Release Note

Quanta OS For

PPC Platform

Ver. 5.4.05.00

CONTENTS

Supported Hardware

Model	Description
T1048-LB9	L2/L3/L4 Ethernet switch with 48 10Base-T/100Base-TX/1000Base-T and 4 1/10G SFP+ ports in a compact rack unit size (fixed AC input)
T3040-LY2R	L2/3/4 Data Center Ethernet switch with 48 1/10G SFP+ ports and 4 40G QSFP+ ports in a compact rack unit size
T3048-LY3	L2/L3/L4 Data Center Ethernet switch with 40 10GBase-T ports and 8 1/10G SFP+ ports in a compact rack unit size
T5032-LY6	Ethernet switch with 32 40GbE QSFP+ ports in a 1U form factor
T3048-LY8	Ethernet switch with 48 10GbE SFP+, 6 40GbE QSFP+ ports in 1U form factor
T3048-LY9	Ethernet switch with 48 10GbE RJ-45, 6 40GbE QSFP+ ports in 1U form factor
T3048-LY9A	Ethernet switch with 48 10GbE RJ-45, 6 40GbE QSFP+ ports in 1U form factor
T3024-P05	L2/3/4 Data Center Ethernet switch with 24 1/10G SFP+ ports and 2 40G QSFP+ ports in a compact rack unit size
T3024-P05A	L2/3/4 Data Center Ethernet switch with 24 1/10G SFP+ ports in a compact rack unit size

Kernel

HW	LB9	LY2R	LY3	LY6	LY8	LY9	LY9A
CPU	P2020	P2020	P2020	P2020	P2020	P2020	P2020
Linux kernel	V3.8.13	V3.8.13	V3.8.13	V3.8.13	V3.8.13	V3.8.13	V3.8.13

HW	P05	P05A	L08A
CPU	P2020	P2020	P2020
Linux kernel	V3.8.13	V3.8.13	V3.8.13

◆ Package(s): OpenAPI V2.2, RESTful API V0.00.0.20, PSME V1.0.4.3

Supported SW Features

Refer to Appendix A.

Installation and Configuration Note

Refer to Appendix B for Installation and Configuration Note.
Refer to Appendix C for Installation and Configuration RESTful API.

New and Enhancement

Feature	Description
PSME	Enhance to version v1.0.4.3
Telnet	Change the Telnet port number from 23 to 1223
MLAG	Support getting STP force version and admin mode information from MLAG peer. After re-enable MLAG, the port state change to NA.
VXLAN	Support Multicast mode with multiple groups
VLAN	Support private VLAN
MGMT	Retain IP Address on Service Port during "clear config".
BFD	Support VRF with Static Route
BGP	Support VRF, Route Leaking, Extended Communities, and Dynamic Neighbors
SSH	Support Public key authentication
OSPF	Support OSPF Graceful Restart Helper mode
CLI	Integrate commands tree "show interface * " and "show port *" Not support DHCPv6 pool and port-channel adminmode related commands. Not support the command "ipv6 mld snoop" on L3 VLAN interface.
UDLD	Adjust UDLD priority to high priority.
License Key	Enhance license key encryption
OpENAPI	Add APIs to get configured/current vlan configuration Add APIs to set LLDP Chassis-Id type 4 or 7
BFD and VRF	LB9 and L08A do not support.
BST	Not support BST (Buffer Statistics Tracking)
System Info	Remove unused item of System Notes in "show version" output

