



Firmware for RKS-G4028 Series Release Notes

Version: v6.0	Build: N/A
Release Date: Oct 05, 2026	

Applicable Products

RKS-G4028 Series

Supported Operating Systems

N/A

New Features

- Added VLAN Mirroring (SPAN & RSPAN) support.
- Added CEF/RFC-5424 syslog message format support.
- Added SWIFT mode for RSTP.
- Added Turbo Ring/Chain Protection.

Enhancements

- Added ingress remark and ACL policer (drop action) to ACL rules.
- Added mapping remark value to port queue and mixed algorithms ("Strict Priority(SP)" and "Weighted Round Robin(WRR): 1SP7WRR, 2SP6WRR") to QoS Scheduler.
- Added key server election mechanism to MACsec.
- Added countdown timer for Locator LED.
- Added PAP and MS-CHAPv2 authentication protocols to MAB.
- Added EAP-PEAP/EAP-MSCHAPv2 to IEEE 802.1X.
- Added Link Aggregation support to Ring Coupling.
- Improved certification operation for SSH&SSL.
- Added "MAC(SA, DA)+ IP (SA, DA)" and "MAC(SA, DA) + IP (SA, DA) + (Sport, port)" algorithms to Link Aggregation.
- Added support for "traceroute" command in CLI.
- Added Source Interface information to "Ping" command.
- Increased ARP table entry limit from 2000 to 3000

Bugs Fixed

- CVE-1999-0524 vulnerability. For more details, search the Security Advisories section on the Moxa website for the following Security Advisory ID: MPESA-257311
- CVE-2002-20001 vulnerability. For more details, search the Security Advisories section on the Moxa website for the following Security Advisory ID: MPESA-258261
- CVE-2025-1680 vulnerabilities. For more details, search the Security Advisories section on the Moxa website for the following Security Advisory ID: MPESA-257421
- Gateway becomes unreachable when switch is VRRP master.
- Switch may reboot when receiving thousands of topology change notification packets at the same time.
- Turbo Ring v2 Master may flap when receiving thousands of topology change notification packets at the same time.
- Deadlock may occur if the switch checks the ARP table while an ARP entry is being deleted.
- SNMP unreachable.
- MRP default ring port is blocked unexpectedly.
- Format and content in CID file is not correct.
- Turbo Ring v2 ring port title shows incorrectly on the CLI.
- VRRP switching time between master and backup higher than expected.

- Unable to transfer files on a Linux OpenSSH server used as an SFTP server.
- Web GUI does not show TACACS/RADIUS login timestamps.
- Incorrect calculation of UTC offset.
- Traffic remains blocked after removing ACL entry.
- MMS timestamp does not update correctly.
- Announce update failure due to PTP sequence ID check.
- System reboots due to GOOSE check on certain packets.
- MMS IED name not accepting underscores "_" and limited to 20 characters (expected: 48).
- Setting MMS IED name fails.
- Network storm in networks with over 10 devices during an MXconfig network device search.
- Dropped packets counter increases on wrong port.
- PLC unreachable after power cycle if there are multiple IPs mapped to a single MAC address.
- Ping fails due to IEEE 802.1X initiation issue.
- System reboots after enabling MACsec on MRP ring.
- Unable to subscribe to MMS report.
- Incorrect module picture in Panel View for PoE module.
- Manual reboot fails after adding a coupling port to a port channel, disabling Multiple Network Coupling, then removing the port channel.
- Link Aggregation configurations are abnormal after importing configuration.
- Incorrect web description in the Reflect Port Mode drop-down menu ("destination port" should be "designated port").
- PTP packet modified after passing through 10G fiber.
- Device can not provide power output to a PD after operating for a long time, then switching the PD to a different PoE line module.
- Fiber SFP slot hot-swap function not working as expected.
- Clicking the MOXA logo in web UI fails to return to the homepage.
- System reboots after several PTP sync status changes.
- System crash after setting an invalid Tracking ID in web UI.
- ACL IP-based IGMP type rule does not work as expected.
- Setting management IP by PROFINET DCP fails due to missing IPv4 netmask validation to block invalid netmasks.
- CPU/memory spikes and leaks due to error handling.
- Turbo Chain does not work as expected after rebooting if user sets MRP first, then disables MRP.
- PoE may behave unexpectedly.
- Incorrect username shown in logs.
- Anomalous behavior due to malicious ABC-02/03 attacks.
- Unexpected interface behavior.



