RUTX50 Firmware Downloads

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_00.07.07.1_WEBUI.bin	Latest FW	2024.05.03	24.1 MB	8e428314520a8afc6206aad40a81cd63	Link
RUTX_R_00.07.06.10_WEBUI.bin	Mass production FW	2024.04.04	24.6 MB	6ade4748118720d9f8c72524498acf69	Link
RUTX_R_GPL_00.07.07.1.tar.gz	SDK	2024.05.03	80.59 MB	8dc4bcab07165557859ecf524f4b90b0	

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_00.07.07.1 | 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 formating
  - Data to Server: fixed Network link state data display
  - DLMS Client: fixed segfault while reading profile generic COSEM object
  - DLMS Client: fixed profile generic entries reading
  - DLMS Client: fixed application memory allocation issues
  - SSTP: fixed route adding when default route is enabled
  - SNMP: fixed VLAN OID naming
  - OpenVPN: added fixes for instance status tracking functionality
  - OpenVPN: resolved uptime counting issues
  - PPTP: fixed PPTP instance deletion problem
  - 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

- Global changelog for **R_00.07.06.10** - [LINK](#)

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.

[RUTX_R_00.07.06.6](#) | 2024.03.04

- Global changelog for **R_00.07.06.6** - [LINK](#)

[RUTX_R_00.07.06.5](#) | 2024.02.21

- Global changelog for **R_00.07.06.5** - [LINK](#)

[RUTX_R_00.07.06.3](#) | 2024.01.17

- Global changelog for **R_00.07.06.3** - [LINK](#)

[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
- IP6 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
  - Possiblity 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 seperate tab
  - Added client/server status information in OpenVPN instance overview page
  - Added more IPv6 information to interface status in Interfaces page
  - Removed "Custom delegated IPv6-prefix" field from DHCPv6 configuration in Interfaces page
  - Disabled DHCPv6 interface editing while in basic mode
  - Refactored custom DHCP options into seperate modal
  - Added automatic start and end IP allocation for DHCP server configuration in Interfaces
  - Added client/server status information in L2TP VPN page
  - Added "MTU" field to L2TP client configuration page
  - Added CHAP, PAP and MSCHAP-v2 authentication fields to L2TP instance configuration
  - Added more detailed IPsec VPN status information
  - Encryption AES-256-CBC added as default in OpenVPN
  - Added "Authentication algorithm" support to OpenVPN configuration with static key mode
  - Added GRE (DMVPN) VPN tunnel source support to any instead of specific interface
  - Improved Hotspot landing page theme package removal
  - Added upload and download theme functionality to Hotspot Landing page
  - Improved ZeroTier VPN bridge configuration
  - Added ability to adjust order of rules in Firewall page
  - Added IPv6 RAW table to be displayed in Status -> Firewall
  - Improved file upload component's visual appearance
  - Change "Allow anonymous" option default value to 0 in MQTT Broker

- Added option to specify "Client ID" in MQTT Publisher
- Added functionality to select specific interface in Web Filter service
- Allowed to select FTP server subfolder in Traffic Logging service
- Renamed various service master/slave naming convention in config files, package names and webUI to client/server
- Added "Create static" button in Status -> Network -> LAN which bind DHCP lease for device
- Updated Status -> Network -> Mobile page layout
- Added bandwidth, provider in Status -> Network -> Mobile page
- Added colors for signal strength values in Status -> Network -> Mobile page
- Added frequency, pcid, mcc, mnc and LAC values in Status->Network->Mobile page
- Refactored network type selection in Network -> Mobile -> General page
- Serving cell information is not returned anymore when SIM card is not inserted
- 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 authentification failure in case of channel change
    - Fixed Multi AP startup when changing Multi AP configuration in Wireless
    - Fixed client connection to EAP Wireless network
  - **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
- 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-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**
    - 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 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
- 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

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- **New features**
  - Initial firmware release