Resolved Issues

Issue ID	Description
230265	[System]The system crashes due to PDU receive queue issue during a long term port-channel shutdown and no shutdown test.
228737	[RBAC] Use command ''no rule id * '' show '' not have permission to execute this CLI command!''.
228205	[PBR]PBR rule will auto be removed from the binding port when shutdown the hitting interface which is PBR multi-nexthop host.
228098	[IPv6 ND]Some IPv6 ND dynamic entries can't be cleared successfully.
227574	[System][Port-channel] The link status of administratively down port-channel will always be up
227089	[System] Sometime the system will choose wrong next hop (upstream neighbor) of PIM RP
226680	[Unicast Vxlan] System pop up ''sim_svc_port.c(471) Failed to set the default gateway in the IP stack.'' when doing port shutdown no shutdown and change ospf cost.
226323	[System]The system crashed due to NIM timeout during a long term port-channel shutdown and no shutdown test
226002	[System] Some of control packets will be blocked by VLANs Block enabled for snooping after disable ip multicast globally.
225533	[System]Sometimes the counter of topology change will fail to work properly.
225145	[ipv6] DUT didn't block configure the multiple and same ipv6 address in one interface, that cause ipv6 route can't work.
224588	[Mlag] Loop happens in MLAG after remove/add port-channel member.
223566	[PBR]PBR rule can't be bound to the port successfully after binding/un-binding the route-map from the interface several times.
223094	[PBR]PBR rule will be removed from the binding port when shutdowning the hitting interface on PBR multi-nexthop.
222881	[Autoinstall] Switch resolved incorrect TFTP server ip address information when execute "boot-system auto-install start".
222756	[PIMSM] [System]The system crashed due to out of memory during a long term port-channel shutdown and no shutdown test.
221173	[IP ACL] Deny every ACL rules cannot filter OSPF packets
221031	[CLI] The timeout of each TACACS server cannot be loaded respectively. It still read the default value (Global).
218819	[VLAN] In access mode, the ingress rules Untaggedonly is invalid.
212851	[System] IPv6 interfaces cannot work properly after a PIMv4 route change test

212850	[System] Receive rate of multicast traffic cannot recover properly after a route change test
211650	[System] IPv6 MLD snooping cannot work on multiple VLANs
211344	[System] High CPU usages and OSPF adjacency will break after client sends report to join multicast group through L3 multicast routing.
210987	[System] Enable/Disable IP multicast while there is unicast traffic may break OSPF adjacency
205001	[MLAG] MAC loss after ''shutdown/no shutdown all'' stress test in MLAG system test environment.

Open Caveats

Feature	Description
System	The converging time of spanning tree may extend to 50 seconds when continuously changing the priority of MST in a system which has more than 50 port-channels and more than 10 members in each port-channel.
ICMPv6	ICMPv6 Unreachable is not sent when pinging a un-existed destination IP from other devices and a IPv6 default route is created on service port

Limitation

Feature	Description
FW Upgrade	To upgrade to v5.4.05.00 and afterward versions, need to upgrade to v5.4.04.00 first.
MLAG	The minimal required time between enable MLAG and disable MLAG commands for different MAC address numbers are shown in the below table:

MAC Num.	Min. Time (sec)
1000	17
3000	17
5000	18
9000	21

	Not support MLAG with spanning tree.
PIMDM	The minimal required time to make multicast data forwarding stable under different injecting multicast group numbers and different VLAN numbers is shown in the below table:

Group Num.	VLAN Num.	Time (sec)	Remark
20	126	480	10000 packets per 1.2 Sec; Total 16-Groups
512	4	90	10000 packets per 30 Sec; Total 512-Groups
32	96	540	10000 packets per 1.5 Sec; Total 32-Groups

Feature	Description
BFD	BFD session may down and up when BFD running on Trunk and the link of the trunk member which BFD runs on goes down. This is limited by Trunk recover time
	Not support authentication, operating mode, and demand mode configuration.
	Cannot monitor BFD packets via port-monitor function on P05 and LY2R due to the chipset limitation.
LACP Short Timeout	Under LACP STO configuration, the following stress environment needs to be considered:

Under LACP STO configuration, the following stress environment needs to be considered:

1. When mass multicast traffic is injected with looping traffic and huge LACP port channels during device reboot, port channel cannot established after devices rebooting.
2. When mass unicast traffic is injected with the same condition as above, it may take around 20 minutes to make system stable.

