

QuantaMesh T3048-LY9

A Powerful
Spine/Leaf Switch for
Datacenter and
Cloud Computing



- 10GBT
- x86 CPU Board Support
- MLAG, OSPF, BGP4, ECMP
- VXLAN/NVGRE
- OpenFlow Support
- OpEN API

The QuantaMesh T3048-LY9 is a new generation 10GBASE-T solution for data center networking which provides 48 triple speed (100/1000/10 GBase-T) ports and 6 QSFP+ ports in a 1U form factor. The 40G QSFP+ port can be independently configured as 40GbE or 4 x 10GbE. With traditional L2/L3 features support as well as software defined network functions, T3048-LY9 provides hybrid solutions for the network deployment. By leveraging the benefits of 10GBASE-T - longer distance connection from switch to server such as ToR, MoR or EoR rack configuration, T3048-LY9 offers Infrastructure-as-a-service (IaaS) networking deployment more cost effective performance and perform the best TCO.

Automation

Accompanied by the application of cloud computing, big data and parallel calculation, datacenter network devices continue to grow fast and make network automation a critical factor. Supporting auto installation and integration with orchestration tools like Chef and Puppet, QuantaMesh T3048-LY9 helps for easy deployment of mass datacenter IaaS build-up.

Virtualization

Network virtualization is becoming an important topic for datacenters. QuantaMesh T3048-LY9 provides hardware-based VXLAN feature to support virtual machine mobility. Not limited by 4K VLANs, VXLAN helps for the network scaling out across L3 subnets and can support up to 16.7M possible virtual networks.

SDN

Software Defined Network has emerged as a new approach to support open, vendor-agnostic, and programmable networks. QuantaMesh T3048-LY9 provides OpenFlow and OpEN API as SDN solution to fulfill the modern datacenter trend.

High Availability

The QuantaMesh T3048-LY9 is designed for high availability from both hardware and software perspectives. The key features include:

- 1+1 hot-swappable power supplies
- 3+1 hot-swappable fans
- Out-of-band management support
- Multi-chassis LAG for preventing the risks of single point failure
- Up to 64 paths ECMP routing for load balancing and redundancy

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-LY9

Physical ports

- **Port configuration:** 48 100/1000/10GBASE-T and 6 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:** 1.44Tbps
- **Maximum forwarding rate:** 1071Mpps
- **Latency:** <3us
- **MAC:** Unified Forwarding Table to dynamically allocate the L2/L3 tables

CPU Board 1

- **CPU:** Freescale P2020
- **Memory:** 2GB DDR3/ECC
- **Flash:** 128MB
- **Storage:** 8GB Micro SD

CPU Board 2

- **CPU:** Intel Rangeley
- **Memory:** 4GB DDR3/ECC
- **Storage:** 32G SSD

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
 - 802.1v Protocol VLAN
 - MAC-Based VLAN
 - IP-Subnet 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 (WRR+Strict)
- **COS:** 802.1p/IP Precedence/DSCP
- **DiffServ**
- **iSCSI optimization**
- **Auto VoIP**
- **Port rate limit**

Security Features

- **static and dynamic port security (MAC-based)**
- **802.1x:** Mac-based, port-based, auto VLAN assignment, guest VLAN, unauthenticated VLAN
- **Access Control List:** L2/L3/L4
- **IPv6 ACL:** L2/L3
- **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/Telnet/SSH
- **MAC filtering**
- **IP Source Guard**
- **Dynamic ARP inspection (DAI)**
- **DHCP snooping**
- **Control Plane Policing / CoPP**

Management Features

- **Industrial command-line interface**
- **CLI filtering**
- **Telnet/SSH**
- **Software download/upload:** TFTP/Xmodem/FTP/SCP/SFTP
- **Configuration download/upload:** TFTP/Xmodem/FTP/SCP/SFTP
- **Dual Image**
- **SNMP v1/v2c/v3**
- **SNMP inform**
- **RMON 1, 2, 3, & 9**
- **BOOTP**
- **DHCP client**
- **DHCP relay**
- **DHCP L2 option 82 Relay**
- **DHCP L3 option 82 Relay**
- **EVENT/Error log**
- **DNS client**
- **DNS relay**
- **Remote PING**
- **Traceroute**
- **SNTPv4**
- **LLDP**
- **CDP**
- **UDLD**
- **Port mirroring:** SPAN and RSPAN
- **sFlow v5**
- **Cable test**
- **Email alerting**
- **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 SNMP Support**
- **IPv6 TFTP Support**
- **Remote IPv6 Ping**

Layer 3 Features

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

IPv6 L3 Features

- **Static route**
- **OSPFv3**
- **MLD v1/v2**
- **PIM-DM6/-SM6**

High Availability

- **Redundant power supply:** 1+1
- **Hot-swappable fan tray:** 3+

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**

Virtualization Features

- **VXLAN**
- **NVGRE**

SDN

- **OpEN API**
- **OpenFlow**

Mechanical

- **Dimension (HxWxD):** 44x435x508 mm
- **Weight:** P2020: 9.6kg/ 21.16lbs (NET)
Rangeley: 9.49kg/ 20.92lbs (NET)

Environmental Specifications

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

Electrical

- **Power requirement:** 100~240VAC, 50/60Hz
- **Power consumption:** 330 watts (tested with optics and Cat 6A with 100% loading , AC input)
- **Safety:** UL, cUL, CB, BSMI, CCC
- **EMC:** CE, FCC, VCCI, CCC, RCM

RoHS

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

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