RUTX08 Firmware Downloads

<u>Main Page</u> > <u>RUTX Routers</u> > <u>RUTX08</u> > **RUTX08 Firmware Downloads**

This page contains firmware files for RUTX08 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>RUTX08 Firmware</u>.

RUTX08					
File RUTX_R_00.07.06.10_WEBUI.bin RUTX_R_00.07.06.10_WEBUI.bin RUTX_R_GPL_00.07.06.10.tar.gz	Type Latest FW Mass production FW SDK	Release date 2024.04.04 2024.04.04 2024.04.04	Size 24.6 MB 24.6 MB 80.1 MB	MD5 6ade4748118720d9f8c72524498acf69 6ade4748118720d9f8c72524498acf69 a6653437efdbba12151579615a86b2f3	Changelog Link 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 <u>here</u>.

Changelog

<u>RUTX_R_00.07.06.10</u> | 2024.04.04

• Global changelog for $R_00.07.06.10$ - $\underline{\text{LINK}}$

RUTX_R_00.07.06.8 | 2024.03.25

- Firmware $R_{0.07.06.8}$ was removed due to an issue with inefficient memory allocation for LED control.

<u>RUTX_R_00.07.06.6</u> | 2024.03.04

• Global changelog for $R_00.07.06.6$ - $\underline{\text{LINK}}$

- Global changelog for $R_00.07.06.5$ - $\underline{\text{LINK}}$

RUTX_R_00.07.06.3 | 2024.01.17

• Global changelog for **R_00.07.06.3** - <u>LINK</u>

<u>RUTX_R_00.07.06.1</u> | 2024.01.04

- Fix
 - Services
 - Fixed issue with NTPclient zombie processes

<u>RUTX_R_00.07.06</u> | 2023.12.20

- New
 - \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 TLS support for OverIP serial functionality
 - WebUI
 - Added Tailscale VPN support
 - Renewed user interface design
 - Added network interface name change functionality
 - Added last resort configuration option for multiwan policy rules
 - System
 - Added ability to enable/disable SSH access for specific users in System Users
 - API support

• Improvements

- 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
 - Replaced option "No leading zeros" with "Remove all zeros" in Over IP serial functionality
 - Added reboot on storage device disappearance and re-appearance

• 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
- System
 - Added Mosquitto CVE patch 2023-28366
 - Added Mosquitto CVE patch 2023-3592
 - Updated hostapd version to 2023-09-08
 - Updated cURL version to 8.4.0
 - Updated kernel version to 5.10.199
 - Updated Mac80211 version to 6.1.24
 - 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 RUTX VLAN keep settings issue when WAN port configuration are overwritten with 1st vlan
 - Fixed Failover missing active rules when using multiple source and destination IP addresses

• 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 RMS Hotspot data display for devices without WiFi support
- Fixed serial timeout not working in Over IP serial functionality
- Removed "Echo" option in Modbus TCP over Serial functionality
- Fixed CRC verification failing when CRC is correct in Modbus TCP over Serial functionality
- Fixed crash when getting unexpected messages from RTU in Modbus TCP over Serial 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 realtime graphs responsive design issues

- Fixed Network Shares users deletion
- Fixed not all LAN interfaces shown in dropdown in Hotspot service page

\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
- Fixed WebUI access after upgrading from legacy RutOS version

<u>RUTX_R_00.07.05.4</u> | 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>RUTX_R_00.07.05.3</u> | 2023.10.30

- New
 - System
 - Added support for GD5F2GM7 and GD5F2GQ5 GigaDevice NAND flashes

<u>RUTX_R_00.07.05</u> | 2023.10.19

- 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
 - \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

• 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
- 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 IPSec performance throughput

• 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
- 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
- Removed redundant "Action" option in Periodic Reboot

• System

- Updated kernel version to 5.10.188
- 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 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

\circ Network

- Fixed UDP Broadcast Relay service crashing on start without physical network device
- Fixed wrong or empty WAN state info
- 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 user deletion in Network Shares service
- Fixed router reboot inconsistencies after Storage Memory Expansion

• 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 incorrect Bluetooth details modal size
- Updated to display "MAC address" on device details page
- Fixed disabling DLNA service when USB drive is removed
- 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-2023-3773 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-2023-36369 vulnerability
- Patched CVE-2023-40283 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
- Fixed backup upload validation with memory expansion

RUTX_R_00.07.04.5 | 2023.07.24

- Improvements
 - Network
 - Added metric field support in BGP Route-maps page

<u>RUTX_R_00.07.04.4</u> | 2023.06.26

• Improvements

• Services

- Improved UPNP lease file validation
- Improved DLNA 'Database directory' field validation to not allow ', ` and spaces

• System

• Device name is now displayed in browser tab when in login page

• Fix

• Network

- Patched CVE-2023-32233 vulnerability
- Fixed default networks in WAN firewall zone and possibility to add a network that is not yet created

• Services

- Fixed connection establishment for RMS MQTT service
- Implemented partial restart when connection with RMS server fails
- Fixed device name resetting to default upon WebUI page refresh
- Fixed being able to set device name without passing validations
- Fixed WireGuard port change in firewall traffic rule when modifying instance port

RUTX_R_00.07.04.3 | 2023.05.11

- Improvement
 - System
 - Removed SSH RSA key generation
 - Added SSH ECDSA key generation
- Fix
- System
 - Fixed an issue on bootloader web recovery hanging with certain firmware sizes

RUTX_R_00.07.04.2 | 2023.04.18

- New
 - $\circ\,$ nftables support
- Improvement
 - WebUI
 - Improved Overview page performance
 - \circ System
 - Changed hostname to router name
 - Updated OpenSSL to version 1.1.1t
 - Updated CA certificates to version 20211016
 - Updated libiwinfo to version 2022-08-19
- Fix
 - Network
 - Fixed Port-based VLAN ID calculation issue
 - Fixed Ethernet interfaces showing incorrect transferred data values
 - Fixed EEE disable issue that caused reduction in data transfer speed
 - Services

- Fixed event text for configurable inputs/outputs on I/O Juggler
- Fixed I/O PIN3 value not changing via MODBUS TCP
- Added I/O status request error handling in various WebUI pages when the I/O service is booting up
- Fixed OpenVPN enabling/disabling when using Password or TLS/Password authentication modes
- Fixed OpenVPN keep alive setting migration issue
- Fixed PPTP server name setting migration issue
- Fixed missing WebUI issue caused by Email Relay installation
- Fixed NTP's Operator Station Synchronization memory leak issue
- Fixed test email validation
- System
 - Fixed libcares vulnerability CVE-2022-4904
 - Fixed frr vulnerability CVE-2022-37035
 - Removed ability for non root users to edit scripts that get executed as root

RUTX_R_00.07.04.1 | 2023.03.24

- Fix
 - \circ Network
 - Fixed Data Limit issue

RUTX_R_00.07.04 | 2023.03.07

Note: Firmware version **RUTX_R_00.07.04** was removed from downloads list due to issues with Mobile Data Limit functionality not working correctly when Software offloading is enabled.

• Improvements

- WebUI
 - Improved data persistence between page refreshes
 - Improved page navigation behavior
 - Improved redirect logic to open configuration edit modals
- \circ Network
 - Made Software Flow Offloading Enabled by default
- \circ Services
 - Added MQTT support to I/O Juggler
 - Added a frequency option 'schedule' Modbus Master
 - Added pagination to Events Reporting overview
 - Added limit to Events Reporting rule list
 - Added email logging for Events reporting
 - 'Sync with browser' button in the NTP page now also synchronizes the time zone
 - Added a limit of 30 for NTP instances
 - Made Networks selections in the 'Traffic Logging' page to display interface choices dynamically
 - Added "make before break" option to IPsec configuration
 - Added MODBUS TCP connection handling layer to MQTT-MODBUS Gateway
 - Improved MODBUS Master connection handling to reduce connection count
 - Updated modbus request error messages
 - Added OpenVPN server ip block support
 - Added MQTT support for MODBUS Master alarms
 - Added the possibility to get the device's Ethernet port data via SNMP
 - Improved error messages in the Serial Utilities page

• System

- Updated bash to version 5.1.16
- Added detailed FW update failure error message to Events Log
- Improved firmware upload/validation error messages
- Updated Turkish language support
- Added protocol column to IP block page
- Added "vpns.log" file to the Troubleshoot package
- Added Wireguard tunnel information to the Troubleshoot package
- Updated default admin group access rights

• Fix

- WebUI
 - Fixed Services page not displaying data after Thingworx package is installed
 - Added DNP3 to the 'Status > Services' page

• Network

- Fixed interface priority change issue
- Fixed a Custom Firewall Rule editing issue
- Fixed DMZ configuration saving while it is disabled
- Fixed Port Scan script execution failure
- Fixed Firewall zone duplication issue

• Services

- Fixed the listing of slow USB devices such as HDDs
- Fixed DNP3 serial master not working when Stop bits are set to 2
- Fixed DNP3 reguests not deleting along with instance
- Fixed DNP3 memory leak occurring after spamming the test request button
- Fixed Serial Over IP related Firewall rule setting
- Fixed I/O Scheduler overlapping instances issue
- Fixed Input/Output image pin colors
- Fixed issue that causes ADC subscribers to receive notifications for when ACL is active
- Fixed Data To Server JSON format %n, %N and %s flag issues
- Fixed Events Reporting email data clean
- Fixed Events Reporting missing config selections
- Fixed GRE Tunnel's 'Tunnel source' field validation when the source is custom
- Fixed IPsec instance deletion after removing DMVPN package
- Fixed IPSec migration via Backup file when DMVPN is configured
- Fixed IPsec naming issue when the includes an equals sign
- Fixed L2TP client to use correct interface on failover events
- Fixed L2TP over IPsec connection dropping issue when connecting from a Windows client
- Fixed MODBUS database size limiting issue
- Fixed MODBUS MQTT Gateway client ID input
- Fixed MODBUS TCP Slave RSSI value
- Fixed MODBUS test button returning errors when several non-connected devices are configured
- Fixed NTP Etc/GMT+1 and Etc/GMT-1 time zones
- Fixed OpenVPN password validation when no CA certificate is uploaded or 'custom' template is selected
- Fixed OpenVPN Static Key configuration saving by making Static key upload required
- Fixed OpenVPN TLS client creation issue while LAN is down