Change History

Revision: 5.4.04.00

New and Enhancement

Feature	Description
Hardware	Support LY9A
MLAG	Support MLAG with RSTP
	Support MLAG with L2 multicast snooping
BFD	Support BFD multi-hop
BGP	Support Graceful Restart
Security	Support SSL for RESTful with https port 8446
	Support MSChapv2
	Support Role Base Access Control (RBAC) with RADIUS and TACACS authentication
	Support SSH Public Key authentication
	Support downloading the SSL root certificate file or server key file
	Do not support SSHv1
	Do not support 802.1X PAE Supplicant
System	Add RESTful API for VXLAN UC, Dynamic Port Channel, and Session ID
	Support IPv6 DHCP Snooping
	Support Ansible
	Support OpenFlow v1.3
	Support CLI scheduler

Resolved Issues

Issue ID	Description
211160	[Port LED] Port LED color is incorrect at RJ45 port speed 1G and 100M on LY9A
196638	[Inband]The IPv6 address got from DHCPv6 server can't be ping if enable IPv6 autoconfig then DHCPv6.
197050	[OSPFv3] System shows no reponse of unregister_netdevice for rt1_XXX to become free.
203950	[System] Sometimes the system can only reach directly conneted hosts.
206232	[MLAG with RSTP / IGMP snooping] MLAG operational status change to disabled unexpectedly after running ''mlag/no mlag'' stress test.

162794	[LACP fallback] The fallback function is not stable.
191207	[MLD] IPv6 MLD last-member-query-count cannot work correctly when set the last-member-query-interval below 1000.
196616	[Inband]Only the 1st address got after enable IPv6 Autoconfig can be ping but it can't be removed
203853	[File management] Backup image will disappear after boot up
205001	[MLAG] MAC loss after ''shutdown/no shutdown all'' stress test in MLAG
205220	[openflow13] System will crash after sending pop and push vlan flow to DUT from controller.
205703	[Routing] after clear config, IP routing interface will always be up even through administratively shutdown the router port
206232	[MLAG with RSTP / IGMP snooping] MLAG operational status change to disabled unexpectedly after running ''mlag/no mlag'' stress test.
206428	[IGMP snooping] Mrouter interface didn't attach to the entry of L2 multicast forward table.
206439	[BFD] The route learned from OSPF has been removed when another BFD device fail, but the OSFP status of learned source device is working properly.
207590	[System] The system send out ARP reply with wrong sender MAC if it is VRRP owner
207767	[System] Sometimes the inband management interface (VLAN1) of system will become unreachable after a over weekend stress test
207770	[Build 5.4.03.04_09][System][802.1x] Sometimes dot1xTask may cause the system crash during over weekend stress test
208350	[System] Sometimes the system may crash due to tap_monitor_task error while performing a long term port-channel shutdown and no shutdown test
208601	[Build5.4.03.06_09][Static Route]DUT can not return the path cost to default on interface
208607	[Redundant]Mac-address will not move to backup port after shutdown the active port.
208609	[IP SSH]After enabling public key auth,when client login to DUT via SSH will pop-up unreasonable msg.
209514	[Restful] using while loop to get vxlan mode over weekend, the console shows out of memory
186499	[Port-Backup] DUT will reboot when set ip address in vlan1.
197050	[Stress][OSPFv3] System shows no reponse of unregister_netdevice for rt1_XXX to become free
201221	[Graceful Restart] Stale route fail when TCP reconnect to DUT which is in ESTABLISHED mode.
201573	[MLAG with RSTP] Mlag down after enable RSTP in MLAG system test environment.

