RUT901 WAN

The information in this page is updated in accordance with firmware version **RUT9M_R_00.07.07.1**.

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Summary

The **WAN** page is used to to set up WAN network interfaces, which are used to connect device with external networks.

This manual page provides an overview of the WAN windows in RUT901 devices.

If you're having trouble finding this page or some of the parameters described here on your device's

WebUI, you should **turn on "Advanced WebUI" mode**. You can do that by clicking the "Advanced" button, located at the top of the WebUI.

WAN

The **WAN** section displays WAN network interfaces currently existing on this device.

From here you can turn the interfaces, enable/disable interface's failover, create interfaces, change their priority* or enter an interface's configuration page.

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* You can change the priority by dragging and dropping an interface to another position. Moving an interface changes its metric value in the configuration file. Interfaces that are higher on the list have greater priority.

If you hover mouse over the question mark global IPv6 addresses and IPv6 prefix delegation will be displayed.

Interface configuration

This section provides information on **network interface configuration**. There are 2 main types of interfaces on the device:

- **Ethernet WAN**
- **Mobile WAN**

Different types of interfaces can be configured under different protocols:

	Static	DHCP	DHCPv6	PPPoE	Mobile
Ethernet WAN					
Mobile WAN					

To begin configuring an interface, click the 'Edit' button on the right side of the interface:

General Setup

The **General Setup** section is used to configure the protocol of an interface and all the different parameters that go along with each protocol. If **None** protocol is chosen, all other interface settings will be ignored. The following sections are different for each protocol.

General Settings: Static

The **static** protocol uses a predefined manual configuration instead of obtaining parameters automatically via a DHCP lease.

Field	Value	Description
Enable	on | off; default: **on**	Enable interface.
IPv4 address	ip4; default: **none**	The IPv4 address interface of this interface. An IP address identifies a device on a network and allows it to communicate with other devices.
IPv4 netmask	netmask; default: **255.255.255.0**	The IPv4 netmask of this interface. A **netmask** is used to define how "large" a network is by specifying which part of the IP address denotes the network and which part denotes a device.
IPv4 gateway	ip4; default: **none**	The IPv4 gateway address used by this interface. An interface's default gateway is the default address through which all outgoing traffic is directed.
IPv4 broadcast	ip4; default: **none**	The IPv4 broadcast address used by this interface. IP broadcasts are used by BOOTP and DHCP clients to find and send requests to their respective servers.
DNS servers	ip4; default: **none**	DNS server addresses that this interface will use. If left empty, DNS servers are assigned automatically. To see what DNS servers are currently used, you can check the contents of the */tmp/resolv.conf.auto* file.

General Settings: DHCP

The **DHCP** protocol is used to set up an interface which obtains its configuration parameters automatically via a DHCP lease.

Field	Value	Description
Enable	on | off; default: **on**	Enable interface.
Hostname to send when requesting DHCP	string; default: **none**	A hostname for this interface used to identify this machine on the DHCP server.

General Settings: DHCPv6

The **DHCPv6** protocol is used to set up an IPv6 interface which obtains its configuration parameters automatically via a DHCP lease.

Field	Value	Description
Enable	on | off; default: **on**	Enable interface.

General Settings: PPPoE

The **PPPoE** protocol is used to set up a PPP (Point-to-Point Protocol) connection over the Ethernet port.

Field	Value	Description
Enable	on | off; default: **on**	Enable interface.
PAP/CHAP username	string; default: **none**	Username used in PAP/CHAP authentication.
PAP/CHAP password	string; default: **none**	Password used in PAP/CHAP authentication.
Access Concentrator	string; default: **none**	The Access Concentrator to connect to. ISPs used Access Concentrators to route their PPPoE connections. Usually, the settings are received automatically, however in some cases it is required to specify the name for an Access Concentrator. Leave empty to detect Access Concentrators automatically.
Service name	string; default: **none**	The Service Name to connect to. Leave empty to detect Service name automatically.

General Settings: Mobile

The **Mobile** protocol is used to set up an interface which can establish a mobile WAN connection.

