QuantaMesh
BMS T8024-IXH

The 200G Leaf Switch for Next-Generation Data Center

- 24 x 200G QSFP56 and 4 x 400G QSFP56-DD

- x86 CPU Board

- PAM4 Based Switch

Given the inevitable bandwidth upgrade associated with continuous growing service development, the data center infrastructure is gradually moving from 25G and 100G networks to 200G and 400G interconnection phase. Although 25G and 100G network still represent a significant share in data center until now, servers with 200G NICs are emerging to provide higher throughput and larger storage solutions for new types of networking applications, such as Artificial Intelligence (AI) and Machine Learning (ML). New and emerging applications pushed the data center towards higher reliable and scalable infrastructure deployment. The 200G and 400G network is up and coming and will be stronger than ever in the future.

The 200G Leaf Switch for Next-Generation Data Center

QuantaMesh BMS T8024-IXH is a high-performance 1RU leaf switch, supporting up to 8Tbps with 24 200G QSFP56 and 8 400G QSFP56-DD ports. T8024-IXH is designed to address next-generation data center and cloud computing environments. With 50G PAM4 technology, T8024-IXH supports high-density interconnection for massive scale-out data centers and simplifies the spine-leaf networking tiers. Additionally, it enables a larger capacity and extends the feature set while maintaining low power consumption and latency.

T8024-IXH is a compiler programmable switch with extensive instrumentation functions. It includes a programmable packet processor which can be programmed to process new types of protocols and allowing future proofing. Additionally, the scalable packet processor and the large packet buffer allow T8024-IXH to learn and analyze a large amount of data from the internet. T8024-IXH enables loss forwarding and dynamic load balancing which enhances network performance and improves traffic between servers. The instrumentation features include in-band telemetry and large-scale forwarding database extends network visibility and real-time network function for multiple application support.
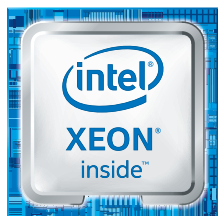
DOM FPGA

The 8024-IXH includes digital optics monitoring (DOM) acceleration function. The DOM FPGA handles the communication between CPU and optical modules. It supports both DOM data collection and real-time I2C access. DOM FPGA periodically polls the DOM information through I2C instead of directly connect to the optical modules. It offloads CPU's workload when the CPU only needs to read the information from FPGA.

High Availability

The QuantaMesh BMS T8024-IXH provides high-performance solutions for next-generation data center 200G and 400G connectivity. The key features from both hardware and software perspectives include:

- 24 200G ports and 8 400G ports in a 1RU switch
- 16T Leaf switch throughput
- Complier-programmable packet processing
- DOM FPGA for accelerating DOM transaction time
- Advanced traffic management and high-performance packet processing
- Instrumentation set for full network visibility
- Redundant PSUs and Fans

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Found at: www.QCT.io/wheretobuy

Physical Ports
- **Port configuration:** 24 200G QSFP56 and 8 400G QSFP56-DD ports
- **Management Port:** 1 RJ-45 out-of-band management port (10/100/1000M)
- **Console Port:** 1 (RJ-45)
- **USB:** 1 (USB 2.0)

Performance
- **Switching capacity:** 16Tbps

Major Components
- **ASIC:** Broadcom Trident4 X9 BCM56780
- **CPU:** Intel Broadwell DE D-1527, COMe based CPU board
- **Memory:** 16GB SO-DIMM DDR4 or 16GB*2 SO-DIMM DDR4
- **Flash:** 16MB*2
- **Storage:** 256G SSD M.2

Mechanical
- **Dimension (HxWxD):** 43.2x440x620 mm
- **Weight:** 13.63kg (NET)

Airflow
- **Airflow:** Front to Back

Environmental Specifications
- **Operating temperature:** 0°C to 40°C @sea level (F-B)
- **Operating humidity:** 90% maximum relative humidity
- **Operating Altitude:** 0°C to 40°C @1800m

Power
- **PSU:** 1300W PSU*2, CPRS & HVDC
- **Power consumption:** 791W (100% fan duty)

Safety
- **UL, cUL, CB, CCC**

EMC
- **CE, FCC, ICES, CCC**

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

Supported Optics and Cables
- **Cables:**
  40G Direct Attach Copper Cable (QSFP+ to QSFP+): 1m, 3m, and 5m
  40G Active Optical Cable (QSFP+, 850nm, MMF): 7m and 10m
  100G Direct Attach Copper Cable (QSFP28 to QSFP28): 0.5m~5m
  100G Active Optical Cable (QSFP28, 850nm, MMF): 1m, 3m, 5m, and 10m
  200G Direct Attach Copper Cable (QSFP56 to QSFP56): 2m
  200G Active Optical Cable (QSFP56, 850nm, MMF): 1m, 3m, 5m, and 10m
  400G Direct Attach Copper Cable (QSFP56-DD to QSFP56-DD): 2m, 2.75m
  400G Active Optical Cable (QSFP56-DD, 850nm, MMF): 10m, 100m
- **Break-out Cables:**
  40G Direct Attach Copper Cable (QSFP+ to 4 SFP+): 1m, 3m, and 5m
  100G Direct Attach Copper Cable (QSFP28 to 4 SFP28): 3m
  400G Direct Attach Copper Cable (QSFP56-DD to 4 QSFP28): 2m
- **Optics:**
  40G optic (QSFP+, MPO, 850nm, MMF): 40GBASE-SR4
  40G optic (QSFP+, LC, 1310nm, SMF): 40GBASE-LR4
  100G Optic (QSFP28, MPO, 850nm, MMF): 100GBASE-SR4
  100G Optic (QSFP28, LC, 1310nm, SMF): 100GBASE-LR4
  100G Optic (QSFP28, LC, 1310nm, SMF): 100GBASE-DR1
  100G Optic (QSFP28, LC, 1310nm, SMF): 100GBASE-FR1
  100G Optic (QSFP28, LC, 1271~1331nm, SMF): 100GBASE-CWDM4
  200G Optic (QSFP56, MPO, 850nm, MMF): 200GBASE-SR4
  200G Optic (QSFP56, MPO, 1310nm, SMF): 200GBASE-DR4
  200G Optic (QSFP56, LC, 2km, SMF): 200GBASE-FR4
  400G Optic (QSFP-DD, MPO, 850nm, MMF): 400GBASE-SR8
  400G Optic (QSFP-DD LC, 1273.54~1309.14nm, SMF): 400GBASE-LR8
  400G Optic (QSFP-DD, MPO, 1310nm, SMF): 400GBASE-DR4
  400G Optic (QSFP-DD, LC, 1271~1331nm, SMF): 400GBASE-FR4

Ordering Information
- **T8024-IXH (1IXHU9Z0000) (RAM:16G)**

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