Changes

- Updated MMS certificate expiration date format.
- Updated Link Aggregation hash mode setting from per-port to global configuration to clearly denote system behavior.

Notes

- MMS Security A Profile is limited to the Moxa certificate. For additional certificate requirements, contact your sales representative.
- [Known issue] MXview cannot display PoE info on the link. Will be fixed in v1.8.0.
- [Known issue] Takes longer to import configurations that include default config parameters. Will improve performance in next version.
- [Limitation] Device can not show correct PD Device Type info when connecting the IEEE 802.3af/at PD to an IEEE 802.3bt module.
- [Limitation] System log will show a "Configuration integrity check failed" error when downgrading to MX-NOS v5.0 after upgrading to MX-NOS v6.0 because MX-NOS v6.0 added a configuration integrity check feature.

Version: v5.0	Build: N/A
Release Date: Aug 01, 2025	

Applicable Products

RKS-G4028 Series

Supported Operating Systems

N/A

New Features

- Added support for Multi-Language WebUI
- Added support for MACsec
- Added support for VLAN Assignment
- Added support for PROFINET
- Added support for MRP Interconnection
- Added support for Tracking
- Added support for Multiple Network Coupling
- Added support for Multiple Dual Homing
- Added support for GOOSE Check

Enhancements

- Added a shortcut for setting event notification.
- Redirection to the new page after setting new IP address.
- Support LLDP Management Object, LLDP Data Table Object (Neighbor device information)
- E-mail notification support for special character specification
- Change the severity of the event logs display in the backup file from number to word, making it easier to understand.
- Freeze the first column of the Statistic WebUI, making it easier for users to see as they swipe to the right.
- Add error messages : "No USB device detected", "Unsupported USB memory format", and "Insufficient space on USB" when using ABC-02 and ABC-03 to import and export.
- Support PVID as both tagged and untagged member in VLAN Trunk mode.
- PVID will be assigned as an untagged member by default in VLAN Trunk mode.
- The LLDP function now shows more detailed information about neighbor devices.
- Boot acceleration
- Support deleting all files or remain startup configuration when applying Factory Default
- Added support for periods (.) in the Device Name
- Add CLI command "Show Power" to display redundant power information
- Add OIDs of CPU Usage and System Time
- Support LED Fault blinks according Relay behavior
- Shorten Ping latency
- The LLDP function now shows information about the port connection medium (copper or fiber)

Bugs Fixed

- Logged out due to setting wrong account or password when copy event-logs through sftp by CLI.
- Failed to auto restore signed configuration.
- Record a log out event log without occurring.
- Customer key of file signature can exceed 16 bytes, which is not expected.
- Do not auto backup configuration after the switch auto logout even ABC-02 is plugged in.
- Customer key can be imported and cleared as the privilege of supervisor and user when using CLI, which is not expected.
- Auto restore failure when the ABC-02's or ABC-03's memory is full and having no Moxa/config root path in the external storage will trigger LEDs rotate blinking sequentially.

