QuantaMesh T3048-LY9

A Powerful Spine/Leaf Switch for Datacenter and Cloud Computing

The QuantaMesh T3048-LY9 is a new generation 10GBASE-T solution for data center networking which provides 48 triple speed (100/1000/10GBase-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

With the rapid adoption of cloud computing and the proliferation of big data and parallel calculations, the need for datacenter network devices is growing exponentially, making network automation a critical factor. Supporting auto installation, QuantaMesh T3048-LY9 facilities the easy deployment and build-up of mass datacenter IaaS.

Virtualization

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

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
- N+1 hot-swappable fans
- Out-of-band management support
- Up to 48 paths ECMP routing for load balancing and redundancy
- Multi-chassis Link Aggregation (MLAG)

- 10GBT
- VXLAN
- MLAG, OSPF, BGP4, & ECMP
- Network Automation

About QCT

Quanta Cloud Technology (QCT) is a global datacenter solution provider. We combine the efficiency of hyperscale hardware with infrastructure software from a diversity of industry leaders to solve next-generation datacenter design and operation challenges. QCT serves cloud service providers, telecoms and enterprises running public, hybrid and private clouds.

Product lines include hyper-converged and software-defined datacenter solutions as well as servers, storage, switches, integrated racks with a diverse ecosystem of hardware component and software partners. QCT designs, manufactures, integrates and services cutting edge offerings via its own global network. The parent of QCT is Quanta Computer, Inc., a Fortune Global 500 corporation.

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

Layer 2 Features
- **Switching Mode:** Store-and-Forward
- **Spanning Tree:**
  - 802.1w
  - 802.1s
  - Auto Edge
- **VLAN:**
  - IEEE 802.1Q Tagged Base
  - Port-Based
  - QinQ (802.1ad)
- **Storm Control:**
  - Broadcast
  - Unknown multicast
  - DLF (Unknown unicast)
- **IGMP Snooping:**
  - v1/v2/v3
  - v1/v2 Querier
  - Immediate Leave
- **Link Aggregation:**
  - 802.3ad with LACP
  - Static Trunk
  - Unicast/Multicast Traffic Balance over
    Trunking Port
  - LACP Fallback
- **Link state**
- **Port backup**
- **Error-Disable Recovery**

QoS Features
- **Scheduling for priority queue:**
  WRR, Strict, Hybrid
- **COS:** 802.1p, IP TOS precedence, DSCP
- **DiffServ**
- **iSCSI optimization**

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:** L3/L4
- **RADIUS:** Authentication, Accounting
- **TACACS+:** Authentication
- **SSH 1.5/V2.0**
- **User name and password:**
  - Local Authentication
  - Remote Authentication via RADIUS/TACACS+
  - AAA
- **Management IP filtering:**
  - SNMP
  - Telnet
  - SSH
- **IP Source Guard**
- **Dynamic ARP inspection (DAI)**
- **DHCP snooping**
- **Control Plane Policing / CoPP**
- **Service Prohibit Access**

Layer 3 Features
- **IP Multinetting/CIDR**
- **/31 subnets**
- **Proxy ARP**
- **Static route:** IPv4 , IPv6
- **OSPF**
- **ECMP**
- **BGP4**
- **IGMP v1/v2/v3**
- **PIM-DM/-SM**
- **VRRP**
- **Policy-based routing**
- **BFD**
- **VRF Lite**

IPv6 L3 Features
- **OSPFv3**
- **MLD v1/v2**
- **PIM-DM6/-SM6**

Data Center Features
- **Enhanced Transmission Selection (802.1Qaz)**
- **Priority-based Flow Control (802.1Qbb)**
- **DCBX:** DCBX for ETS, DCBX for PFC
- **FCoE Initiation Protocol (FIP) snooping**

SDN
- **OpEN API:** RESTful API

Management Features
- **Industrial command-line interface**
- **CLI filtering**
- **Telenet/SSH**
- **Software download/upload:**
  TFTP, FTP, SCP, SFTP
- **Configuration download/upload:**
  TFTP, FTP, SCP, SFTP
- **Dual Image**
- **SNMP v1/v2c/v3:** Yes (read only)
- **SNMP inform**
- **RMON 1, 2, 3, & 9:** Yes (read only)
- **BOOTP:** client/relay
- **DHCP client**
- **DHCP relay**
- **DNS client**
- **DNS relay**
- **Remote PING**
- **Traceroute**
- **SNTPv4**
- **LLDP:**
  - 802.1ab
  - 802.MED
  - Potential error detection
- **UDLD**
- **Port mirroring:**
  SPAN, RSPAN
- **sFlow v5**
- **Email alerting:** Yes (SMTP)
- **Auto Install**

IPv6 Management
- **IPv4/IPv6 Dual Protocol Stack**
- **ICMPv6**
- **ICMPv6 Redirect**
- **IPv6 Neighbor Discovery**
- **Stateless Autoconfiguration**
- **Manual Configuration**
- **DHCPv6:** Yes (client)
- **SNMP 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**

High Availability
- **Redundant power supply:** 1+1
- **Hot-swappable fan tray:** N+1
- **Multi-chassis LAG**

Virtualization Features
- **VXLAN**

Mechanical
- **Dimension (HxWxD):** 44x435x508mm
- **Weight:** 9.6kg/21.16lbs (NET)

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

Electrical
- **Power requirement:**
  100-127VAC; 200-240VAC, 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**

Supported Optics and Cables
- **1000BASE-T:** Cat 5e and Cat 6A (100m/330 ft)
- **10GBAE-T:** Cat 6A (100m/330ft)
- **DAC cable (QSFP+):** 1m, 3m, and 5m
- **DAC cable (QSFP+, fan-out):** 1m, 3m, and 5m
- **AOC cable (QSFP+, 850nm, MMF):** 7m, 10m, and 20m
- **40G optic (QSFP+, MPO, 850nm, MMF):** 10GBASE-SR4
- **40G optic (QSFP+, LC, 1310nm, SMF):** 10GBASE-LR4

Order Information
- **T3048-LY9 (1LY9BZZ0ST6) (F-2-B, AC, P2020)**
- **T3048-LY9 (1LY9BZZ0ST7) (B-2-F, AC, P2020)**
- **PSU - Red (1HY9ZZZ0336) (F-2-B, AC, 750W)**
- **PSU - Blue (1HY9ZZZ0337) (B-2-F, AC 750W)**
- **FAN Module (1HY9ZZZ022X) (F-2-B, Red)**
- **FAN Module (1HY9ZZZ022Y) (B-2-F, Blue)**