



# Release Note

QNOS5

Ver. 5.4.03.00

## CONTENTS

Supported Hardware.....	3
Kernel .....	3
Supported SW Features .....	3
Installation and Configuration Note .....	3
New and Enhancement.....	4
Resolved Issues .....	4
Open Caveats .....	8
Change History.....	9
Appendix A.....	11
Appendix B .....	14
Appendix C .....	15



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

## Supported SW Features

Refer to 0.

## Installation and Configuration Note

Refer to 0B.



## New and Enhancement

Feature	Description
Hardware	Support LB9, LY2R, LY3, P05, P05A
BFD	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	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

## 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
188376	[MIB] agentPrivateVlanAssociate reboot when setup "20.00.00.00.00.00.00.00. ... " (a big string) by net-SNMP & MG-soft.
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 ***:switchdrv 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
197248	[vxlan]Vxlan causes nim timeout.
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.



## Open Caveats

Feature	Description
BFD	The behavior of BFD is impacted by huge traffic of multicast trapping to CPU and the BFD session changes from up to down then up.
OSPF	System pops up unknown OSPF message when reloading OSPF neighbor device This is most likely to rarely occur under heavy traffic with device continuous reloading. This does not affect the normal operation of the switch.
PIM SM	System may not send PIM SM Register packets to RP when injecting multicast traffic. The behavior will be recovered after re-enabling multicast features. Part of multicast traffic may not flow after changing the cost of the route path in OSPF when PIM SM leverages the route learnt from OSPF.
PIMv6 SM	MLD General Query Expire Timer may stop after PIMv6 SM stress test.
MLAG	Packets floods less than one second and then come back to normal operation when the learnt MAC ages out on one MLAG switch and then unplug cable on the other MLAG switch.



## Limitation

Feature Description

MLAG	<p>The minimal required time between enable MLAG and disable MLAG commands for different MAC address numbers are shown in the below table:</p> <table border="1" data-bbox="400 528 762 846"> <thead> <tr> <th>MAC Num.</th> <th>Min. Time (sec)</th> </tr> </thead> <tbody> <tr> <td>1000</td> <td>17</td> </tr> <tr> <td>3000</td> <td>17</td> </tr> <tr> <td>5000</td> <td>18</td> </tr> <tr> <td>9000</td> <td>21</td> </tr> </tbody> </table>	MAC Num.	Min. Time (sec)	1000	17	3000	17	5000	18	9000	21						
MAC Num.	Min. Time (sec)																
1000	17																
3000	17																
5000	18																
9000	21																
	Not support MLAG with spanning tree.																
PIMDM	<p>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:</p> <table border="1" data-bbox="400 1021 1034 1413"> <thead> <tr> <th>Group Num.</th> <th>VLAN Num.</th> <th>Time (sec)</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>20</td> <td>126</td> <td>480</td> <td>10000 packets per 1.2 Sec; Total 16-Groups</td> </tr> <tr> <td>512</td> <td>4</td> <td>90</td> <td>10000 packets per 30 Sec; Total 512-Groups</td> </tr> <tr> <td>32</td> <td>96</td> <td>540</td> <td>10000 packets per 1.5 Sec; Total 32-Groups</td> </tr> </tbody> </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
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														
BFD	<p>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</p> <p>Not support authentication, operating mode, and demand mode configuration.</p>																



## Change History

### Revision: 5.4.02.00

#### New and Enhancement

Feature	Description
Hardware	Add LY6, LY8, LY9 Support



## Appendix A

### L2 Features

- Spanning Tree Protocols - 802.1D(STP), 802.1w(RSTP), & 802.1s(MSTP)
- Tagged-based/Port-based 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 Lined (load balance support), LACP Fallback
- Link state
- Port backup
- Error-Disable Recovery
- Multi-chassis LAG (MLAG) with L2

### 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
- VRF Lite with OSPFv2 and IPv4 Static Route

### 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)
- DHCP snooping
- Control Plane Policing (CoPP)
- STP Guard: TCN, Root, Loop, BPDU
- Service Prohibit Access

### Management Features

- CLI
- SNMP v1/v2c/v3
- SNMP Inform (IPv4 only)
- Telnet/SSH
- 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 (\* LB9 not support)
- Remote capture

### IPv6 Features

- DNSv6 client
- ICMPv6
- Software and configuration file upload and download by FTP/TFTP/SFTP/SCP in IPv6
- Telnetv6
- 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
- PFC
- ETX
- DCBX
- VXLAN Unicast tunnel for BUM packets
- OpEN API
- RESTful API



## Appendix B

### Installation and Configuration Note

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
(Quanta)#reload
```

