DS4000

1U 32-port 400GbE Data Center Switch

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.

The DS4000 is ideal for:

- 400GbE Data Center Leaf / Spine
- Scalable Data Centers and Big Data Applications
- Cloud Computing
- Enterprise Aggregation / Core

The Celestica 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.

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 700ns port to port (cut-through mode)

Data Center: DCB, TRILL, Virtual Port (VM) Switching, L2 GRE, NVGRE

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.*