

RUTX50 Firmware Downloads

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This page contains firmware files for RUTX50 devices. Look to the table below or the [changelog](#) to find download links.

To upgrade firmware using WebUI, follow the instructions in [RUTX50 Firmware](#).

RUTX50						
File	Type	Release date	Size	MD5	Changelog	
RUTX_R_00.07.08_WEBUI.bin	Latest FW	2024.07.18	23.35 MB	cbd1cb7561b07d942ca554f7e15945af	Link	
RUTX_R_00.07.07.3_WEBUI.bin	Mass production FW	2024.06.25	24.1 MB	2a178d88cd1ba39057912292dfe714e1	Link	
RUTX_R_GPL_00.07.08.tar.gz	SDK	2024.07.18	79.75 MB	85cf7e075a24fdf5421f3ec4ca9c2bec		

Note: packages for [Package Manager](#) are independent from firmware and can be downloaded in the [Package Downloads](#) page.

FW checksums

Checksums for firmware files can be found [here](#).

Changelog

[RUTX_R_00.07.08](#) | 2024.07.18

- **New**
 - **Network**
 - 802.1X: added client support
 - 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
 - **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**
 - Channel Analysis: added scan error message when a DFS channel and FCC country are selected
 - 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 functionality
- 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
- Wireless: added warning when user configures mesh on radio with automatic frequency channel
- Wireless: added support for wireless MAC-filter MAC ranges
- Wireless: updated wireless firmware
- Wireless: changed Radius Accounting port is not required when configuring access point with enterprise encryption
- Wireless: enabled ACS(automatic channel selection) for 5 GHz radios by default
- 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
- GPS: added send empty feature, which sends zeroed location data after specified GNSS loss timeout
- 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
- Modem Control: disabled canonical mode by default for partial mode. Now full/partial mode input from serial port works the same way
- 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
 - Over IP: added label to show how many servers a client is connected to
 - Over IP: connect on data feature will not disconnect immediately after data transfer but wait for inactivity timeout
 - Over IP: increased TLS handshake timeout to 10 seconds
 - 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
 - Tailscale: updated version to 1.68.1
- **System**
 - 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
 - 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 5.10.217
 - 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
 - Network: fixed instances of device dropping packets when configured with masquerading disabled and 'Hardware flow offload' enabled
 - 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 5 GHz Wi-Fi scanning is prohibited when a DFS channel and ETSI regulatory domain is selected
 - Wireless: fixed Wi-Fi 5 GHz unsupported channel selection issue on specific widths
 - 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
- GPS: fixed GPS start constellations issue
- GPS: fixed an issue where NMEA sentences were parsed incorrectly at midnight, resulting in a 24-hour time discrepancy
- GPS: fixed gpsctl datetime parameter
- GPS: fixed issue where DPO would not get disabled if GPS is started without DPO
- GPS: fixed AVL TAVL rule signal value issue
- GPS: fixed default AVL rule issue where I/O would be ignored by default
- GPS: fixed BeiDou and QZSS separation in PQGSV sentences
- GPS: fixed NMEA sentences reading in NMEA collecting
- 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
- Modem Control: fixed API POST request validation
- NTRIP: fixed NTRIP NMEA generation timestamp and coordinates errors
- NTRIP: fixed configuration reading with several instances added
- 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
- Over IP: fixed issue where serial device does not recover after modem reboot
- Over IP: fixed connect on data initiating TCP connection after few data transfers
- 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

○ **System**

- 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
 - Memory Expansion: fixed enable validation
 - 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
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[RUTX_R_00.07.07.3](#) | 2024.06.25

