Software Name: Firmware for EDR-G902 Series

Version No.	Build Date No./ Release Date	Supported OS	Apply to Models	New Features/ Enhancements	Bugs Fixed/Changes	Note

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5.0	Build_19010217	N/A	N/A	**New Features:** 1. Supports VRRP LED, VPN LED, and State LED 2. Supports LFP (LINK FAULT PASS-THROUGH) **Enhancements:** 1. Upgrade openssl kit 2. Modbus DPI support filtering with source/destination port number and malformed packet 3. CLI support to show RIP distribution information 4. CLI support to enable/disable RIP redistribution (OSPF) 5. Static route support to set destination address as 0.0.0.0/0 6. Change wording of System File Update-- by Remote TFTP 7. Show OSPF routing table only 8. User can type in "/" in the EDR model 9. "," ">", and "<" cannot be entered in the EDR model 10. Event log can show through SNMP 11. Through SNMP, in function "MTU Configuration", when PRP traffic is disabled, the MTU will reset to 1500 12. When IPsec authentication mode is set as the Pre Share Key, users cannot leave the key empty	**Bugs Fixed:** 1. After the SSH reconnects continuously, there is a possibility that the connection will be rejected since the session is full. 2. When the VRRP virtual IP is the same as the interface IP, the interface IP will be unstable. 3. Even though the VRRP master configuration has been canceled, the virtual IP remains in the routing table. 4. When the VRRP settings performed via CLI are not completed, the interface will show undefined. 5. When the interface is link-down and set as VRRP, the VRRP will not run normally even though the interface is link-up. 6. With blacklist, Modbus DPI cannot filter function code 5, 6, 8, 21, 22. 7. The CLI symbol check is not consistent with the Web UI. 8. Via CLI, the static route metric can be up to 256. 9. When the EDR firmware fails to upgrade, the EDR model will not reboot. 10. In OSPF, when the area type is changed from normal to stub or NSSA, the OSPF will not function normally. 11. In OSPF, when the area type is changed from stub or NSSA to normal, the OSPF will not function normally. 12. Fix CVE-2018-19667. 13. When the WAN port has a SFP module, users cannot access the EDR-G902 after the system boots up. 14. After system reboots, the L3 firewall name will disappear. 15. In NAT, QoS, l2_filter, static route and VRRP, there is possibility that after configurations are added, the web UI will crash. 16. In the L2 policy, when all rules are deleted, users cannot add new rules. 17. In the port status, the info of "media type" is wrong. 18. In the L3 policy, when the filter mode is set as Source MAC Filter, users cannot type in the source MAC address. 19. When changing the network mode via the CLI, if users cancel this change, the change is still valid.	Remark for firmware upgrade to v5.0: 1. If the configuration file uses the following symbols "<"or ">" for the Firewall/NAT/Static route functions, user cannot import this kind of configuration file in to the EDR system that uses firmware v5.0. 2. When the EDR system upgrades to v5.0, the EDR will check automatically if there are any characters "<"or ">" in the name of Firewall/NAT/Static route functions. If there are, the EDR will change "<" and ">" to "_".

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					Changes: 1. In the v2.0.0 system, web UI and CLI shows 12 digits serial number 2. In static route, if the mask is set as 0.0.0.0, the destination will be set as 0.0.0.0 automatically	

Software Name: Firmware for EDR-G902 Series

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4.2	N/A	N/A	N/A	**New Features:** 1. Support for virtual MAC on VLAN interfaces 2. Add independent names of NAT rules and Firewall rules 3. Support "Source IP-MAC Binding" in layer 3 policy for IP spoofing protection 4. Link Fault Pass-through for copper ports and fiber ports 5. Add "Ping Track" and user-defined "Preempt Delay" for VRRP 6. Support user-defined MTU size. 7. Add MPPE for PPTP **Enhancements:** 1. hash algorithm SHA-256 in OpenVPN. 2. AES for SNMP v3. 3. individual PSK for multiple "Site-to-Any" IPSec rules 4. Remove weak algorithms and only keep below highly secured algorithms for SSH: Ciphers aes128-ctr, aes192-ctr,aes256-ctr, MACs hmac-ripemd160,hmac-sha2-256,hmac-sha2-512. 5. Fix potential risk of "Web Application Vulnerable to Clickjacking" 6. Support option to "Keep Certificate Management and Authentication Certificate" when resetting router to factory default 7. Support user-defined interfaces for N-1 and port-forward NAT 8. VPN support certificate using SHA-256 hash algorithm. 9. SSL certificate security level with	**Bugs Fixed:** 1. EDR-G900 compatibility issue with CISCO ACS Radius Server. 2. Modbus filtering cannot filter "Modbus address range" correctly. 3. VRRP status in CLI and MIB file are incorrect 4. Firewall log displays incorrect source MAC address (00:00:00:00:00:00) in bridge mode 5. Fail to import configuration of "Syslog Server" 6. Incorrect display of login banner in web console 7. Frame Padding is not cleared 8. Can't use special character "$" as login password. 9. SSH server can't work after being reset to factory default. 10. L2TP over IPsec configuration can't be imported correctly. 11. IPsec connection table displays incorrect information. 12. IPSec status does not show phase 1 and 2 established when L2TP client is connected. 13. Users cannot clear SMTP email settings from web console. 14. IPSec DPD detection fails 15. Add city of the time zone settings for CLI commands. 16. Support multiple local subnets and remote subnets for one IPSec tunnel 17. Cannot remove the last OpenVPN client account 18. CA server sometimes generate incorrect certificate 19. When login as "user", some EDR-G900 settings still can be changed. 20. Web console (HTTP) can't work after changing "Router Name" 21. Fix system log mechanism for better memory usage 22. SNMP V3 can't work after importing configuation back 23. "OpenVPN Server to user configuration" works incorrectly when router's WAN interface is not a static IP 24. OpenVPN configuration exporting has problem for the next importing 25. Switching options between "TUN" mode and "TAP" mode causes OpenVPN work abnormally	N/A

