DS3000

1U 32-port 100GbE Data Center Switch

Celestica's DS3000 is a 32 port 100GbE switch in a compact 1U form factor, ideally suited for data center environments in either Leaf or Spine deployments.

The DS3000 provides programmable data plane innovation and can support port level configuration of sub-rates between 10GbE and 100GbE. System maximums of 128 10/25GbE, or 64 50GbE are supported with breakout cables to provide superior large radix switch for TOR or CLOS connectivity. 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 DS3000 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: 32 QSFP28 100GbE Ports (128 available sub-rate ports), 1-2 SFP+ 10G, CPU/BMC shared Ethernet Management (RJ45) and Serial Console (RJ45) ports, USB (Type A) port
- Switching Capacity: 3.2Tbps IO Bandwidth, 32M Byte 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 Atom C x86 processor (up to 8-core), 8-32GB ECC DDR4, Configurable M.2 SSD
- Routing Tables: Unified Forwarding Tables: up to 48K MPLS labels, 324K LPM, up to 128K ACL
- Content Aware Processing: Layer 2-7 packet classification, FCoE
- Transceivers: QSFP28 up to 4.5W/5.5W (partial) 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

- Under 500W peak consumption with maximum optics, 1+1 redundant, hot swap PSUs
- 100-240VAC auto-ranging, 47-63Hz or 180-300VDC auto input
- 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 (17.1")
- 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
- Safety: IEC60950-1, GB4943, UL/CSA, CB

ORDER INFORMATION

R4039-F9002-A0: DS3000, 1U, 32x 100GbE, COMe 4C/16GB-DDR/64GB-SSD (B2F)

R4039-F9005-A0: DS3000, 1U, 32x 100GbE, COMe 4C/16GB-DDR/64GB-SSD (F2B)

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

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