202771	[System] DUT shows a lot of ''Driver'' error logs when shutdow the LBIF on neighbor device.
202928	[System] The system crashed while performing a long term port-channel shutdown and no shutdown test
203686	[PIM-DMv6] Receive rate of multicast traffic is incorrect after overnight test
204169	[IPv6 DHCP SNP] DHCPv6 client can't get ipv6 address when client in trust port.
204801	[System] Sometimes the system will fail to bring up some of VLAN routing interfaces after a overnight test.
205001	[MLAG] MAC loss after ''shutdown/no shutdown all'' stress test in MLAG
205220	[openflow13] System will crash after sending pop and push vlan flow to DUT from controller.
205366	[openflow13] The number of maximum entries cannot be reached properly.
205634	VXLAN doesn't work when access port is port-channel.
205675	[openflow1.3] System will not pop up vlan tag when sending a pop-vlan flow to DUT
205724	[MPBGP] Wrong next-hop while redistribute static route to neighbor
205760	[Openflow13] The number of maximum entries cannot be reached properly
205778	[MLAG/STP]After root change causing mlag devices mac count is different and data flooding.
205929	[VXLAN] Traffic stop forwarding after change VXLAN mode.
205931	[VXLAN] System reboot unexpectedly after change VXLAN mode.
206232	[MLAG with RSTP / IGMP snooping] MLAG operational status change to disabled unexpectedly after running
206372	[Restful][Interface] MTU can not get correct value by using restful.
207391	[System] The system crashed because of a sim.c event after a long term test of shutdown and no shutdown port-channel
207507	[system] There is an error message during switch boot up.
186499	[Port-Backup] DUT will reboot when set ip address in vlan 1.
197258	[Multicast] [PIMv6 SM] [Stress] Data traffic of RX is inequal to TX (MLD Query Expire Time became 0)
201190	[PIMSM] Sometiems multicast client will receive excess rate of multicast traffic after route changed.
202771	[System] DUT shows a lot of ''Driver'' error logs when shutdow the LBIF on neighbor device.
203335	[system] The L3 state of router port is ''Down'' even the L2 link status is Up.
203433	[MLAG with RSTP] The STP state of port-cahnnel member port was inconsistent after shutdown/no shutdown.
203541	[VxLAN] VxLAN cannot work properly when VFI/VF match error happen.

203550	[MPBGP] The MPBGP cannot establish after S3 reload stress test.
203960	[System] Sometimes the system will fail to remove VxLAN VNI and unicast-group
204142	[MLAG with IGMP/MLD snooping] IGMP/MLD snooping doesn't work with RSTP in MLAG environment.
204146	[MLAG with IGMP/MLD snooping] Only half of multicast group can be learned in MLAG/igmp(MLD)snooping environment.
204163	[MLAG with IGMP/MLD snooping] Mrouter port doesn't sync to MLAG peer.
204199	[MLAG with IGMP/MLD snooping] Multicast entry does not be cleared after received igmp/mld leave packet.
204242	[System] OSPF will not be able to be converged
204466	[Restful]The restful application invalid unexpectlly until restart restful.
204628	[System] Sometimes the system will encounter NIM timeout event during stress test
204845	[Restful]When logging to DUT, the CLI display username and password with plain code.
205017	[CLI] Command '' show version bootloader '' prompts incorrect messages
202663	[system] System pop up unknown message related to driver while run L3 system stress test.
202694	[MLAG] Mlag member port on secondary device was changed to
202704	[system] Two devices in L3 system environment pop up unknown message while run L3 system stress test.
202830	[MLAG with RSTP]The stp state of mlag member port keep on ''Learning'' state forever after stp topology change.
202948	[System] Sometimes BFD connection of some of routing interfaces may fail to be established
203167	[System]Broadcast traffic cannot be properly forwarded by Unicast VxLAN in system test environment
203249	[System] The systeme will stuck after show command
203285	[System] MAC address table shows local entries only
202694	[MLAG] Mlag member port on secondary device was changed to ''no adminmode'' permanently, after shutdown & no shutdown the mlag member port.
203249	[System] The systeme will stuck after show command
203840	[System] The system crashed dut to nim_events.c event after a long term test
203167	[System] Broadcast traffic cannot be properly forwarded by Unicast VxLAN in system test environment
202948	[System] Sometimes BFD connection of some of routing interfaces may fail to be established