- Fixed Package Manager displaying non-existent packages
- Fixed Package Manager errors showing up after successful installations
- Fixed Periodic Reboot entry duplication after a power cycle
- Fixed PPTP 'Client to client' option not being applied after save
- Fixed receiving excessive device state emails after a reboot is initialized over RMS
- Fixed WebUI unavailability after unsuccessful package install
- System
 - Fixed vulnerabilities CVE-2022-3524, CVE-2022-3566, CVE-2022-3567, CVE-2022-39188, CVE-2022-45934, CVE-2022-47929
 - Fixed bash vulnerability CVE-2022-3715
 - Fixed CGI-IO file download vulnerability CVE-2022-38333
 - Fixed libxml2 vulnerability CVE-2022-40304
 - Fixed libcurl vulnerabilities CVE-2022-43551 and CVE-2022-43552
 - Improved file upload logic
 - Fixed GPL firmware compilation with selected Tinc package
 - Fixed OpenVPN Static Key migration via keep settings issue
 - Fixed NTP time zone name setting migration when the name contains whitespaces
 - Fixed language setting issue
 - Fixed integer validation on industrial services
 - Fixed LAN port LEDs staying on after being disabled

<u>RUTX_R_00.07.03.4</u> | 2023.02.09

- Fix
 - Services
 - Sanitized tcpdump storage location
 - Network
 - Fixed CVE-2023-32349 vulnerability

<u>RUTX_R_00.07.03.3</u> | 2023.01.25

- Fix
 - Network
 - Updated init sequence

RUTX_R_00.07.03.2 | 2023.01.13

- New
 - System
 - Japanese language
- Fix
 - Network
 - Fixed VLAN option setting when changing VLAN ID

<u>RUTX_R_00.07.03.1</u> | 2023.01.03

- Improvements
 - System
 - Remove front-end certificate validation
- Fix
- \circ Services

- Fixed libxml2 vulnerability CVE-2022-40303
- Fixed an IPsec Phase one & two setting migration issue
- Returned missing udp_client_count option to Over IP mode

• System

- Fixed JSON key parsing; keys can now be any printable character sequence
- Fixed memory leak in 'session' module

• WebUI

• Fixed file pretty name parsing

<u>RUTX_R_00.07.03</u> | 2022.12.16

• New

- \circ Network
 - Firewall DMZ page

• Services

- Java package
- SFTP server support
- OPC UA client
- Hotspot registered users management page

• System

- Portuguese language
- Spanish language
- Turkish language
- Email Relay package
- $\circ \ WebUI$
 - New Web menu design

• Improvements

• Network

- Updated modem handling, attachment, tracking and connection establishment processes
- Added the possibility to select multiple ports in all firewall port fields
- Added 'Match' traffic by type option to firewall traffic rules
- Added DNS servers and routing table fields to the Wireguard page
- Improved generating network topology
- Moved Relayd, UDP Relay & Static Leases to the Interfaces menu section
- Update Firewall Traffic Rules page with DSCP and MARK options
- Added keepalive, holdtime and connect timers to BGP configuration
- Added 'Use gateway metric' to network protocols web interface
- Added more DHCPv6 client events to system log
- Moved IP Filter rules from Modbus TCP Gateway and Over IP services to Firewall page
- Added wget tracking method to WAN Failover
- Added interface checks to remove inaccurate Failover events from the Event Log
- Services
 - Added OpenVPN IPv6 Web support
 - Added format button for each USB device in USB Tools General page
 - Reduced waiting time during storage device setup for Memory Expansion
 - Optimized Storage Memory Expansion package size
 - Replaced ntfs-3g with kernel-mode driver
 - Added USB to Serial support for Modbus, MQTT Modbus Gateway, NTRIP, DNP3
 - Added CSP headers to Hotspot Landing Page

- Added hotspot user script validation
- Improved logging of disconnecting client devices
- Updated Zerotier web interface
- Added IPsec Flush connection option on tunnel initialization
- Added MODBUS slave regfile validation
- Added delay, number of timeouts, always reconnect options to MODBUS Master service
- Added DMVPN Phase 2 and Phase 3 support
- Added synchronization counting to NTP client
- Expanded the data that is sent to the Cumulocity cloud with device log, mobile data usage nd GPS data
- Added 'Unregister' button to RMS page
- Added new data monitoring options to SNMP: configuration state of wireless, smart queues & VLANs
- Updated Zerotier package to version 1.10.1
- Added automatic package removal upon failed installation in Package Manager
- Added option to describe custom routing table and MTU auto counting to Wireguard VPN
- Added IP blocking to MQTT Bridge for failed login attempts to prevent bruteforce attacks
- Updated sqm-scripts to version 1.5.1
- Improved MODBUS Master service: added multiple datatypes, added multiple register reading for alarms
- Added monthly reboot option to periodic reboot function
- Added support for multiple custom option selection to SSTP configuration
- Added PKCS12 certificate chain support to OpenVPN
- Improved MQTT to support multiple port listening, multiple bridge connections, notification settings and added support for custom configuration file
- Added QoS selection to MQTT Modbus Gateway
- Improved RAM usage during upload and installation of packages via Package Manager
- Updated curl to version 7.86.0
- Added brute-force prevention measures to Post/Get
- Added automatic private and public key generation to Wireguard VPN
- Added multiple Remote source IP support to IPsec
- Added the possibility to configure multiple IPsec phase 1 and phase 2 proposals
- Added functionality to rotate log file when log is saved to Flash memory
- Improved performance while fetching packages on repeat visits to the Package Manager page

• System

- Added a 'test mail' button to the Administration -> Recipients page
- Added option to clear blocked IPs in the Access Control page after reboot
- Updated Web Request-Response core logic
- Added certificate validation to all services that support certificate upload
- Updated URL protocol validations
- Removed profile update requests during Save & apply
- Optimized profile switching logic
- WebUI
 - Added bootloader version to the Device section in the System page
 - Added configuration page shortcuts to Overview page widgets
 - Added tooltip in Overview that show free, used and total RAM/Flash values on

mouse cursor hover

- Updated network interfaces protocols web interface
- Updated 404 page to include navigation menu

• Fix

- Network
 - Fixed CVE-2023-32350 vulnerability
 - Fixed jumbo frames MTU issue
 - Added the 'Any' choice to source & destination IP address field in NAT rule edit
 - Fixed NHRP web interface issues
 - Fixed WAN interface configuration interfering with LAN
 - Fixed Wired WAN connectivity issue when Failover interfaces are disabled
 - Fixed Failover fallback issue
- \circ Services
 - Fixed Printer service starting issue
 - Fixed Printer service boot issues
 - Fixed DLNA service reload issues on USB drive insert/remove
 - Fixed relay state switching
 - Fixed Save & Apply issue with ADC/ACL type condition on I/O Juggler
 - Added I/O restart on configuration profile change
 - Fixed I/O voltage range display for power socket pins
 - Fixed SMNP OID for I/O state
 - Fixed Hotspot connected user list maximum upload/download value limits
 - Fixed incorrect connected Hotspot user information in RMS JSON
 - Removed unnecessary field from the Port Mirroring page
 - Fixed dbus vulnerability CVE-2020-35512
 - Fixed dnsmasq vulnerability CVE-2022-0934
 - Fixed ext4 vulnerability CVE-2021-3428
 - Fixed kernel vulnerabilities CVE-2021-3669, CVE-2021-4203, CVE-2022-1353, CVE-2022-3435, CVE-2022-20008, CVE-2022-30594
 - Fixed libxm12 vulnerability CVE-2022-29824
 - Fixed Linux vulnerabilities CVE-2021-4148, CVE-2022-0480, CVE-2022-1055, CVE-2022-0886, CVE-2022-2663, CVE-2022-36879 for v5.4
 - Fixed MQTT DoS vulnerability CVE-2021-41039
 - Fixed privoxy vulnerability CVE-2021-44542
 - Fixed python3 vulnerability CVE-2022-42919
 - Fixed strongswan vulnerabilities CVE-2021-41991, CVE-2021-45079
 - Fixed uboot vulnerabilities CVE-2022-30552, CVE-2022-30790
 - Fixed switching between RMS connection types while the device is unregistered
 - Fixed reload issues in website blocking feature
 - Fixed IPsec PSK secret required field validation
 - Fixed bandwidth limiting after QoS is enabled for the first time
 - Fixed Dropbear issues when logging in over IPv6
 - Fixed Modbus status in Status -> Services page
 - Fixed Azure IoT Hub application issues when sending large volumes of data
 - Fixed Azure IoT Hub MQTT password validation
 - Fixed DMVPN configuration migration issue
 - Fixed DMVPN duplicate select options, added suffix to mobile interfaces to use IPv4
 - Fixed DMVPN IPsec connection issue
 - Fixed DMVPN mobile interface 'Keep settings' migration issue

- Fixed Dynamic DNS long hostname text display issue
- Fixed Events Reporting memory leak issue
- Fixed Events Reporting not triggering after flipping an I/O slider
- Fixed FOTA cron job not starting after factory reset
- Fixed IPsec local firewall option parsing
- Fixed IPsec tunnel creation issue when compatibility mode is used and the tunnel name contains an underscore
- Fixed L2TP, PPTP, SSTP state display in the Status -> Services page
- Fixed NTP pool hostname validation
- Fixed OpenVPN certificate remove with Static key and TLS authentication methods
- Fixed OpenVPN configuration saving issue when using HMAC key authentication
- Fixed OpenVPN custom dev name transformation to correct format
- Fixed OpenVPN device name setting logic when uploading config from file
- Fixed OpenVPN instance status display
- Fixed OpenVPN TAP (bridged) configuration detection
- Fixed Qos configuration saving issue occurring after instance deletion
- Fixed RMS JSON incorrect WAN state and IP information
- Fixed RMS step access issue in the Setup Wizard page
- Fixed SNMP issues after reboot while using a Hotspot
- Fixed SNMP generating MIB files for devices in accordance with to their hardware
- Fixed SNMP traps not working after SNMP is installed from server
- Fixed SSTP client route creation issue
- Fixed UPNP secure mode not turning off issue
- Fixed Wireguard route to endpoint issue
- Fixed manual package installation for queued packages
- Fixed NAT Rules dependency from IPsec web instance
- Returned usleep utility
- Updated Australian and South African NordVPN server IP addresses