Mode: NAT

Field	Value	Description
Mode	NAT | Bridge | Passthrough; default: **NAT**	Mobile connection operating mode. • **NAT** - the mobile connection uses NAT (network address translation). • **Bridge** - bridges the LTE data connection with LAN. The device assigns its WAN IP address to another device (first connected to LAN or specified with MAC address). Using Bridge mode will disable most of the device's capabilities. • **Passthrough** - in this mode the RUT901 shares its WAN IP to a single LAN device (first connected to LAN or specified with MAC address). The LAN device will get WAN IP of RUT901 instead of LAN IP. Using Passthrough mode will disable most of the device's capabilities.
PDP Type	IPv4 | IPv6 | IPv4/IPv6; default: **IPv4/IPv6**	Specifies what of address will be requested from the operator.

SIM	SIM1 | SIM2; default: **SIM1**	Selects which SIM slot will be used for this interface.
Auto APN	off | on; default: **on**	The Auto APN feature scans an internal Android APN database and selects an APN based on the SIM card's operator and country. If the first automatically selected APN doesn't work, it attempts to use the next existing APN from the database.
APN / Custom APN	string; default: **none**	An Access Point Name (APN) is a gateway between a GSM, GPRS, 3G or 4G mobile network and another computer network. Depending on the contract, some operators may require you to use an APN just to complete the registration on a network. In other cases, APN is used to get special parameters from the operator (e.g., a public IP address) depending on the contract. An APN Network Identifier cannot start with any of the following strings: • rac; • lac; • sgsn; • rnc; it cannot end in: • .gprs; and it cannot contain the asterisk symbol (*).
Authentication Type	NONE | PAP | CHAP; default: **NONE**	Authentication method that your GSM carrier uses to authenticate new connections on its network. If you select PAP or CHAP, you will also be required to enter a username and password.

Mode: Passthrough

Field	Value	Description
Mode	NAT | Bridge | Passthrough; default: **NAT**	Mobile connection operating mode. • **NAT** - the mobile connection uses NAT (network address translation). • **Bridge** - bridges the LTE data connection with LAN. The device assigns its WAN IP address to another device (first connected to LAN or specified with MAC address). Using Bridge mode will disable most of the device's capabilities. • **Passthrough** - in this mode the RUT901 shares its WAN IP to a single LAN device (first connected to LAN or specified with MAC address). The LAN device will get WAN IP of RUT901 instead of LAN IP. Using Passthrough mode will disable most of the device's capabilities.
Subnet selection	Auto | P2P; default: **Auto**	Subnet selection method.
PDP Type	IPv4 | IPv6 | IPv4/IPv6; default: **IPv4**	Specifies what of address will be requested from the operator.

SIM	SIM1 | SIM2; default: **SIM1**	Selects which SIM slot will be used for this interface.
Auto APN	off | on; default: **on**	The Auto APN feature scans an internal Android APN database and selects an APN based on the SIM card's operator and country. If the first automatically selected APN doesn't work, it attempts to use the next existing APN from the database.
APN / Custom APN	string; default: **none**	An Access Point Name (APN) is a gateway between a GSM, GPRS, 3G or 4G mobile network and another computer network. Depending on the contract, some operators may require you to use an APN just to complete the registration on a network. In other cases, APN is used to get special parameters from the operator (e.g., a public IP address) depending on the contract. An APN Network Identifier cannot start with any of the following strings: • rac; • lac; • sgsn; • rnc; it cannot end in: • .gprs; and it cannot contain the asterisk symbol (*).
Authentication Type	NONE | PAP | CHAP; default: **NONE**	Authentication method that your GSM carrier uses to authenticate new connections on its network. If you select PAP or CHAP, you will also be required to enter a username and password.
Disable DHCP	on | off; default: **on**	Disables dynamic allocation of client addresses when toggled off
Lease Time	integer; default: **1**	Expiry time of leased address. The minimum value for hours is 1, the minimum value for minutes is 2 and the minimum value for seconds is 120
Units	Hours | Minutes | Second; default: **Hours**	Specifies the time measurement unit
MAC Address	mac; default: **none**	Specifies the MAC address of the device that will receive the mobile interface's IP address in Bridge or Passthrough mode. **Note:** this field only becomes visible when using Bridge or Passthrough mode.

