# **RUT260 Firmware Downloads**

<u>Main Page</u> > <u>RUT Routers</u> > <u>RUT260</u> > **RUT260 Firmware Downloads** 

This page contains firmware files for RUT260 devices. Look to the table below or the <u>changelog</u> to find download links.

To upgrade firmware using WebUI, follow the instructions in <u>RUT260 Firmware</u>.

RUT260					
File RUT2M_R_00.07.08_WEBUI.bin RUT2M_R_00.07.07.3_WEBUI.bin RUT2M_R_GPL_00.07.08.tar.gz	<b>Type</b> Latest FW Mass production FW SDK	<b>Release date</b> 2024.07.18 2024.06.25 2024.07.18	<b>Size</b> 11.56 MB 11.56 MB 20.51 MB	MD5 3b823a5d36b60d043f391d5953b2a830 8d0b218e7ceb1c58315f67660315d668 663c09ccb570fcddea49b2cb4ed522d8	Changelog <u>Link</u> Link

**Note:** packages for <u>Package Manager</u> are independent from firmware and can be downloaded in the <u>Package Downloads</u> page.

# FW checksums

Checksums for firmware files can be found here.

# Changelog

# RUT2M\_R\_00.07.08 | 2024.07.18

- New
  - Network
    - DNS: added inherited server status to configuration page
    - HTTPS DNS Proxy: added new HTTPS DNS Proxy package to package manager
    - Mobile: added SIM card lock/unlock functionality in Mobile->Utilities page
    - Mobile: added SIM card PIN change functionality in Mobile->Utilities page
    - Mobile: added new Mobile->Limits page which shows information and allows to configure Data and SMS limits
    - Mobile: added DFOTA support for RG520N modems
    - Mobile: added nr-arfcn display to mobile status page
    - Mobile: added dfota support for devices with RG520N-EB modem
  - $\circ$  Services
    - Data to Server: added 'Lua script' data input
    - Hotspot: added Single Sign-on (OIDC) authentication mode
    - Hotspot: added Walled Garden blocklist functionality
    - Input/Output: added ability to configure gpio debounce timer and changed default gpio debounce timer value from 200 ms to 10 ms

- IPsec: added initial XFRM support
- MQTT Modbus Gateway: added JSON message type format
- OpenVPN: added DCO support
- System
  - API Core: added option to configure api session timeout
  - Certificates: added "Let's encrypt" certificate generation
  - PAM: added RADIUS external user support
  - UI Core: added data analytics support
  - Update Firmware: added warning message about device being temporarily unreachable on firmware update

#### • Improvements

- Network
  - DNS: separated field "DNS forwardings" into two: one for simple server forwarding other for domain-specific
  - DNS: moved "DNS Forwardings", "Listen interfaces", "Exclude interfaces", "Local service only", options to advanced tab
  - Firewall: improved protocol field in all firewall pages by making that "All" value would be mutually exclusive with any other value
  - Mobile: improved IMS context initialization
  - Mobile: updated SMS memory management for multipart SMS
  - Mobile: added error message when attempting to enable the SIM switch without any criteria set
  - Mobile: added informative message in SIM switch page when Data/SMS limit criteria are enabled but the limits themselves are not set up
  - Mobile: moved operator list allowlist/blocklist selection to Network selection page
  - Mobile: refactored Scanned operators modal, added repeat scan button
  - Mobile: added ability to view previously scanned operators in Network selection and Operator lists pages
  - Mobile: added ability to edit operator list name and initiate scans for operators in Operator lists page
  - Mobile: updated operator code field list to include APNs from the APN database in Operator lists page
  - Mobile: split Mobile->General page into three pages: General, Connection and Utilities pages
  - Mobile: added mobile interface with highest priority APN configuration in Mobile->General page
  - Mobile: added icons with hints which show SIM card, operator, data connection statuses in Mobile->General page
  - Mobile: moved Mobile data limit section to a tab in WAN page
  - Mobile: added informative message in WAN page to indicate whether the connection will be made using APN from APN database, empty or custom APN
  - Mobile: improved logging of ping error messages
  - Mobile: added 5G SA/NSA mode selection
  - Mobile: improved modem updater to stop ping reboot service while update is in progress
  - Mobile: improved the handling of denied messages upon SIM switch
  - Mobile: added notification when a multi-IMSI SIM card is using Auto APN
  - Mobile: added validation to not allow passthrough and bridge mode when one already exists
  - Mobile: improved safeguards for modem services startup
  - Mobile: improved modem update status display

- Mobile: added corrupted mobile statistics database restoration functionallity
- Mobile: improved setting of IPv4 and IPv6 types inside the modules
- Mobile: improved provider name parsing for SLM750 modem
- Multi WAN: improved interface status representation when using load balancing
- Network: added more options for "IPv6 assignment length" field
- VLAN: added ability to configure VLAN 0
- Wireless: added warning when user configures mesh on radio with automatic frequency channel
- Wireless: added support for wireless MAC-filter MAC ranges
- Wireless: changed Radius Accounting port is not required when configuring access point with enterprise encryption
- Wireless: refactored radio configuration page layout
- Wireless: refactored assignment of wireless interfaces MAC addresses, STA interface will always use fixed address
- Services
  - Azure IoT Hub: added DPS symmetric key attestation support
  - Azure IoT Hub: added Direct Method support
  - Azure IoT Hub: added Plug and Play integration
  - Azure IoT Hub: added link to "Data to Server" page
  - Data to Server: added support for multiple filters
  - Data to Server: improved HTTP output hostname definition with automatic protocol specification in URL
  - Data to Server: improved MQTT input connection handling
  - DNP3 Client: added option to enable/disable service
  - Dynamic DNS: added Lookup hostnames support
  - GRE: increased Inbound and Outbound key limit to 4294967295
  - Hotspot: adjusted hotspot user manager page to display active and inactive user sessions
  - Hotspot: changed local users to be stored with other types of users
  - Hotspot: added 'noc2c' option for enabling client isolation, option is enabled by default
  - Input/Output: added custom name support in I/O status page
  - IPsec: added certificate warning message
  - Mobile Utilities: added interface option to sms\_utils cellular command
  - Mobile Utilities: improved error log message
  - Mobile Utilities: improved naming of I/O pins in initial I/O status rule
  - Mobile Utilities: sms utilities authentication brute force prevention
  - Modbus Server: added mobile last month and last week usage registers
  - Mosquitto: added large package size check for MQTT clients
  - MQTT Modbus Gateway: improved mosquitto reconnect time and service will try to recover few times before exiting
  - MQTT Publisher: improved MQTT connection handling
  - OPC UA Client: added security modes
  - OPC UA Server: added security modes
  - OPC UA Server: added service status display
  - OpenVPN: added support for decrypting private key when uploading a configuration file
  - OpenVPN: improved instance status state
  - OpenVPN: added options to specify an IP address pool for dynamic assignment to clients
  - SMPP: added brute-force prevention

