

QuantaMesh 3000 Series T3048-LB8

A powerful Top-of-Rack Switch
for Cloud Datacenters



Product Highlight

Performance

- 48 1/10GbE dual speed SFP+ ports in 1 RU
- 960 gigabit per second
- 714 million packets per second

Robust hardware

- Redundant and hot-swappable power supply
- Out-of-band management port
- 3+1 fans

Layer 3 features

- RIP v1/v2
- OSPF/ECMP
- IGMP v1/v2/v3
- PIM-DM/SM

IPv6 support

- RIPng
- OSPFv3
- MLD v1/v2
- PIM-DM6/SM6

Datacenter application

- FIP snooping
- CN (802.1Qau)
- ETS (802.1Qaz)
- PFC (802.1Qbb)

Quanta

Overview

The QuantaMesh T3048-LB8 is a high performance and low latency layer 2/3/4 Ethernet switch with 48 1/10GBase-X SFP+ ports in a compact rack unit size.

Simplicity

The QuantaMesh T3048-LB8 can be managed through industry standard command-line Interface (CLI) which reduces the training and operating costs. A user friendly Web GUI is provided via a standard Web browser to manage. The QuantaMesh T3048-LB8 also supports Simple Network Management Protocol (SNMP) both from standard MIB and private MIB for network administrator to easily configure, monitor, and manage remotely. With the evolution from IPv4 to IPv6, the QuantaMesh T3048-LB8 is a IPv6 integrated management device.

High Availability

The QuantaMesh T3048-LB8 is designed for high availability from both hardware and software perspective. The key features include:

- 1+1 hot-swappable power supplies
- Out-of-band management supported
- 802.1D, 802.1w, and 802.1s supported
- Up to 8 ports per link aggregation group (LACP) and up to 64 groups
- Up to 32 paths ECMP routing for load balancing and redundancy
- Virtual Router Redundancy Protocol supported

High-Performance L2/L3 access deployments

With the compact 1U form factor, high density 48 1G/10G SFP+ ports, front to back and/or back to front airflow design, the QuantaMesh T3048-LB8 is ideal for top-of-rack deployments in high-performance, highly demanding datacenters. The 960Gbps switching capacity and 714Mpps forwarding rate and low power consumption make the QuantaMesh T3048-LB8 a powerful solution to aggregate high-performance servers in the datacenter.

Advanced IPv4 and IPv6 routing

The QuantaMesh T3048-LB8 is a fully layer 2 and layer 3 routing switch that supports advanced IPv4 and IPv6 routing features such as RIP v1/v2, OSPF/ECMP, RIPng and OSPFv3. The multicast routing features for IGMP v1/v2/v3, DVMRP, PIM-DM/SM, MLD v1/v2 and PIM-DM6/SM6 are all supported in the QuantaMesh T3048-LB8.

Datacenter application

The QuantaMesh T3048-LB8 is an IEEE DCB-based switch delivering a high-performance solution to integrate server edge access. The key features include:

- Congestion Notification (CN, 802.1Qau)
- Enhanced Transmission Selection (ETS, 802.1Qaz)
- Priority-based Flow Control (PFC, 802.1Qbb)
- FCoE Initiation Protocol (FIP) snooping

QuantaMesh 3000 Series T3048-LB8 specifications

Physical ports

- 48 1/10GBase-X SFP+ ports
- 1 RJ-45 out-of-band management port (10/100/1000)
- 1 RJ-45 console port

Performance

- Switching capacity: 960Gbps
- Forwarding rate: 714Mpps
- Latency: 8 microseconds
- Memory: 512MB
- Flash: 64MB
- MAC: 128K
- Packet buffer: 9MB
- Jumbo frame: 12K

L2 features

- Auto-negotiation for port speed and duplex
- Flow control: IEEE 802.3x
- Switching mode: store-and-forward
- Spanning Tree Protocol:
 - 802.1D, 802.1w, & 802.1s
 - Spanning Tree Fast Forwarding
 - Edge port
 - Loop guard
 - BPDU filter/guard
 - Auto Edge
 - TCN guard
 - Root guard
- VLANs
 - IEEE 802.1Q tagged based
 - Port-based (up to 4k VLANs; 3965 user configurable VLANs)
 - Private VLAN
 - GVRP/GMRP
 - 802.1v protocol VLAN
 - Voice VLAN
 - MAC-based VLAN
 - IP-subnet VLAN
 - QinQ
- VTP v1/v2
- Storm control
 - Broadcast
 - Unknown multicast
 - Unknown unicast
- IGMP snooping
 - IGMP snooping v1/v2/v3
 - IGMP v1/v2 querier
 - IGMP immediate leave
- Ling Aggregation
 - 802.3ad with LACP
 - Cisco EtherChannel Like
 - Unicast/Multicast traffic balance over trunking port (dst-ip, dst-mac, src-dst-ip, src-dst-mac, src-ip, src-mac)
- Link state
- Port backup