- **Fix**
 - **Network**
 - WebUI: fixed port advertisement change
 - **System**
 - FOTA: fixed config when upgrading from older firmware with keep settings
 - **CVE Patches**
 - CVE-2024-31950
 - CVE-2024-31951
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[RUTX_R_00.07.07.2](#) | 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
 - HNAT: fixed cases of unintended forwarding when LAN and WAN subnets overlap
 - HNAT: fixed instances of device misrouting packets to wired LAN when 'Hardware Flow Offloading' was enabled
 - Wireless: fixed connection issues after disabling encryption
 - Mobile: fixed forced APN configuration
 - **Services**
 - DMVPN: fixed duplicate NHRP map entries creation
 - OpenVPN: added fixes for the insecure tls-cert-profile option usage
 - GPS: fixed outages
 - **System**
 - IP Block: fixed blocking of UDP traffic
 - Ledman: fixed WiFi LED indication when WiFi configuration is changed
 - **CVE Patches**
 - CVE-2024-31948
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[RUTX_R_00.07.07.1](#) | 2024.05.03

- **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
 - Mobile: added framed routing support
 - Mobile: improved connection establish time for uqmi protocol
 - 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
 - Modbus Serial Server: added option 'Mobile data type'
 - 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

- Over IP: added option 'Keep alive enable'
- **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
 - 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
 - HNAT: improved WAN->LAN packet offloading
 - 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
 - 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
 - Wireless: added a range of channels to 5 Ghz radio to use as fallback if it drops after radar detection when using DFS channel
 - Dnsmasq: updated dnsmasq to version 2.89
 - **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
- Network Shares: moved to Package Manager
- 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
- AVL: added HDOP in TAVL settings
- AVL: added ADC and ACL I/O types for secondary AVL rules
- NTRIP: added a limit of 20 configurations
- OpenVPN: added the bridge option for selecting the network device to be bridged with
- OpenVPN: added possibility to create more than one TAP client
- SSTP: updated package version to 1.0.19
- Mosquitto: updated package version to 2.0.17
- Tailscale: updated package version to 1.62.1
- **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
 - WebUI: improved first login password change logic
 - Certificates: updated Root CA certificates
 - GPL: added offline package preparation command for GPL builds
 - Speedtest: added multiple connections support to improve accuracy
 - 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 cases where 5G NSA network type was shown incorrectly
 - 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 denied roaming flag set
 - SIM Switch: fixed an issue when low "Check interval" was causing connection to fail
 - SIM Idle Protection: fixed problem when the SIM slot remained unchanged
 - Mobile: fixed an issue where SIM switch would fail when switching to PUK blocked SIM

- Mobile: fixed an issue where sim switch would be executed twice immediately causing sim to not be switched
- Mobile: fixed SIM PIN saving for non primary SIM cards
- 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 setup issue when client or mesh interfaces are configured on both radios
- Wireless: fixed changing regulatory domain configuration
- 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
- HNAT: fixed multicast packet leakage when 'Hardware flow offloading' is enabled
- **Services**
 - Modbus Client: allow using negative floating point values in requests
 - Azure IoT Hub: fixed Data to Server minor WebUI dependency bugs
 - Data to Server: fixed DLMS data formatting
 - 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
 - Azure IoT Hub: fixed 'contentType' telemetry message parameter
 - 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
 - PPTP: fixed problem related with routes when failover is enabled
 - USB Tools: fixed to not display a non-existent MSD
 - Modbus Client: fixed issue where service freezes when SMS alarm is sent
 - Modem over serial: improved robustness against modem reboots
 - Modbus TCP Over Serial Gateway: fixed gateway returning corrupted data with larger baud rates
 - Modbus Server: updated 'GPS fix time' register to store the UTC date and time of GPS position

- 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
 - JavaVM: fixed package installation
 - 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-2024-2397
 - CVE-2024-25062
 - CVE-2024-27913
 - CVE-2024-22365

[RUTX_R_00.07.06.10](#) | 2024.04.04

- **Fix**
 - **System**
 - Ledman: fixed memory leak

[RUTX_R_00.07.06.8](#) | 2024.03.25

- Firmware **R_00.07.06.8** was removed due to an issue with inefficient memory allocation for LED control.