- SMPP: added TLS/SSL support
- SMS Utilities: added security warning in "Authorization method" configuration
- SNMP: changed interface module OID structure
- SNMP: improved User-based Security Model (USM) brute force attack prevention measures
- Stunnel: improved global instance settings dependencies
- emailrelay: updated version to 2.4.1
- OpenVPN: updated version to 2.6.9
- stunnel: updated version to 5.72

- Access Control: added certificate key length warnings
- Access Control: adjusted access control when all pages are blocked
- Access Control: added certificate file download for CLI to work on all browsers
- API Core: implemented functionality to include warning messages for vulnerable certificates
- Boot: improved modem startup reliability
- Boot: reduced first boot time
- Package Manager: added multi package actions
- Package Manager: added status filter
- Package Manager: moved package upload action to main page
- Package Manager: added links to installed packages pages
- Package Manager: refactored "Packages" page
- Package Manager: updated opkg repository link to use https
- RutOS: improved GPL example page to align with new software architecture
- Troubleshoot: refactored Modem debug section to display responses in single field, added clear button to remove received responses
- Troubleshoot: added support for multiple syslog servers
- UI Core: added additional message with IP address to loading screen for scenarios when redirect to different IP address happens
- UI Core: added toast message hiding when text is too long
- Update Firmware: added 'Firmware version' data in screen after firmware upload
- WebUI: added functionality to cancel loading screen if it takes 30 or more seconds
- WebUI: removed all ubus method calls from webui
- WebUI: improved language caching
- WebUI: added password generator for first login modal
- WebUI: added sticky position to side menu
- WebUI: added default password hint to login error message
- WebUI: added warning messages for low-security certificates
- Kernel: updated version to 5.15.159
- libexpat: updated version to 2.6.2
- SSL/TLS: updated version to 3.0.14
- vue: updated version to 3.4
- Fix
  - Network
    - Channel Analysis: fixed network list not being updated if a single scan fails
    - Devices: fixed missing API devices status endpoint permission
    - DHCP: fixed "DHCP option" allow empty input value
    - DHCP: fixed IPv4 leases being not correctly shown when NTP synchronizes time
    - DHCP: fixed DHCP error that occurred after changing the subnet of the LAN IP address in the setup wizard
    - Dynamic routes: fixed duplicated external routes cards

- Firewall: fixed firewall zone validation when adding interfaces
- Mobile: fixed low signal reconnect being available on modems where it is not supported
- Mobile: fixed gsmctl -E output to return only json values
- Mobile: fixed Carrier Aggregation signal strength info
- Mobile: fixed wrong mobile data limit used data format for sms messages
- Mobile: fixed duplicate data connection event reporting
- Mobile: fixed an issue where low signal notifications were displayed without a SIM card
- Mobile: fixed modem serial number acquisition after modem reboot
- Mobile: fixed an issue when 4G-only network type selection may have resulted in a slower connection to the operator
- Mobile: fixed issue where USSD responses were returned in HEX format instead of text format for EC200A module
- Mobile: fixed issue where DHCP filter was not set correctly for RG501Q
- Mobile: fixed an issue where the wrong IP address was used after a DFOTA upgrade
- Multi AP: fixed Multi AP not working with fast roaming
- Multi AP: fixed switching to Multi AP mode fails due to encryption
- Multi AP: fixed Multi AP configuration being deleted when switching mode on the same radio device
- Network: fixed overriding MAC address for interfaces that are bridged
- Realtime Traffic: fixed mobile usage by week day translation by device language
- RelayD: fixed API error when "network" and "lan\_mark" options are not present in a PUT request
- SQM: fixed missing PPP mobile device selection in SQM configuration
- Wireless: fixed wireless scan results sometimes not being returned
- Wireless: fixed wireless status page not updating wireless SSID status after page is opened
- Wireless: removed the ability to have different countries in radio configurations
- Wireless: fixed interface delete when it's unassigned from the wireless interface in access point mode
- Wireless: fixed backticks for WiFi SSID are not allowed in WebUI

### • Services

- BACnet: fixed incorrect BACnet IP port used for sending responses
- BGP: fixed route map sequence going out of range
- BGP: fixed listen range field allowing multiple entries
- Call Utilities: fixed table header switch to be disabled if no rules were created
- DLMS: fixed DLMS test response format
- DLMS: fixed COSEM group validation
- DLMS: fixed API POST error for /dlms/devices/config endpoint
- DLMS: fixed serial connection not working after reboot
- DNP3 Client: fixed to allow reading objects past 255 index
- DNP3 Client: fixed incorrect hints
- DNP3 Outstation: fixed serial outstation starting issues
- Hotspot: fixed uploading more than one custom theme
- Hotspot: fixed creating Hotspot to SSID that is disabled
- Hotspot 2.0: fixed Venue name and Operator's name field validations
- I/O Juggler: fixed improper dout action config handling
- I/O Juggler: updated profile change action
- Input/Output: allow unselecting all Post/Get access methods

- IPsec: fixed connectivity issues when using WAN failover
- IPsec: fixed the instance status when the local firewall option is disabled
- Ledman: fixed issue when after some time network type LED starts blinking
- Modbus Client: fixed test request option validation
- Modbus Client: fixed alarm output action display values
- Modbus Client: fixed incorrect period hint
- Modbus Server: fixed APN register not clearing APN
- Modbus Server: fixed 148 and 164 modbus registers
- Modbus Server: fixed incorrect hints
- OPC UA Server: fixed not starting while modem is down
- OpenVPN: fixed displaying imported files from device
- OpenVPN: fixed the private key decryption for cases when a password is used
- OpenVPN: fixed data cipher migration
- SMPP: fixed username bypass problem
- SMPP: fixed password validation
- SMS Gateway: fixed SMS to Email recipient formatting according to RFC5322
- SNMP: fixed GSM mSignal OID value type
- SNMP: fixed GSM module memory leaks
- SSTP: fixed functionality when the default route option is not enabled
- Web Filter: fixed whitelist not working for some hosts when using IPv6