• System

- Fixed LED operation while device is in bootloader state
- Fixed certificate signing issues
- Fixed Telnet, CLI access blocking after max invalid tries
- Fixed FW upgrade with 'Keep settings' while low free space is available
- Fixed backup file duplication issue
- Fixed network device handling in system
- $\circ \ WebUI$
 - Fixed Hotspot interface display
 - Fixed side widget accessibility during first login
 - Fixed file upload issues
 - Fixed drag and drop issue in the Traffic Rules page
 - Fixed protocol display in the overview of the Interfaces page
 - Fixed blocked IP settings migration during a FW upgrade with the 'Keep settings'
 - Fixed login errors after browser tab restoration
 - Fixed redirect to newly set IP address after Interface configuration
 - Fixed firmware upgrade verify spinner not closing
 - Fixed an issue with file upload via drag and drop

RUTX_R_00.07.02.7 | 2022.09.12

• Fixes

- Fixed CVE-2022-1012 memory leak vulnerability
- Fixed CVE-2022-37434 kernel vulnerability
- Fixed interface option reset after VLAN ID change
- $\circ\,$ Removed memory leak on port events

<u>RUTX_R_00.07.02.6</u> | 2022.08.24

- Fixes:
 - Fixed Serial-symlink dmesg messages
 - $\circ\,$ Fixed OpenVPN tls-auth and tls-crypt option names

<u>RUTX_R_00.07.02.5</u> | 2022.08.12

- Improvements:
 - $\circ~$ Updated curl to version 7.83.1
 - $\circ~$ Updated firmware validation error messages
 - $\circ\,$ Added multiple source IP address support to the Port Forwards page
 - $\circ~$ Optimized CORE distribution for packet handling
- Fixes:
 - Lixed EEE link advertisment
 - Fixed CVE-2022-32205, CVE-2022-32206, CVE-2022-32207, CVE-2022-32208 curl vulnerabilities
 - $\circ\,$ Fixed CVE-2022-30065 busybox vulnerability
 - $\circ\,$ Fixed file upload path traversal
 - $\circ\,$ Removed Data to Server limit to proccess less than 10 instances
 - $\circ~$ Fixed Data to Server 'out of memory' crashes when database is full or has a large amount of data
 - $\circ\,$ Fixed OpenVPN dev setting logic
 - $\circ\,$ Fixed OpenVPN updating from legacy issue that caused IPv6 not to work

<u>RUTX_R_00.07.02.4</u> | 2022.07.20

- Improvements:
 - $\,\circ\,$ Added default password change warning message before firmware downgrade
- Fixes:
 - Fixed CVE-2022-2068 vulnerability
 - $\circ\,$ Fixed possible I2C bus lock-up issue when upgrading firmware from 02.xx versions

RUTX_R_00.07.02.2 | 2022.06.27

- Improvements:
 - $\circ~$ Updated FSTools package to version 2022-05-03 ~
 - $\circ\,$ Added security headers to web requests
- Fixes:
 - Fixed CVE-2019-12900 libbz2 vulnerability
 - Fixed CVE-2022-23303 hostapd vulnerability
 - $\circ\,$ Fixed CVE-2022-29581 Linux kernel vulnerability
 - $\circ~$ Fixed CVE-2022-29458 ncurses vulnerability
 - $\circ\,$ Fixed CVE-2022-1292 c_rehash script command injection vulnerability

<u>RUTX_R_00.07.02.1</u> | 2022.06.06

- Fixes:
 - $\circ\,$ Fixed IGMP Proxy menu item not appearing after package installation
 - $\circ\,$ Fixed MODBUS write requests

<u>RUTX_R_00.07.02</u> | 2022.05.23

• New features

- $\circ~$ Overview side widget
- \circ IGMP Proxy
- Privileged Access Management (PAM)
- $\circ~\text{AWS}$ Greengrass support
- $\circ\,$ HTTPS certificate and key upload feature
- \circ SSH public keys edit box
- License page
- $\circ\,$ DNP3 data for Data to Server

• Improvements

- $\circ\,$ Updated busybox to version: 1.34.1
- $\circ~$ Updated curl to version 7.79.1
- $\circ\,$ Added iptables filter package for string filtering
- $\circ\,$ Added CHAP authentication for L2TP VPN
- Added IPv6 support for L2TPv3 VPN
- $\circ\,$ Added EAP-MSCHAPV2 authentication method for IPsec VPN
- Added IPv6 support to Auto Reboot
- $\circ\,$ Added 'Save to flash' and 'Test configuration' button to DNP3 configuration page
- $\circ~$ Updated SNMP version 5.9.1
- $\circ\,$ Added OpenSSL authentication options to SNMPv3 $\,$
- $\circ\,$ Added support for OSPF redistribution options and OSPF neighbors
- $\circ\,$ Added password field to BGP Peers page
- $\circ\,$ Extended BGP "AS" field validation to accept integers up to 4294967295
- $\circ\,$ Added "DHE+RSA" to OpenVPN cipher selections
- $\circ\,$ Increased OpenVPN max password length from 128 bytes to 512 bytes
- $\circ\,$ Made HMAC key direction initial value dependent on the role of the instance (client or server)
- $\circ\,$ Made HMAC key and HMAC authentication key upload fields required
- $\circ\,$ Added DES to IPsec encryption algorithms selections
- $\circ\,$ Added special character support for CHAP secrets
- $\circ\,$ Added validation requirements for PPTP user list username field
- $\circ\,$ Added option to manually enter Public key in Wireguard configuration
- $\circ\,$ Made generating Wireguard keys possible only while in auto mode
- $\circ\,$ Added Events Log database to troubleshoot archive
- $\circ\,$ Added RFC1918 filter field
- $\circ\,$ Added the possibility to unblock multiple blocked devices at once
- $\circ\,$ Added 'Port' column to blocked login attempts table
- $\circ\,$ Added Speedtest server refresh
- $\circ\,$ Updated Speedtest server list
- $\circ\,$ Added asterisk option to Site Blocking
- $\circ\,$ Added MD5 and SHA256 checksums to package validation page
- $\circ\,$ Changed certificate requirements to only require client key file if client certificate is used

- $\circ\,$ Added pagination and data retention between table pages
- $\circ\,$ Added pagination functionality to tables when there are more than 10 records
- $\circ\,$ Improved table sorting by saving user provided sort settings in the browser
- $\circ\,$ Improved drag and drop functionality
- $\circ\,$ Added the possibility to drag and drop files onto upload components
- $\circ\,$ Moved 'Root CA' from the 'Access Control' page to the 'Certificates' page
- $\circ\,$ Added 'Strict-Transport-Security' response header for HTTPS
- $\circ\,$ Added 'breadcrumbs' to modal windows
- $\circ~$ Improved initial WebUI loading after login
- $\circ\,$ Added error code 5 for reserved SAMBA user names
- $\circ\,$ Added Mobile data and SMS limit features for external modem
- Added I/O SNMP trap
- $\circ\,$ Added ISO 8601 time format to I/O Juggler's '%ts' parameter
- $\circ\,$ Added device name parameter '%pc' to I/O Juggler
- $\circ\,$ Added PPPoE VLAN priority support
- $\circ\,$ Made VRRP ping section dependent on main instance
- $\circ\,$ Added 'WAN to LAN' switch

• Fixes

- Fixed CVE-2021-20322, CVE-2021-4197, CVE-2022-1011, CVE-2022-0847 kernel vulnerabilities
- Fixed CVE-2022-28391 busybox vulnerability
- Fixed CVE-2018-16789 shellinabox vulnerability
- Fixed CVE-2021-44543, CVE-2021-44542 privoxy vulnerabilities
- $\circ\,$ Fixed CVE-2021-43618 GNU Multiple Precision Arithmetic Library vulnerability
- Fixed zlib backport security issue
- $\circ\,$ Fixed Wireguard firewall zone assignment
- $\circ\,$ Fixed queued packages disappearing from list after FW upgrade with keep settings
- Fixed error message display for multiple input validation rules
- $\circ\,$ Fixed incorrect DHCP validation range for start and limit fields
- $\circ\,$ Removed 'Bring up on boot' option from network interface configuration pages
- $\circ\,$ Fixed coma-separated DHCP options disappearing after save
- $\circ\,$ Fixed exclude and listen interfaces
- $\circ~$ Fixed 'Use broadcast flag' option saving
- $\circ~\mbox{Fixed}$ firewall zone assignment when creating new interfaces
- $\circ\,$ Fixed OpenVPN 'Netmask' and 'IP address' field validations
- Fixed OpenVPN TAP configuration saving issue
- $\circ\,$ Fixed OpenVPN switching to TUN mode when uploading a configuration from file
- $\circ\,$ Fixed dynamic BGP route state display
- $\circ\,$ Fixed BGP peer enable in edit page
- $\circ~\mbox{Fixed}$ issue when no L2TP client instance could be bound to IPsec
- $\circ\,$ Fixed firewall rule and zone behavior related to config section creation
- \circ Added default value for L2TPv3 netmask, which is now written to config after save
- $\circ\,$ Fixed passthrough option saving to IPsec file
- $\circ\,$ Fixed DMVPN issue where instance configuration could not be saved
- $\circ\,$ Fixed Wireguard peer could not be saved issue
- $\circ\,$ Fixed NTP client time synchronization after factory reset
- $\circ~$ Fixed device time display with selected time zone
- $\circ~$ Fixed MODBUS TCP indexation missing bracket issue
- $\circ\,$ Fixed initial MODBUS TCP request count validation
- $\circ\,$ Fixed PIN 3/4 direction switching over MODBUS TCP