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- **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

[RUTX_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
 - **Services**
 - Fixed OverIP serial utility issue where after some time server mode can't accept incoming connections anymore

[RUTX_R_00.07.06.5](#) | 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 possible packet corruption
 - Fixed an issue where DNS resolution failed for wireless clients connected to an access point configured on a specific VLAN
 - **Services**
 - Fixed Modbus TCP Over Serial Gateway crash occurring at start up in some edge

- cases
 - Fixed tailscale VPN firewall zone creation issue
 - Fixed custom GPS NMEA prefix
- **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

[RUTX_R_00.07.06.3](#) | 2024.01.17

- **Improvements**

- **Services**
 - Added multiple hosts support for GPS HTTPS, NMEA and AVL services
 - Increased DLMS Client connection timeout for TCP sockets

- **Fix**

- **Services**
 - Fixed DLMS Client memory leak with profile generic COSEM class
 - Fixed function 5 not working with high register numbers in MQTT Modbus Gateway service
- **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

[RUTX_R_00.07.06.1](#) | 2024.01.04

- **Fix**

- **Services**
 - Fixed issue with NTPclient zombie processes
- **WebUI**
 - Fixed issues with VoLTE status and 5G network type display

[RUTX_R_00.07.06](#) | 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
- **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
 - 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
 - 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
 - **System**
 - 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
 - Added two radio support on one SSID in Wireless
 - **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 possibility to assign mobile interface in SQM service
 - Added reboot on storage device disappearance and re-appearance
 - 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 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
 - 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 unstable Wireless mesh connection
 - Fixed low Wireless mesh throughput
 - Fixed concurrent Wireless STA and AP functionality on 5 GHz band
 - **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 AVL with poor mobile connections
- Fixed default profile SMS Utilities I/O status rule configuration in Profiles functionality
- 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
- Fixed mobile cell ID retrieval in TR-069 service
- **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 Network Shares users deletion
 - 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
- **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

[RUTX_R_00.07.05.4](#) | 2023.11.09

• Improvements

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

[RUTX_R_00.07.05.3](#) | 2023.10.30

- **New**
 - **System**
 - Added support for GD5F2GM7 and GD5F2GQ5 GigaDevice NAND flashes
- **Fix**
 - **Network**
 - Improved device stability when using IPv6 for modem connections

[RUTX_R_00.07.05](#) | 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
 - 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
 - **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 DPO configuration support in GPS
 - Added more mobile usage parameters to SNMP
 - SIM Idle Protection package
 - AVL collection based on minimum accuracy for GPS 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
- IPv6 table configuration option for DHCPv6 protocol in Network -> WAN 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
- "Write to config" option for SIM Switch action in I/O Juggler service
- Configurable GPS NMEA prefix
- 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
- **System**
 - Mechanism to rebrand WebUI using GPL
 - Possibility to create web applications with closed-source GPL
- **Improvements**
 - **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
 - 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
 - **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 parameter "%gs" that sends GPS data in formatted info message
- Updated AVL to prefer checking network status through Failover if configured
- 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 separate 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 separate 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
- Changed default "Check interval" option value in Network -> Mobile -> SIM Switch page
- 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
- Added GPS longitude and latitude data in TR069
- Updated Mobile Signal graphs to show EC/IO and RSCP values when network type is 3G
- Updated Mobile Signal graphs to show RSRP, RSRQ and SINR values when network type is 5G
- 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 "Change SIM" action type to display configured SIM target in I/O Juggler -> Actions overview page

○ **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**

- **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
- 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 device selecting 4G/5G service mode when 3G and manual operator configured
- Fixed PDU SMS parsing when operator provides user data header in single part SMS
- Added scheduled data limit clear for inactive mobile interfaces
- Fixed Wireless AP and STA functionality for 5GHz band
- 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 authentication failure in case of channel change
- Fixed Multi AP startup when changing Multi AP configuration in Wireless
- Fixed client connection to EAP Wireless network