- Administration: fixed repeated validation on cleared inputs and added validation when new password matches the old one
- API Core: fixed API method validation during upload action
- API Core: fixed error messages for POST method
- API Core: fixed option list validation
- Boot: fixed factory settings restore (firstboot) not deleting hidden files
- Events Log: fixed refresh button in event log table
- IP Block: fixed adding MAC addresses back to whitelist when unblocking all of them
- Recipients: made phone number field required
- Setup Wizard: fixed lan ip step not changing ip address
- Troubleshoot: fixed system log and kernel log buttons to be enabled with read only rights
- Update Firmware: fixed misleading "Firmware version" status of "N/A" to "FOTA service is disabled" when FOTA is disabled
- Update Firmware: fixed issue when infinite spinner appears after updating device firmware from server without having internet connection

### • CVE Patches

- Patched CVE-2023-52425
- Patched CVE-2023-52530
- Patched CVE-2024-25629
- Patched CVE-2024-28757

# **<u>RUT2M\_R\_00.07.07.3</u>** | 2024.06.25

- Fix
- Network
  - WebUI: fixed port advertisement change

• FOTA: fixed config when upgrading from older firmware with keep settings

- CVE Patches
  - CVE-2024-31950
  - · CVE-2024-31951

# **<u>RUT2M\_R\_00.07.07.2</u>** | 2024.06.12

### • Improvements

- Network
  - Zerotier: added backup WAN interface blacklisting if WAN failover is enabled
  - Mobile: improved communication stability with eSIM
- Services
  - SNMP: added bruteforce attack prevention when using SNMP v3 user
  - L2TP: improved reconnect attempt logic
  - Wireless: removed unnecessary information from system logs
- System
  - SSH: removed weak SSH algorithms
  - Telnet: moved to Package Manager
- Fix
  - Network
    - BGP: fixed instance migration issues
    - Mobile: fixed forced APN configuration
  - Services
    - DMVPN: fixed duplicate NHRP map entries creation
    - OpenVPN: added fixes for the insecure tls-cert-profile option usage
  - System
    - IP Block: fixed blocking of UDP traffic
    - Ledman: fixed WiFi LED indication when WiFi configuration is changed
    - Uboot: fixed firmware recovery update via uboot on Windows
- CVE Patches
  - · CVE-2024-31948

# <u>RUT2M\_R\_00.07.07.1</u> | 2024.05.03

#### • Improvements

- Network
  - Mobile: improved connection establish time for uqmi protocol
- System
  - WebUI: improved first login password change logic
  - Certificates: updated Root CA certificates
- Fix
  - Network
    - Mobile: fixed denied roaming flag set
- CVE Patches
  - CVE-2024-2397

# RUT2M\_R\_00.07.07 | 2024.04.16

#### • New

- Network
  - WebUI: added ESM/EMM message notifications
  - WebUI: added internet status tracking configuration and overview widget
  - LAN: added a new IPv6 LAN status page
  - Static Leases: added a new IPv6 Static Leases page
  - WebUI: added custom domain name resolve option in "DNS" configuration page
  - Auto APN: added "uno.au-net.ne.jp" APN for "KDDI" operator
  - Auto APN: added 'eprivate010.tisparkle.com' APN for "Sparkle" operator
  - QoS: added mobile interface select option
  - Failover: added additional connection flush options
  - Wireless: added auto-reconnect disable functionality
  - Wireless: added ability to use PKCS#12 certificates for EAP-TLS authentication
  - VRF: added initial Virtual Routing and Forwarding support

#### • Services

- Post/Get: added I/O invert support
- DLMS Client: added persistent TCP connections
- Events Reporting: added unexpected shutdown event
- Modbus Client: added 64bit data types
- IPerf3: added iPerf3 to Package Manager
- DNP3 Outstation: added I/O objects
- TR-069: added PCI, LAC, TAC, EARFCN and Neighbour cells data to Device.MobileInfo node
- Hotspot: added domain and subdomain options for external landing page
- System
  - WebUI: added the ability to generate random passwords for password input fields
  - WebUI: added reset to "Factory defaults" option
  - System: changed firmware certificate verification tool
  - IP Block: added time-based login attempt blocking
  - WebUI: added firmware update notification support
  - PAM: added the ability to set port for TACACS+
  - Logging: added multiple remote syslog servers support

#### • Improvements

- Network
  - Static Leases: added possibility to use MAC with wildcard
  - WebUI: added ability to disable modem update notifications
  - WebUI: added additional field for warning threshold to allow entering value as percentage in Mobile Data Limit section
  - Mobile: improved mobile services stability when SIM card is lost during SMS sending
  - Mobile: updated bridge/passthrough mode logic to flush ARP and add static ARP entry if MAC is specified
  - Mobile: improved SIM switch logging and protection on failure to acquire data
  - WebUI: added partial data loading to APN database page
  - Mobile: improved SMS sending timeouts during network issues
  - Mobile: improved connection handling when data limit is reached
  - Mobile: added metric to default gateway when using passthrough mode

- WebUI: added validation for 2 same APNs
- WebUI: updated Band selection field to show duplex modes in Mobile General page
- Mobile: improved connection establishment time on device boot up
- Topology: changed network devices scanning application
- WebUI: improved design of Status LAN page
- DHCP: simplified DHCP configurations in other pages and moved full DHCP configuration to a separate page
- DHCP: removed default disabled server configuration for WAN interface
- WebUI: simplified data entry of DNS forwardings by separating hostname and IP address fields
- BGP: added Virtual Routing and Forwarding (VRF) support
- BGP: added multiple BGP instance support
- WebUI: adjusted responsive design breakpoints
- Dnsmasq: updated dnsmasq to version 2.89
- WebUI: added an information icon and disabled delete button for wireless instance when it is associated with a hotspot interface
- Wireless: improved hidden AP handling when showing scan results

