DS2000

1U 48-port 10GbE/25GbE Data Center Switch

Celestica's DS2000 is a 48 port 10GbE/25GbE and 8 port 100GbE switch in a compact 1U form factor that provides 2.0Tbps bandwidth, ideally suited for data center top of rack deployments.

The DS2000 is a high performance, non-blocking switch that can support port level configuration of 10GbE or 25GbE with 8 100GbE QSFP28 uplink ports. 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 in forward and reverse airflow configurations.

The DS2000 supports current and future network requirements, including a COM-E modular x86-based control plane with Precision Timing options and BMC Management Plane 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: 48 SFP28 10GbE/25GbE ports, 8 QSFP28 100GbE ports, Rear CPU/BMC shared Ethernet Management (RJ45) and Serial Console (RJ45) ports, USB (Type A)

Switching Capacity: 2.0Tbps IO Bandwidth, 32MByte Buffer

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

EEE: 802.3az

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

Telemetry: Improved Instrumentation with Transient Capture Buffer, Packet Timestamp and Buffer Statistics

CPU: Intel Denverton x86 Processor (up to 8-core), 8-32GB ECC DDR4, Configurable M.2 SSD

Routing Tables: Unified Forwarding Tables: upto 48K MPLS labels, Up to 324K L3 LPM, Up to 18K ACLs

Content Aware Processing: Layer 2-7 packet classification, FCoE

Transceivers: SFP28 upto 2W, QSFP28 upto 5.5W power, DAC (to 5m passive)

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

Hierarchical ECMP

Enhanced IPF width and keys for SDN

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

DS2000 power consumption
< 500W maximum
DS2000 typical power < 350W at 25°C

100 - 240VAC auto-ranging, 47-63Hz or, 180-300VDC auto input 1+1 redundant, hot swap PSUs

3+1 redundant fans, front to back and back to front system cooling

PHYSICAL DIMENSIONS

Height: 44 mm (1.73") 1 EIA unit

Width: 438 mm (17.3")

Depth: 520 mm (20.5")

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, CCC

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

ORDER INFORMATION

R4041-F9004-A0: DS2000, 1U, 48x 10/25GbE + 8x 100GbE, COMe 4C/16GB-DDR/64GB-SSD (B2F)

R4041-F9007-A0: DS2000, 1U, 48x 10/25GbE + 8x 100GbE, COMe 4C/16GB-DDR/64GB-SSD (F2B)

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

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