Mode: Bridge

Field	Value	Description

Mode	NAT | Bridge | Passthrough; default: **NAT**	Mobile connection operating mode. • **NAT** - the mobile connection uses NAT (network address translation). • **Bridge** - bridges the LTE data connection with LAN. The device assigns its WAN IP address to another device (first connected to LAN or specified with MAC address). Using Bridge mode will disable most of the device's capabilities. • **Passthrough** - in this mode the RUT901 shares its WAN IP to a single LAN device (first connected to LAN or specified with MAC address). The LAN device will get WAN IP of RUT901 instead of LAN IP. Using Passthrough mode will disable most of the device's capabilities.
Subnet selection	Auto | P2P; default: **Auto**	Subnet selection method.
PDP Type	IPv4 | IPv6 | IPv4/IPv6; default: **IPv4**	Specifies what of address will be requested from the operator.
SIM	SIM1 | SIM2; default: **SIM1**	Selects which SIM slot will be used for this interface.
Auto APN	off | on; default: **on**	The Auto APN feature scans an internal Android APN database and selects an APN based on the SIM card's operator and country. If the first automatically selected APN doesn't work, it attempts to use the next existing APN from the database.
APN / Custom APN	string; default: **none**	An Access Point Name (APN) is a gateway between a GSM, GPRS, 3G or 4G mobile network and another computer network. Depending on the contract, some operators may require you to use an APN just to complete the registration on a network. In other cases, APN is used to get special parameters from the operator (e.g., a public IP address) depending on the contract. An APN Network Identifier cannot start with any of the following strings: • rac; • lac; • sgsn; • rnc; it cannot end in: • .gprs; and it cannot contain the asterisk symbol (*).
Authentication Type	NONE | PAP | CHAP; default: **NONE**	Authentication method that your GSM carrier uses to authenticate new connections on its network. If you select PAP or CHAP, you will also be required to enter a username and password.
MAC Address	mac; default: **none**	Specifies the MAC address of the device that will receive the mobile interface's IP address in Bridge or Passthrough mode. **Note:** this field only becomes visible when using Bridge or Passthrough mode.

IPv6 Settings

The **IPv6 Settings** section is used to set up some of the more specific and less frequently used interface parameters. This section is different for each protocol.

IPv6 Settings: Static

Advanced Settings information for **Static** protocol is provided in the table below.

Field	Value	Description
Delegate IPv6 prefixes	off | on; default: **on**	Enable downstream delegation of IPv6 prefixes available on this interface.
IPv6 assignment length	Disabled | 64 | Custom; default: **Disabled**	A metric specifies the priority of the gateway. The lower the metric, the higher the priority (0 for highest priority).
IPv6 address	IPv6 addresses with or without mask prefix are accepted; default: **none**	Assigns an IPv6 address for this interface. CIDR notation: address/prefix.
IPv6 gateway	IPv6 addresses are accepted. E.g. ::0000:8a2e:0370:7334; default: **none**	IPv6 default gateway.
IPv6 routed prefix	IPv6 addresses with mask prefix are accepted E.g ::1/128; default: **none**	Public prefix routed to this device for distribution to clients.
IPv6 suffix	Allowed values: "eui64", "random", fixed value like "::1" or "::1:2"; default: **none**	Optional. Allowed values: 'eui64', 'random', fixed value like '::1' or '::1:2'. When IPv6 prefix (like 'a:b:c:d::') is received from a delegating server, use the suffix (like '::1') to form the IPv6 address ('a:b:c:d::1') for the interface.

IPv6 Settings: DHCPv6

Advanced Settings information for **DHCPv6** protocol is provided in the table below.

Field	Value	Description
Delegate IPv6 prefixes	off | on; default: **on**	Enable downstream delegation of IPv6 prefixes available on this interface.
Request IPv6-address	try | force | disabled; default: **try**	Defines the behaviour for requesting an address.
Request IPv6-prefix of length	integer [0..64] | Automatic | disabled ; default: **Automatic**	Defines how this will request a IPv6 ULA-Prefix length. If set to 'disabled' the interface will obtain a single IPv6 address without a subnet for routing.

IPv6 Settings: PPPoE

Advanced Settings information for **PPPoE** protocol is provided in the table below.

Field	Value	Description
Delegate IPv6 prefixes	off | on; default: **on**	Enable downstream delegation of IPv6 prefixes available on this interface.
Obtain IPv6 address	Automatic | Disabled | Manual; default: **Automatic**	Defines behaviour for obtaining an IPv6 address.

Advanced Settings

The **Advanced Settings** section is used to set up some of the more specific and less frequently used interface parameters. This section is different for each protocol.

Advanced Settings: Static

Advanced Settings information for **Static** protocol is provided in the table below.