#### • Services

- Wireguard: added option to bind tunnel to a specific interface
- OPC UA Client: added limits (10 servers, 20 groups, 50 nodes per server, 50 values per group)
- DLMS Client: increased maximum count of connection sections to 30
- DLMS Client: added short name referencing
- SNMP: set strict default community access when IPv6 address is used
- SNMP: improved sysName OID to set device's hostname
- OpenVPN: added the bridge option for selecting the network device to be bridged with
- OpenVPN: added possibility to create more than one TAP client
- Auto Reply: added available SMS message parameters to "Message text" input
- Modbus Client: allow using diacritics in SMS alarms
- Hotspot: moved MAC blocking option from Access Control to Hotspot page
- WebUI: added MAC authentication support when using RADIUS authentication mode
- WebUI: moved licenses to footer
- SSTP: updated package version to 1.0.19
- Mosquitto: updated package version to 2.0.17

• System

- WebUI: added more strict password requirements for restoring backup
- SMTP: added option to either not verify SMTP server or upload SMTP server's CA file to verify authenticity
- WebUI: Added the ability to choose the ROOT CA when using certificates from the device
- WebUI: unified time format to ISO8601 across the entire WebUI
- WebUI: added ability to choose imported certificate and key as 'Server certificate' and 'Server key' in 'Access Control'
- WebUI: added 'Hosts' and 'IP Addresses' options for 'Simple' certificate generation and certificate signing
- WebUI: changed firmware update option to server as a default option
- GPL: added offline package preparation command for GPL builds
- Speedtest: added multiple connections support to improve accuracy

- Kernel: updated to version 5.15.149
- Libcap: updated package version to 2.69
- Fix

#### • Network

- Topology: fixed showing interfaces with assigned VLAN
- WebUI: fixed static routing creation for GRE instance
- Network: fixed DHCPv4 relay mode enabling
- Mobile: fixed PIN code set after modem restart
- Mobile: fixed an issue where using SIM change command on one SIM slot modems would reset connection
- Mobile: fixed an issue where message storage would not be checked correctly
- Mobile: fixed temperature value sometimes returning 0
- Mobile: fixed issue where RSSI value was displayed as 0 when using 2G/3G network types
- Failover: fixed Failover missing active rules when using multiple source and destination IP addresses
- Failover: fixed an issue where failover would not function correctly while using a mobile interface
- WebUI: fixed network and failover interface metric sorting synchronization issue
- WebUI: fixed failover rule policy save issue with newly added WAN interface
- Interfaces: fixed failover value for new WAN being taken from WAN that was just deleted
- Wireless: fixed Wifi Scanner not saving scanned WiFi SSIDs
- Wireless: fixed missing CCMP-256 and GCMP-256 cipher types in scan results
- Wireless: fixed missing GCMP-256 cipher when using WPA3-EAP encryption in Client mode
- Wireless: fixed skipped MAC address value for interface in Client mode
- Wireless: fixed scanning issue when connected via the same network
- Wireless: fixed mesh functionality
- Wireless: fixed missing signal strength value on Client interfaces
- Wireless: fixed Client interface taking excessive time to connect after boot
- Wireless: fixed missing EAP authentication in Client mode
- Wireless: fixed connected wireless clients being shown duplicated
- WebUI: fixed mesh nodes not being shown in Status->Wireless->Interfaces page
- WebUI: fixed proposed configuration settings when connecting to a mesh point network
- MultiAP: fixed client not switching to another AP if incorrect password was provided
- Services
  - Modbus Client: allow using negative floating point values in requests
  - Azure IoT Hub: fixed Data to Server minor WebUI dependency bugs
  - Azure IoT Hub: fixed 'contentType' telemetry message parameter
  - Data to Server: fixed DLMS data formating
  - Data to Server: fixed Network link state data display
  - DLMS Client: fixed segfault while reading profile generic COSEM object
  - DLMS Client: fixed profile generic entries reading
  - DLMS Client: fixed application memory allocation issues
  - SSTP: fixed route adding when default route is enabled
  - SNMP: fixed VLAN OID naming
  - OpenVPN: added fixes for instance status tracking functionality
  - OpenVPN: resolved uptime counting issues

- PPTP: fixed PPTP instance deletion problem
- PPTP: fixed problem related with routes when failover is enabled
- Hotspot: fixed password validation for locally created users and signed-up users
- Hotspot: fixed session invalidation after deleting registered user
- Hotspot: fixed SMS OTP password reuse
- Hotspot: fixed firewall rule creation
- Modbus Client: fixed issue where service freezes when SMS alarm is sent
- WebUI: fixed data loading error in Input/Output > Post/Get page
- UPnP: updated package version to 2.3.4
- \*\* System
- NTP Client: fixed "Count of time synchronizations" execution when synchronization to mobile operator is chosen
- Package Manager: fixed spinner message when restarting network after package upload or download
- Package Manager: fixed supported devices check when installing a package from server
- WebUI: fixed language install from uploaded package after upgrade with keep settings
- WebUI: fixed an issue when a user was not logged out after changing profiles
- Telnet: fixed segmentation fault during concurrent connections
- CLI: fixed enter key issue on mobile chromium based browsers
- System Users: fixed SSH session close after deleting user or disabling SSH access
- Profiles: fixed profile migration with installed packages
- WebUI: fixed Hotspot log page table search functionality
- Speedtest: fix missing download speed on some servers
- PAM: updated libpam to version 1.6.0

### • CVE Patches

- CVE-2022-4603
- CVE-2022-23308
- CVE-2022-45061
- CVE-2023-0466
- CVE-2023-6129
- CVE-2023-7042
- CVE-2023-24329
- CVE-2023-27043
- CVE-2023-42366
- CVE-2023-46218
- CVE-2023-46219
- CVE-2023-46752
- CVE-2023-46753
- CVE-2023-48795
- CVE-2024-25062
- CVE-2024-27913
- CVE-2024-22365

# **<u>RUT2M\_R\_00.07.06.10</u>** | 2024.04.04

- Fix
  - System

# RUT2M\_R\_00.07.06.8 | 2024.03.25

Note: Firmware  $R_{00.07.06.8}$  was removed due to an issue with inefficient memory allocation for LED control.

