DS4000

1U 32-port 400GbE Data Center Switch

Celestica's DS4000 is a 32 QSFP-DD port 400GbE switch in a compact 1U form factor that provides 12.8Tbps bandwidth for the most demanding data center needs.

The DS4000 can support port level configuration of sub-rates between 10GbE and 400GbE. System maximum of 144 10/25/50GbE ports or 128 40/100GbE ports using breakout cables provides a superior fabric device for large radix CLOS networks. It provides superior low latency and power efficiency in a clean PHYless design, while offering high-reliability features such as redundant and hot swappable power supplies and fans.

The DS4000 supports current and future network requirements, including a COMe x86 based control plane processor module, a time synchronization module a and BMC management module options for easier integration of automation tools familiar to server administrators. An ONIE installer to support third party network operating systems is also included.

FEATURES

Interfaces: 32 QSFP-DD 400GbE Ports (144 available sub-rate ports), CPU/BMC shared Ethernet Management (RJ45) and Serial Console (RJ45) ports, USB (Type A) port

Switching Capacity: 12.8Tbps IO Bandwidth, 64M Byte Buffer

Latency: Less than 500ns port to port (cut-through mode)

Data Center: DCB, TRILL, Virtual Port (VM) Switching, L2 GRE, NVGRE and VXLAN (encap/decap TEP)

CPU: Intel Xeon D x86 processor (up to 8 cores), 16-32GB ECC DDR4, configurable M.2 SSD

Routing Tables: Unified Forwarding configurable up to L2 MAC : 64K, ECMP:4K, L3 ALPM 960K, VLAN: 4K

Content Aware Processing: Layer 2-7 packet classification

Transceivers/Optics:
- QSFP-DD (Up to 3M DAC Cable Support): Up to 12W in Back to Front airflow
- QSFP-DD (Up to 3M DAC Cable Support): Up to 20W in Front to Back airflow

IEEE1588 & SYNCE TIMING OPTION

Supports IEEE1588 1-step and 2-step time stamping

Supports TC and BC mode

Supports SyncE recovery

Enterprise-Class Quality. Cloud Economics.

BMC SYSTEM MANAGEMENT OPTION

DDR3 1Gb-4Gb/SPI 8Mb-64Mb Flash for dual boot

NC-SI shared management port

Serial over LAN (SOL) enabled

Supports remote (BIOS/firmware) online upgrading

IPMI 2.0

LAYER TWO HARDWARE SUPPORTED

802.3ad LACP

802.1D STP, 802.1w RSTP, 802.1s MSTP, TRILL

802.1Q VLAN 4096, SVLAN, PVLAN

802.1 Q-in-Q double-tagged VLAN

802.1P L2 Prioritization

802.1AB LLDP

802.1x Network Access Control

IGMP/MLD Snooping

PBB/PBB-TE

VM Switching/VEPA/VN-Tag/802.1Qbh

Mirroring

Storm Control

LAYER THREE HARDWARE SUPPORTED

Hardware-based IP Forward

IPv4/v6 Routing Protocols: OSPF, RIP, IS-IS, BGP

VRF, ECMP/WCMP, VRRP

VPWS, VPLS, L3 VPN

Hardware Based Tunneling: IPv4/v6, GRE, MiM

IGMPv1/v2/v3

IP Multicast: PIM-SM, PIM-DM, PIM-SSM

TRAFFIC MANAGEMENT HARDWARE SUPPORTED

Flexible QoS Queuing for UC Packets

Separate QoS Queues for UC
and MC Packets (10 each/port)

2-Rate, 3-Color Policing

SP, WRR, WDRR Queuing

DCBX (ETS, PFC, CN/QCN)

Per-Port DSCP

Per-Port Oversubscription

POWER AND COOLING

1100W peak consumption with 12W QSFP-DD,
1+1 redundant, hot swap PSUs

100-240VAC auto-ranging, 47-63Hz or
180-300VDC auto input

6+1 redundant fans, front to back and back to front
system cooling

PHYSICAL DIMENSIONS

Height: 43.1 mm (1.73") 1 EIA unit

Width: 438.5 mm (17.3")

Depth: 657.5 mm (25.8")

ENVIRONMENTAL: OPERATING

Temperature: 0°C to 45°C @ 900m

Humidity: 5% to 90% non-condensing

MTBF: Excess of 150,000 hours

APPROVALS

EMC: CN(GB9254-2008), EU(EN55022, EN55024),
FCC, VCCI

Safety: IEC60950-1, GB4943, UL/CSA, CB

ORDER INFORMATION

R4023-F9102-A0: DS4000, 1U, 32x400GbE, COMe
4C/16GB-DDR/64GB-SSD (F2B)

R4023-F9003-A0: DS4000, 1U, 32x400GbE, COMe
4C/16GB-DDR/64GB-SSD (B2F)

*Note: All specifications and figures are subject to change
without prior notice.*