- Automatic backup of event-log will not restart after failure if user does not unplug the device and then plug it back in.
- LLDP remote table will be destroyed when port link down.
- PTP packets will pass through blocked port, which may cause looping.
- When updating the port mode, VLAN settings are not updated to related functions that use VLAN.
- Show wrong information of running configuration after execution of lldp port-id-subtype local command.
- No ping response to PRP nodes due to the length difference of RPR trailer frames.
- SNMP Engine ID returns no responses.
- System operates abnormally when no IP address set on switch.
- Shows default address IP 10.0.0.1 if there's no setting on the interface vlan 1.
- The router ID will be wrong if the IP address of interface vlan 1 is empty.
- When setting Location of Information Settings, there's no error hint when entering the special character that not supported.
- IGMPv3 source list can learn more than 32 entries.
- TxOctets of Statistic don't show completely.
- The switch will send group-specific query and display an error when receiving two different IGMPv3 membership report frames (exclude and include) continuously from the same port.
- Delay Request Timer stops on end-to-end mode
- PTP is not working with specific PLC while the value of "transportSpecific" in the frame is 1.
- DHCP floods the unicast DHCP packet even when DHCP Relay on the interface has already been disabled.
- Does not always send SNMP trap frames.
- DHCP relay packets sent back to the client might mistakenly be forwarded to the server as well.
- If the DHCP client and server are in different subnets, after the DHCP client obtains an IP address and sends a DHCP request to the server, the server may not receive it.
- Tx and Rx counters cannot be reset by SNMP.
- NTP client time synchronization too long.
- Non-Root Switches don't synchronize Hello Time from the Root Switch.
- Different error messages show in Layer 2 and Layer 3 switches.
- IP output route selection problem occurs when related IP interface status is down.
- MAB cannot make authentication with 2nd radius server when 1st radius server stops service but remains pingable.
- Special character "?" can be entered when setting system location.
- PoE LED doesn't keep blinking due to port interruption.
- The master switch probabilistically records an event log of PoE events even when PoE function was globally disabled in Turbo Ring topology.

- No port can provide power probabilistically after setting PoE force mode.
- Username is able to enter special character "?" before setting server IP address on Email Notification settings.
- Event log of PoE over power budget limit always shows 0 on maximum input power.
- Some values of the VRRP status table are empty after exporting it to the Web.
- The PoE status of allocated power doesn't show the value of force power in force mode.
- The Querier switch didn't return Group & Source Specify Query after receiving IGMPv3 leave group frame.
- The status of relay alarm are different on CLI and Web.
- The maximum age can be set higher than the expectation based on RSTP forward time value.
- Router port of the switch was also cleared when transferring from Non-querier to Querier.
- Cannot complete authentication to the second RADIUS server after the first RADIUS Server not found.
- Receiving the same announce message will cause port state error
- Random non-recording of event log after reboot due to internal error.
- Fluctuating power sourcing equipment (PSE) detection that continuously cause interrupts which consume CPU resources.
- User account cannot be created if user doesn't enter email, however email is not required.
- Memory leak caused due to incorrect feeding of Check JSON_Value type data.
- Tail Port will keep blocking when Head Port is link down.
- The switch will logout automatically after setting login authentication mode.
- Wrong switch may be selected as Querier when configured as Non-querier when applying IGMP Snooping.
- Several functions will be affected if user set the username as "system".
- VLAN-unaware DHCP clients cannot send the request back after receiving the offer frame with VLAN tag.
- Looping may occur after performing port shutdown on chain ports when operating Turbo Chain.
- Firmware upgrade successful/failed event log lacks username information.
- Additional commands show after exporting and importing configurations.
- An IGMP static router port cannot join the forwarding table even when the link is down.
- IGMP Static Router Port is deleted when the port link down.
- Ingress VLAN is not functional for VLAN-based ACL entry.
- Enabling PTP before PTP hardware ready will cause PTP transmission to fail.
- Abnormal forwarding behavior on the Non-querier switch after all members leave the group.
- The state LED light blinks randomly after cold start, should stay solid.
- 100Mbps fiber may fail to link up.
- The switch records an event-log about exporting configuration after enter "Show running-config"

command via CLI.