#### • Improvements

- Services
  - IPSec: disabled libgmp in favor of openssl
  - IPSec: updated Strongswan to 5.9.6
- Fix
  - Services
    - IPSec: increased charon load timeout
    - IPSec: fixed loading of large private keys

# RUT2M\_R\_00.07.06.6 | 2024.03.04

- New
  - Services
    - Added domain and subdomain options for external landing page in Hotspot
- Improvements
  - System
    - Minified \*.svg WebUI files to save space on the device
    - Removed unused easy-rsa package to increase free space
- Fix
  - Network
    - Fixed mobile daily data usage representation
    - Fixed the issue with Wireless bgscan functionality not operating correctly

# **<u>RUT2M\_R\_00.07.06.5</u>** | 2024.02.21

- New
  - Network
    - Added support for multi line USSD
- Improvements
  - Network
    - Improved DMZ to use its source zone on port forwards creation
  - System
    - Updated netifd version to 2024-01-04
    - Updated PPP package version to 2.4.9
    - Updated E2fsprogs package version to 1.47.0
    - Updated Musl package version to 1.2.4
- Fix
  - Network
    - Fixed an issue where DNS resolution failed for wireless clients connected to an

access point configured on a specific VLAN

- WebUI
  - Fixed action descriptions in the traffic rules table
- System
  - Fixed WiFi LED indication when access point is turned off
  - Fixed year 2038 problem with time counter overflow

# **<u>RUT2M\_R\_00.07.06.3</u>** | 2024.01.17

#### • Improvements

- Services
  - Increased DLMS Client connection timeout for TCP sockets
- Fix
  - Services
    - Fixed DLMS Client memory leak with profile generic COSEM class
  - $\circ \ WebUI$ 
    - Fixed Events Log sorting and search features
  - System
    - Patched CVE-2024-0193 vulnerability
    - Patched CVE-2023-51779 vulnerability
    - Updated OpenSSH to 9.6p1 version, fixed CVE-2023-51385 and CVE-2023-51384
    - Fixed profile migrations, added error handling when trying to change profile while it is still applying

### **<u>RUT2M\_R\_00.07.06</u>** | 2023.12.20

- New
  - Network
    - Enabled IPv6 by default for mobile interfaces
    - Added operator blacklisting and whitelisting based on mobile country code
    - Added SIM card not inserted event in Events Log
    - Added 802.11v BSS Transition Management and 802.11k Radio Resource Measurement
  - $\circ$  Services
    - Added OPC UA Server
    - Added the ability to set port for TACACS+ in PAM service
    - Added switch to enable using root certificate authority for MQTT alarms in Modbus Client services
    - Added new alarm action "Ubus event" in Modbus Client services
    - Added new input "Modbus alarms" in Data to Server service
    - Added wget ping subtype support in Events Reporting service
    - Added new I/O SNMP OID that returns numeric I/O state
    - Added new Post/Get service action "mobile\_sim\_pin" for changing used SIM PIN code on the device
  - $\circ \ WebUI$ 
    - Renewed user interface design
    - Added network interface name change functionality
    - Added last resort configuration option for multiwan policy rules

- Added indication when new modem firmware is available
- Added mobile connection establishment display in mobile status page
- Added default value for "Reset threshold" field in Low Signal Reconnect feature

- Added ability to enable/disable SSH access for specific users in System Users
- API support

### • Improvements

- Network
  - Disabled operator scan when SIM card is not inserted

### $\circ$ Services

- Expanded GRE VPN keep alive functionality to disable routes from unreachable tunnel
- Added PKCS#12 certificate container authentication method in IPsec VPN
- Added TLV message\_payload support for SNMP service
- Added Purple.ai configuration profile
- Added possibility to assign mobile interface in SQM service
- Added additional anonymous phone number validation in Mobile Utilities service
- Added "N/A" signal strength response in DNP3 service if SIM card is not inserted

#### • WebUI

- Improved Events Log page loading by adding asynchronous pagination
- Removed requirement for Diffie-Hellman parameters in OpenVPN service
- Added improvements for creating OpenVPN IPv6 configurations
- Added auto redirect after changing router's IP address or port
- Added "Interface" dropdown for interfaces selection in Wake on LAN service
- Increased Data to Server service MQTT topic length limit to 65535 characters
- Added OSPF external routes section to Status page
- Moved device menu entry "Reboot" to header menu
- Added indication in Overview, Status -> Mobile and WAN pages when mobile data limit is reached
- Updated Operator state field to show if modem is in limited service
- Combined Mobile Usage day, week, month and total pages into one
- Updated Realtime data -> Mobile signal page design to show all available modems and their bands data in one graph
- Added message when SIM card requires PIN/PUK code in Status -> Mobile page
- Moved WiFi scanner page to Services section
- System
  - Added Mosquitto CVE patch 2023-28366
  - Added Mosquitto CVE patch 2023-3592
  - Updated cURL version to 8.4.0
  - Updated kernel version to 5.4.259
  - Added RMS data display to generated troubleshoot
  - Added downloaded Package Manager packages list to generated troubleshoot
  - Added process activity load list to generated troubleshoot
  - Changed default OPKG feed to use Teltonika's URL

#### • Fix

- Network
  - Fixed DMVPN firewall rule creation issues
  - Fixed Failover missing active rules when using multiple source and destination IP addresses
  - Fixed mobile service crash due to buffer overflow while reading partially overwritten SMS

- Fixed an issue with Manual APN connection making attempts too rapidly
- Fixed deny data roaming functionality when transitioning between roaming and home operator network
- Fixed network disconnection on mobile network detach and DHCP lease loss situations
- Fixed VoLTE configuration after modem reboot
- Fixed Mobile interface bridge and passthrough mode connectivity loss
- Fixed an issue where rarely PIN code would get removed after SIM switch
- Fixed mobile operator list being not updated after changes in WebUI
- Fixed issue where mobile interface was unreachable after device reboot or interface restart while using Failover service
- Fixed wireless client authentication failures when using AP and STA with WPA3-SAE authentication
- Fixed STA connection failure to AP with hidden SSID using WPA3-SAE authentication
- Fixed incorrect signal strength values in Wireless scan results
- Services
  - Fixed SSH module enable in PAM service
  - Added minimum free space check when saving logs to flash in Logging service
  - Fixed "Set multiple coils" function sending too many bytes in Modbus Client services
  - Fixed multiple Events Reporting messages being sent when Firewall configuration is changed
  - Fixed VRRP instances advertising wrong virtual IPs
  - Added Hotspot information in SNMP MIB file
  - Fixed registered Hotspot Local Users showing random username
  - Fixed selection of MAC Auth for LAN interfaces in Hotspot service
  - Fixed inconsistent Hotspot login behaviour when using MAC Auth with Password
  - Fixed instance shutdown after last local user deletion
  - Fixed Cumulocity app not sending any telemetry data
  - Fixed Call Utilities failure when caller id is hidden during a call
  - Fixed default profile SMS Utilities I/O status rule configuration in Profiles functionality