203285	[System] MAC address table shows local entries only
202830	[MLAG with RSTP] The stp state of mlag member port keep on ''Learning'' state forever after stp topology change.
202663	[system] System pop up unknown message related to driver while run L3 system stress test.
191207	[MLD] IPv6 MLD last-member-query-count cannot work correctly when set the last-member-query-interval below 1000.(same issue as defect:157631)
196372	[OSPF] System pop up unknown message when reload OSPF neighbor device.
196648	[Stress][OSPF] Can't received traffics from source normally
197780	[system] BFD session change from up to down while multicast traffic was forwarding.
198398	[PIMSM] System doesn't send register packets to RP when inject multicast traffic.
198584	[PIMSM] Multicast traffic lose after change route.
199724	[MLAG] Traffic flood after link down (up) the mlag member port.
200019	[system] DUT crash while run L3 system stress test.
200546	[IPv6 Static Route]It will pop-up fail massage when removing then adding back the static route, but the preference is different
200660	[IPv4/IPv6 Diffserv] The receive rate lower than police action of simple police in short packets
200737	[Multicast][PIMDMv6] press space will always show the same info in ipv6 mroute table unitl press q to exit.
201221	[Graceful Restart] Stale route fail when TCP reconnect to DUT which is in ESTABLISHED mode.
201427	[ACL]DUT can't remove IP ACL rule by sequence number.
201428	[Multicast] [PIM DM] Asserion Fail message occurs when configure ip address.
201435	[Graceful Restart] The minimum and maximum restart / stale-path time didn't work properly.
201589	[BGP] The IPv6 LBIF cannot be pinged after reload the DUT which has configured and saved the BGP setting.
201609	[PIMDMv6] Command ''show ip mcast'' didn't find ipv6 information.
201762	[PIMDMv6] Device may happen reload when ''show ipv6 mroute summary'' with maximun vlan setting.
202144	[PIMSM] DUT show some an error message with PIMSM and may cause DUT hang-up.
202271	[MPBGP] BGP sessions will break after enable redistribute static
202382	[MPBGP] The system will prompt error log after receive BGP routes from STC simulated IBGP neighbor with nexthop-self enabled.
202778	[MPBGP] MPBGP neighbor autodetect feature might effect the next-hop

	resolution on current firmware.
181995	[Unicast VXLAN][Stress Test] Some of tenant can not created after no vxlan mode
189598	[MLAG] DUT does not have peer switch management MAC.
189521	[Accounting]CLI pop-up error recording message unexpectedly.
194756	[RADIUS] Radius doesn't work if configure key over 49 characters
200019	[system] DUT crash while run L3 system stress test.
200421	[IPv6 ND][CLI]There're two vlan command under clear ipv6 neighbors.
200597	[OSPFv2 stress] DUT2 will crash when up/down backbone and enable/no enable ospf continuously
200761	[MLAG/ARP]The IP endian issue happened when arp sync to the other mlag device.
200878	[ACL]The IP ACL can NOT work when bind the rule to interface egress.

Open Caveats

Feature	Description
IGMP Snooping	The behavior of IGMP Snooping is impacted by disabling multicast routing when VRF is enabled.
System	After continuously port channel shutdown and no shut-down for a long time, sometimes IPv4 BFD connection may fail to establish or fail to bring up some of VLAN routing interfaces.
MLAG	After continuously shutdown and no shut-down all ports for a long time, it may be possible that the MAC of the remote physical port in port channel is not learnt. The traffic forwarding is not impacted by the above phenomenon and works correctly.

