

Full Layer 2
Switching and Layer 3
Routing Functionality

Separate
**Control
& Data
Planes**

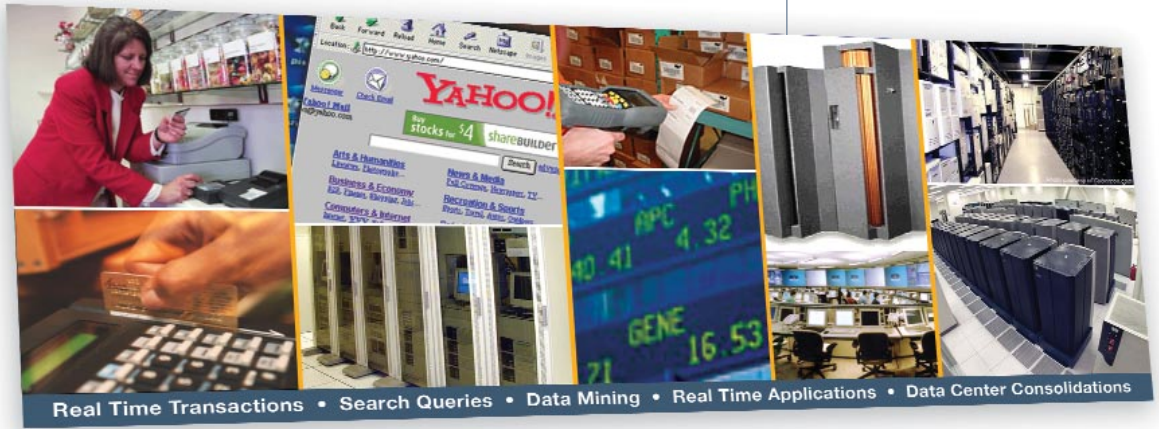
- E-Series architecture delivers resiliency and embedded DoS protection

Layers
**2 & 3
on a Single
Platform**

- Enabling operators to reduce the complexity of the data center architecture as well as the overall number of devices in the network

Delivering
**Non-stop
Applications**

- Zero packet loss hitless failover of all components



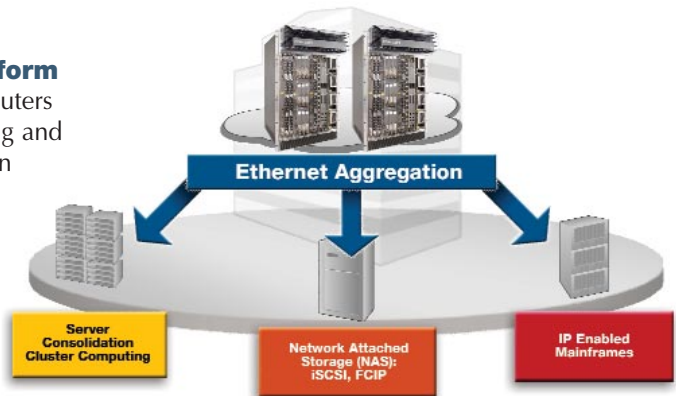
New Data Center Infrastructure

When the data center needs to support 250 million queries per day, the underlying infrastructure must be able to support wildly varying traffic loads and block Distributed Denial of Service (DDoS) attacks. Force10 Networks resilient switch/routers are designed for delivering predictable performance in these kinds of demanding network environments.

The Force10 E-Series lets network operators do more with less. The unique E-Series architecture leverages a separate control and data plane, while distributing routing, switching and system management between three independent CPUs to ensure predictable performance even under tremendous traffic loads and intensive processing tasks. Throughput and line-rate performance are guaranteed, even with features like security filters (Access Control Lists) and Quality of Service (QoS) enabled.

**The Force10 Networks
10 Gigabit Ethernet Platform**

The Force10 E-Series switch/routers combines full Layer 2 switching and Layer 3 routing functionality on a single platform, enabling operators to reduce the complexity of the data center architecture as well as the overall number of devices in the network, thereby simplifying operations.



Data Center Topology

	How the E-Series Supports each Topology
Server Consolidation	<ul style="list-style-type: none"> • Collapse Layer 2 switching & Layer 3 routing into one device layer
Ethernet Aggregation	<ul style="list-style-type: none"> • Aggregation of hundreds of line-rate GbE nodes • Aggregation of iSCSI Network Attached Storage (NAS) devices • Aggregation of IP enabled Main Frames
Disaster Recovery	<ul style="list-style-type: none"> • Point-to-point 10 Gigabit links over dark fiber

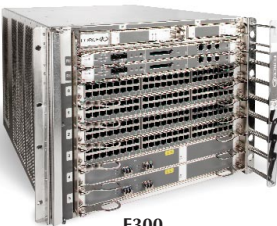
THE NEW HIGH PERFORMANCE DATA CENTER



E1200



E600



E300

E-Series Chassis

E1200

14 line card slots
 Size: 36.75" h x 17.4" w x 24" d
 (93.3 cm x 44.2 cm x 61 cm)
 Weight with factory-installed components:
 99 lbs (44.9 kg)
 Weight fully loaded: 321 lbs (145.6 kg)
 Maximum thermal output: 4,700W
 (16,037 BTU/hour)
 Maximum current draw per DC PEM: 130A
 Maximum power dissipation:
 5,000W or 17,060 BTU/hour