#### • WebUI

- Fixed side menu style issues when Japanese language is used
- Fixed displaying of vendor names in Topology page
- Fixed language packs being selectable when still in Package Manager queue
- Added ability to configure IPv6 BGP peer
- Fixed RelayD configuration issues after keep settings
- Fixed realtime graphs responsive design issues
- Fixed not all LAN interfaces shown in dropdown in Hotspot service page
- Fixed modem updater legacy firmware flashing
- Fixed wireless realtime data to show signal as unavailable with no connected clients
- Fixed WiFi scanner disconnecting AP users
- Fixed setup wizard errors in Wireless configuration page
- Fixed Unicode SSID representation in Wireless scan results
- $\circ \ System$ 
  - Patched FRR CVE-2023-38406
  - Patched FRR CVE-2023-38407
  - Patched FRR CVE-2023-41358

- Patched FRR CVE-2023-41360
- Patched FRR CVE-2023-41909
- Patched FRR CVE-2023-47234
- Patched FRR CVE-2023-47235
- Patched OpenSSL CVE-2023-3446
- Patched OpenSSL CVE-2023-3817
- Patched LibXML2 CVE-2023-39615
- Patched LibXML2 CVE-2023-45322
- Patched FFMPEG CVE-2021-28429
- Patched FFMPEG CVE-2022-48434
- Patched dnsmasq CVE-2023-28450
- Fixed running out of space when SSHFS is mounted in /tmp while generating troubleshoot

# RUT2M\_R\_00.07.05.4 | 2023.11.09

#### • Improvements

- $\circ \ WebUI$ 
  - Improved asynchronous pagination in events log pages
  - Optimized Overview page load
  - Added resource loading cancellation after switching to different page

# **<u>RUT2M\_R\_00.07.05</u>** | 2023.10.09

- New
  - Network
    - Added "shared.m2m.ch" APN for Swisscom IoT operator to APN database
    - Added "gamma" APN to auto-APN database
    - Added "soracom.io" APN for Soracom operator to APN database
    - Added "simbase" APN to auto-APN database
    - Added "pnd" APN for Pond IoT to auto-APN database
    - Added "spitfire1" APN for Spitfire operator to APN database
    - New argument in "gsmctl" CLI command for Carrier aggregation
    - Numeric mode support for modem AT commands
    - Enabled dynamic MTU configuration on mobile interfaces by default
    - WDS support for wireless bridging

#### $\circ$ Services

- DLMS Client package
- 7zip package
- TincVPN package
- Added router uptime and mobile connection uptime data parameters to SNMP
- Custom MQTT publisher/subscriber topics definition support
- Alternative configuration file upload support for MQTT Broker service
- Device Provisioning Service support for Azure IoT Hub service
- Added more mobile usage parameters to SNMP

#### • WebUI

- Firewall status page
- Page search feature

- Network Topology page
- "Allow insecure connection" option for MQTT TLS protocol in Data to Server service
- Package Restore feature Enable/Disable option
- Hotspot client connection/disconnection trap option for SNMP service
- Added Events log trap option for SNMP service
- Confirm dialog when cancelling a verified package in Package Manager
- "Bridge ALPN" option for Bridge configuration in MQTT Broker service
- New subtypes of events that specify a specific port on "Events Reporting" and "SNMP Trap rules" pages
- Specific firmware packages repository link in Package Manager page
- Ability to enter decryption passphrase for encrypted private keys
- "Reconnect" button in RMS page
- New event "Device startup completed" in Events Reporting service
- Port status and configuration page
- Wireless interface QR code generator
- Channel analysis page Status -> Wireless -> Channel Analysis
- Disabled direct network interface deletion when it is associated with a wireless interface
- Limited to a single section configuration and added IP address field for Relayd service
- "Fast roaming" configuration for Wireless service in Client mode
- Updated Status->Network->Wireless page to display interfaces as cards and added ability to filter connected clients by selected interface
- Modem Debug page
- APN database management page added to package manager
- Added "Message forwarding" option in SMS Rules page when rule type is "Execute custom script"
- Ability to unblock SIM card and insert SIM PIN in Overview page
- New SMS rules "Reset mobile connection" and "Reload config"
- "SMS limit clear due" display in Overview page
- Added modem temperature to System -> Status page
- IP6 table configuration option for DHCPv6 protocol in Network -> WAN page
- System
  - Mechanism to rebrand WebUI using GPL
  - Possiblity to create web applications with closed-source GPL

### • Improvements

- $\circ$  Network
  - Moved FRR VTYSH package to package manager
  - Made newly created Firewall Traffic, NAT rules and Port Forwards disabled by default
  - Improved Interfaces to enable IPv6 DHCP server when mobile v6 or v4v6 PDP type is set
  - Improved auto APN selection
  - SMS sending event is now logged into events log
  - Improved roaming control
  - Removed unused APN usernames and passwords from auto-APN database
  - Added connection to the operator when no mobile interfaces are active
  - Improved VoLTE management functions
  - Improved cases where Low Signal Reconnect sometimes executed prematurely
  - Improved wrong SIM PIN remove logic

- Added automatic reconfiguration when switching between wireless interface modes
- Added automatically generated name option for new network
- WPA3/WPA2 (PSK/SAE) mixed mode is now default encryption standard
- Improved operator information parsing logic on MeiG modem

#### • Services

- New reworked Data to Server
- UPNP moved to package manager
- Added IPv6 support for Modbus TCP Server/Client services
- Refactored Azure IoT Hub service
- Improved resiliency to timeouts in Modbus Client service
- Added PDU data type to Modbus read requests
- Added new formatters for MQTT alarms in Modbus Client service
- Added main section to make test functions independent in Modbus Client service
- Improved WAN IP register reading time in Modbus service
- Sped up default profile and profile template generation for Profiles functionality
- Optimized profile change time for Profiles functionality
- Added IPv6 support for Stunnel VPN
- Added MAC blocking for client connections after set amount of failed login attempts in Hotspot service
- Improved TCPdump by allowing to capture packets from any interface
- Added OSPF support for DMVPN
- Updated Hotspot password hashing to sha512
- A single SMS message with multiple PDUs is sent instead of multiple SMS messages in Email to SMS service
- Allowed connection to SMPP server using IPv6 address
- Extended IP unblock action functionality in SMS Utilities
- Increased allowed Email to SMS service message size to 61440 bytes
- Added I/O pin name to trap notification message