- **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 authentication 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 authentication
 - 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
 - Fixed received SMS messages parsing with trailing whitespaces
 - Fixed VPN status rule message text in SMS Utilities
 - Fixed UDP payload size in GPS AVL
- **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
- 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 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 5G connection signal strength values display
- Fixed cell info and signal value parsing for 5G SA connection
- 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 GPS AVL I/O trigger option filtering
- Fixed modem 5G SA connection serving cell information parsing
- **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-2021-36369 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**

- Improved MBN reselection algorithm when switching SIM
- Improved SIM card change detection algorithm
- Improved connection establishment speeds after sim switch
- Added metric field support in BGP Route-maps page

- **WebUI**

- Updated SIM slot labeling in modem card Overview page

- **Fix**

- **Network**

- Fixed an issue with MBN selection when device is started for the first time
- Fixed an issue where MBN activation would not be successful
- Fixed service provider parsing when operator does not provide all fields for

Quectel modems

- Fixed a condition where mobile connection would not get established after a SIM switch
- Fixed an issue with SIM switch causing connection problems
- Fixed device showing 5G connection when 5G connection is not established or configured
- Fixed an APN configuration issue

[RUTX_R_00.07.04.4](#) | 2023.06.26

- **New**

- **Network**

- Travelmate package for captive portal redirection

- **Improvements**

- **Network**

- Improved mobile operator query methods and operator name parsing in various services

- **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**

- Fixed a connection issue with bridge/passthrough mode when reconnecting ethernet cable
 - Fixed long mobile operator list parsing for whitelist/blacklist functionality
 - Patched CVE-2023-32233 vulnerability
 - Fixed an issue with Multi AP service remaining enabled when disabling
 - Fixed registration status value bug when performing SIM switch
 - Fixed SIM card slot retrieval when modem is busy
 - 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**

- **Network**

- Fixed an issue with mobile when Call Utilities configuration is invalid

- Fixed mobile connectivity in bridge mode after firmware upgrade
- Fixed clients being unable to connect to wireless AP when multi AP configuration is empty
- Fixed an issue where sometimes PIN/PUK code was deleted when performing a SIM switch
- **Services**
 - Fixed incorrect mobile data usage provided to RMS service
- **System**
 - Fixed an issue on bootloader web recovery hanging with certain firmware sizes