- $\circ\,$ Fixed MODBUS data to MQTT socket closing issue when connection fails
- $\circ\,$ Fixed MODBUS alarm configuration deletion
- $\circ\,$ Fixed DNP3 master not working after FW upgrade with 'keep settings'
- $\circ~\mbox{Fixed}$ DNP outstation not returning error messages
- $\circ\,$ Added missing SNMP objects: mobile IP, data sent/received today
- $\circ~\mbox{Fixed}$ MQTT Publisher 'Remote address' field validation
- $\circ\,$ Fixed long interface name support for Azure IoT Hub
- $\circ\,$ Increased maximum Azure IoT Hub 'Connection String' length to 4096 characters
- $\circ\,$ Fixed missing sent/received data issue
- $\circ\,$ Fixed URL input field length validation
- $\circ\,$ Fixed admin login issue after upload of backup from a device with older firmware versions
- $\circ\,$ Fixed MAC address formatting in Events reporting messages
- $\circ\,$ Fixed Events reporting DHCP lease message spam, when no new lease is added
- $\circ\,$ Fixed logging crashing after downloading Troubleshoot file
- $\circ\,$ Made Wake on LAN visible only on devices with Ethernet ports
- Fixed Traffic log file transfer to FTP server
- Fixed Web Filter service reloading after a host list file is uploaded
- Fixed access denied messages when sending JSON-RPC requests from root user
- Fixed error message display about duplicated intervals in Profile scheduler
- $\circ\,$ Fixed FW upgrade with 'keep settings' migration issue for Access Control's 'Fail count' and 'Device port' fields
- Corrected OSPF Routing card values, value positions and names
- $\circ\,$ Fixed global secret instances not being removed when there are no IPsec instances
- $\circ\,$ Fixed uploaded file remove icon not staying in position on hover
- $\circ\,$ Fixed Overview card collapse issue that made it unresponsive after too many clicks
- $\circ\,$ Removed WAN6 interface from the Overview page
- $\circ\,$ Fixed Cumulocity connection issue
- $\circ\,$ Hidden phone groups menu
- $\circ\,$ Fixed I/O Juggler external modem recognition
- $\circ~\mbox{Fixed}$ flash driver reformatting after memory shrink
- $\circ\,$ Fixed DLNA package installation issue
- $\circ\,$ Changed Media Directories field to be required
- $\circ\,$ Fixed SAMBA fields value display
- $\circ\,$ Fixed relay output value display in I/O Juggler condition page
- $\circ\,$ Fixed I/O Juggler's WiFi rule not enabling or disabling WiFi interfaces
- $\circ\,$ Fixed I/O Juggler's double delete issue on I/O Juggler action and condition instances
- Fixed I/O Juggler's incorrect I/O status messages

<u>RUTX_R_00.07.01.4</u> | 2022.02.25

- Improvements
 - $\circ\,$ Increased Port Forwards rule max name length
 - $\circ\,$ Added a new '%it' parameter for UTC time in ISO 8601 format to I/O Juggler
- Fixes
 - $\circ\,$ Added missing bracket to the end of MODBUS messages
 - $\circ\,$ Fixed preserving the contents of /etc/luci-uploads/ after FW upgrade with the 'Keep all settings' option
 - $\circ\,$ Fixed IPv4-Gateway column showing empty values in the Status -> Routes page
 - $\circ\,$ Fixed firewall extra option validation
 - $\circ\,$ Fixed usage of custom headers in I/O Juggler HTTP action

- $\circ\,$ Fixed 'verify' option parsing for I/O Juggler
- $\circ\,$ Fixed OpenVPN server configuration with password authentication
- $\circ\,$ Fixed NTP interval length validation
- $\circ\,$ Fixed network interface enable after Drag & Drop
- $\circ\,$ Updated NTP client interval to 24h

<u>RUTX_R_00.07.01.2</u> | 2022.01.04

• Improvements

 $\circ\,$ Removed L2TP section title prefixes

• Fixes

- $\circ\,$ Fixed IPSec crashing issue using mobile
- $\circ~\mbox{Fixed}$ FW flashing when chip is in unknown state
- $\circ\,$ Fixed CPU usage percentage display in the Overview page
- $\circ\,$ Fixed FOTA timeout issue when server does not respond
- Fixed installation of backup packages

RUTX_R_00.07.01 | 2021.11.18

Note: Firmware version RUTX_R_00.07.01 released on 2021.11.18 was removed due to an issue with IPsec tunnel while using mobile connection.

• New features

- RUTX series support without STM32
- $\circ \ Tinc \ VPN$
- $\circ\,$ German language support

• Improvements

- $\circ~$ Updated base to OpenWrt version 21.02
- Improved WebUI functionality when multiple browser tabs are open
- Updated kernel to version 5.4.141
- Updated mtd-utils to version 2.1.2
- Updated busybox to version 1.33.1
- Updated ubus to version 2021-06-3
- Updated ubox to version 2020-10-25
- Updated rpcd to version 2021-03-11
- Updated opkg to version 2021-06-13
- $\circ\,$ Updated fstools to version 2021-01-04
- $\circ~$ Updated wwan to version 2019-04-29
- $\circ~$ Updated ethtool to version 5.10
- $\circ~$ Updated uhttpd to version 2021-03-21 $\,$
- $\circ\,$ Updated ppp to version 2020-10-03
- $\circ~$ Updated odhcpd to version 2021-07-18 ~
- $\circ~$ Updated hostapd to version 2020-06-08
- Updated dropbear to version 2020.81
- $\circ\,$ Updated dnsmasq to version 2.85
- $\circ~$ Updated netifd to version 2021-07-26
- $\circ~$ Updated firewall3 to version 2021-03-23 $\,$
- $\circ~$ Updated libjson-c to version 0.15 $\,$
- $\circ~$ Updated libevent2 to version 2.1.12

- $\circ~$ Updated mac80211 to version 5.10.42-1
- \circ Updated wireless-regdb to version 2021.04.21
- $\circ\,$ Updated binutils to version 2.35.1
- $\circ~$ Updated gdb to version 10.1 $\,$
- \circ Updated strace to version 5.10
- $\circ\,$ Updated trace-cmd to version 2.9.1
- Updated valgrind to version 3.16.1
- $\circ~$ Updated ath10k-ct-firmware to version 2020-11-08
- $\circ\,$ Updated procd to version 2021-02-23
- $\circ~$ Updated iw to version 5.9.8
- \circ Updated iproute2 to version 5.11.0
- $\circ\,$ Updated iptables to version 1.8.7
- $\circ\,$ Updated nettle to version 3.6
- $\circ\,$ Updated libpcap to version 1.9.1 rel3
- Updated elfutils to version 0.180
- Updated cryptodev-linux to version 1.11
- $\circ~$ Updated linux-firmware to version 20201118
- Updated util-linux to version 2.36.1
- $\circ~$ Updated openwrt-keyring to version 2021-02-20
- $\circ\,$ Updated mtd to version rel26
- Updated fwtool to version 2019-11-12
- $\circ~$ Updated ca-certificates to version 20210119
- $\circ~$ Updated wireguard-tools to version 1.0.20210223
- $\circ~$ Updated iwinfo to version 2021-04-30 $\,$
- $\circ~$ Updated ipset to version 7.6
- $\circ~$ Updated gre to version rel12
- $\circ~$ Updated wolfssl to version 4.7.0 $\,$
- $\circ~$ Updated ustream-ssl to version 2020-12-10
- $\circ\,$ Updated uclient to version 2021-05-14 $\,$
- Updated readline to version 8.1
- $\circ\,$ Updated mbedtls to version 2.16.11
- Updated libusb to version 1.0.24
- Updated libunwind to version 1.5.0
- Updated libubox to version 2021-05-16
- Updated libnl-tiny to version 2020-08-05
- Updated libnftnl to version 1.1.8
- $\circ~$ Updated libiconf-full to version 1.16
- $\circ~$ Updated libbsd to version 0.10.0 $\,$
- $\circ~$ Updated gmp to version 6.2.1
- $\circ\,$ Updated ulogd to version rel6
- $\circ\,$ Updated sqm-scripts to version 1.5.0
- $\circ\,$ Updated ntpclient to version rel14
- \circ Updated nmap to version 7.80
- Updated curl to version 7.77.0
- $\circ~$ Updated zerotier to version 1.6.5
- $\circ~$ Updated xtables-addons to version 3.13 $\,$
- Updated xl2tpd to version 1.3.16
- $\circ~$ Updated stunnel to version 5.59 $\,$
- $\circ~$ Updated strongswan to version 1.0.13 $\,$
- $\circ~$ Updated sstp-client to version 1.0.13 $\,$
- Updated pptpd to version rel5