Software Name: Firmware for EDR-G902 Series

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				2048 bit key length with SHA-256 hash algorithm. 10. SHA-256 hash algorism for encryption of login account and password in Web browser cookie	26. Cannot display multiple subnet setting in CLI 27. Can't login web console after importing configuration via MXconfig 28. User can't use dash "-" character in the name of static route rules in web GUI. 29. NTP client does not sync time with NTP server correctly when the time gap is too large 30. Cannot change router from "WAN2 Connect Mode" to WAN2 Backup Mode" **Changes:** 1. Change default privilege of SNMP "public" community to read only. 2. Support mib query of Virtual MAC for VLAN interfaces 3. "Ping" function follows the routing table to the next hop and "Ping Interface" option was removed 4. The default session limit of "SSH" and "Telnet" changes to 5 concurrent sessions 5. Remove "Auto Routing" from "Outside Interface" options in N-1 NAT settings	

Software Name: Firmware for EDR-G902 Series

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v4.1	Build_17031313	N/A	EDR-G902	**New Features:** 1. IEC 62443-4-2 level 2 compliant. 2. Supports ifAdminStatus MIB information as device's port setting. 3. Supports 1-1 NAT redundancy of the two routers by VRRP binding. 4. Supports Radius CHAP authentication. 5. Integration of the certificate database for IPsec, OpenVPN, and X.509. 6. Improved PPPoE performance. 7. Supports special characters, "0-9 a-z A-Z _@!#$%^&*().-", as part of the account password. 8. Unlock the limitation of the configuration import between standard temperature and wide temperature models. **Enhancements:** N/A	**Bugs Fixed:** 1. Link-on and link-off operations of WAN port cause static route policy to disappear. 2. No encryption of the password-type information in the exported configuration file. 3. Web content did not display correctly in some browsers. 4. Removed unused residual web pages from the system. 5. "User" privilege is allowed to export configuration files. 6. Time zone setting has a problem. 7. Fixed SNMP OID "ifAdminStatus" status. 8. "Cold start" event was sometimes not recorded in the system log. 9. Changed the default settings of preemption delay from 5 seconds to 120 seconds to enhance the stability of VRRP. 10. Incorrect display of device IP address in MXview when 1:1 NAT function of the router was enabled. 11. Failed to access EDR's service through IPsec tunnel when port forwarding (same as EDR's service port) NAT is enabled. **Changes:** N/A	N/A

Software Name: Firmware for EDR-G902 Series

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v3.6	Build_16081017	N/A	EDR-G902	**New Features:** N/A **Enhancements:** 1. Optimized PPPoE performance.	**Bugs Fixed:** 1. L2TP account configuration disappeared after upgrading to v3.5. 2. Password configuration mismatch after upgrading to v3.5. 3. After upgrading to v3.5, users cannot log in to EDR products via web console when the password contains special characters. 4. Users cannot login into EDR products via serial console and telnet console when the password contains special characters. 5. Cannot downgrade to old versions (before v3.5) from firmware v3.5. 6. LLDP interpretation with CISCO devices. **Changes:** N/A	N/A

Software Name: Firmware for EDR-G902 Series

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v3.5	Build_16060717	N/A	EDR-G902	**New Features:** 1. Supports OpenVPN as client or server. 2. Supports text-based configuration file and configuration file encryption. 3. Supports OSPF routing protocol. 4. Supports MXstudio V2.4. 5. Supports multiple L2TP clients. 6. Supports multiple login user account. 7. Supports user-defined login message on the web console. 8. Supports IPsec X.509 with certificate issued by authorized CA. 9. Supports CSR (Certificate Signing Request). 10. Supports monitoring IPsec tunnel uptime. 11. Supports bi-directional 1-1 NAT for local devices that do not have gateway settings. 12. Supports configurable port speed. 13. Supports VPN, firewall, DOS, and system security events stored in local storage or sent to SNMP trap server, and Syslog server. **Enhancements:** N/A	**Bugs Fixed:** 1. Daylight saving time configuration issue. 2. "Base 1" setting did not work in Modbus filtering function. **Changes:** N/A	N/A

