QuantaMesh
T1048-LY4R

The Next Wave Data Center Rack Management Switch

- **ONIE Pre-load**
- **x86 CPU Design**
- **BMC Built-in**
- **IPMI Management Support**
- **Optical OOB Port Support**

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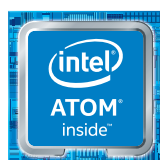
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Rear view

The QuantaMesh T1048-LY4R is a new generation of 1GBASE-T solution for data center rack management, which provides 48 triple speed (10/100/1000BASE-T) ports and 4 SFP+ (1/10Gbps) ports in a 1U form factor. Equipped with BMC (Baseboard Management Controller), T1048-LY4R provides IPMI protocol via out-of-band management port (10/100/1000BASE-T). T1048-LY4R also support out-of-band management port via 1000BASE-X SFP port for the flexibility of longer distance support. Two PSUs (1+1) SKU provides redundancy feature while one PSU SKU provides best TCO.

Extensive Layer 2 Features

Equipped with full Layer 2 features like Spanning Tree, Link Aggregation Control Protocol (LACP), IGMP Snooping and Storm Control, QuantaMesh T1048-LY4R provides loop-free environment, best control of multicast traffic and stable network. Supported with 802.1Q up to 4K active VLANs, T1048-LY4R secures broadcast domain as well as resource access in between each VLAN.

Enhanced Security

The port security of the QuantaMesh T1048-LY4R restricts switch access with the proper MAC address. The Layer-2, -3 and -4 access control feature provdies advanced traffic filtering based on the source and destination MAC addresses, IP addresses, or TCP/UDP ports. T1048-LY4R enhances user management by adding Role-based Access Control (RBAC) to restrict system access for diffenet users based on roles and privileges. 802.1x Port-Based and MAC-Based access control make sure only authorized user before granted access.

Flow Control

The flow control mechanism specifies a priority tag for QoS rules to different traffic. When a switch receives the frame, it prioritizes the stream, puts into the proper queues, and forwards the packets. QuatatMesh T1048-LY4R supports 802.1p, DSCP, IP Precedence and TCP/UDP port number, and gives the optimal performance for real-time applications like voice and video streaming. The 802.1Q QoS assignment can automatically inserts a tag and processes the best effort performance for the streaming.

Simplified Management

The QuantaMesh series can be managed through Command Line Interface (CLI) for easy and fast configuration. T1048-LY4R also supports Simple Network Management Protocol (SNMP) based on standard MIB and private MIB for network administrator to easily configure, monitor and manage remotely. sFlow provides quantize accuracy for network traffic analyzing and management. With the evolution from IPv4 to IPv6, T1048-LY4R is a an IPv6 integrated management device.

High Availability

The QuantaMesh T1048-LY4R is designed for high availability from both hardware and software perspectives. The key features include:

- 1+1 hot-swappable power supplies
- Spanning Tree with Guarding Features
- Up to 64 Groups of LACP with per Group 8 Member Ports

About QCT

Quanta Cloud Technology (QCT) is a global data center solution provider. We combine the efficiency of hyperscale hardware with infrastructure software from a diversity of industry leaders to solve next-generation data center 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 data center 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.

Found at: www.QCT.io/wheretobuy

QuantaMesh T1048-LY4R Specifications

Physical ports
- **Port configuration:** 48 10/100/1000BASE-T and 4 1/10GbE SFP+ ports
- **Management Port:**
  Out-of-band management port:
  1 x RJ-45 (10/100/1000BASE-T)
  1 x SFP (1000BASE-X)
- **Console Port:** 1 (RJ-45)
- **USB:** USB 2.0

Performance
- **Switching capacity:** 176Gbps
- **Maximum forwarding rate:** 131Mpps
- **Latency:** 16K

CPU Board
- **CPU:** Intel Atom® Processor
- **Memory:** 4GB DDR3/ECC
- **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**

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, Authorization, 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:** IPv4, IPv6
- **Control Plane Policing (CoPP)**
- **Service Prohibit Access**
- **Role Base Access Control (RBAC)**

Management Features
- **Industrial standard command-line interface**
- **CLI filtering**
- **CLI schedule**
- **Telnet/SSH**
- **Software update:** TFTP, FTP, SCP, SFTP
- **Configuration Update:** TFTP, FTP, SCP, SFTP
- **Dual Images**
- **SNMP v1/v2c/v3**
- **SNMP inform v2**
- **RMON1 Groups: 1, 2, 3, & 9**
- **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:** SMTP
- **Error-Disable Recovery**

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

Automation
- **Auto installation**

BMC
- **IPMI:** v1.5/v2.0 compliance
- **Serial over LAN**
- **SNMP:** v1/v2/v3
- **SMASH**
- **HTTPS**
- **Health status and hardware monitoring**
- **Event log**
- **PEF and PET**
- **Chassis management**
- **Watchdog and system re-start**

Mechanical
- **Dimension (HxWxD):** 43.2x440x394mm
- **Weight:** T1048-LY4R 1 + 1 PSU: 6.04kg (NET)
  T1048-LY4R Single PSU: 5.57kg (NET)

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

Electrical
- **Power requirement:** 100~240VAC, 50/60Hz
- **Power consumption:** 66 watts (100% fan duty)

Safety
- **UL, cUL, CB**

EMC
- **CE, FCC, VCCI**

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

Supported Optics and Cables
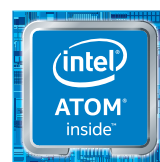- **1000BASE-T:** Cat 5e
- **DAC cable (SFP+):**
  0.5m, 1m, 1.5m, 2m, 2.5m, 3m, and 5m
- **AOC cable (SFP+, 850nm, MMF):**
  1m, 3m, 7m, 10m, 20m, and 100m
- **1G optic (SFP, LC, 850nm, MMF):** 1000BASE-SR optic
- **1G optic (SFP, LC, 1310nm, SMF):** 1000BASE-LR optic
- **10G optic (SFP+, LC, 850nm, MMF):** 10GBASE-SR optic
- **10G optic (SFP+, LC, 1310nm, SMF):** 10GBASE-LR optic

Order Information
- **T1048-LY4R (1LY4BZZ0STK)**
  (Front to Back, 1+1 PSU, rail kit included)
- **T1048-LY4R(1LY4BZZ0STL)**
  (Back to Front, 1+1 PSU, rail kit included)
- **T1048-LY4R (1LY4BZZ0STM)**
  (Front to Back, single PSU, rail kit included)
- **T1048-LY4R(1LY4BZZ0STN)**
  (Back to Front, single PSU, rail kit included)
- **PSU - (1HYQZZZ014D) (F-2-B, AC, 120W)**

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