### • WebUI

- Reorganized menu
- Updated header design
- Split Interfaces configuration in Advanced mode into two pages: WAN and LAN, identically as in Basic WebUI mode
- Moved Interfaces IPv6 configuration into seperate tab
- Added client/server status information in OpenVPN instance overview page
- Added more IPv6 information to interface status in Interfaces page
- Removed "Custom delegated IPv6-prefix" field from DHCPv6 configuration in Interfaces page
- Disabled DHCPv6 interface editing while in basic mode
- Refactored custom DHCP options into seperate modal
- Added automatic start and end IP allocation for DHCP server configuration in Interfaces
- Added client/server status information in L2TP VPN page
- Added "MTU" field to L2TP client configuration page
- Added CHAP, PAP and MSCHAP-v2 authentication fields to L2TP instance configuration
- Added more detailed IPsec VPN status information
- Encryption AES-256-CBC added as default in OpenVPN
- Added "Authentication algorithm" support to OpenVPN configuration with static key mode

- Added GRE (DMVPN) VPN tunnel source support to any instead of specific interface
- Improved Hotspot landing page theme package removal
- Added upload and download theme functionality to Hotspot Landing page
- Improved ZeroTier VPN bridge configuration
- Added ability to adjust order of rules in Firewall page
- Added IPv6 RAW table to be displayed in Status -> Firewall
- Improved file upload component"s visual appearance
- Change "Allow anonymous" option default value to 0 in MQTT Broker
- Added option to specify "Client ID" in MQTT Publisher
- Added functionality to select specific interface in Web Filter service
- Allowed to select FTP server subfolder in Traffic Logging service
- Renamed various service master/slave naming convention in config files, package names and webUI to client/server
- Added "Create static" button in Status -> Network -> LAN which bind DHCP lease for device
- Updated Status -> Network -> Mobile page layout
- Added bandwidth, provider in Status -> Network -> Mobile page
- Added colors for signal strength values in Status -> Network -> Mobile page
- Added frequency, pcid, mcc, mnc and LAC values in Status->Network->Mobile page
- Refactored network type selection in Network -> Mobile -> General page
- Serving cell information is not returned anymore when SIM card is not inserted
- Added button in a Scanned operators table which allows to add an operator to the operator list
- Added search bar in Mobile Utilities -> SMS Utilities page
- Added SMS sent and limit count to Network -> Mobile -> General page
- Updated Mobile Signal graphs to show EC/IO and RSCP values when network type is 3G
- Added DFS channel marking in Network -> Wireless
- Show wireless MAC address even when interface is inactive in Status -> System page
- Merged Multi AP configuration to wireless interface edit modal
- Added automatic network switch to bridge if selected in Wireless configuration
- Added default encryption for newly created wireless interfaces
- Simplified "802.11r Fast Transition" configuration options in Wireless interface configuration

- Updated kernel version to 5.4.251
- Updated UCI version to 2021-10-22
- Updated SSHFS version to 3.7.1
- Updated FRR suite to 8.4.2
- Updated cURL version to 8.2.0
- Updated TCPdump version to 4.99.4
- Updated C-ares version to 1.19.1
- Updated curl version to 7.88.0
- Updated iproute2 version to 5.19.0
- Updated libubox package version to 2021-08-19
- Added CVE patch CVE-2023-2650
- Added additional firmware information in CLI prompt banner
- Connection mode LED now blinks on data transfer

- Changed "routername" to "devicename" in system config file
- Made all clients get disconnected out once dropbear service is disabled
- Improved firmware downgrade restrictions for certain regions
- Device name is now displayed in browser tab when in WebUI login page
- Added NF conntrack information in generated troubleshoot archive

#### • Fix

### • Network

- Fixed UDP Broadcast Relay service crashing on start without physical network device
- Fixed SMS limit period migration
- Fixed SMS limit size breaking various functionality
- Fixed custom IPv6 DNS option not overriding default DNS from operator
- Fixed an issue with blacklist and whitelist connection
- Fixed multipart SMS handling
- Fixed wrong SIM state display when SIM is fully blocked
- Fixed incorrect virginmobile APN MNC
- Fixed mobile operator scanning fault when no mobile interfaces are active
- Fixed mobile interfaces generating multiple events on mobile connection
- Fixed PDU SMS parsing when operator provides user data header in single part SMS
- Added scheduled data limit clear for inactive mobile interfaces
- Fixed wrong or empty WAN state info
- Fixed Wireless scanning issue with certain configuration
- Fixed Wireless transmit power changing without user input after saving different country code
- Fixed clients isolation functionality in Wireless
- Fixed Wireless STA authentification failure in case of channel change
- Fixed Multi AP startup when changing Multi AP configuration in Wireless
- Fixed client connection to EAP Wireless network
- Fixed LTE band 14 management with Quectel modems
- Fixed Wireless disconnection issues
- Fixed connection tracking for main interface in Failover

### • Services

- Fixed reconnecting to inactive connections for Modbus Server service
- Fixed Modbus Client response after reboot write request
- Fixed Modbus Server to show error when trying to get operator name without SIM
- Updated Modbus Client to handle large numbers of schedule rules, when frequency is set to schedule (Daini
- Fixed "Input" rule displaying incorrect and missing ports in Network -> Firewall
  -> Traffic Rules
- Fixed WireGuard VPN endpoint resolving problem
- Peer cache is no longer deleted when ZeroTier service is restarted
- Fixed RMS data collection about the list of devices connected to WiFi
- Fixed showing incorrect Internet state in RMS
- Fixed WiFi client info display in RMS
- Implemented error handling when device is blocked or unrecognized by RMS
- Fixed L2TP client sometimes not adding routes on successful connection
- Fixed NTP time sync with browser functionality in some edge cases
- Fixed reinstalled packages" verification when device name is changed
- Fixed an issue where signal query would return invalid value instead of error in case of no signal in MQTT Publisher service