Revision: 5.4.03.00

New and Enhancement

Feature	Description
Hardware	Support LB9, LY2R, LY3, P05, P05A
BFD*[1]	Support OSPFv2, BGP, and IPv4 Static Route Support IPv4 Static Route with Multi-hop
BGP	Support 4-byte ASN
LACP Fallback	Support LACP Fallback
VRF Lite*[1]	Support OSPFv2 and Static Route

Security	Support STP Guard: TCN, Root, Loop, BPDU
	Support Service Prohibit Access
System	Add RESTful API Engine into image
	License file can be uploaded from Switch

*Remark

1. Not support on LB9

Resolved Issues

Issue ID	Description
177155	[OSPF stress] System will show memory over-alloc after stop the stress test over-weekend.
186098	[MLAG/STP]The port-role and port forwarding state change can Not effect immediately on MLAG device until re-enable MLAG.
188070	[OSPFv3 stress] After setting virtual link and link down/up the backbone, system will show assertion failed msg and traffic cannot be forwarded
188477	[MLAG/VRRP]Host cannot receive VRRP control packet from MLAG secondary normal interface.
189500	[L2 Traffic] Traffic received rate couldn't reach the maximum wire speed rate.
189521	[Accounting]CLI pop-up error recording message unexpectedly.
189564	[System] VRF error message happen when clear configuration.
189659	[PFC]PFC priority stream shall not packet loss when this priority has been configured to no-drop
190013	Switch crash when running show tech with BGP and SNMP running.
190021	[System]QNOS5 show tech-support cause switch reboot.
190024	[MLAG] Egress policy miss on MLAG switches.
190031	[MLAG] The mac addresses cannot be learnt in DUT1 and DUT2.
190187	[IPSG] Display error message when disable IPSG on interface.
190232	[MLAG] When remove interface from MLAG member, the interface still pop-up about MLAG member log and can Not learn mac on the interface successful.
190405	[MAC address table]MAC address table can't be cleared when MAC table is full
190563	[MAC address table]DUT cannot learn MAC properly.
191074	[PBR] PBR cannot work properly after shutdown the nexthop interface.
191127	[ARP]After ARP entry timeout(120 secs), DUT still send ARP request to host when renew mode disable
191137	[Routing] Cannot remove default-gateway setting.
191151	[ARP]After ARP entry timeout, DUT still send ARP request to host and ICMP unreachable packets.

191207	[MLD] IPv6 MLD last-member-query-count cannot work correctly when set the last-member-query-interval below 1000.
191213	[ARP]Clear ip arp-cache will pop-up ARP delete send failed log that level is 3.
191870	[IGMP Snooping]After send leave message, monitor port should receive multicast data after 2 seconds
194192	[HW][System]Switch shows "BUG: soft lockup - CPU stuck .." error after idle for 2 hours or do clear config.
194367	[UDLD] After shutdown and no shutdown, DUT sent out an udld/cdp format packet by default
194391	[LLDP] Transmit delay function didn't work properly.
194395	[OSPF] Crashed when MD5 input with clear text password, buffer overflow detected ***:switchdrvr terminated
194436	[PIMSMv6] The rp-mapping table doesn't update after modify the configuration of rp-candidate.
194462	[PIMSMv6] Traffic stop forwarding after change the flow path.
194501	[OSPF] Appear unexpected message when disable non-configured distribute id
194831	[Multicast] [PIM DM] Received multicast traffic drop then back when receiving prun but other neighbors need traffic.
194997	[Unicast VxLAN] The UDP-port of VxLAN configured fail when VTEP has been created
195010	[Unicast VxLAN] VxLAN cannot work properly with jumbo frame
195012	[Unicast VxLAN] MAC migration didn't work properly
195122	[OSPF] Error msg about release invalid pointer.
195197	[ARP] L3 interface create failed with error messages under ARP stress test
195659	[OSPFv2]Can't add/remove specific OSPF network configuration.
196006	[system] Traffic can't be forwarded after change layer2 path
196074	[Unicast VxLAN] The maximum unicast-group shall be limited in 32 entries.
196104	[Unicast VxLAN] DUT cannot ping to some unicast-group ID when maximum VTEP has been created
196219	[MLAG] MAC is not sync when change MAC aging
196237	[DCBX ETS] The traffic rate dose not follow with Traffic Class Bandwidth when receive traffic port is not configuration source port.
196254	[Unicast VxLAN] Traffic cannot redirect to another route when active link is down.
196305	[Unicast VxLAN] DUT can't create VXLAN tenant properly
196344	[system] System crash due to nim_timeout event when change traffic path.
196522	[Service port] IPv6 default gateway can't be removed
196725	[BGP] When configure redistribute metric to 0 at first time, packet didn't carry