E600

7 line card slots
 Size: 28" h x 17.4" w x 24" d
 (71.1 cm x 44.2 cm x 61 cm)
 Weight with factory-installed components:
 81 lbs (36.7 kg)
 Weight fully loaded: 242 lbs (109.8 kg)
 AC Power
 Nominal input voltage: 100-240 VAC
 Maximum thermal output: 3,500W
 (11,900 BTU/hour)
 Maximum input current:
 12A @ 120 VAC per module
 6A @ 240 VAC per module
 7.3A @ 200 VAC per module
 Maximum system power input: 3.7 KVA
 DC Power
 Maximum thermal output: 2,800W
 (9,600 BTU/hour)
 Maximum current draw per DC PEM: 75A
 Maximum power dissipation: 2,800W
 (9,600 BTU/hour)

E300

6 line card slots
 Size: 14" h x 17.4" w x 24" d
 (35.6 cm x 44.2 cm x 61 cm)
 Weight with factory-installed components:
 55 lbs (25 kg)
 Weight fully loaded: 185 lbs (84.1 kg)
 Maximum thermal DC output: 1,950W (6650 BTU/hour)
 Maximum current draw per DC PEM: 52A
 Maximum power dissipation: 2,070W (7,000 BTU/hour)
 AC Power
 Nominal input voltage: 100 - 240 VAC 50/60 HZ
 Maximum thermal output: 2500W (8500 BTU/Hour)
 Maximum input current:
 10A @ 100 VAC per module
 8.3A @ 120 VAC per module
 7A @ 200 VAC per module
 5.8A @ 240 VAC per module
 Maximum system power input: 2.60 KVA

Common Specifications

Physical

19" front, 19" middle (optional) & 23" middle
 (E1200/E600 only) rack mountable
 Maximum Operating Specifications:
 Temperature: 32° to 104°F (0° to 40°C)
 Altitude: no performance degradation to 10,000 feet
 (3,048 meters)
 Relative humidity: 5 to 85 percent, noncondensing
 Shock: Bellcore GR-63
 Vibration: Bellcore GR-63
 Maximum Non-operating Specifications:
 Temperature: -40° to 158°F (-40° to 70°C)
 Maximum altitude: 15,000 feet (4,572 meters)
 Relative humidity: 5 to 95 percent, noncondensing
 Vibration: Bellcore GR-63

E1200/E600 Redundancy/Availability

1+1 redundant Route Processor Modules (RPM)
 8+1 redundant Switch Fabric Modules (SFM)
 1+1 redundant DC Power Entry Modules (PEM)
 3+1 redundant AC power supplies (E600 only)
 Online insertion and removal of all components
 Built-in cable management
 Environmental self-monitoring

E300 Redundancy/Availability

1+1 redundant Route Processor Modules (RPM)
 1+1 redundant DC Power Entry Modules (PEM)
 2+2 redundant AC power supplies
 (E300 high line operation only)
 3+1 redundant AC power supplies
 (low line and high line operation)
 Online insertion and removal of all components
 Built-in cable management
 Environmental self-monitoring

IEEE Compliance

802.3ae 10 Gigabit Ethernet
 802.3ab 1000Base-T
 802.1p/q VLAN Tagging
 802.1s Multiple Spanning Tree Protocol
 802.1w Rapid Spanning Tree Protocol
 802.3ad Link aggregation (static)
 802.1d Bridging
 802.3x Flow Control

Designed for NEBS

On board thermal and voltage monitoring
 GR-63-Core: NEBS, physical protection
 GR-1089-Core: EMC and Electrical Safety for
 Network Telecommunications Equipment
 SR-3580 NEBS criteria levels (Level 3 compliance)

Safety

UL listed (UL 60950, 3rd Edition)
 CUL CSA 22.2 #60950
 CDRH 21
 CFR 1040
 EN 60950
 EN 60825-1 Safety of Laser Products –
 Part 1: Equipmt. Classification Req., and User's Guide
 EN 60825-2 Safety of Laser Products –
 Part 2: Safety of Optical Fiber Communication Systems

EMC

USA: FCC CFR47 Part 15, Subpart J, Class A
 Canada ICES-003, Issue-2, Class A
 Europe: EN 55022 1998 (CISPR 22: 1997), Class A
 Japan: VCCI V3/01.4 Class A

Immunity

EN 300 386 V1.3.1 (2001-09) EMC for Network Equipmt.
 EN 55024 1998
 EN61000-4-2/IEC-1000-4-2
 EN61000-4-3/IEC-1000-4-3
 EN61000-4-4/IEC-1000-4-4
 EN61000-4-5/IEC-1000-4-5
 EN61000-4-6/IEC-1000-4-6



Force10 Networks, Inc.
 1440 McCarthy Boulevard
 Milpitas, CA 95035 USA
www.force10networks.com

408-571-3500 PHONE
 408-571-3550 FACSIMILE

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