[RUTX_R_00.07.04.2](#) | 2023.04.18

- **New**
 - nftables support
- **Improvement**
 - **Network**
 - Added PDP profile registry and LTE SMS format functions & management for the Verizon network
 - Improved SIM detection algorithm
 - Improved Multi-APN connection establishment time
 - **WebUI**
 - Improved Overview page performance
 - **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 IPv4, IPv6 mobile connection restarts
 - Fixed operator scanning when mobile interface is disabled
 - Fixed data limit and tracking when software flow offloading is enabled
 - Added network reload call before bringing the mobile interface up
 - Fixed a segmentation fault issue which would occur occasionally when switching between SIM cards
 - 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
 - Fixed PDP context authentication when using special characters
 - **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 wrong timezone returned issue in Operator Station Synchronization & Timezone Synchronization
 - Fixed MODBUS TCP Slave memory leak issue when requesting mobile parameters
 - 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 possible reboot halt issue
 - 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**
 - **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
 - Updated the 'Status -> Mobile' page
 - Updated interface card in the Overview page
 - Separated Sent and Received data bars on the chart in the Mobile Usage page
 - **Network**
 - Added an info message displayed when a faulty SIM card is inserted
 - Added ResIOT operator's APNs to the APN database
 - Improved mobile connection re-establishment after reboot
 - Improved mobile connection recovery in cases where it was lost unexpectedly
 - Improved 'Deny data roaming' operation when switching between operators
 - Changed default WiFi AP cipher to CCMP (AES)
 - Added the logging of MAC addresses rejected by a WiFi AP
 - **Services**
 - Fixed the listing of slow USB devices such as HDDs
 - Added MQTT support to I/O Juggler
 - Added support for new NMEA sentences: GARMC, GAGGA, GAGSA, GAVTG, GBGSV, GBGSA, GQGSV, GQGSA
 - Added an error message when trying to send an SMS from the 'Send Messages' page with no SIM card inserted
 - Changed the behavior of setting the 'Write to config' flag in the 'mobileoff' SMS rule
 - Added argument support for the 'Execute custom script' SMS rule
 - 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
 - Updated DFOTA notification to show "More info" only when the update is forced
- **Fix**
 - **WebUI**
 - Fixed mobile status missing RSRP, RSRQ and SINR values on 5G NSA connection type
 - Fixed issue when '3G only' SIM card is used
 - Fixed MAC address showing on mobile interfaces
 - Fixed mobile cell ID displaying in hexadecimal
 - Fixed mobile data limit card creation in the Overview page
 - Fixed modem widget disappearing from the Overview page
 - Fixed Services page not displaying data after Thingworx package is installed
 - Added DNP3 to the 'Status > Services' page
 - **Network**
 - Made Software Flow Offloading Enabled by default
 - 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
 - Fixed call function when VoLTE is disabled
 - Fixed VoLTE control when IMS is not enabled
 - Fixed mobile IPv6 IP checking when the device didn't get a correct IP address
 - Fixed APN authentication when using empty credentials
 - Fixed manual APN selection from list
 - Fixed disabled WiFi interface after factory reset
 - Fixed WiFi interface creation with SAE mixed encryption
 - **Services**
 - Fixed disappearing GPS NMEA and HTTPS fields
 - Fixed unused NTRIP option deletion on NMEA source change
 - 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 DNP3 serial master not working when Stop bits are set to 2
- Fixed DNP3 requests 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 WiFi Hotspot landing page uploaded theme image display
- Fixed WiFi Hotspot trial user deletion issue
- Fixed WiFi Hotspot service crash when associated WiFi interface is not up
- Fixed WiFi Hotspot password request by SMS
- Fixed WiFi Scanner starting process when the WiFi interface is disabled
- Added limitations on message size and quantity of email messages in Email to SMS
- Fixed SMTP HELLO value parsing issue
- Fixed SMS message window reset button
- Fixed not being able to save empty 'Message text' field in Auto Reply
- Fixed multi-part SMS concatenation
- Fixed multi-part SMS processing
- Fixed SMS error message on 'Mobile Data Reset' action
- 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
- Fixed USB to Serial adapter detection
- Fixed GPS issues
- **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 LED indications when PDP type is IPv6
- Fixed issues with PDP type and SMS limit period migration via keep settings
- Fixed mobile network type LED indications when device is in Bridge or Passthrough modes
- Fixed LAN port LEDs staying on after being disabled

[RUTX_R_00.07.03.4](#) | 2023.02.09

- **Fix**
 - **Network**
 - Fixed CVE-2023-32349 vulnerability
 - Changed generic modem restart method
 - Fixed mobile page VoLTE switching issues
 - **Services**
 - Sanitized tcpdump storage location

[RUTX_R_00.07.03.3](#) | 2023.01.25

- **Fix**
 - **Network**
 - Updated init sequence

[RUTX_R_00.07.03.2](#) | 2023.01.13

- **New**
 - **System**
 - Japanese language
- **Improvements**
 - **Network**
 - Optimized mobile netifd script installation
- **Fix**
 - **Network**
 - Shortened modem hang monitor timeout
 - Fixed VLAN option setting when changing VLAN ID

[RUTX_R_00.07.03.1](#) | 2023.01.03

- **Improvements**
 - **System**
 - Remove front-end certificate validation
 - **Network**