- $\circ~$ Updated openvpn to version 2.5.3 rel2
- Updated ntpd to version rel3
- $\circ~$ Updated net-snmp to version rel2
- $\circ~$ Updated mosquitto to version 2.0.11
- $\circ~$ Updated miniupnpd to version 2.2.1 rel 3 $\,$
- $\circ\,$ Updated etherwake to version rel5
- $\circ~$ Updated libzip to version 1.7.3 $\,$
- $\circ~$ Updated libgpg-error to version 1.39 $\,$
- $\circ~$ Updated glib2 to version 2.66.4
- $\circ~$ Updated libnetfilter-conntrack to version 1.0.8 $\,$
- $\circ~$ Updated libnet filter-log to version rel3
- $\circ~$ Updated lzo to version rel4
- $\circ~$ Updated nghttp2 to version 1.43.0 $\,$
- $\circ~$ Updated openvpn-easy-rsa to version 3.0.8 rel3
- $\circ~$ Updated iperf to version rel2
- $\circ~$ Updated iperf3 to version 3.10.1 $\,$
- $\circ\,$ Updated e2fsprogs to version 1.45.6
- $\circ\,$ Updated fuse to version 2.9.9
- Updated udprelay to version 2020-02-26
- Updated qmicli to version 1.28.2
- $\circ~$ Updated pcre to version 8.45 $\,$
- $\circ~$ Updated libsmpp34 to version 1.14.1
- $\circ~$ Updated libiwinfo to version 2.1
- $\circ\,$ Added netifd library for additional information related to network interfaces
- $\circ\,$ Updated openssl to version 1.1.1l
- $\circ\,$ Updated privoxy to version 3.0.32
- $\circ\,$ Added ACL reload method for sessions
- $\circ\,$ Added 'Advertisement interval' field to the VRRP configuration window
- $\circ\,$ Added a PPTP-to-WAN Zone Forwarding rule when default route is enabled on PPTP client
- $\circ\,$ Added email user group validation for sendind test emails with Events reporting
- $\circ\,$ Added an event logging feature for Ping Reboot events
- $\circ\,$ Improved file/section deletion logic: now files are also deleted after deleting a related config section
- $\circ\,$ Improved package deletion logic
- $\circ\,$ Added the possibility to configure multiple reboot times in one Reboot Scheduler configuration instance
- $\circ~$ Updated 'External system log server' field validation to accept IPv6 addresses
- $\circ\,$ Added redirect to Overview page after login
- $\circ\,$ Added WebUI session timeout after user inactivity
- Added placeholder text to dropdown menus
- $\circ\,$ Improved multi-select design and functionality
- $\circ\,$ Added Unix timestamp, local ISO time, UTC time to Modbus
- $\circ\,$ Added info message when selected file cannot be uploaded
- $\circ\,$ Improved IPsec throughtput
- $\circ\,$ Added IPSec "Compatibility mode" configuration support
- $\circ\,$ Made SNMP 'Community name' option editable
- $\circ\,$ Added external modem support for the 'Mobile Usage' graph
- $\circ\,$ Added I/O support to SNMP
- $\circ\,$ Removed ubus list method due to security reasons
- Added MODBUS "%I, %T, %S, %r, %n" support to MODBUS Data Sender

- $\circ\,$ Removed search engine site crawling
- $\circ\,$ Improved IPSec "Local/Remote source" validation
- $\circ\,$ Added Firewall "all" and "custom" protocol options
- $\circ\,$ Added Backup file size limit of 2 MB
- $\circ\,$ Improved basic/advanced mode changing
- $\circ~$ Improved Wireguard "IP Addresses" field validation
- $\circ\,$ Added language download support from language selection section
- $\circ\,$ Added PPTP "Client to client" configuration support
- Made DDNS "username", "password", "host" fields optional
- $\circ\,$ Added SSTP "Default route" configuration support
- $\circ\,$ Added support for PL2303GC serial to USB chip

• Fixes

- $\circ\,$ Made RMS 'Connect' button disabled when a connection attempt is already in progress
- $\circ\,$ Added validation for TLS Clients 'Private network' option
- $\circ\,$ Fixed the validation range for MTU fields
- $\circ\,$ Fixed removing firmware image file after leaving the fimware upgrade page
- Fixed network selection list for Traffic Logging added all available LAN networks
- Fixed DHCP Options validation
- Fixed configuration profile date display
- $\circ\,$ Fixed blank page after invalid URL in login page
- $\circ\,$ Fixed TR-069 related firewall rule loading
- $\circ\,$ Fixed remote subnet netmask validation issues for the GRE Tunnel configuration
- $\circ\,$ Fixed WebUI section toggle
- $\circ\,$ Fixed package installation modal layout
- \circ Fixed current page values showing up in login page username field
- $\circ~$ Fixed the possibility to create section with a name that is already in use in the same config file
- \circ Fixed OpenVPN username and password deletion when deleting configuration instance
- \circ Fixed session closing issue for the user whose password was just changed
- $\circ\,$ Updated MODBUS credential validation
- $\circ~$ Updated MQTT credential validation
- $\circ\,$ Fixed DNS 'Rebind protection' setting when switch is disabled
- Updated libgcrypt to version 1.9.3 to fix CVE-2021-33560
- Fixed CVE-2021-33624, CVE-2021-29648 vulnerabilities
- \circ Fixed DHCP 'Lease time' and 'Unit' option saving over the Setup Wizard LAN page
- $\circ\,$ Fixed Reboot Scheduler not removing crontab file after disabling the rule
- Fixed OpenVPN 'Extra options' field validation to allow a space character
- Added table drag and drop functionality to the Firewall's Traffic Rules page
- \circ Fixed DNP3 Outstation crash caused by non-void function returning no value
- Fixed RMS 'Copy' button functionality
- $\circ\,$ Fixed I/O Juggler hour condition interval issue
- $\circ~$ Patched CVE-2021-40528 vulnerability
- Patched CVE-2021-40490 vulnerability
- $\circ~$ Patched CVE-2020-16120 vulnerability
- $\circ\,$ Fixed VLAN section creation
- $\circ\,$ Returned Interfaces "Port priority" option
- $\circ\,$ Fixed missing Content-Type header to initial WebUI response
- $\circ\,$ Fixed RIP information parsing in status page
- $\circ\,$ Fixed OpenVPN IPv6 netmask validation
- $\circ\,$ Fixed SNMP Trap Settings Host/IP field validation

- $\circ\,$ Fixed Cumulocity authentication reset
- $\circ\,$ Fixed Events Reportingg rule saving

<u>RUTX_R_00.07.00</u> | 2021.07.16

- New features
 - New WebUI based on Vue.js 2.6.12
 - RutOS updated to OpenWrt 19.07.7 base
 - DNP3 Master and DNP3 Oustation

• Improvements

- $\circ~$ Updated firewall to release 3 $\,$
- $\circ~$ Updated kernel to version 4.14.221
- $\circ~$ Updated uhttpd to version 2020-10-01
- $\circ~$ Updated xtables-addons to release 9 $\,$
- $\circ~$ Updated mwan to version 2.8.14
- $\circ~$ Updated pcre to version 8.44
- $\circ~$ Updated curl to version 7.74
- $\circ\,$ Updated sqlite to version 3.33
- $\circ~$ Updated neurses to version 6.2
- $\circ~$ Updated OpenSSL to version 1.1.1k
- $\circ\,$ Added full MODBUS register address expansion specifier for Data to Server
- $\circ\,$ Added full MODBUS register address legend
- $\circ\,$ Added Client ID option for the MQTT protocol in Data to Server
- Improved Data to Server sleeping accuracy
- $\circ~$ Improved Data to Server username validation; now space is allowed
- $\circ\,$ Added firmware version OID to the SNMP service
- $\circ\,$ Added IP address family option field to the SNMP page
- $\circ\,$ Added SNMPv6 section to the SNMP Communities page
- $\circ\,$ Renamed the 'System -> Users' page to 'System -> System Users'
- $\circ\,$ Moved password changing option to the 'System -> System Users' page
- $\circ~$ Switched to ar8216 driver
- $\circ\,$ Added IPsec XAUTH support
- $\circ\,$ Improved OpenVPN updown, init scripts to write info about instance in JSON
- $\circ\,$ Added AES-256-GCM encryption support to OpenVPN
- $\circ\,$ Added extra configuration parameters to DMVPN
- $\circ\,$ Added PSK conversion to DMVPN and single PSK types
- $\circ\,$ Improved Package Manager package installation, deletion and dependencies
- $\circ\,$ Improved Package Manager download process over FOTA
- Added new Input/Output values manageable over RMS
- Added IPv6 traffic logging
- $\circ\,$ Made 'Network -> Failover' and 'Network -> Interfaces' page data draggable on multiple browsers
- $\circ\,$ Added Input/Output Post/Get URL parameter t_time changing delay and time to seconds or miliseconds
- $\circ\,$ Added support for multiple USB to Serial adapters
- $\circ\,$ Added option to switch back to primary SIM card after timeout
- $\circ\,$ Improved I2C communication
- $\circ\,$ Added peer groups to BGP access list dropdown
- $\circ\,$ Added TCP MD5 authentication support for BGP
- Fixes

- $\circ\,$ Added glib2 patch to fix CVE-2019-13012 vulnerability
- $\circ\,$ Added ntfs-3g patch to fix CVE-2019-9755 vulnerability
- Added WolfSSL patch to fix CVE-2021-3336 vulnerability
- $\circ\,$ Added Busybox patch to fix CVE-2018-1000500 vulnerability
- $\circ\,$ Added netifd, odhcp6c IPv6 routing loop on point-to-point links patches to fix CVE-2021-22161 vulnerability
- Fixed Android clients IPsec MTU/MSS size
- Fixed wrong IPsec DPD value saving
- $\circ~$ Changed IPsec PSK maximum length to 128 symbols
- $\circ\,$ Fixed SSTP remaining up after package removal
- $\circ\,$ Fixed DMVPN crypto_proposal write to config
- $\circ\,$ Fixed I/O Juggler's SMS sending to correct group
- $\circ\,$ Fixed I/O Scheduler's relay state issue
- $\circ\,$ Added I/O direction check while changing IOs via I/O Post/Get
- $\circ\,$ Fixed float endianness mismatch on some devices MODBUS TCP Master, MODBUS Serial Master
- $\circ\,$ Fixed UPnP issue that caused config changes to apply only after service restart
- $\circ\,$ Fixed WebUI files caching when upgrading firmware
- Fixed WebUI date display format
- $\circ\,$ Fixed MODBUS returning incomplete MAC address data
- Fixed DLNA connections count total in statistics page
- Fixed wrong VRRP IP address writing to file
- $\circ\,$ Fixed DLNA connections count total in statistics page
- $\circ\,$ Fixed JSON-RPC issue that caused incorrect state returns

<u>RUTX_R_00.02.06.1</u> | 2021.02.10

- Fixes
 - Added dnsmasq patch CVE-2020-25681, CVE-2020-25682, CVE-2020-25683, CVE-2020-25684, CVE-2020-25685, CVE-2020-25686, CVE-2020-25687
 - $\circ\,$ Fixed PPTP server interface naming
 - $\circ~$ Fixed correct client PPTP interface name selection for route creation
 - $\circ\,$ Fixed adding helper to firewall's wan zone when enabling PPTP configuration
 - Added package size checking when manually installing a package
 - Fixed 'New Firmware Available' message display after firmware upgrade

