

QuantaMesh T3048-LY2R

A Powerful
Spine/Leaf Switch for
Datacenter and
Cloud Computing



- Ultra-low Latency
- MLAG, OSPF, BGP4, ECMP
- OpenFlow Support
- Network Automation

The QuantaMesh T3048-LY2R is a high performance and low latency layer 2/3/4 Ethernet switch with 48 1/10GbE SFP+ and 4 40GbE QSFP+ ports in a compact rack unit size. The 4 40GbE ports provide 160Gbps to aggregate bandwidth up to the core switch. Each 40 Gigabit Ethernet port can be independently configured as 40GbE or 4 x 10GbE for total 64 ports of 10GbE.

Simplicity

The QuantaMesh T3048-LY2R can be managed through an industry standard command-line interface (CLI) which reduces training and operating costs. A user friendly Web GUI is provided via a standard Web browser for switch management. The QuantaMesh T3048-LY2R also supports Simple Network Management Protocol (SNMP) both from standard MIB and private MIB for easy configuration, monitoring, and remote management for the network administrator. The Auto-Installation feature implemented in the QuantaMesh T3048-LY2R helps centralized management to simplify deployment of a truly plug-and-play experience. With the evolution from IPv4 to IPv6, the QuantaMesh T3048-LY2R is a IPv6 integrated management device.

High Availability

The QuantaMesh T3048-LY2R is designed for high availability from both hardware and software perspective. The key features include:

- 1+1 hot-swappable power supplies
- 2+1 hot-swappable fans
- Out-of-band management supported
- 802.1D, 802.1w, and 802.1s supported
- Up to 32 ports per group (LACP) and up to 64 groups
- Multi-chassis LAG for preventing the risks of single point failure
- 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 1/10G SFP+ and 4 40G QSFP+ ports in the front panel, front to back or back to front airflow design, the QuantaMesh T3048-LY2R is ideal for top-of-rack deployments in high-performance, highly demanding datacenters. The 1.28 terabits per second switching

capacity and 960Mpps forwarding rate with low power consumption make the QuantaMesh T3048-LY2R a powerful solution to aggregate high-performance servers in the datacenter.

High Availability

The QuantaMesh T3048-LY2R is an IEEE DCB-based switch delivering a high-performance solution to integrate server edge access. Key features include:

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

About QCT

QCT (Quanta Cloud Technology) is a global datacenter solution provider extending the power of hyperscale datacenter design in standard and open SKUs to all datacenter customers. Product lines include servers, storage, network switches, integrated rack systems and cloud solutions, all delivering hyperscale efficiency, scalability, reliability, manageability, serviceability and optimized performance for each workload. QCT offers a full spectrum of datacenter products and services from engineering, integration and optimization to global supply chain support, all under one roof. The parent of QCT is Quanta Computer Inc., a Fortune Global 500 technology engineering and manufacturing company.

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QCT authorized partner

QuantaMesh T3048-LY2R

Physical ports

- **Port configuration:** 48 1/10GbE SFP+ and 4 40GbE QSFP+ ports
- **Management Port:** Out-of-band management port (RJ-45, 10/100/1000Base-T)
- **Console Port:** 1 (RJ-45)
- **USB:** 1 (v2.0)

Performance

- **Switching capacity:** 1.28Tbps
- **Maximum forwarding rate:** 952Mpps
- **Latency:** <1us
- **MAC:** 128K

L2 Features

- **Switching mode:** Store-and-Forward
- **Spanning Tree:**
 - 802.1D, 802.1w & 802.1s
 - Fast Forwarding
 - Edge Port
 - Loop Guard
 - BPDU Filter/Guard
 - Auto Edge
 - TCN Guard
 - Root Guard
- **VLAN :**
 - IEEE 802.1Q Tagged Base
 - Port-Based
 - Private VLAN
 - GVRP/GMRP
 - 802.1v Protocol VLAN
 - Voice VLAN
 - MAC-Based VLAN
 - IP-Subnet VLAN
 - MAC-Based Voice VLAN
 - VTP v1/v2
 - QinQ
- **Storm control:**
 - Broadcast
 - Unknown Multicast
 - DLF (Unknown Unicast)
- **IGMP snooping:**
 - v1/v2/v3
 - v1/v2 Querier
 - Immediate Leave
- **Link Aggregation:**
 - 802.3ad with LACP (64 groups)
 - Static Trunk
 - Unicast/Multicast Traffic Balance over Trunking Port
 - LACP Fallback
- **Multi-chassis LAG (MLAG)**
- **Link state**
- **Port backup**
- **Error-Disable Recovery**

