". Each entry has a "Delete" button to its right. The "23003" entry is currently selected in the input field, and an "Add" button is visible next to it. An "Apply" button is located at the bottom left of the main configuration area.

Figure 3: PLMN Whitelist

3.3 System log

System log section contains log messages.



The screenshot displays a window titled "System Log" with a sub-header "System Messages". It contains a list of system log entries from 2022-07-26, detailing the startup and configuration of mobile network services. At the bottom of the window, there are two buttons: "Save Log" and "Save Report".

```
2022-07-26 12:50:28 plmnWhitelist: Try PLMN: 23003
2022-07-26 12:50:29 mwan1d[20032]: started
2022-07-26 12:50:29 mwan1d[20032]: powering down
2022-07-26 12:50:35 mwan1d[20032]: powering up
2022-07-26 12:50:45 mwan1d[20032]: preparing
2022-07-26 12:50:57 mwan1d[20032]: selected SIM: 1st
2022-07-26 12:50:58 mwan1d[20032]: selected APN: gprsa.agnep
2022-07-26 12:50:59 mwan1d[20032]: waiting for registration
2022-07-26 12:51:00 mwan1d[20032]: starting usb1d
2022-07-26 12:51:00 usb1d[20292]: started
2022-07-26 12:51:00 usb1d[20292]: establishing connection
2022-07-26 12:51:04 usb1d[20292]: connection established
2022-07-26 12:51:04 usb1d[20292]: local IPv4 address 10.80.0.6
2022-07-26 12:51:04 usb1d[20292]: primary DNSv4 address 10.0.0.1
2022-07-26 12:51:04 usb1d[20292]: script /etc/scripts/ip-pre-up-mwan started
2022-07-26 12:51:04 bard[1365]: usb0 connection is available on mwan
2022-07-26 12:51:04 usb1d[20292]: script /etc/scripts/ip-pre-up-mwan finished
2022-07-26 12:51:04 usb1d[20292]: script /etc/scripts/ip-up-mwan started
2022-07-26 12:51:04 usb1d[20292]: script /etc/scripts/ip-up-mwan finished
2022-07-26 12:51:04 bard[1365]: backup route selected: "Mobile WAN"
2022-07-26 12:51:05 bard[1365]: script /etc/scripts/ip-up usb0 started
2022-07-26 12:51:05 dnsmasq[1859]: reading /etc/resolv.conf
2022-07-26 12:51:05 dnsmasq[1859]: using nameserver 10.0.0.1#53
2022-07-26 12:51:05 bard[1365]: script /etc/scripts/ip-up usb0 finished, status = 0x0
2022-07-26 12:52:29 plmnWhitelist: Correct operator
```

Figure 4: System log

4. Related Documents

You can obtain product-related documents on *Engineering Portal* at icr.advantech.cz address.

To get your router's *Quick Start Guide*, *User Manual*, *Configuration Manual*, or *Firmware* go to the [Router Models](#) page, find the required model, and switch to the *Manuals* or *Firmware* tab, respectively.

The *Router Apps* installation packages and manuals are available on the [Router Apps](#) page.

For the *Development Documents*, go to the [DevZone](#) page.