<u>RUTX_R_00.02.06</u> | 2020.12.31

- New features
 - \circ External Quectel modem support
- Improvements:
 - $\circ~$ Updated base to OpenWrt 19.07.4
 - Added Phone Groups as possible SMS recipients to SMS Post/Get
 - Added PSK support for MQTT Broker/Publisher
 - Changed Output Scheduler structure
 - $\circ\,$ Removed limitation of one configuration per Input
 - $\circ\,$ Added multiple modem support for TR-069 $\,$
 - $\circ\,$ Fixed parsing user uploaded custom OpenVPN configuration files containing carriage returns
 - $\circ\,$ Added iptables conntrack flush on WAN Failover if IPsec is enabled
 - \circ Optimized package responsible for sending/receiving GRE Tunnel keepalive packets

- $\circ\,$ Added extra error checking to Package Manager when downloading packages
- $\circ\,$ Added data usage info for both SIM cards to RMS $\,$
- $\circ\,$ Added logging to syslog when Ping/Wget Reboot "Action" is set to 'None'
- $\circ~\mbox{Improved}$ display of configuration tables when a lot of information is shown
- $\circ\,$ Renamed MODBUS strings to uppercase
- $\circ\,$ Added redirect to configuration page after a new configuration is created with the 'Add' button
- $\circ\,$ Added option to create a Configuration Profile from current configuration
- $\circ\,$ Added data validation to Profiles Scheduler fields
- $\circ\,$ Replaced the Firewall 'Helpers' page with conntrack helper configuration for each firewall zone
- $\circ\,$ Increased dynamic list maximum amount of values to 50 $\,$
- $\circ\,$ Added the possibility to save email accounts without entering email username and password
- $\circ~$ Unified device access password validations
- $\circ~\mbox{Expanded}$ DDNS validation for domain input to accept emails
- $\circ\,$ Moved all USB related services to the 'Services -> USB Tools' page
- Added 'General' page to 'Services -> USB Tools'; the page contains a list of all USB devices and the option to safely unmount the devices
- $\circ\,$ Added 'passive-interface' and 'default-information' options to the OSPF configuration page
- Added NHRP dynamic route status page
- $\circ~$ Split VLAN configuration page into two separate ones: 'Port Based' and 'Interface Based'

• Fixes

- $\circ\,$ Fixed IPsec Passthrough subnet/ip value parsing to make it dynamic for leftsubnet
- $\circ\,$ Fixed occasions when error messages overlap buttons
- $\circ\,$ Fixed I/O state saving after revert back to original state
- $\circ\,$ Fixed IPsec connection after reboot
- $\circ\,$ Fixed bridged interface configuration for L2TPv3
- $\circ\,$ Removed trailing newlines in returned SNMP strings
- $\circ\,$ Fixed Events Reporting waiting to send email before rebooting
- $\circ\,$ Fixed MQTT MODBUS Gateway not working when topics have special characters
- $\circ\,$ Swapped pin3 and pin4 values in MQTT Publisher
- $\circ\,$ Added an 'IP4Table' option to advanced interface configuration
- \circ Fixed an issue where User Scripts were being deleted after device reboot
- $\circ\,$ Fixed various WebUI validation bugs, typos, option hints & alignments
- $\circ~$ Fixed a bug that caused an internal sever error after logging in with a username that contained special characters
- $\circ\,$ Fixed crashes that occur after configuration files are not correctly generated
- $\circ~$ Fixed a Firewall Port Forwarding bug which caused an internal sever error when no 'Protocol' was selected
- $\circ\,$ Fixed changing WebUI mode bug while current page is accessed with POST method
- $\circ\,$ Fixed password allowed lengths and tooltips
- $\circ\,$ Fixed mountpoint display
- $\circ\,$ Fixed erroneous data usage display of external modem after it's been disconnected

RUTX_R_00.02.05.2 | 2020.11.19

• Fixes

 $\circ\,$ Randomized the global rate limiter to mitigate "SAD DNS" attack

RUTX_R_00.02.05.1 | 2020.09.30

- New features
 - DLNA media server
 - $\circ\,$ iptables NETMAP extension
 - $\circ\,$ "Flush connections on" option for WAN Failover
 - New firmware notifications
 - $\circ~$ Updated header logo from 'Teltonika' to 'Teltonika | Networks'
 - \circ SQM QoS
 - $\circ \ \text{USB Tools}$
 - $\circ~\text{USB}$ to Serial adapter support
 - $\circ\,$ Auto format USB storage devices to NTFS
 - $\circ~$ Storage Memory Expansion

• Improvements

- $\circ\,$ Improved WebUI page loading speed
- $\circ\,$ Added Basic/Advanced mode selection in Setup Wizard
- $\circ\,$ Added a dropdown with a search function for time zone selection
- $\circ\,$ Added "copy to clipboard" button in Cloud Solutions next to MAC and Serial
- $\circ\,$ Added option to send all Modbus records in one packet
- $\circ\,$ Disabled IPV6 services on LAN by default
- $\circ\,$ Added password hashing in Post/Get pages
- $\circ\,$ Added a warning message about rebooting the device while certificate files are being generated
- $\circ\,$ Added status option to uploaded custom OpenVPN configuration file
- No longer showing "Enable OpenVPN config from file" option if "Enable external Services" is selected
- $\circ\,$ Added some missing placeholder values
- $\circ\,$ Added warning message about unsaved changes when leaving Auto Reboot, Periodic Reboot, Wireless pages
- $\circ\,$ Added port selection to SSTP configuration
- $\circ\,$ Changed Periodic Reboot service name to Reboot Scheduler
- $\circ\,$ Added table row highlights on hover
- $\circ\,$ Changed section name from 'Email users' to 'Email accounts' in the Recipients page
- $\circ\,$ Added network interface automatic assignment to firewall zones when interface protocol is switched
- $\circ\,$ Adjusted Azure validations
- Adjusted Local/Remote subnet field validations
- $\circ\,$ Adjusted Hotspot field validations
- $\circ~$ Unified VPN overview section option names and titles
- $\circ~$ Removed mandatory requirements for inter-zone forwarding source & destination options in Firewall zone configuration
- $\circ\,$ Added placeholder values for drop down options in Routing pages
- $\circ\,$ Increased maximum package upload size
- $\circ\,$ Removed mobile interfaces from Hotspot configuration
- $\circ\,$ Added "Passthrough subnets" option to IPsec configuration page
- $\circ\,$ Added package size checking when installing packages via Package Manager
- $\circ~$ Optimized switching between Basic and Advanced WebUI modes
- $\circ\,$ Added missing services to Events Reporting page when selected Event is "Config change"

- $\circ\,$ Improved general web design, ordering and positioning
- $\circ\,$ Added word wrap in the Unsaved Changes page
- $\circ\,$ Centered 'Apply' button in the Profiles page
- $\circ~$ Hid network interfaces with DHCPv6 protocol in Overview page while in Basic WebUI mode
- $\circ~$ Changed tcpdump "Select storage" option value from 'Internal storage' to 'RAM memory' in the System \rightarrow Administration \rightarrow Troubleshoot page
- \circ Added more descriptive error messages when connection to FOTA server fails
- Updated "Local address" hint in l2tpv3 page
- $\circ\,$ Added network selection option in Traffic logging page
- $\circ\,$ Reworked Q-in-Q configuration page

• Fixes

- $\circ\,$ Fixed DDNS freeze issues
- $\circ\,$ Fixed Firewall Traffic Rules Source and Destination address field validations
- $\circ~$ Started using more stable, builtin ar82xx switch driver
- $\circ~$ Symlinking tty devices in one place
- $\circ\,$ Fixed period when sending packet curl timeouts in Modbus Data Sender
- Fixed "active SIM" register value retrieval after regression in Modbus TCP Slave
- Fixed Hotspot 'Trial access' function
- $\circ\,$ Fixed OpenVPN TLS Cipher display and added a limit to number of ciphers
- $\circ\,$ Fixed various WebUI validation bugs, typos & option hints
- $\circ\,$ Fixed DHCP lease range validation and value saving in Interfaces page
- $\circ\,$ Fixed error messages when creating interfaces with incorrect names
- $\circ\,$ Fixed various section toggling bugs
- $\circ\,$ Fixed username validation in SNMP page
- $\circ\,$ Fixed certificate file importing bugs & common name display in Certificates Manager page
- $\circ\,$ Fixed interface option related to IPv4 and IPv6 in Routing pages
- $\circ\,$ Fixed OpenVPN multi-line command that adds client specific parameters
- $\circ\,$ Fixed DHCP lease range validation in Basic mode
- $\circ\,$ Fixed incorrect sorting in dynamic tables
- $\circ\,$ Fixed routing table writing and deleting
- $\circ~\mbox{Fixed}$ incorrectly displayed type when no protocol is selected
- Removed Wireguard interfaces from the Interfaces page
- Fixed SNMP user access mode display in SNMPV3 Users Overview page
- $\circ\,$ Fixed SNMP memory leak on chilli module
- $\circ\,$ Fixed MD5 and SHA256 checksum calculations
- $\circ\,$ Fixed DHCP-options field validation to allow separating parameters with commas
- $\circ\,$ Fixed Package Manager side menu entry updates right after package upload
- Fixed Wireguard port selection
- $\circ\,$ Fixed VPN zone status display
- $\circ~$ Fixed lua errors when Start/End time option is empty
- $\circ\,$ Fixed incorrectly displayed OpenVPN protocol
- $\circ\,$ Fixed Lua errors in Profile Scheduler and Firewall Zones
- $\circ\,$ Removed /log folder from Troubleshoot file directories
- $\circ\,$ Fixed endless spinner when applying profiles
- $\circ\,$ Fixed nil value in the Traffic Logging page
- $\circ~$ Fixed "Units" option dependency on "Enable DHCP" option in the Setup Wizard's LAN page
- $\circ\,$ Fixed redirecting to login page after factory setting restore (reset)

