



Force10



Dell Force10 E600i/E1200i

Dell Force10 ExaScale 40-port High Density 10 Gigabit Ethernet LAN/WAN PHY Line Card With Pluggable SFP+ and SFP Modules

The 40-port 10 Gigabit Ethernet line card for the Dell Force10 ExaScale™ virtualized core switch/router provides support for up to 560 10 GbE ports in a single half-rack E1200i chassis. This industry-leading density enables the ExaScale switch/router to aggregate more 10 GbE devices per card, ultimately leaving more chassis space available for future growth while also allowing IT architects to reduce the complexity of the network. Designed in-house using proven experience in high performance hardware and software design, ExaScale uses patented backplane technology and advanced packet processing and switching ASICs to power the E-Series switch/routers with industry-leading density, performance, reliability and eco-efficiency.

The ExaScale line cards present a truly flexible solution that can be used in applications spanning the LAN, MAN and WAN. With 100 Gbps/slot data capacity usable today, ExaScale supports GbE, 10 GbE and 40 GbE port solutions.

Key Features

- Consistent throughput for 64 to 9,252 byte Ethernet frames on all ports with all features enabled
- Scalable high-capacity LAG with up to 64 links per group, 255 LAGs per system and advanced hashing algorithms to balance traffic evenly across links in backbone or aggregation applications
- FTOS software, built on NetBSD and a Unix-like kernel, running on the RPMs and line cards enables new advances in control plane scalability and system reliability
- Industry-leading buffering and virtual output queues eliminate head-of-line blocking and minimize queuing delay to guarantee packet delivery
- Configurable CAM profiles enable custom space allocation in hardware forwarding and classification tables to support flexibility and scalability as network requirements change
- In-service hardware diagnostics, control plane and data plane monitoring processes run system health checks continuously during operation to improve MTBF and MTTR
- Pluggable SFP+ modules support 10 GbE SR, LR, and ER interfaces
- Pluggable SFP modules support GbE SX, LX, and LZ interfaces

High-density line card provides industry-leading density of up to 560 10 GbE ports in a single chassis

Provides 6MB per port dedicated input buffers to absorb temporary oversubscription

Full L2 switching and IPv4 routing, IPv6 and MPLS

Specifications: Dell Force10 ExaScale 40-port 10 Gigabit Ethernet LAN/WAN PHY Line Card

Ordering Information

Order Number	Description
225-2494	40-port 10 GbE line card – SFP+ or SFP modules required (series EH)
225-2466	40-port 10 GbE high capacity line card – SFP+ or SFP modules required (series EJ)
331-5274	Qualified SR/SW 10 GbE SFP+ optics module, LC connector
331-5273	Qualified LR/LW 10GbE SFP+ optics module, LC connector
430-4535	Qualified ER/EW 10 GbE SFP+ optics module, LC connector
331-5271	Qualified SX GbE SFP optics module, LC connector
331-5272	Qualified LX GbE SFP optics module, LC connector
430-4536	Qualified LZ GbE SFP optics module, LC connector

Dell Force10 line cards meet the requirements of demanding Layer 2 and Layer 3 applications. They support Layer 2 applications that require line rate performance and high port densities, and Layer 3 applications that demand robustness at low per-port prices.

Physical

Forty full-duplex 10 Gigabit Ethernet LAN/WAN and 1 Gigabit Ethernet LAN PHY LAN/WAN PHY ports with pluggable SFP+ and SFP modules

Occupies a single slot in the Dell Force10 E600i/E1200i chassis

Dimensions: 1.07 h x 18.75 w x 18.29" d
(2.7 h x 47.6 w x 46.5 cm d)

Weight: 14.8 lbs (6.7 kg)

Maximum insertion force: 32.5 lbs (14.7 kg)

Maximum power consumption and thermal output: EH: 475W (1,622 BTU)
EJ: 500W (1,707 BTU)

Operating temp: 32° F to 104° F (0° C to 40° C)

Relative humidity: 5 to 90% non-condensing

Maximum altitude: 10,000 ft (3,048 m)

Management

Link status and link activity LED per port

Line card status LED

In-service hardware diagnostics

IEEE Compliance

802.1p	L2 Prioritization
802.1Q	VLAN Tagging, Double VLAN Tagging
802.3ac	Frame Extensions for VLAN Tagging
802.3ae	10 Gigabit Ethernet (10GBASE-W, 10GBASE-X)
802.3x	Flow Control
MTU	9,252 bytes

Regulatory Compliance

Safety

UL/CSA 60950-1, 1st Edition

EN 60950-1, 1st Edition

IEC 60950-1, 1st Edition Including all National Deviations and Group Differences

EN 60825-1 Safety of Laser Products Part 1: Equipment Classification Requirements and User's Guide

EN 60825-2 Safety of Laser Products Part 2: Safety of Optical Fibre Communication Systems

FDA Regulation 21 CFR 1040.10 and 1040.11

Emissions

Australia/New Zealand: AS/NZS CISPR 22: 2006, Class A

Canada: ICES-003, Issue-4, Class A

Europe: EN 55022: 2006 (CISPR 22: 2006), Class A

Japan: VCCI V3/2007.04 Class A

USA: FCC CFR 47 Part 15, Subpart B, Class A

Immunity

EN 300 386 V1.3.3: 2005 EMC for Network Equipment

EN 55024: 1998 + A1: 2001 + A2: 2003

EN 61000-3-2: Harmonic Current Emissions

EN 61000-3-3: Voltage Fluctuations and Flicker

EN 61000-4-2: ESD

EN 61000-4-3: Radiated Immunity

EN 61000-4-4: EFT

EN 61000-4-5: Surge

EN 61000-4-6: Low Frequency Conducted Immunity

RoHS

All E-Series components are EU RoHS compliant.

SFP+ and SFP Support

Any combination of Dell Force10 approved SR, LR, or ER SFP+ modules and SX, LX, and LZ SFP modules may be populated. SFP+ and SFP modules are sold separately.