Field	Value	Description
Force link	off | on; default: **on**	Specifies whether interface settings (IP, route, gateway) are assigned to the interface regardless of the link being active or only after the link has become active.
Use gateway metric	integer; default: **3**	A metric specifies the priority of the gateway. The lower the metric, the higher the priority (0 for highest priority).
Override MAC address	mac; default: **none**	When set, uses a user-defined MAC address for the interface instead of the default one.
Override MTU	integer [1..9200]; default: **none**	Changes the interface's allowed maximum transmission unit (MTU) size. It is the largest size of a protocol data unit (PDU) that can be transmitted in a single network layer transaction. • **Note:** Interface(s): have mtu lower than 1280 it will make all interfaces on same physical interface no longer support IPv4. • **Note:** Interface(s): have mtu lower than 576 it will make all interfaces on same physical interface no longer support DHCP.
IP4 table	integer [0..99999999]; default: **none**	ID of the routing table in Routing tables page.

Advanced Settings: DHCP

Advanced Settings information for **DHCP** protocol is provided in the table below.

Field	Value	Description
Force link	off | on; default: **off**	Specifies whether interface settings (IP, route, gateway) are assigned to the interface regardless of the link being active or only after the link has become active.
Use broadcast flag	off | on; default: **off**	Required for certain ISPs. For example, Charter with DOCSIS 3.
Use default gateway	off | on; default: **on**	When checked, creates a default route for the interface.
Use gateway metric	integer; default: **none**	A metric specifies the priority of the gateway. The lower the metric, the higher the priority (0 for highest priority).
Use custom DNS servers	ip4; default: **none**	Specifies custom DNS servers. If left empty, DNS servers advertised by peer are used.
Client ID to send when requesting DHCP	string; default: **none**	Client ID which will be sent when requesting a DHCP lease.
Vendor Class to send when requesting DHCP	string; default: **none**	Vendor class which will be sent when requesting a DHCP lease.
Override MAC address	mac; default: **none**	When set, uses a user-defined MAC address for the interface instead of the default one.
Override MTU	integer [1..9200]; default: **none**	Changes the interfaces allowed maximum transmission unit (MTU) size. It is the largest size of a protocol data unit (PDU) that can be transmitted in a single network layer transaction. • **Note:** Interface(s): have mtu lower than 1280 it will make all interfaces on same physical interface no longer support IPv4. • **Note:** Interface(s): have mtu lower than 576 it will make all interfaces on same physical interface no longer support DHCP.
IP4 table	integer [0..99999999]; default: **none**	ID of the routing table in Routing tables page.

Advanced Settings: DHCPv6

Advanced Settings information for **DHCPv6** protocol is provided in the table below.

Field	Value	Description

Force link	off | on; default: **off**	Specifies whether interface settings (IP, route, gateway) are assigned to the interface regardless of the link being active or only after the link has become active.
Use default gateway	off | on; default: **on**	When checked, creates a default route for the interface.
Use gateway metric	integer; default: **2**	The configuration by default generates a routing table entry. In this field you can alter the metric of that entry. Lower metric means higher priority.
Use custom DNS servers	ip4; default: **none**	Specifies custom DNS servers. If left empty, DNS servers advertised by peer are used.
Client ID to send when requesting DHCP	string; default: **none**	Client ID which will be sent when requesting a DHCP lease.
Override MAC address	mac; default: **none**	When set, uses a user-defined MAC address for the interface instead of the default one.
Override MTU	integer [1..9200]; default: **none**	Changes the interface's allowed maximum transmission unit (MTU) size. It is the largest size of a protocol data unit (PDU) that can be transmitted in a single network layer transaction. • **Note:** Interface(s): have mtu lower than 1280 it will make all interfaces on same physical interface no longer support IPv4. • **Note:** Interface(s): have mtu lower than 576 it will make all interfaces on same physical interface no longer support DHCP.
IP6 table	integer [0..2^46]; default: **none**	ID of the routing table in Routing tables page.

Advanced Settings: PPPoE

Advanced Settings information for **PPPoE** protocol is provided in the table below.