- $\circ\,$ Removed Unsaved Changes notification when downloading Troubleshoot/tcpdump files from the System \rightarrow Administration \rightarrow Troubleshoot page
- $\circ\,$ Vulnerability fixes for Package Manager and Certificates Manager pages
- $\circ\,$ Fixed Firewall zone placeholder (removed "-- Please select --" and left "Unspecified")
- $\circ\,$ Fixed update from server option in the Firmware page
- $\circ\,$ Added missing error messages when password is invalid in default password change page
- $\circ\,$ Fixed "Lease time" option in the Setup Wizard's LAN page
- $\circ\,$ Fixed error 500 when accessing Advanced pages while in Basic mode
- $\circ\,$ Increased allowed character lengths for MQTT Broker and Data to Server
- $\circ\,$ Fixed XSS vulnerabilities in package manager and package file upload pages
- $\circ~\mbox{Fixed}$ incorrect OpenVPN configuration saving
- Fixed NHRP lua error
- $\circ\,$ Removed "Wireguard" from Status \rightarrow Services display if it is not installed
- $\circ\,$ Fixed Hotspot login page signup fields and notifications
- $\circ\,$ Removed Hotspot 2.0 page
- $\circ\,$ Removed Phone Groups page

RUTX_R_00.02.04.3 | 2020.07.31

- New features
 - $\circ\,$ Backup archive MD5 & SHA256 checksum calculation to help user identify altered backup archives
 - $\circ\,$ Package signature check to verify that a package comes from Teltonika
- Fixes
 - Fixed CVE-2019-17367
 - $\circ~$ Fixed hiding of configuration pages that users of a specific group don't have read access to
 - $\circ\,$ Fixed firmware upload script

<u>RUTX_R_00.02.04.1</u> | 2020.07.02

- New features
 - $\circ\,$ Added USB Tools page with "USB to Serial" and "Printer Server" sections
 - $\circ\,$ Relay control to Call Utilities
 - $\circ\,$ 'Certificates' page for generating and managing TLS certificates
 - $\circ\,$ 'Drag & Drop' support for Overview page tables
 - 'Speed Test' feature
 - AVL I/O support
 - $\circ\,$ Added JSON formatting option to Data to Server
 - $\circ\,$ Added timeout and keep-connection options to Modbus TCP Slave
 - $\circ~$ During this release a new package was released $\underline{\text{WireGuard}}$

• Improvements:

- $\circ~$ Improved L2TPv3 functionality with VLAN
- $\circ\,$ Improved 'Profile Scheduler' with minute accuracy
- $\circ\,$ Reordered VPN configuration options
- $\circ~$ Standardized section header styles
- $\circ\,$ Unified spelling of dropdown values
- $\circ\,$ Added information about 'Package Manager' packages before updating firmware $\,$
- $\circ~$ Updated services management to Status \rightarrow Services page

- $\circ\,$ Improved performance of firmware upgrades from server
- $\circ\,$ Improved security features related to file uploading and HTTP headers
- Changed RAM/flash memory units from MiB to MB
- $\circ~$ Updated warning message and lease deletion message for static leasing
- $\circ~$ Moved 'Country code' option to general tab
- $\circ\,$ General web responsiveness improvements

• Fixes

- $\circ\,$ Fixed random 'I/O Juggler' crashes
- Fixed symlinking tty devices in one place
- $\circ\,$ Fixed validations and option saving in OSPF page
- $\circ\,$ Fixed various element positioning bugs on smaller screens
- \circ Fixed switching to advanced mode notification when accessing non existing pages
- Fixed validations in Traffic Logging page
- $\circ\,$ Fixed showing failover section only for interfaces with failover rules
- Fixed static leases redirect after saving
- Fixed empty dropdown values in 'I/O juggler' and 'Network Shares'
- $\circ\,$ Fixed interface IP address validation in DDNS page
- Fixed various spelling mistakes
- $\circ\,$ Fixed broken address option in the 'Troubleshoot' page
- Fixed dropdown select element double clicking issue
- $\circ\,$ Fixed basic/advanced mode switching with Microsoft Edge browser
- $\circ\,$ Fixed firmware upgrading bug when LAN interface with a changed name exists
- $\circ\,$ Fixed redirecting to the 'Interfaces' page when mode is changed from basic to advanced and user is in the 'LAN' or 'WAN' pages
- $\circ\,$ Fixed validation of custom header in 'Data To Server' page
- $\circ\,$ Fixed "Type" option error in Failover page
- $\circ~$ Updated username and password validations
- Fixed profile change action in 'I/O Juggler'
- $\circ\,$ Fixed bidirectional GPIO change feature

<u>RUTX_R_00.02.03.4</u> | 2020.06.15

- Fixes
 - \circ LED fixes
 - $\circ\,$ Fixed config generation script

RUTX_R_00.02.03.1 | 2020.05.15

• New features

- $\circ\,$ Responsive WebUI design
- $\circ~$ New Access Control window for managing IP access
- $\circ\,$ Attack Prevention page under Firewall settings
- $\circ\,$ New IPv6 options in WAN, LAN and VPN pages
- $\circ~$ Progressive Web Application support and extra page caching when device is configured with a valid SSL certificate
- $\circ\,$ OpenVPN configuration file upload functionality
- $\circ~$ Unsaved Changes page
- \circ Input inversion buttons
- $\circ\,$ Dynamic switch port display in side widget
- Input/Output manipulator
- $\circ\,$ MQTT Publisher: added support to send I/O values

- $\circ\,$ Ability to install packages stored in backup file
- New Modbus TCP Slave register fields
- $\circ~$ New Modbus Alarm redundancy options
- $\circ \ NTPD \ version \ 4.2.8 p14$

• Improvements:

- $\circ\,$ Added HMAC configurations for OpenVPN
- Added AES ciphers support for OpenVPN
- $\circ\,$ Added DHCP lease range display in the Network \rightarrow LAN page
- $\circ\,$ Added warning messages when deleting interfaces/configurations
- $\circ\,$ Added available FW on server status messages in FW upgrade page
- $\circ\,$ Changed UPnP redirect delete button style
- $\circ~$ Changed functionality of reset button in the Firewall \rightarrow Custom Rules page. Now fully resets to default
- $\circ\,$ Added hints on all value fields about field validation
- $\circ\,$ Removed modem traps if no modem is present
- $\circ~$ Optimized section toggling logic, removing all toggling associated flags required prior optimization
- $\circ\,$ Standardized section edit page headers in WebUI Services
- $\circ\,$ Improved the look of error pages and messages
- $\circ~$ Updated Wiki links to wiki.teltonika-networks.com
- $\circ\,$ Disabled 'Clear data limit' button for inactive interfaces
- $\circ\,$ Reordered menu, moved 'Default configuration' to the Backup page, moved 'Diagnostics' to the Troubleshoot page
- $\circ\,$ Added credentials input fields to Data to Server
- $\circ~$ Changed hint of 'Allow guest" in the Network Shares page
- $\circ~$ Updated Periodic Reboot service status in the Services page
- $\circ\,$ Improved hint for incoming calls option
- $\circ\,$ Changed OpenVPN LZO option to a dropdown with an extra 'none' option
- $\circ\,$ Added suggestion to create a profile if there are no profiles created in the Profiles $\rightarrow\,$ Scheduler page
- $\circ~$ Filtered out unnecessary interfaces ending with _4 _6 in firewall page
- $\circ\,$ Moved SIM switch to separate page and added check interval and retry count options
- $\circ\,$ Changed side widget button color to blue to make it more visible
- Added 'Dynamic List' option limit (20 elements)
- \circ Improved stm32 recv message handling
- $\circ~$ Modbus TCP test now allows reading more than 125 coils/inputs
- $\circ\,$ Reworked NTP page, separating general options from NTP specific ones

• Fixes

- $\circ\,$ Added name validation in the Firewall \rightarrow Port Forward page, fixed custom protocol value selection and display
- $\circ\,$ Added validation for GRE 'Remote subnet IP' option
- $\circ\,$ Fixed Schedulers' cells to be of equal width
- $\circ~\mbox{Fixed}$ uploading backup from lower firmware version
- Fixed SSTP certificate upload function
- $\circ\,$ Fixed IPsec 'Aggressive' setting value saving in config file
- $\circ\,$ Fixed LAN settings static lease name validation
- $\circ~$ Fixed descriptions in Access Control \rightarrow Security page
- $\circ\,$ Fixed HTTP login while HTTPS session is still active
- $\circ\,$ Fixed real time CPU load in the Overview page
- $\circ\,$ Fixed advanced static routing display for all routes

- $\circ\,$ Fixed file upload error messages in backup page
- $\circ\,$ Fixed 'Select' option for Firefox browser
- Fixed RAM usage display in side widget
- Fixed access to non existing pages
- $\circ\,$ Fixed saving empty message field in Events Reporting rules
- $\circ~$ Fixed I/O socket pinout
- $\circ~$ Fixed Events Reporting send test email page display when email contains 2 new lines in a row
- $\circ\,$ Fixed LAN Overview section display
- $\circ\,$ Fixed early login page load after reboot or backup upload
- Fixed Package Manager notification display
- $\circ\,$ Fixed PPTP and L2TP client configuration creation with same name
- $\circ\,$ Fixed static route removal if corresponding interface is removed
- \circ Fixed Realtime Graphs \rightarrow Traffic tab display
- $\circ\,$ Fixed OpenVPN username and password writing to file
- $\circ\,$ Fixed time zone sync between Setup Wizard & NTP pages
- $\circ\,$ Fixed DHCP lease range validation
- No longer write anything into Events Log when forcing reboot to prevent device hang-up
- Fixed restore settings when upgrading from Yocto base firmware on TRB1 targets
- Fixed launching stm32 autoflash script at early boot to avoid possible keep settings loss
- $\circ\,$ Removed certain Events Reporting options on devices that don't have the corresponding functionality
- $\circ\,$ Fixed recovery from lost connection for MQTT publisher, Modbus MQTT gateway
- $\circ\,$ Resolved using SHA512 bug for versions 02.01 or lower with additional (-b) parameter