QoS

- Priority queues: 8 queues
- Scheduling for priority queue: WRR, Strict and hybrid (WRR+Strict)

- COS: 802.1p, IP Precedence, & DSCP
- DiffServ
- Port rate limit

Security

- Static and dynamic port security (MAC-based)
- 802.1x: port-based, MAC-based, auto VLAN assignment, guest VLAN, unauthenticated VLAN
- ACL: L2/L3/L4
- IPv6 ACL: L3/L4
- RADIUS: authentication and accounting (up to 32 servers)
- TACACS+: authentication (up to 5 servers)
- HTTPS (AES 128-cbc, 3ES-cbc, Blowfish-cbc)
- SSH v1.5/v2.0 (AES 128-cbc, 3ES-cbc, Blowfish-cbc)
- User name and password: local authentication and remote authentication via RADIUS/TACACS+
- Denial of Service control
- Management IP filtering (SNMP/Web/Telnet/SSH)
- MAC filtering
- IP Source Guard
- Dynamic ARP inspection (DAI)
- DHCP snooping

Management

- Industrial command-line interface
- CLI filtering
- Telnet/SSH
- Software download/upload: TFTP/Xmodem/FTP
- Configuration download/upload: TFTP/Xmodem/FTP
- Dual image backup supported
- SNMP v1/v2c/v3
- RMON 1, 2, 3 & 9
- BOOTP: client/relay
- DHCP: client/relay/option 82
- Event/error log: local flash and remote server via system log (RFC3164)
- DNS: client/relay
- NTP/SNTP v4&v6
- LLDP (802.1ab, Link Layer Discovery Protocol)
- CDP (Cisco Discovery Protocol) version 2
- Port mirroring: one to one & many to one
- sFlow (RFC 3176)
- IPv6 management:
 - IPv4/IPv6 Dual Stack
 - ICMPv6
 - ICMPv6 redirect
 - IPv6 Path MTU Discovery
 - IPv6 Neighbor Discovery
 - stateless auto-configuration
 - manual configuration
 - DHCPv6 (client)
 - SNMP/HTTP/SSH/Telnet over IPv6
 - IPv6 DNS resolver
 - IPv6 RADIUS/TACACS+ support
 - IPv6 Syslog support
 - IPv6 TFTP
 - IPv6 Ping

Layer 3 features

- CIDR
- ARP (static: 128 and dynamic 3968)

- Proxy ARP
- Local proxy ARP
- IRDP
- Static route
- Unicast Routing: RIP v1/v2, OSPF
- ECMP
- Multicast Routing: IGMP v1/v2/v3, DVMRP, PIM-DM/-SM
- VRRP

IPv6 Layer 3 features

- Static route
- Unicast Routing: RIPng & OSPFv3
- Multicast Routing: MLD v1/v2, PIM-DM6/-SM6
- DHCPv6: relay

Datacenter features

- FIP snooping
- Congestion Notification
- Enhanced Transmission Selection
- Priority-based Flow Control

Mechanical

- Dimension (HxWxD): 42.8x435x393.7 mm
- Weight: 7.4kg(NET)

Environmental specifications

- Operating temperature: 0~45 °C
- Operating humidity: 90% maximum relative humidity

Electrical

- Power consumption:
 - Minimal power consumption: 135W
 - Maximum power consumption: 201W

Safety

- UL 60950-1 (2nd Ed.)
- CSA C22.2 60950-1-07 (2nd Ed.)
- IEC 60950-1 (2005)
- EN 60950-1 (2006)

EMC

- FCC 47CFR, Part 15 Class A
- ICES-003 Class A
- EN 55022 Class A
- CISPR 22 Class A
- EN 55024
- EN 61000-3-2
- EN 61000-3-3
- EN 300 386

Environmental

- Reduction of Hazardous Substances (RoHS) 6

Order information

- T3048-LB8 (1LB8BZZ0002) (Front to Back)
- T3048-LB8 (1LB8BZZ0004) (Back to Front)



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