	MED attribute in Update message.
196728	[BGP] The redistribute maximum metric cannot display correctly in "show ip route"
196985	[MLAG]The MLAG device can Not detect the other MLAG device normally
197171	[System]The port 48-52 LED of LED are error display sometimes
197309	[HW]DUT shall deny to configure port description on detach interfaces.
197773	[system] System convergence time is not stable.
197782	[system] Can't link up fan-out interface with Testcenter.
197894	[Switch issue]OSPF neighbor switch can't learn full ipv6 route from Quanta LY8 switch ipv6 table?
197918	[MLAG] System crash during MLAG autotest.
198054	[Static Route][CLI]When commanding "show ip route hw-failure" will display incorrect msg.
198087	[MLD snooping] "no ipv6 mld snooping static vlan <1-4093>" does not work
198137	[Unicast VxLAN] VxLAN cannot work properly with jumbo frame
198380	[OSPFv3] External LSDB Overflow check always not match expect, but DUT reload could solved.
198609	[SNTP] switch reboot when configure SNTP server with DNS name in some case
198617	[VXLAN] sometimes VXLAN packets are lost after route change
198671	[Multicast][PIM SSM] Data traffic may not back when resend include report follow send block report for one multicast group with source
198766	[system] System reboot unexpectedly after reload.
198870	[IPv6 ND]The ND ra-interval min value cannot set to 3 when setting the max value to 4.
198980	[OSPFv3] System will pop up ''FAIL CMD: area x.x.x.x virtual-link x.x.x.x '' after save and reload
198982	[Port-Backup] DUT will pop ''Failed to send to pbgQueue! Event: 5, interface: 72'' messages.
198989	[Unicast VxLAN] MAC aging time didn't work properly
199355	[DCBX ETS] The default traffic rate dose not follow with minimum bandwidth when DCBX/ETS turn off.
199725	[PIM DM] Execute specified show command, it may happen device reboot.

Revision: 5.4.02.00

New and Enhancement

Feature	Description
Hardware	Add LY6, LY8, LY9 Support

Appendix A. Supported Software Features

L2 Features

- Spanning Tree Protocols - 802.1w(RSTP), & 802.1s(MSTP)
- Tagged-based/Port-based/Private VLAN
- QinQ
- Storm control (Broadcast, Unknown multicast, Unknown unicast)
- IGMP snooping with v1/v2 querier and immediate leave support
- MLD snooping with querier and immediate leave support
- Link Aggregation: LACP and Cisco EtherChannel Liked (load balance support), LACP Fallback
- Link state
- Port backup
- Error-Disable Recovery
- Multi-chassis LAG (MLAG) with L2, RSTP, and multicast snooping

Layer 3 Features

- IP Multi-netting/CIDR
- /31 subnets
- IP ARP/Proxy ARP
- Static route
- Unicast Routing: OSPFv2, BGPv4 with ECMP (32-way), BGP-4Byte ASN
- Multicast Routing: IGMP v1/v2/v3, PIM-DM, PIM-SM/SSM
- VRRPv2 with Active-Active/Master-Backup mode
- Source IP Configuration
- Policy-based routing (PBR)
- Multi-chassis LAG (MLAG) with ARP/VRRP Active-Active
- BFD with OSPFv2, BGP, and Static Route[1]
  - Support single hop and multi hop mode
- VRF Lite with OSPFv2, BGPv4, and IPv4 Static Route[1]
- BGP and OSPF Graceful Restart

QoS Features

- Scheduling for priority queue: WRR, Strict and hybrid (WRR+Strict)
- 802.1p/IP Precedence/DSCP based COS
- DiffServ
- iSCSI optimization

