QuantaMesh 1000 Series
T1048-LB9A

1G/10G 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

Layer 2 features

- 4093 configurable VLANs
- Multi-chassis Link Aggregation

Security

- L2/L3/L4 security
- Storm control

Management

- Industrial command-line interface
- Dual images
- Web-based GUI (HTTP/HTTPS)
- sFlow
- IPv6 management
- Auto-Installation

Layer 3 features

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

IPv6 support

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

Overview

The QuantaMesh T1048-LB9A 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-LB9A 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 T1048-LB9A also supports Simple Network Management Protocol (SNMP) both from standard MIB and private MIB for network administrator to easily configure, monitor, and manage remotely. The Auto-Installation feature implemented in the QuantaMesh T1048-LB9A helps centralized management to simplify deployment of a truly plug-and-play experience. With the evolution from IPv4 to IPv6, the QuantaMesh T1048-LB9A is a IPv6 integrated management device.

High Availability

The QuantaMesh T1048-LB9A is designed for high availability from both hardware and software perspective. The key features include:

- 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 the compact 1U form factor, high density 48 gigabit ports and 4 dual speed 1GbE/10GbE uplink ports, the QuantaMesh T1048-LB9A is ideal for enterprise campus application.

The 176Gbps switching capacity and 131Mpps forwarding rate ensures high bandwidth connectivity to the aggregation or core layers and low power consumption ensure make the QuantaMesh T1048-LB9A 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 brings the benefits to organizations to deploy highly utilized networks and avoid congestion during peak hours.

Advanced IPv4 and IPv6 routing

The QuantaMesh T1048-LB9A 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-LB9A.

QuantaMesh 1000 Series T1048-LB9A specifications

Physical ports
- 48 10Base-T/100Base-TX/1000Base-T ports
- 4 1GbE/10GbE dual speed SFP+ ports
- 2 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
- SNTPv4
- 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 SNTP
  - 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
- ECMP
- 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

Mechanical
- Dimension (HxWxD): 42.4x440x283.6 mm
- Weight: 3.9kg (NET)

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

Safety
- UL 60950-1 (2nd Ed.)
- CSA C22.2 60950-1-07 (2nd Ed.)
- IEC 60950-1 (2nd Ed.)
- EN 60950-1 (2009)
- CNS 14336-1
- GB4943.1-2011

EMC
- FCC 47 CFR, Part 15 Subpart B Class A
- ICES-003 Class A
- EN 55022:2010 Class A
- EN 55024:2010
- CISPR 22: 2008 Class A
- CISPR 24: 2010
- EN 61000-3-2: 2006/A1: 2009/A2: 2009
- IEC 61000-3-2: 2005/A1: 2008/A2: 2009
- EN 61000-3-3: 2008
- IEC 61000-3-3: 2008
- EN 300 386 v1.5.1: 2010
- VCCI V-3 / 2012.04 Class A
- JEITA IT-3001: 2004
- KCC KN 22, KN 24
- BSMI EMC CNS 13438 95年完整版 甲類
- CCC EMC GB9254-2008(A級)

Environmental
- Reduction of Hazardous Substances (RoHS) 6

Order information
- T1048-LB9A (1LB9BZZ0STP)

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