The EP2684 controller boasts industry-leading native Fibre Channel performance, achieving line-rate, 16Gbps Fibre Channel throughput at extremely low CPU utilization with full hardware offloads. This extreme performance eliminates potential I/O bottlenecks in today's powerful multiprocessor, multicore servers, which can drive high performance storage and flash to their maximum limits.

QLogic Enhanced Gen 5 Fibre Channel features up to 16Gbps speeds, which are critical to evolving server workloads and I/O aggregation. It also supports unique features, such as forward error correction (FEC), which enhance network reliability and operational simplicity.

QLogic’s end-to-end data integrity with overlapping protection domain (OPD) and support for the T10 data integrity field (DIF) makes the EP2684 controller ideal for enterprise-class storage applications.

ENABLING FLASH AND SSD SOLUTIONS

The EP2684 16Gbps Fibre Channel controller delivers the performance and reliability to drive the next-generation of fabric-based flash arrays and server-based cache. With the ability to drive up to 2.6 million IOPS and 128Gbps of bidirectional throughput, the EP2684 is the right choice for the most demanding of flash-based solutions.

• Up to 2.6 million IOPS fuel high performance in all flash arrays (AFAs) and high density virtualized environments
• Up to 16Gbps throughput for high bandwidth storage (SAN) traffic; a total of up to 128Gbps bidirectional throughput for four ports
• 1.5X performance per watt improvement over previous Gen 5 solutions
• Complete investment protection for legacy 8Gbps and 4Gbps Fibre Channel infrastructure
• Complete per-port traffic isolation for greater reliability and security

OVERVIEW

The EP2684 controller is compatible with the existing 8Gbps and 16Gbps Fibre Channel software API that is shipping today on QLogic’s 2500 and 2600 Fibre Channel Controllers.

DESIGNED FOR VIRTUALIZATION

The QLogic EP2684 16Gbps Fibre Channel controller consumes the fewest CPU cycles to drive storage traffic at line rate across all ports. With support for up to 650K IOPS, QLogic controllers are ideal for hyper-scale virtualization, solid-state storage technologies, and new data center architectures.

INVESTMENT PROTECTION

The EP2684 controller is compatible with the existing 8Gbps and 16Gbps Fibre Channel software API that is shipping today on QLogic’s 2500 and 2600 Fibre Channel Controllers.

UNMATCHED EXPERTISE

QLogic is the undisputed leader in Fibre Channel and Converged Network Adapters. QLogic’s Fibre Channel and Converged Network Controller products have been qualified by all major storage OEMs to provide native Fibre Channel, iSCSI, and Fibre Channel over Ethernet (FCoE) connectivity from storage to fabric. QLogic is the only vendor with field proven Ethernet and Fibre Channel stacks.
### Fibre Channel Specifications

**Negotiation**
- Quad-port 16/8/4Gbps auto-negotiation

**Throughput**
- 16Gbps line rate per port maximum

**Logins**
- Support for 2,048 concurrent logins and 2,048 active exchanges
- Expandable to 16K concurrent logins and 32K active exchanges

**Port Virtualization**
- N_Port ID virtualization (NPIV)

**Compliance**
- SCSI-3 Fibre Channel Protocol (SCSI-FCP), Fibre Channel Tape (FC-TAPE) Profile, SCSI Fibre Channel Protocol-2 (FCP-2), Second Generation FC Generic Services (FC-GS-2), Third Generation FC Generic Services (FC-GS-3), Fibre Channel Physical Interface-5 (FC-PI-5)

### Host Bus Interface Specifications

**Bus Interface**
- PCI Express® Gen 3 ×8
- PCI Express Gen 3 ×16

**Host Interrupts**
- INTx and MSI-X

**Compliance**

### Controller Specifications

**Port Configurations**
- Four 16Gbps Fibre Channel ports

**Memory**
- Integrated SRAM for Fibre Channel applications
- 16-bit, ECC-protected DDR3 interface to external SDRAM (optional)

**Temperature**
- Operating: 105°C maximum junction temperature
- Storage: −45°C to 125°C

**Airflow**
- System-design dependent

**RoHS Compliance**
- Green (RoHS 6 compliant and halogen free)

**Packaging**
- 33mm × 33mm, 1013 ball (flip-chip ball grid array (FCBGA))
- 1.0mm ball pitch

**Power**
- Maximum: 13.0W
- Typical: 9.5W

### Ordering Information

- EP2684
  - Quad-port embedded controller for storage target applications
  - Ships with minimum order of 192 devices (24 devices per tray × 8 trays)
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