

# 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
- Up to 32Gbps throughput for high bandwidth storage (SAN) traffic; a total of up to 256Gbps bidirectional throughput for four ports
- 1.5X performance per watt improvement 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
- Complete 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 2700 Series Controllers boast industry-leading native FC performance, achieving line-rate, Gen 6 FC throughput at extremely low CPU utilization with 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 is the right choice for the most demanding of flash-based solutions.

#### DESIGNED FOR VIRTUALIZATION

The QLogic 2700 Series 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.

#### 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 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)



Follow us:       

Corporate Headquarters Cavium, Inc. 2315 N. First Street San Jose, CA 95131 408-943-7100

Copyright © 2014–2017 Cavium, Inc. All rights reserved worldwide. QLogic Corporation is a wholly owned subsidiary of Cavium, Inc. QLogic is a registered trademark of Cavium, Inc. All other brand and product names are registered trademarks or trademarks of their respective owners.

This document is provided for informational purposes only and may contain errors. Cavium reserves the right, without notice, to make changes to this document or in product design or specifications. Cavium disclaims any warranty of any kind, expressed or implied, and does not guarantee that any results or performance described in the document will be achieved by you. All statements regarding Cavium's future direction and intent are subject to change or withdrawal without notice and represent goals and objectives only.