



DS4100

1U 16-port 800G Data Center Switch



The Celestica DS4100 provides programmable data plane innovation and can support port-level configurations with sub-rates of 8x100GbE, 4x200GbE, or 2x400GbE for 800Gbps ports using breakout cables to provide a superior fabric device for large radix CLOS networks. It provides superior low latency and power efficiency while offering high-reliability features such as redundant and hot swappable power supplies and fans.

DS4100 supports current and future network requirements through a modular architecture, including a COM-E modular x86-based control plane, precise timing option and a modular BMC Management plane for easier integration of automation tools familiar to server administrators. An ONIE installer is also provided to support third party network operating systems.

The DS4100 is ideal for:

- AI/ML and Big Data Analytics
- Hyperscale Data Centers and Cloud Computing
- Top-of-Rack Networking for High Bandwidth Data Center Applications
- Data Center Network Backbone (800GbE Data Center Leaf/Spine)

FEATURES

Interfaces: 16x800Gbps OSFP ports, 112G PAM4 serdes, 2x10G SFP+ Traffic Management port, 1x RJ45 1000BASE-T Management port, 1xUSB3.0 Type A port, 1xRJ45 Console port

Switching Capability: 12.8Tbps, 56.83MB Integrated SmartBuffer

Data Center Protocols: Hardware-based encapsulation, Data Center Bridging Capability Exchange protocol (DCBX) congestion management: Priority-based Flow Control (PFC) and Enhanced Transmission Selection (ETS), IEEE 802.1Qbg Edge Virtual Bridging and IEEE 802.1Qbh Bridge Port Extension support, Per virtual machine traffic shaping, Support for VXLAN overlays

CPU: Intel Xeon-D class 4/8 core configurable, up to 32GB ECC DDR4, 128/256G

Transceivers: Up to 30W OSFP Optics and LPO/LRO support, Up to 2.5M@ DAC

BMC SYSTEM MANAGEMENT OPTION

RunBMC support

2GB DDR4

Dual 128MB Flash for dual boot

Serial over LAN (SOL) enabled

Supports remote (BIOS/firmware) online upgrading

Open BMC



Enterprise-Class Quality. Cloud Economics.

LAYER 2/LAYER 3 HARDWARE SUPPORTED

Full IPv4 and IPv6 routing support

Hardware-based encapsulations, including Multiprotocol Label Switching (MPLS), Generic Routing Encapsulation (GRE), and Intra-Site Automatic Tunnel Addressing Protocol (ISATAP)

Three-stage field processing with Ingress Field Processor (IFP) stage support for the exact-match feature

Unified forwarding table for flexible allocation of L3 host, Longest Prefix Match (LPM) entry, IFP key compression entry, and IFP Exact Match entry

Flexible ingress and egress counter pools

TRAFFIC MANAGEMENT HARDWARE SUPPORTED

Integrated high-performance SmartBuffer memory for maximum burst absorption and service guarantees

Full Quality of Service (QoS) support: Priority Flow Control (PFC) / Weighted Random Early Discard (WRED) / Single-rate Three Color Marking (srTCM) and Two-rate Three Color Marking (trTCM) for color marking and metering

Congestion management capabilities including destination module flow control and ECN

Dynamic load balancing for equal cost multipath (ECMP) groups

Packetized MMU statistics

Network monitoring

Network congestion detection

sFlow redirect

Visibility and packet tracing

Transient capture buffer

Enhanced load balancing

Enhanced trunk hashing capabilities: RTAG7, symmetric hash, flex hash, and resilient hash

Support for jumbo frames up to 9416 bytes

Support for 12 queues per port and the following scheduling algorithms: Strict Priority (SP), Round-Robin (RR), Weighted Round-Robin (WRR), and Weighted Deficit Round-Robin (WDRR)

POWER AND COOLING

1+1 redundant, hot swap PSUs, 1500W

AC 47~63Hz, 100~240 V nominal, 90~264V max

6+1 redundant fans, front to back and back to front airflow

Power consumption, Max 1310W

PHYSICAL DIMENSIONS

Height 43.1 mm

Width 438.5 mm

Depth 657.5 mm

ENVIRONMENTAL: OPERATING

Temperature: 0°C to 40°C @ 900 m

Humidity: 5% to 95%, non-condensing

APPROVALS

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

Safety: UL/CSA/IEC/EN 60950-1/62368-1

Environment: EU RoHS, SVHC requirements of REACH, China RoHS

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