- The MMS tool cannot connect with the switch due to different default remote P selector.
- Other source streams cannot be forwarded after the certain source is excluded on IGMPv3.
- Vulnerability issues: CVE-2023-48795?CVE-2023-38546?CVE-2019-20372?CVE-2002-20001
- Certain IP fragments may be recognized as PTP packets.
- The dynamic entry learned by the DHCP trusted port cannot be deleted.
- SNMPv1 trap will cause segmentation fault
- The device name will be changed to all caps when the length is over 17.
- The status of PTP peer-to-peer BC mode port will change syncing and locked multiple times when operating Turbo Ring v2.
- Event log entry of the wrong domain will be recorded when connecting to the GM in a different domain even if PTP is not enabled.
- The modbus service may not initialize successfully on the first attempt.
- Temporary looping may occur when link down event occurs on Turbo ring V2.
- Rate limit port shutdown fails to take effect even after the packet is sent for more than 60 seconds.
- The status block port of the Turbo Ring v2 master may not change to forwarding correctly.
- Link Aggregation ports may not join IGMP static router port via CLI.
- CLI command show gmrp statistics display has incorrect format.
- Incorrect MSTP port status shown on web when Bridge ID of another switch is configured between 8192 and 57344.
- Some ports may not be able to enable due to the conflict of Admin status update and Fiber Check port status.
- There may be no record on the forwarding table after received join group message on IGMP Snooping.
- The switch didn't prevent user from importing files in the wrong format, which may cause abnormal display on the WebUI.
- The multicast IP address 255.0.0.18 cannot be recorded on the IGMP group table and multicast route table.
- System doesn't auto backup earliest 1000 logs to ABC-02 when the maximum number of logs is reached.
- Referring to the wrong length of PTP packets may cause out of bound memory access when doing timescale tlv parsing.
- VRRP can't work with port trunk.
- "Connection refused" may display when entering the command "show ip ospf neighbor" after reloading the switch.
- Wrong ring number shows on Turbo Ring v2 status page.
- The IGMP Snooping character of the switch may not turn back to Querier after two times Query

interval.

- Empty table when entering the command "show lldp neighbors" if more than 256 entries are learned.
- Memory leak caused by memory not being freed correctly after handling LLDP frames.
- The switch may warm reboot due to memory leak after receiving 15 management address tlv.
- MSTP related event cannot be gotten in switching-event group.
- The "dot1qTpFdbTable" information is partially cut off in SNMP.
- The status of the PTP TC mode would not turn to 'freerun' and remaining 'syncing' after link down until link on again.
- MMS unable to establish connection.
- Cannot create VLAN by SNMP.
- Event log not recorded when the input voltage is below 46V at PoE bt mode.
- Multicast IP address cannot be entered when setting IP-based ACL.
- Incorrect MSTP trap OIDs are assigned for MSTP notification.
- Static router port does not work after being disabled then exanbled by VLAN IGMP.
- Incorrect OIDs are assigned for Relay.
- CPU usage reaches 100% when connecting via SSH.
- OSPF routing packets lost probabilistically.
- OSPF redistributing connected route with Type 2 metric does not work properly
- Users can read/write/excute Syslog authentication when the priviledge is user.
- Does not show the correct RSTP information after setting Port Channel and RSTP.
- MRP default ring port blocked unexpectedly.
- Warning message not shown when configuring source port for RSPAN destination session.
- Switch logs out when setting session timeout to 0 and importing configuration file.
- Port Channel may fail and show empty output.
- Loop Protection may not function correctly when dealing with VLAN-tagged frames.
- Some Port Mirroring error messages may be duplicated.
- MRP operation causes random reboots.
- PTP operation causes random sign outs.
- Configuring Syslog server IP causes IP address column to be required.
- The DHCP Snooping VLAN ID cannot be cleared.
- Binding database Link Aggregation port not shown correctly.
- DHCP server IP address may be incorrectly formatted.
- SNMP may be unreachable after extended periods.
- After disabling MRP, link-down ports may remain in blocking state even after link reestablished.
- 100FX false link issue.
- Checking RSTP root via MMS always returns false, even when role of switch is RSTP root.