- Fixed OpenVPN firewall rule creation for both IPv4 and IPv6
- Fixed OpenVPN server crash loop after changing authentification from TLS to Static Key
- Fixed IPsec VPN connection problem with small lifetime values
- Fixed IPsec "Default Route" not working when Flow Offloading is enabled
- Fixed an issue where system directory could be used as a mount point in SSHFS service
- Fixed IP block feature to unblock an OpenVPN IP address on successful authentification
- Fixed package installation process bug when packages have different architecture names
- Added "bearer token" authentication functionality in Dynamic DNS
- Fixed MQTT Broker "local\_port" option keep settings migration
- Remove public keys when key-based authentication is disabled in Access Control
- Fixed "Parity" field "Mark" and "Space" options being ignored in DNP3 Serial services
- Corrected SNMP MIB file syntax according to standards
- Fixed returned port count in SNMP
- Fixed disabled CLI remote access taking up a session slot
- Fixed received SMS messages" parsing with trailing whitespaces
- Fixed VPN status rule message text in SMS Utilities

### • WebUI

- Fixed empty events cards in Overview page when no content is available
- Fixed modal form inputs not clearing upon closing after nested modal is saved
- Fixed select menu closing when selecting custom option
- Fixed multi select expanding table row when adding new values
- Fixed global section caching after deleting a section in a table
- Fixed unpredictable search logic in tables
- Fixed interfaces reordering by metrics in Failover page
- Removed ability to select ports on ICMP and ESP protocol in Failover page
- Fixed wrong status when interface is disabled in Failover page
- Fixed firewall zone and rule creation/deletion on VPN configuration creation/deletion
- Fixed STP enabling issue in Interfaces
- Fixed EIGRP status info in Dynamic Routes
- Fixed issue with custom DHCP options where you could not have multiple values per rule
- Fixed Routing/NAT Offloading section display in Network -> Firewall -> General Settings when device is not supported
- Fixed SSH/HTTP/HTTPS/ICMP setting in Network -> Firewall -> Attack Prevention page
- Fixed failing Firewall rules with united protocol formats
- Fixed zone select component not closing options menu when selecting an option in Firewall pages
- Fixed memory leak when cancelling file uploads on Chromium-based browser
- Fixed group settings saving by removing deprecated ":section" routes in Administration -> User Settings -> System Users
- Fixed allowing IDs above 247 in Modbus Client service
- Fixed selecting SIM in Modbus Client service Alarms
- Fixed Modbus Alarm telephone number limit
- Fixed to show available options for test requests on error in Modbus Client service

- Fixed Modbus Alarm I/O pin display values
- Fixed issue when creating instance named "gre" does not show in GRE VPN
- Remote endpoint field now allows underscore character in IPsec VPN
- Fixed ZeroTier wrong service status display in Status -> Services
- Fixed problems with L2TP/PPTP VPN firewall rules automatic creation
- Fixed problem related to the enable/disable toggle in OpenVPN instance overview page
- Added fixes for key-direction missing problem when uploading OpenVPN config file
- Fixed login page read-only inputs after custom user logout
- Fixed issue when double clicking firmware upgrade cancel button returned error
- Fixed Package Manager prompt message to appear when package requires network restart
- Fixed showing in queue packages when they contained special symbols in the Package Manager page
- Fixed various visual Side Widget bugs
- Fixed Data to Server DNP3 filter from flash display
- Fixed incorrect source data displayed in Realtime Data -> Connections table
- Fixed memory expansion confirmation prompt title
- Fixed incorrect configuration saving in Hotspot 2.0 service
- Disabled password hashing for new user creation in Hotspot service
- Fixed Hotspot landing page themes saving bug
- Fixed test email sending to more than one recipient in Events Reporting page
- Fixed VLAN OID values in SNMP service
- Output proper error message in case of hardware not being supported in Firmware Upgrade
- Fixed being able to open side widget when user does not have read access
- Fixed profile creation when current configuration is not present
- Fixed wrong protocol data display in "Access control" page
- Fixed LAN interfaces not showing up before WAN interfaces in Status -> Realtime Data -> Traffic
- Fixed carrier aggregation information when no connection is made or SIM card is not inserted
- Changed representation of mobile cell ID from hexadecimal to integer type
- Fixed Mobile Utilities "SMS forwarding to HTTP" URL generation
- Fixed an issue where sometimes bands were not represented correctly on certain modems
- Fixed provider information and IMSI value representation when SIM and modem cannot provide this information
- Fixed mobile pages throwing 404 error when modem disconnects
- Fixed WebUI showing mobile connection when no SIM card is inserted
- Updated Network -> Wireless interface add and delete button visibility in basic mode
- Fixed Wireless Multi AP incorrect SSID list after removal of an instance
- Fixed MAC address filtering in Network -> Wireless page to list only connected WiFi devices
- Fixed "Clear Collect Data" button logic to not clear overall mobile usage info
- Fixed "Used data" showing large negative numbers for disabled mobile interfaces with Data Limit enabled
- Fixed error when user has no write permissions in Speed Test page
- System

- Patched CVE-2023-0386 vulnerability
- Patched CVE-2023-0464 vulnerability
- Patched CVE-2023-0465 vulnerability
- Patched CVE-2023-2602 vulnerability
- Patched CVE-2023-3772 vulnerability
- Patched CVE-2023-4128 vulnerability
- Patched CVE-2023-33476 vulnerability
- Patched CVE-2023-28484 vulnerability
- Patched CVE-2023-29469 vulnerability
- Patched CVE-2023-31490 vulnerability
- Patched CVE-2021-36369 vulnerability
- Patched CVE-2023-48174 vulnerability
- Delayed Custom Scripts execution on boot, after storage devices are mounted
- Fixed Custom Scripts permissions after save
- Changed certificate expiry calculation mechanism to fix Y2K38 bug
- Fixed downloading of certificates that have a space in their name in Administration -> Certificates -> Certificates Manager
- Fixed Events Log database rotation to prevent log partition space exhaustion
- Fixed duplication and sorting of all events IDs in Events Log
- Fixed FOTA crash when current hours is with leading 0
- Fixed crontab job removal after disabling FOTA
- Changed Mosquitto build options to not include cJSON library
- Fixed device name resetting to default upon refresh in Administration

# RUT2M\_R\_00.07.04.5 | 2023.07.24

#### • New features

 $\circ~$  Initial FW release