QoS Features

- **Scheduling for priority queue:** WRR, Strict, and Hybrid
- **COS:** 802.1p, IP TOS precedence, & DSCP
- **DiffServ**
- **iSCSI optimization**
- **Auto VoIP**
- **Port rate limit**

Security Features

- **static and dynamic port security (MAC-based)**
- **802.1x:** Port-based, MAC-based, auto VLAN assignment, guest VLAN, unauthenticated VLAN
- **Access Control List:** L2/L3/L4
- **IPv6 ACL:** L3/L4
- **RADIUS:** Authentication and accounting
- **TACACS+:** Authentication
- **HTTPS and SSL:** AES128-cbc, 3ES-cbc, Blowfish-cbc
- **SSH 1.5/V2.0:** AES128-cbc, 3ES-cbc, Blowfish-cbc
- **User name and password:** Local Authentication, Remote Authentication via RADIUS/TACACS+, AAA
- **Denial of Service control**
- **Management IP filtering:** SNMP/Web/Telnet/SSH
- **MAC filtering**
- **IP Source Guard**
- **Dynamic ARP inspection (DAI)**
- **DHCP snooping**
- **Web Authentication (Captive Portal)**

Management Features

- **Industrial command-line interface**
- **CLI filtering**
- **Web Based Management/HTTPs**
- **Telnet/SSH**
- **Software download/upload:** TFTP, Xmodem, FTP, and SCP/SFTP
- **Configuration download/upload:** TFTP, Xmodem, FTP, and SCP/SFTP
- **Dual Image**
- **SNMP v1/v2c/v3**
- **SNMP inform:** v2/v3
- **RMON 1, 2, 3, & 9**
- **BOOTP:** client/relay
- **DHCP client**
- **DHCP relay**
- **DHCP L2 option 82 Relay**
- **DHCP L3 option 82 Relay**
- **EVENT/Error log:** Local Flash
- **DDNS**
- **DNS client**
- **DNS relay**
- **Remote PING**
- **Traceroute**
- **SNTPv4**
- **LDAP client**
- **LLDP:** 802.1ab
- **CDP**
- **UDLD**
- **Port mirroring:** SPAN
- **sFlow v5**
- **Cable test**
- **Email alerting**
- **CLI scheduler**
- **Auto Install**

IPv6 Management

- **IPv4/IPv6 Dual Protocol Stack**
- **ICMPv6**
- **ICMPv6 Redirect**
- **IPv6 Path MTU Discovery**
- **IPv6 Neighbor Discovery**
- **Stateless Autoconfiguration**
- **Manual Configuration**
- **DHCPv6**

- **SNMP over IPv6**
- **HTTP over IPv6**
- **SSH over IPv6**
- **IPv6 Telnet Support**
- **IPv6 DNS Resolver**
- **IPv6 RADIUS Support**
- **IPv6 TACACS+ Support**
- **IPv6 Syslog Support**
- **IPv6 SNTP Support**
- **IPv6 TFTP Support**
- **Remote IPv6 Ping**

Layer 3 Features

- **IP Multinetting/CIDR**
- **/31 subnets**
- **Proxy ARP**
- **IRDP**
- **Static route**
- **RIP v1/v2**
- **OSPF**
- **ECMP**
- **BGP4**
- **IGMP v1/v2/v3**
- **DVMRP**
- **PIM-DM/-SM**
- **RRRP**
- **Source IP configuration**
- **Policy-based routing**

IPv6 L3 Features

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

High Availability

- **Redundant power supply:** 1+1
- **Hot-swappable fan tray:** N+1

Data Center Features

- **Congestion Notification (802.1Qau)**
- **Enhanced Transmission Selection (802.1Qaz)**
- **Priority-based Flow Control (802.1Qbb)**
- **DCBX**
- **FCoE Initiation Protocol (FIP) snooping**
- **EVB/802.1Qbg**

SDN

- **OpenFlow**

Mechanical

- **Dimension (HxWxD):** 44x435x393mm
- **Weight:** 7.83kg/17.31lbs (NET)

Environmental Specifications

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

Electrical

- **Power requirement:** 100~240VAC, 50/60Hz
- **Power consumption:** 179 watts (L2 64B line rate; 10G-SR optics, 100% fan duty)
- **Safety:** UL, cUL, CB, BSMI, CCC
- **EMC:** CE, FCC, VCCI, KCC, BSMI, CCC

RoHS

- **Reduction of Hazardous Substances (RoHS) 6**

Order Information

- **T3048-LY2R (1LY2BZZ001B) (F-2-B, AC, P2020)**
- **T3048-LY2R (1LY2BZZ001C) (B-2-F, AC, P2020)**

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