- MMS web does not respond after reloading factory defaults.
- Disabling IGMP and then receiving IGMP frames causes switch reboot.
- Querier ports not completely cleared after the switch changes to querier.
- Event log timestamp inconsistency after browser time sync.

Changes

- Reorder of Web UI Menu Tree.
- Save Auto-restore configuration to start-up configuration.
- Backup the oldest 1000 event logs to the external storage when reaching 10000 event logs, and then delete them after completion.
- Timezone settings location change for better setting operation.
- Expiration date of WebUI SSL shortened to 10 years for improved security.
- Change the acceptable VLAN port mode of destination port for SPAN and RPAN from Access to Hybrid/Trunk.
- Change the acceptable VLAN port mode of reflect port for RPAN from Access to Hybrid/Trunk.
- Threshold of SFP updated on Fiber Check.
- Remove NTP key index setting on CLI.
- Change the configurable value range of the max steps removed to 2~255.
- Update copyright year to 2025 on Web interface.

Notes

- If you are using MRP, make sure the ring ports are configured to VLAN Hybrid or Trunk mode before upgrading to V5.0 to prevent looping.

Version: v4.0	Build: N/A
Release Date: Jun 28, 2023	

Applicable Products

N/A

Supported Operating Systems

N/A

New Features

- Added support for DHCP Relay Agent/Option 82.
- Added support for Media Redundancy Protocol (MRP).
- Added support for DHCP Snooping.
- Added support for IP Source Guard.
- Added support for Dynamic ARP Inspection.
- Added support for Fiber Check.
- Added support for RSPAN.
- Added support for EtherNet/IP.
- Added support for Modbus TCP.
- Added support for additional 1588 PTP power profiles: IEC 61850-9-3, C37.238-2017.

Enhancements

- Improved the layout of the Daylight Saving settings for easier configuration. (Note: A one-time pop-up reminder will appear to check the Daylight Saving settings when logging in for the first time after upgrading to the v4.x firmware.
- Added support for additional special characters for the User Account, Password, and Device Name fields.
- Added Power Management mode for PoE which allows users to choose Consumption mode with the Auto power cutting mechanism or Allocated Power mode based on application needs.
- Added MS-CHAPv2 authentication for RADIUS Server Login Authentication.
- Added the “Transmitting Synchronized”, “Receiving Synchronized”, and “Disabled” port states for Transparent Clock mode.
- Improved the DHCP Server UI page to be consistent with the system behavior. Users can only assign IP addresses within the range of the network domain of the management IP.

Bugs Fixed

- IGMP Multicast Group entries are unexpectedly deleted.
- When receiving an IGMP Leave request, the system will delete the IGMP Static Router Port.
- Specific SNMP OIDs may cause the system to be unable to complete the SNMP Walk application.
- Users are unable to delete NTP settings via the CLI.
- The existing certificate and digital signature key information are not deleted after performing a factory reset.
- When File Encryption and File Signature for configuration backup and restore are both enabled, users are unable to import the exported configuration.
- The PoE LED blinks red when connecting a non-PD device.
- Vulnerability issues: CVE-2022-1292, CVE-2022-0778, CVE-2022-2068.
- The Fault LED stays lit after the port has returned to a normal forwarding state.
- Inconsistent wording on the Turbo Chain Status and LLDP Settings web interface pages.
- Entries remain in the forwarding table after being deleted from the IGMP Snooping Group Table.
- The dynamic GVRP port does not show the correct status in the VLAN table when it is in the Permanent state.

Changes



- The PROFINET (0x8892), MRP (0x88E3), PTP (0x88F7 and 0x88B5) EtherType options for ACL rules have been removed for consistency with system behavior.

Notes

N/A



Version: v3.0	Build: 202206071129
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Applicable Products

RKS-G4028-4GT Series, RKS-G4028-4GS Series, RKS-G4028-PoE-4GS Series

Supported Operating Systems

N/A

New Features

- First release

Enhancements

N/A

Bugs Fixed

N/A

Changes

N/A

Notes

N/A