Field	Value	Description
Force link	off | on; default: **off**	Specifies whether interface settings (IP, route, gateway) are assigned to the interface regardless of the link being active or only after the link has become active.
Use default gateway	off | on; default: **on**	When checked, creates a default route for the interface.
Use gateway metric	integer; default: **none**	A metric specifies the priority of the gateway. The lower the metric, the higher the priority (0 for highest priority).
Use custom DNS servers	ip4; default: **none**	Specifies custom DNS servers. If left empty, DNS servers advertised by peer are used.
VLAN tag value	integer [0..7]; default: **none**	VLAN tag value.
VLAN priority	integer [0..4095]; default: **none**	VLAN priority.

LCP echo failure threshold	integer; default: **none**	Presumes peer to be dead after given amount of LCP echo failures. Leave it at 0 to ignore failures.
LCP echo interval	integer; default: **none**	Sends LCP echo requests at the given interval in seconds. This function is only effective in conjunction with failure threshold.
Host-Uniq tag content	raw hex-encoded bytes; default: **none**	Leave empty unless your ISP require this.
Inactivity timeout	mac; default: **none**	Close inactive connection after the given amount of seconds. Leave it at 0 to persist connection.
Override MTU	integer [1..1500]; default: **none**	Maximum Transmission Unit (MTU) – specifies the largest possible size of a data packet.
IP4 table	integer [0..99999999]; default: **none**	ID of the routing table in Routing tables page.

Advanced Settings: Mobile

Advanced Settings information for **Mobile** protocol is provided in the table below.

Field	Value	Description
Force link	off | on; default: **off**	Specifies whether interface settings (IP, route, gateway) are assigned to the interface regardless of the link being active or only after the link has become active.
Use gateway metric	integer; default: **none**	A metric specifies the priority of the gateway. The lower the metric, the higher the priority (0 for highest priority).
Use custom DNS servers	ip4; default: **none**	Specifies custom DNS servers. If left empty, DNS servers advertised by peer are used.
Override MTU	integer [98..65535]; default: **none**	Maximum Transmission Unit (MTU) – specifies the largest possible size of a data packet. If Override MTU field will be left – empty dynamic MTU will be used.
IP4 table	integer [0..99999999]; default: **none**	ID of the routing table in Routing tables page.

Physical Settings

The **Physical Settings** section is used to create associations with physical interfaces and bridge network interfaces.

Field	Value	Description
Bridge interfaces	off | **on**; default: **off**	Bridges physical interfaces specified in this configuration.
Interface	network interface(s); default: **wan physical interface**	Ties this network interface to physical device interfaces such as Ethernet.

Firewall Settings

The **Firewall Settings** section is used to specify to which firewall zone if any this interface belongs. Assigning an interface to a zone may provide easier configuration of firewall rules. For example, instead of configuring separate rules for each WAN interface, you can add all WAN interfaces into a single firewall zone and make the rule apply to that zone instead.

More firewall zone settings can be configured from the Network → Firewall → General Settings → Zones section.

Field	Value	Description
Create / Assign firewall-zone	firewall zone; default: **none**	Assigns this interface to the specified firewall zone.

Mobile Data Limit

The **Mobile Data Limit** section provides you with the possibility to set data usage limits for your mobile network interfaces and data usage warnings via SMS message in order to protect yourself from unwanted data charges.

*In order to view the Mobile Data Limit section, the interface **protocol must be set to Mobile**.*

Field	Value	Description
Enable data connection limit	off | on; default: **off**	Turns mobile data limitations on or off.
Data limit* (MB)	integer; default: **1000**	The amount of data that is allowed to be downloaded over the specified period of time. When the limit is reached, the device will no longer be able to establish a data connection until the period is over or the data limit is reset.
Reset period	Month | Week | Day; default: **Day**	Data limit period after which the data counter is reset on the specified *Start day*.
Reset time | Reset day	day [1..31] | day [Monday..Sunday] | hour [1..24]; default: **hour 0**	Specifies when the period of counting data usage should begin. After the period is over, the limit is reset and the count begins over again.
Enable SMS warning	off | on; default: **off**	Turns SMS warning on or off. When turned on and configured, sends an SMS message to a specified number after the SIM card uses a specified amount of data.
Warning threshold* (MB) (%)	• MB - positive integer; default: **none** • % - interger [1..100]; default: **none**	Send warning SMS message after threshold in MB is reached. Warning threshold cannot be higher than data limit!

Phone number	phone number; default: **none**	A phone number to send warning SMS message to.
Data limit clear due	**none**	Display the date of the next automatic data limit clear.

**Your carrier's data usage accounting may differ. Teltonika is not liable should any accounting discrepancies occur.*