Software Name: Firmware for EDR-G902 Series

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v3.4	Build_15081713	N/A	EDR-G902	**New Features:** N/A **Enhancements:** 1. Separate PPTP and L2TP user account management. 2. Extend maximum NAT rules to 350 on EDR-G903 Series. 3. Changed DPD configuration from "Hold" to "Restart" in default IPsec settings.	**Bugs Fixed:** 1. System memory management was improved to solve system lockup problem by SDK upgrade. 2. Improved several VRRP operational behaviors. 3. During routing, the router occasionally dropped a few packets. 4. When there are broadcast packets coming into the system continuously during link-up and link-down phase, traffic is possible to be blocked by MAC at 10 Mbps speed. 5. When the WAN interface is down, router still send out RIP update for other VLAN interfaces which are bind on WAN. 6. Simultaneously using "PING" from different consoles caused incorrect "PING Reply" result. **Changes:** N/A	N/A
v3.3	Build_15020315	N/A	EDR-G902	**New Features:** N/A **Enhancements:** 1. Supports 10 Mbps speed configuration by CLI.	**Bugs Fixed:** 1. Repeated plugging the Ethernet cable in and out caused the NAT function to stop working. 2. System stopped working after a long-term running with a large amount of traffic. **Changes:** N/A	N/A
v3.2	N/A	N/A	EDR-G902	**New Features:** 1. Add "User Interface Management" to enable/disable http, https, telnet, SSH, and Moxa utility. **Enhancements:** 1. Changed default interface to "Auto" in NAT configuration after factory default. 2. Changed behavior of Modbus TCP filtering to "stateless firewall" mode.	**Bugs Fixed:** 1. "Packet Monitoring" did not display correctly with the latest JAVA version in the web console. 2. "Drop Multiple Commands" in Modbus filtering did not work properly. 3. Address configuration of Modbus filtering did not work properly when inputting 5-digit addresses. 4. Cannot set NTP/SNTP time server correctly. **Changes:** N/A	N/A

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v3.1	N/A	N/A	EDR-G902	**New Features:** 1. Allow to configure TCP ports of user management interfaces (HTTP/HTTPS/Telnet/SSH). **Enhancements:** 1. Changed default setting of NAT interface to "Auto". 2. Incorrect display of the configuration items in Modbus TCP filtering. 3. Changed behavior of Modbus TCP filtering to stateless mode. 4. Enlarge maximum firewall rules to 512 (EDR-G903) and 256 (EDR-G902). 5. Enlarge maximum NAT rules up to 256 (EDR-G903) and 128 (EDR-G902).	**Bugs Fixed:** 1. Display error in the monitoring page of "Packet Monitoring". 2. Failed to enable "Drop Multiple Function" in configuration of Modbus Policy. **Changes:** N/A	N/A

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v3.0	N/A	N/A	EDR-G902	**New Features:** 1. Deep Packet Inspection for Modbus TCP. 2. Supports 5 VLANs per interface for NAT, Firewall Policy, RIP, and VRRP. 3. Upgraded EDR-G903's maximum VPN tunnels to 100 (Max. 30 of 100 for start-in-initial mode). 4. Upgraded EDR-G902's maximum VPN tunnels to 50 (Max. 15 of 100 for Start-in-initial mode). 5. "Auto" mode in N-1 NAT Settings for routing packets to NAT or VPN. 6. CLI of IPsec settings. 7. Factory default login password changes from empty to "moxa" for higher security. **Enhancements:** 1. Changed the default gateway to PPTP interface when it is established. 2. In 1-1 NAT mode, the router can automatically choose the outgoing interface according to the routing table. (In the previous versions, the outgoing interface is assigned by users.)	**Bugs Fixed:** 1. Incorrect PWR1 and PWR2 LED displayed in the information bar of the web console. 2. Cannot establish a VPN connection when setting "Encryption Algorithm" to "DES" in IPsec settings. **Changes:** N/A	N/A
v2.12	N/A	N/A	EDR-G902	**New Features:** N/A **Enhancements:** N/A	**Bugs Fixed:** 1. Cannot save configurations after power cycle. **Changes:** N/A	N/A

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v2.11	N/A	N/A	EDR-G902	**New Features:** N/A **Enhancements:** 1. Removed undocumented account. 2. Replaced hard-coded SSH/SSL key by dynamic-generated key. 3. Supports special characters for login password.	**Bugs Fixed:** N/A **Changes:** 1. Changed the default password to "moxa".	N/A
v1.1	N/A	N/A	EDR-G902	**New Features:** N/A **Enhancements:** 1. Improved concurrent session capability. 2. EDR-G902 can be discovered by Moxa Ethernet Utility (EDScfgUI.exe) in Bridge mode.	**Bugs Fixed:** 1. Login password check failed by Google Chrome browser. 2. NAT or LAN IP did not clear when user changed Network mode from Router mode to Bridge mode. **Changes:** N/A	N/A
v1.0	N/A	N/A	EDR-G902	**New Features:** 1. First release for the EDR-G902 Series. **Enhancements:** N/A	**Bugs Fixed:** N/A **Changes:** N/A	N/A