Security Features

- Static/Dynamic MAC-based port security

- 802.1X: port-based, auto VLAN assignment, guest VLAN, unauthenticated VLAN
- ACL: L2/L3/L4
- Local and remote user authentication
- RADIUS/TACACS+ support for 802.1X and remote user authentication
- Accounting
- Management IP filtering (SNMP/Telnet/SSH)
- IP Source Guard
- Dynamic ARP inspection (DAI)
- IPv4/IPv6 DHCP snooping
- Control Plane Policing (CoPP)
- STP Guard: TCN, Root, Loop, BPDU
- Service Prohibit Access
- MSCHAPv2
- Role Base Access Control (RBAC) with RADIUS and TACACS authentication
- SSH Public Key authentication
- Download the SSL root certificate file or server key file

Management Features

- CLI
  - CLI Scheduler
- SNMP v1/v2c/v3
- SNMP Inform (IPv4 only)
- Telnet/SSH
  - Telnet port number: 1223
- Software and configuration file upload and download by FTP/TFTP/SFTP/SCP
- Dual images supported
- RMON 1, 2, 3 & 9
- DHCP client and relay
- Event/error log: local storage and remote server (RFC3164)
- PING/Traceroute
- DNS client
- SNTPv4
- LLDP (802.1ab, Link Layer Discovery Protocol)
- UDLD
- SPAN and RSPAN
- sFlow v5
- Auto Installation
- Email Alerting
- ONIE Installer
- Fluentd[1]
- Remote capture

IPv6 Features

- DNSv6 client
- ICMPv6
- Software and configuration file upload and download by FTP/TFTP/SFTP/SCP in IPv6
- Telnetv6
    - Telnet port number: 1223
- SNTPv6
- SSHv6
- RADIUS/TACACS+ support for IPv6
- Syslog support for IPv6
- Pingv6
- Stateless Auto-configuration
- DHCPv6 client
- IPv6 Tunneling
- Unicast Routing: Static Route, BGP4, OSPFv3
- Multicast Routing: MLD v1/v2, PIM-DMv6, PIM-SMv6/SSMv6

Data Center Features

- FIP Snooping[2]
- PFC[2]
- ETX[2]
- DCBX[2]
- VXLAN Unicast and Multicast tunnel for BUM packets[2]
- OpEN API
- RESTful API
    - Support SSL for RESTful with https port 8446
    - RESTful API for VXLAN UC, Dynamic Port Channel, and Session ID
- Ansible
- OpenFlow v1.3

*Remark

1. Not support on LB9 and L08A
2. Due to Chip limitation LB9, LY2R, LY3 and P05 do not support Data center features.

Appendix B. Installation and Configuration Note

*Note

> **Please upgrade to v5.4.04.00 first before you upgrade to v5.4.05.00. Directly upgrade from the version lower than v5.4.04.00 to V5.4.05.00 is not allowed.**

In general, the device will be shipped to you with this version of firmware. If you would like to upgrade an existing device**,** please follow the TFTP download instructions.

CLI commands:

(Quanta)#conf

(Config)#serviceport proto none

(Config)#serviceport ip 192.168.2.1 255.255.255.0 192.168.2.254

(Quanta)#exit

(Quanta)#*copy tftp://TFTP_Server_IP/Image_name image active*

 (Quanta)#*reload*

Default Settings:

Default IP Address

  IP: none

Login User/Password: (*admin/*)

SNMP OID: 1.3.6.1.4.1.7244

Appendix C. Installation and Configuration RESTful API

In general, the device will be shipped to you with this version of RESTful API engine. If you would like to upgrade an existing device, please follow the TFTP download instructions.

CLI commands:

(Quanta)#conf

(Config)#serviceport proto none

(Config)#serviceport ip 192.168.2.1 255.255.255.0 192.168.2.254

(Quanta)#exit

(Quanta)#*copy tftp://TFTP_Server_IP/restful_api_engine application restful_api_engine*

(Quanta)#configure

(Quanta) (Config)#application install *restful_api_engine start-on-boot auto-restart*

(Quanta) (Config)#exit

(Quanta) #application start *restful_api_engine*