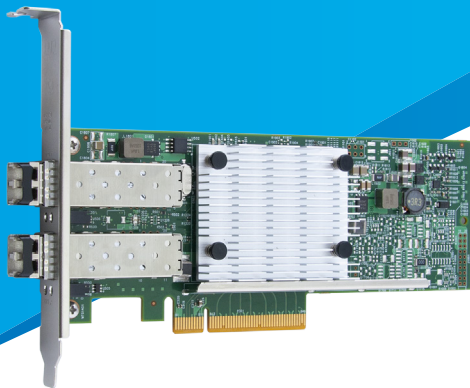


QLogic FCoE Offload Technology

Fibre Channel Over Ethernet for QLogic FastLinQ
10GbE Converged Network Adapters



The QLogic Fibre Channel over Ethernet (FCoE) offering is based on QLogic's hardware offload architecture, which is designed to deliver world-class performance, low CPU utilization, and high reliability with unified networking and storage management.

KEY ADVANTAGES

- **Industry-leading Performance:** Outstanding levels of performance across simultaneous L2 networking, TCP/IP offload, iSCSI offload, and FCoE Converged Network Adapter data traffic offload.
- **Low CPU Utilization:** QLogic FCoE Converged Network Adapter offload architecture minimizes the CPU overhead so that valuable CPU cycles are available to process user applications.
- **Highest Reliability:** FCoE Converged Network Adapter function adheres to the highest reliability standards for the data center, from advanced error checking in the 10GbE network controllers to supporting Data Center Bridging (DCB) standards to avoid congestion—all coupled with multipathing support.
- **Unified NIC and Storage Management:** The management application provides a single management dashboard for network and storage I/O management.

FEATURES

- Data Center Bridging
 - IEEE® 802.1Qbb: Priority-based Flow Control (PFC)
 - IEEE 802.1Qaz: Enhanced Transmission Selection (ETS)
- Fibre Channel over Ethernet
 - FCoE protocol with full hardware offload
- FCoE Converged Network Adapter features
 - FCoE initialization Protocol (FIP) and FCoE EtherTypes
 - Fabric-provided MAC addressing (FPMA)
 - Boot from SAN
 - Large concurrent port logins and exchanges
 - Native OS storage failover and load balancing
 - N_Port ID virtualization (NPIV)—Virtual Fibre Channel Host Bus Adapter (vFC) on Windows Server® 2012/2012 R2 Hyper-V® Guest OSs
- Management
 - GUI and CLI
 - WMI and BMAPI
- Devices supported
 - All QLogic Converged Network Adapters with 578xx family of controllers, including the QLogic® FastLinQ® 8400 Series Converged Network Adapter

BENEFITS

- Cutting-edge performance
 - Over 2.6 million FCoE IOPS
 - Concurrent, bidirectional line-rate performance across all ports
- Robust, seamless management using centralized, cross-platform management application suite
- World-class, optimized performance for high throughput, high I/O per second, and low CPU utilization
 - Offloaded and accelerated FCoE for block storage with high I/O per second and high bandwidth
 - Frees host CPU to run application code
 - No need to compete with host applications for resources
 - Minimal load on host memory subsystem with zero copy
 - Adaptive interrupt coalescing
 - Avoids bottlenecks by using RSS (distributing network processing across multiple CPUs)
 - Interrupt distribution in a multi-CPU system using MSI/MSI-X

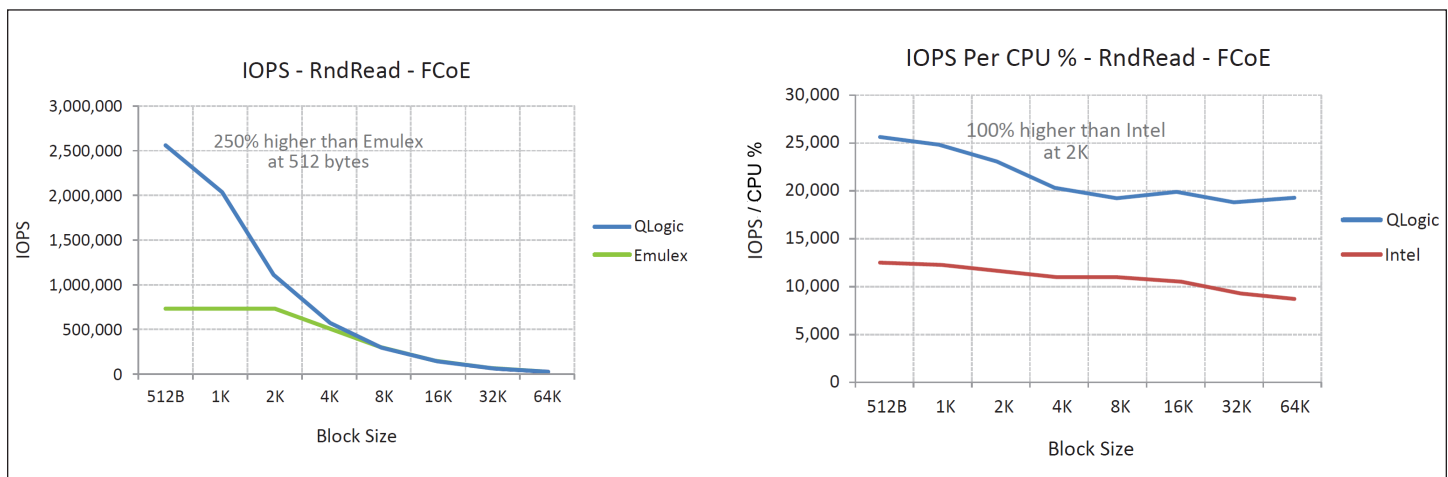
UNIFIED MANAGEMENT APPLICATION

- Centralized, cross-platform management suite for configuration and management across all protocols.
- Integrated multiprotocol dashboard with all management functions across iSCSI Host Bus Adapter, L2, and FCoE Host Bus Adapter.
- Comprehensive DCB and FCoE configuration and control.

For more information, visit www.qlogic.com.

ABOUT CAVIUM

Cavium, Inc. (NASDAQ: CAVM), offers a broad portfolio of infrastructure solutions for compute, security, storage, switching, connectivity and baseband processing. Cavium's highly integrated multi-core SoC products deliver software compatible solutions across low to high performance points enabling secure and intelligent functionality in Enterprise, Data Center and Service Provider Equipment. Cavium processors and solutions are supported by an extensive ecosystem of operating systems, tools, application stacks, hardware reference designs and other products. Cavium is headquartered in San Jose, CA with design centers in California, Massachusetts, India, Israel, China and Taiwan.



These charts show the relative performance of the QLogic FCoE Converged Network Adapters versus the Emulex adapter and the relative CPU effectiveness (IOPS per CPU%) of the QLogic FCoE Converged Network Adapters with hardware offload versus the Intel® non-hardware offload adapter. Source: Demartek® Labs, May 2014. Environment: Intel Xeon® E5-2690 8-core server, running the Microsoft® Windows® 2008 R2 SP1.



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[Corporate Headquarters](#) Cavium, Inc. 2315 N. First Street San Jose, CA 95131 408-943-7100

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