<u>RUTX_R_00.02.01.1</u> | 2020.01.15

- New features:
 - $\circ~\mbox{Email}$ to SMS
 - $\circ~$ Static IP lease
 - $\circ\,$ SMS OTP and MAC auth in Hotspot
 - Hotspot logs
 - $\circ\,$ TOS in HotSpot
 - Custom URL parameters while using external landing page in Hotspot
 - $\circ\,$ Expiration time for Hotspot
 - $\circ\,$ Wireless status page
 - USB mount settings
 - $\circ~$ Site blocking list from file
 - $\circ\,$ Events Reporting via Email
 - $\circ \ STunnel$
 - Multi-User support
 - \circ Mobile page
 - \circ Operators control
 - $\circ\,$ Bluetooth passive device scanning
 - Hotspot 2.0
 - $\circ~$ Modbus MQTT gateway
 - Package manager
 - RUT FOTA
 - \circ TR-069
- Improvements:
 - $\circ\,$ Deleted OpenVPN forward rule on instance deletion

- $\circ\,$ Improved "SMS Forwarding to Email" field validations
- $\circ\,$ Rename IPsec fields from right/left to remote/local
- \circ Bluetooth style improvements
- $\circ\,$ Applied same style on all scheduler templates
- $\circ\,$ Renamed "Setup Wizard" steps
- $\circ\,$ Renamed "IPv4 and IPv6 routes" headings
- $\circ\,$ Renamed "User groups" to "Users & Recipients"
- $\circ\,$ Added "Clear data limit" on a specific date
- $\circ\,$ Enable/Disable all SMS-Utilities rules at once

• Fixes:

- $\circ\,$ Fixed WAN mobile interfaces reload
- $\circ\,$ Fixed parsing interface IP address in WAN
- $\circ\,$ Fixed OSPF "Hello Interval" field hint
- $\circ\,$ Fixed field validation on "Port Forward" create form
- $\circ\,$ Fixed display build date
- $\circ\,$ Removed "Bring up on boot" option
- $\circ\,$ Fixed Mobile page with additional USB modem
- $\circ\,$ Fixed creating SNAT rule without port
- $\circ~\mbox{Fixed}$ SDK archive name

<u>RUTX_R_00.02.00.2</u> | 2019.10.11

- Fixes:
 - WiFi fix

<u>RUTX_R_00.02.00.1</u> | 2019.09.27

- New features:
 - \circ Auto APN
 - MQTT
 - \circ Web Filter
 - $\circ~$ Dynamic Routes
 - $\circ~\text{GRE}$ over IPsec
 - $\circ\,$ Wireless Hotspot
 - VRRP
 - HTTP POST/GET
 - $\circ~$ Network Shares
 - VLAN multiple tags functionality
 - SMS HTTP POST/GET
 - SMS Forwarding
 - \circ Auto Reply
 - $\circ~\text{SMS}$ storage
 - $\circ\,$ Switch back to primary SIM
 - Email groups
 - $\circ\,$ Default VPN firewall zones
 - $\circ~$ Support for XT25F128B spi-nor memory
 - $\circ~$ Support for Bluetooth
- Improvements:
 - $\circ~$ Updated Kernel to version 4.14.131
 - $\circ\,$ Updated Strongswan to version 5.8.0

- Updated curl to version 7.60.0.4 (fixes CVE-2018-14618, CVE-2018-16839, CVE-2018-16840, CVE-2018-16842, CVE-2019-3823, CVE-2019-3822, CVE-2018-16890)
- Updated mosquitto to version 1.5.8
- Updated dnsmasq to version 2.80
- Updated iptables to version 1.6.2
- $\circ~$ Updated openssl to version 1.0.2s
- $\circ~$ Updated zlib to version 1.2.11
- Updated hostapd to the 2018-05-21 version (fixes CVE-2019-9494, CVE-2019-9495, CVE-2019-9496, CVE-2019-9497, CVE-2019-9498, CVE-2019-9499, CVE-2019-11555)
- $\circ~$ Updated fstools to the 2019-03-28 version
- $\circ~$ Updated procd to the 2018-03-28 version
- $\circ~$ Updated rpcd to the 2018-11-28 version
- $\circ~$ Updated ubox to the 2018-02-14 version
- $\circ~$ Updated ubus to the 2018-10-06 version
- $\circ\,$ Updated uci to the 2019-05-17 version
- $\circ~$ Updated Firewall to the 2018-08-13 version
- $\circ~$ Updated netifd to the 2019-01-31 version
- $\circ~$ Updated uhttpd to the 2018-11-28 version
- $\circ\,$ Switched to mac80211 WiFi driver
- Updated IPsec page
- Updated DMVPN page
- Updated Overview configuration page
- Fixes:
 - $\circ\,$ Fixed operator name parsing
 - Fixed serial reading
 - $\circ\,$ Fixed SIM card PIN code setting
 - $\circ\,$ Fixed I/O event handling
 - $\circ\,$ Fixed backup save after device restart
 - $\circ~\text{GPS}$ init script fixes
 - $\circ~\mbox{IPsec}$ page rework
 - $\circ\,$ Failover/Load Balancing mobile interface fixes
 - \circ L2TP/PPTP/SSTP configuration fixes
 - TX power save setting fixes
 - $\circ\,$ Refactored profiles functionality
 - $\circ\,$ Added write to config option in Call Utilities
 - $\circ\,$ Wireless config migration fix
 - Firmware checksum fix

<u>RUTX_R_00.01.06</u> | 2019.07.24

- New features:
 - $\circ\,$ Added Wake on LAN feature
 - $\circ\,$ Added SSTP VPN support
 - $\circ\,$ Added mobile bridge feature
 - \circ Added Status \rightarrow Network page
 - $\circ\,$ Added SIM Switch feature
 - Added SMS Limit feature
 - $\circ\,$ Added save and restore SIM PIN code from flash
 - $\circ\,$ Added feature to monitor switch port events
 - Added Events Reporting send to RMS functionality
 - $\circ\,$ Added FOTA support for RUTX08, RUTX10, RUTX11

- $\circ\,$ Added Modbus TCP master function
- Improvements
 - $\circ\,$ Added microcontroller version information
 - $\circ~$ Updated Wireless page design and WiFi widget in overview page
 - Updated Overview widget style
 - \circ Updated stm32 firmware
 - $\circ~$ Updated LED logic
 - $\circ\,$ Changed check for new FW logic
 - \circ WebUI style updates
- Fixes:
 - $\circ\,$ Fixed multiwan function. Changed firewall traffic control to routing rules control
 - NTP time zone display fix
 - LED functionality fix
 - $\circ~$ Changed time function used for rollback timestamps
 - $\circ\,$ Login form updated and other fixes
 - $\circ\,$ Fixed firmware update checksum mismatch
 - $\circ\,$ lua error on map when GPS is disabled fix
 - $\circ\,$ Firmware update percentage and check box fix
 - $\circ~$ LAN interface creation with short names fix
 - $\circ\,$ WAN state and IP print fixes
 - $\circ~$ OpenVPN new port save in firewall rule fix
 - RUT FOTA bug fixes

<u>RUTX_R_00.01.04.5</u> | 2019.06.14

- Improvements:
 - Revert settings logic updated
- Fix:
 - $\circ\,$ Firmware update checksum mismatch fix
 - \circ DHCP dnsmasq fix
 - $\circ\,$ Wireless improvements and bug fixes
 - $\circ\,$ Increased RMS HTTP Proxy resource limit

<u>RUTX_R_00.01.04.1</u> | 2019.05.17

- New features:
 - $\circ\,$ Add initial wireless support
 - $\circ\,$ Added SNMP support
 - $\circ\,$ Added Advanced Routing functionality
 - $\circ\,$ Added L2TP VPN
 - $\circ\,$ Added PPTP VPN
- Improvements:
 - $\circ\,$ Added signal strength logging and reporting to Events Log
 - $\circ\,$ Added authentic firmware check
 - $\circ~\mbox{OpenSSL}$ updated to version 1.0.2r
- Fixes:
 - $\circ\,$ Wireless improvements and bug fixes
 - $\circ\,$ Fixed IPSec Phase 1 and Phase 2 keys lifetime not saving bug
 - $\circ~\mbox{Input}$ Output improvements and bug fixes

- $\circ\,$ Fixed router values sent from SMS utilities
- $\circ\,$ WebUI style fixes
- $\circ\,$ Fixed RMS proxy multiform submits

<u>RUTX_R_00.01.03</u> | 2019.04.25

- New features:
 - $\circ\,$ Adapted WebUI for RUTX08 $\,$
 - $\circ\,$ Added DMVPN support
 - Added HTTP support
 - $\circ\,$ Added SMS message input field validation and counter
 - Added UPnP support
 - Added GRE Tunnel support
 - $\circ\,$ Implemented dynamic routing with BGP, OSPF, RIP, EIGRP and NHRP protocols
 - $\circ\,$ Added manual network band lock support
 - Added Events Log
 - $\circ\,$ Added Events Reporting
- Improvements
 - $\circ\,$ Updated OpenVPN client count to 20 $\,$
 - WebUI style updates
- Fixes:
 - $\circ~$ Profile scheduler fixes
 - $\circ~$ Mobile service crash fix
 - $\circ~$ Ping Reboot IP field validation fix
 - $\circ\,$ LED functionality related fixes

<u>RUTX_R_00.01.02</u> | 2019.03.19

- New features:
 - $\circ\,$ Added configuration profiles
 - Updated WebUI style
 - $\circ\,$ Added Reboot button
- Improvements:
 - $\circ\,$ curl updated to version 7.64.0
 - $\circ\,$ openssl updated to version 1.0.2q
 - $\circ\,$ dropbear updated to version 2018.76
 - $\circ\,$ busybox updated to version 1.28.3
 - $\circ\,$ ustream-ssl updated to latest version
 - $\circ\,$ OpenVPN updated to version 2.4.6
 - $\circ~$ OpenVPN-Easy-RSA updated to version 3.0.4
 - $\circ\,$ ubus updated to version 2018-10-06
 - $\circ~$ uhttpd updated to version 2018-11-28 $\,$
 - $\circ~$ NTP updated to version 4.2.8p12
- Fixes:
 - $\circ~\mbox{Root}$ CA validation and page style fixes
 - Hardware compatibility check fix
 - $\circ\,$ DDNS force IP renew fix

- $\circ\,$ Site Blocking enable column fix
- $\,\circ\,$ Don't show rules in Load Balancing mode when in failover page fix

<u>RUTX_R_00.01.01</u> | 2019.02.05

- New features:
 - Initial firmware release