- Improved 5G connection evaluation
- Optimized mobile netifd script installation
- **Fix**
 - **Network**
 - Fixed modem communication validation
 - Fixed connection establishment in IPv6 only mode
 - **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
 - Fixed operator index in DNP3 outstation; added GPS resubscribe; fixed segfault when GPS is enabled
 - **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

[RUTX_R_00.07.03](#) | 2022.12.16

- **New**
 - **Network**
 - Firewall DMZ page
 - **Services**
 - Java package
 - SFTP server support
 - OPC UA client
 - NTRIP
 - Hotspot registered users management page
 - **System**
 - Portuguese language
 - Spanish language
 - Turkish language
 - Email Relay package
 - **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 option to select subnet parameters in mobile Passthrough/Bridge modes
- Added WhereverSIM operator APN and fr.lebara.mobi APN to APN database
- Added mobile connection state for IPv6
- Added switch back to default SIM after SIM Switch service disable
- 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
- Added the possibility to switch profiles on GPS geofencing events
- Added satellite count and accuracy columns to GPS Map page
- Added execute custom script SMS Utilities rule
- Added receiver and transceiver mode support to SMPP
- Added timezone synchronization with GSM operator option to NTP Client
- 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 and 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
- Added internal error handling subsystem for I/O Manager
- **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 an indication to the Interfaces page that displays when data limit is enabled
 - 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 mdcollect memory leak issue
 - Fixed data limit not resetting properly
 - Fixed incorrect mobile data usage calculations for multiple day periods
 - Fixed an Auto APN 'Keep settings' issue
 - Fixed data counting after mobile data limit has been reached
 - Fixed mobile band not setting correctly on first try
 - Fixed incorrect data limit conditions causing unwanted SIM switches
 - Fixed Passthrough DHCP lease time setting
 - Fixed mobile bridge mode issue when no DNS servers are supplied
 - Added new Operator Lists instance name validations
 - Added individual WiFi toggle support
 - Added error message when DFS channel is selected during scanning
 - Fixed mac80211 vulnerabilities CVE-2022-41674, CVE-2022-42719, CVE-2022-42720, CVE-2022-42721, CVE-2022-42722
 - Fixed wireless interfaces connections not reestablishing after disabling & enabling again
 - Updated DFS radar detection patterns for Japan
 - Fixed 5G connection state checking

- Fixed LED operation when device is connected to 5G
- Fixed SIM Switch issue on newly created mobile interfaces
- Fixed switch back to primary SIM rule disable when the default SIM is changed
- Fixed incorrect SIM Switch behavior on low signal value
- Fixed Wired WAN connectivity issue when Failover interfaces are disabled
- Fixed Failover fallback issue
- **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 I/O Juggler SMS text message Save & Apply issue
 - Fixed Hotspot connected user list maximum upload/download value limits
 - Fixed incorrect connected Hotspot user information in RMS JSON
 - Fixed Delay field in GPS HTTPS/HTTP Server Settings section
 - Fixed AVL packet timestamp display
 - Fixed issue that prevented GPS map display after clearing cache
 - Removed unnecessary field from the Port Mirroring page
 - Fixed Events Reporting 'Changing to SIM1/SIM2' options
 - Fixed Hotspot issues related to specific connected phones
 - Fixed Wireless AP enabled by MODBUS TCP Master not showing in Wireless clients
 - Fixed WiFi Scanner hostname validation issues
 - Implemented Hotspot 'forget' method, which removes user from DB by MAC
 - Fixed UCI SMS Rule return message to display new changes
 - Fixed DNP3 issues when asking for modem temperature
 - Fixed base64 encoding of SMS messages when forwarding to HTTP
 - Fixed SMS sending issues when using multiple APN
 - Added Gateway modem option to IP Block and WoL in SMS Rule edit
 - Fixed unblocking IP addresses with an SMS message
 - Fixed Mobile Utilities page not load properly on some occasions
 - 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 a 'Keep settings' issue
 - 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
- **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_00.07.02.8](#) | 2022.09.16

- **New features**
 - Initial firmware release