

# QuantaMesh 1000 Series T1048-LB9

1G/10G Datacenter &  
Enterprise-Class Ethernet switch



## Product Highlight

### Performance

- 48 10Base-T/100Base-TX/1000Base-T with 4 1/10GbE dual speed SFP+ ports in 1 RU
- 176 gigabit per second
- 131 million packets per second
- 12K jumbo frame

### Robust hardware

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

### Management

- sFlow
- AutoInstallation

### Layer 3 features

- OSPF, BGP4
- 32-way ECMP
- Policy-based routing

### Datacenter application

- Multi-Chassis LAG (MLAG)
- OpenFlow

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## Overview

The QuantaMesh T1048-LB9 is a high performance layer 2/3/4 Ethernet switch with 48 10Base-T/100Base-TX/1000Base-T ports and 4 dual speed 1GbE/10GbE SFP+ ports in a compact rack unit size.

## Simplicity

The QuantaMesh T1048-LB9 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 T1048-LB9 also supports Simple Network Management Protocol (SNMP) both from standard MIB and private MIB for network administrator to easily configure, monitor, and manage operation remotely. The Auto-Installation feature implemented in the QuantaMesh T1048-LB9 helps centralized management to simplify deployment of a truly plug-and-play experience. With the evolution from IPv4 to IPv6, the QuantaMesh T1048-LB9 is a IPv6 integrated management device.

## High Availability

The QuantaMesh T1048-LB9 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
- 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 features like: 1) a compact 1U form factor, 2) high density 48 gigabit ports and 4 dual speed 1GbE/10GbE uplink ports, and 3) front to back and/or back to front airflow design, the QuantaMesh T1048-LB9 is ideal for enterprise campus or top-of-rack deployments. The 176Gbps switching capacity and 131Mpps forwarding rate enables high bandwidth connectivity to the aggregation or core layers and low power consumption make the QuantaMesh T1048-LB9 a powerful solution to aggregate data traffic and high-performance servers. The 4-port 10GbE density in a 1U height switch provides near 1:1 subscription ratio throughout the network. This allows organizations to deploy highly utilized networks and avoid congestion during peak hours.

## Advanced IPv4 and IPv6 routing

The QuantaMesh T1048-LB9 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 T1048-LB9.

# QuantaMesh 1000 Series T1048-LB9 specifications

## Physical ports

- 48 10Base-T/100Base-TX/1000Base-T ports
- 4 1GbE/10GbE dual speed SFP+ ports
- 1 RJ-45 out-of-band management port (10/100/1000M)
- 1 RJ-45 console port

## Performance

- Switching capacity: 176Gbps
- Forwarding rate: 131Mpps
- Memory: 1024MB DDR1
- Flash: 64MB
- MAC: 32K
- Packet buffer: 4MB
- Jumbo frame: 12K

## L2 features

- Auto-negotiation for port speed and duplex
- Flow control: IEEE 802.3x / back-pressure
- Switching mode: store-and-forward
- Spanning Tree Protocol:
  - 802.1D, 802.1w, and 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 4093 user configurable VLANs)
  - GVRP/GMRP
  - 802.1v protocol VLAN
  - Voice VLAN
  - MAC-based VLAN
  - IP-subnet VLAN
  - QinQ
- VTP v1/v2
- Private VLAN
- 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)
- Multi-chassis Link Aggregation (MLAG)
- Link state
- Port backup

## QoS

- Queues per port: 8 queues
- QoS queue management using Weighted Round Robin (WRR), Strict Priority (SP) and hybrid (WRR+SP)

- COS: 802.1p, IP Precedence, and DSCP
- DiffServ
- Port rate limit
- Auto VoIP
- iSCSI optimization

## 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
- HTTP/HTTPS
- Software download/upload: TFTP/Xmodem/FTP
- Configuration download/upload: TFTP/Xmodem/FTP
- Dual image backup supported
- SNMP v1/v2c/v3
- RMON 1, 2, 3 and 9
- BOOTP: client/relay
- DHCP: client/relay/option 82
- Event/error log: local flash and remote server via system log (RFC3164)
- DNS: client/relay
- SNMPv4
- LDAP Client
- LLDP (802.1ab, Link Layer Discovery Protocol)
- CDP (Cisco Discovery Protocol) version 2
- UDLD
- Port mirroring: one to one and many to one
- sFlow v5
- Auto-Installation
- 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 SNMP

- IPv6 TFTP
- IPv6 Ping

## Layer 3 features

- IP Multinetting/CIDR
- /31 subnets
- ARP (static: 128 and dynamic 3968)
- Proxy ARP
- Local proxy ARP
- IRDP
- Static route
- Unicast Routing: RIP v1/v2, OSPF, BGP4
- ECMP (32-way)
- Multicast Routing: IGMP v1/v2/v3, DVMRP, PIM-DM/-SM
- IGMP proxy
- Source IP Configuration
- Policy-based routing
- VRRP

## IPv6 Layer 3 features

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

## SDN

- Openflow

## Mechanical

- Dimension (HxWxD): 42.8x435x393.7 mm
- Weight: 7.15kg (NET)

## Environmental specifications

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

## Safety

- UL, cUL, CB, BSMI, CCC

## EMC

- CE, FCC, VCCI, MSIP, CCC, RCM, Anatel

## Environmental

- Reduction of Hazardous Substances (RoHS) 6

## Order information

- T1048-LB9 (1LB9BZZ0000) (Front to Back)
- T1048-LB9 (1LB9BZZ0001) (Back to Front)