



Firmware for RKS-G4000-L3 Series Release Notes

Version: v6.0	Build: N/A
Release Date: May 13, 2026	

Applicable Products

RKS-G4028-L3 Series

Supported Operating Systems

N/A

New Features

- Added RIPv1/v2 support
- Added BFD support for OSPF
- Added VLAN Mirroring (SPAN & RSPAN) support
- Added CEF/RFC-5424 syslog message format support
- Added SWIFT mode for STP/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 mix algorithms (Strict Priority(SP) and Weighted Round Robin(WRR): 1SP7WRR, 2SP6WRR) to QoS Scheduler."
- Added key server selection mechanism to MACsec.
- Added countdown timer for Locator LED
- Added authentication protocol PAP and MS-CHAPv2 to MAB.
- Added EAP-PEAP/EAP-MSCHAPv2 to IEEE 802.1.
- Ring Coupling supports Link Aggregation
- Certification operation improvement for SSH&SSL.
- Added 'MAC(SA, DA)+ IP (SA, DA)' and 'MAC(SA, DA) + IP (SA, DA) + (Sport, Dport)' algorithms to Link Aggregation.
- Support "Traceroute" command in CLI
- Add Source Interface information in "Ping" command

Bugs Fixed

- Vulnerability issues: CVE-1999-0524, CVE-2002-20001, CVE-2022-430, CVE-2023-48795, CVE-2021-23017, CVE-2021-3618, CVE-2019-20372
- The gateway becomes unreachable when the 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 when the the switch checks the ARP table while an ARP entry is being deleted.
- SNMP unreachable.
- MRP default ring port blocked unexpectedly.
- Format and content in CID file not correct.
- Turbo Ring v2 ring port title displays incorrectly on the CLI.
- VRRP switching time between master and backup higher than expected.
- Unable to transfer files on Linux OpenSSH server used as 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 doesn't update correctly.
- PTP sequence ID check causes Anounce update failure.
- VRRP delay even with preempt mode disabled.
- GOOSE check causes reboots with certain packets.
- MMS IED name not accepting underscores "_" and limited to 20 characters (expected: 48)
- Setting MMS IED name fails.
- Mxconfig network device search causes network storm in networks with more than 10 devices.
- Dropped packets counter increases on wrong port.
- Multiple IPs mapping to a single MAC address causes PLC to be unreachable after power cycle.
- Ping failure due to IEEE 802.1X initiation issue.
- Enabling MACsec on MRP ring port causes reboot.
- SNMP L3 traffic does not trigger ARP process
- VRRP virtual IP has incorrect netmask.
- MMS report UTC time incorrect, unable to subscribe.

Changes

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

Notes

- The MMS Security A Profile is limited to the Moxa certificate. For additional certificate requirements, contact your sales representative.



Version: v5.1	Build: N/A
Release Date: Feb 26, 2025	

Applicable Products

RKS-G4028-L3 Series

Supported Operating Systems

N/A

New Features

N/A

Enhancements

N/A

Bugs Fixed

- Incorrect mapping between the port and corresponding back panel LED.

Changes

N/A

Notes

N/A



Version: v5.0	Build: N/A
Release Date: Nov 08, 2024	

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 Multicast Local Route
- Added support for PIM-DM
- Added support for PIM-SM
- 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
- 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 probablistically.
- OSPF redistributing connected route with Type 2 metric does not work properly
- Users can read/write/excute Syslog authentication when the priviledge is user.

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 refect 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.



Notes

N/A

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

Applicable Products

RKS-G4028-L3-4GS-2HV-T, RKS-G4028-L3-4GS-2LV-T, RKS-G4028-L3-4GS-HV-T, RKS-G4028-L3-4GS-LV-T, RKS-G4028-L3-4GT-2HV-T, RKS-G4028-L3-4GT-2LV-T, RKS-G4028-L3-4GT-HV-T, RKS-G4028-L3-4GT-LV-T, RKS-G4028-L3-PoE-4GS-2HV-T, RKS-G4028-L3-PoE-4GS-2LV-T, RKS-G4028-L3-PoE-4GS-HV-T, RKS-G4028-L3-PoE-4GS-LV-T

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.
- Added Preempt Mode and Preempt Delay to the VRRP function.

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.



- If BPDU Guard is enabled and a BPDU is received on the edge port, the status is shown as “Blocking” instead of “Err-Disabled”.
- The system does not show the “config conflict” state when a non-repeating PoE rule conflicts with a daily repeated rule.
- The VLAN table in the web interface may randomly turn blank.
- If there are static routing rules with an identical destination IP but different metric, the system does not apply the rule with the shortest distance metric.
- If users enter the "no ip management name-server" twice in a row, the command will generate an error message.
- When users enter any MTU configuration CLI command, the system will also incorrectly show settings for the loopback interface which does not support MTU settings.
- VRRP does not process unicast ARP packets with a virtual MAC.
- If users are logged out of the web interface due to idling, they are automatically kicked out by the system when trying to log in again.
- The wording of the protocol/interface and undersize packets statistics in the web interface is incorrect.
- Users are able to select more than 8 ports for the port channel configuration in the web interface.
- The LLDP web interface page generates an internal error when the remote system name contains specific symbols.

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: 202206021129
Release Date: Aug 19, 2022	

Applicable Products

RKS-G4028-L3-4GT Series, RKS-G4028-L3-4GS Series, RKS-G4028-L3-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