

2700 Series Controllers

Gen 6 Fibre Channel-to-PCIe Controllers



- Up to 2.6 million IOPS fuel high performance in all flash arrays and high density virtualized environments
- FC-NVMe capability allows simultaneous access to NVMe™ and FCP Storage on the same port
- Up to 32Gbps throughput for high bandwidth storage traffic; a total of up to 256Gbps bidirectional throughput for four ports
- 1.5X performance per watt over previous Gen 5 solutions
- Industry's first Gen 6 FC solution with complete investment protection for legacy Gen 5 FC, 8GFC, and 4GFC infrastructure
- Total per-port traffic isolation for greater reliability and security

OVERVIEW

The EP2714 and EP2722 are the industry's first Gen 6 (32Gb) Fibre Channel (FC) controllers. The Gen 6 FC standard is the world's fastest storage networking protocol.

The QLogic® 2700 Series Controllers from Cavium® boast industry-leading native FC performance, achieving line-rate, Gen 6 FC throughput with low CPU use, and full hardware offloads. This extreme performance eliminates potential I/O bottlenecks in today's powerful storage and flash arrays, which is essential to evolving application workloads and I/O aggregation. QLogic's end-to-end data integrity with overlapping protection domains and support for the T10 data integrity field ensure that the 2700 Series Controllers are ideal for enterprise-class storage applications.

ENABLING FLASH AND SSD SOLUTIONS

The QLogic 2700 Series Gen 6 FC Controllers deliver the performance and reliability to drive next-generation fabric-based flash arrays. With the ability to drive up to 2.6 million IOPS and 256Gbps of bidirectional throughput, the QLogic 2700 Series Controllers are the right choice for the most demanding of flash-based solutions.

DESIGNED FOR VIRTUALIZATION

The 2700 Series Controllers Gen 6 FC Controllers consume the fewest CPU cycles to drive storage traffic at line rate across all ports. With support for up to 650K IOPS per port, QLogic controllers are ideal for hyper-scale virtualization, solid-state storage technologies, and new data center architectures.

NVM EXPRESS® SUPPORT

The 2700 Series Controllers support the recently ratified FC-NVMe (NVMe over Fibre Channel) protocol. The 2700 Series Controllers can simultaneously support FC-NVMe and FCP-SCSI storage traffic. NVMe storage offers exceptionally high performance at very low latencies. NVMe works best when coupled with a network that can provide lossless, low-latency, and high-performing transport. The 2700 Gen 6 Controllers bring the best of both worlds by offering the highest performance and lowest latency access to NVMe and SCSI storage over a Fibre Channel network.

INVESTMENT PROTECTION

The 2700 Series Controllers are compatible with the existing 8Gb FC (8GFC) and Gen 5 (16Gb) FC software API that is shipping today on QLogic's 2500 and 2600 Series FC Controllers.

UNMATCHED EXPERTISE

QLogic is the undisputed leader in FC adapters and Converged Network Adapters. QLogic's FC and Converged Network Controller products have been qualified by all major storage OEMs to provide native FC, iSCSI, and Fibre Channel over Ethernet connectivity from storage to fabric.

QLogic is a strategic solution provider across server and storage technologies, offering the strongest technology portfolio for storage connectivity applications.

Fibre Channel Specifications

Negotiation

- Quad-port 32/16/8/4Gbps auto-negotiation (EP2714)
- Dual-port 32/16/8/4Gbps auto-negotiation (EP2722)

Throughput

- Gen 6 FC line rate per port maximum

Logins

- Support for 2,048 concurrent logins and 2,048 active exchanges
- Capability to support up to 32K concurrent logins and 32K active exchanges (EP2714)

Port Virtualization

- N_Port ID virtualization

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)*
- *Fibre Channel Physical Interface-6 (FC-PI-6)*

Host Bus Interface Specifications

Bus Interface

- PCI Express® Gen 3 ×8 (EP2722)
- PCI Express Gen 3 ×16 (EP2714)

Host Interrupts

- INTx and MSI-X

Compliance

- *PCI Express Base Specification* rev 3.1
- *PCI Express Card Electromechanical Specification* rev 3.0
- *PCI Bus Power Management Interface Specification* rev. 1.2
- *PCI Hot Plug Specification* rev. 1.1

Controller Specifications

Port Configurations

- Four 32Gbps FC ports (EP2714)
- Two 32Gbps FC ports (EP2722)

Memory

- Integrated SRAM for FC applications
- 16-bit, ECC-protected DDR3 interface to external SDRAM (optional) (EP2714)

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

- EP2714
 - 33mm × 33mm, 1013 ball (lidless flip chip ball grid array)
 - 1.0mm ball pitch
- EP2722
 - 19mm × 19mm, 525 ball (lidless flip chip ball grid array)
 - 0.8mm ball pitch

Power

- EP2714
 - Maximum: 13.5W
 - Typical: 10.0W
- EP2722
 - Maximum: 7.0W
 - Typical: 5.5W

Ordering Information

EP2714

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

EP2722

- Dual-port embedded controller for storage target applications
- Ships with a minimum order of 210 devices (70 devices per tray × 3 trays)



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