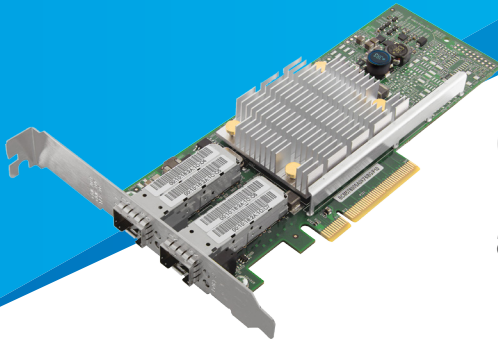


QLogic iSCSI Offload Technology

iSCSI Offload for QLogic® FastLinQ®
10GbE Converged Network Adapters



QLogic's iSCSI offload is designed to deliver industry-leading performance, low CPU utilization, high reliability, and unified NIC and storage management.

KEY ADVANTAGES

- **Industry-leading Performance:** By fully offloading the iSCSI and TCP/IP stacks, the QLogic iSCSI Converged Network Adapter does not need to compete with upper-layer applications, such as e-mail or Web applications, for CPU processing cycles. The iSCSI performance is unaffected by application workload.
- **Low CPU Utilization:** Software-based iSCSI initiators consume considerable CPU cycles when handling I/O-intensive workloads, leaving little headroom for growing user application requirements. QLogic's iSCSI Converged Network Adapter architecture minimizes the CPU overhead so that valuable CPU cycles are allocated to process user applications.
- **Highest Reliability:** The iSCSI header/data digest computation of QLogic's iSCSI Converged Network Adapter prevents data corruption that can occur in large networks with multiple switch hops so that iSCSI Converged Network Adapters can be used in a wide variety of IP network topologies.
- **Unified NIC and Storage Management:** The management application provides a single management platform for your network and storage I/O management.

BENEFITS

- World-class performance, optimized for high throughput, high I/O per second, and low CPU utilization
 - Offloaded and accelerated iSCSI 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
- Significant power savings over software initiator through iSCSI offload deployment
- Simplified administration of iSCSI-enabled controllers across the data center and reduced complexity by using a common driver
- Robust, flexible, seamless management using management application software
- Concurrent full protocol offloads for iSCSI, FCoE, and NIC on QLogic Converged Network Adapters
- Concurrent, bidirectional line-rate performance across all ports
- High IOPS performance
 - Over 1.5 million iSCSI IOPS

FEATURES

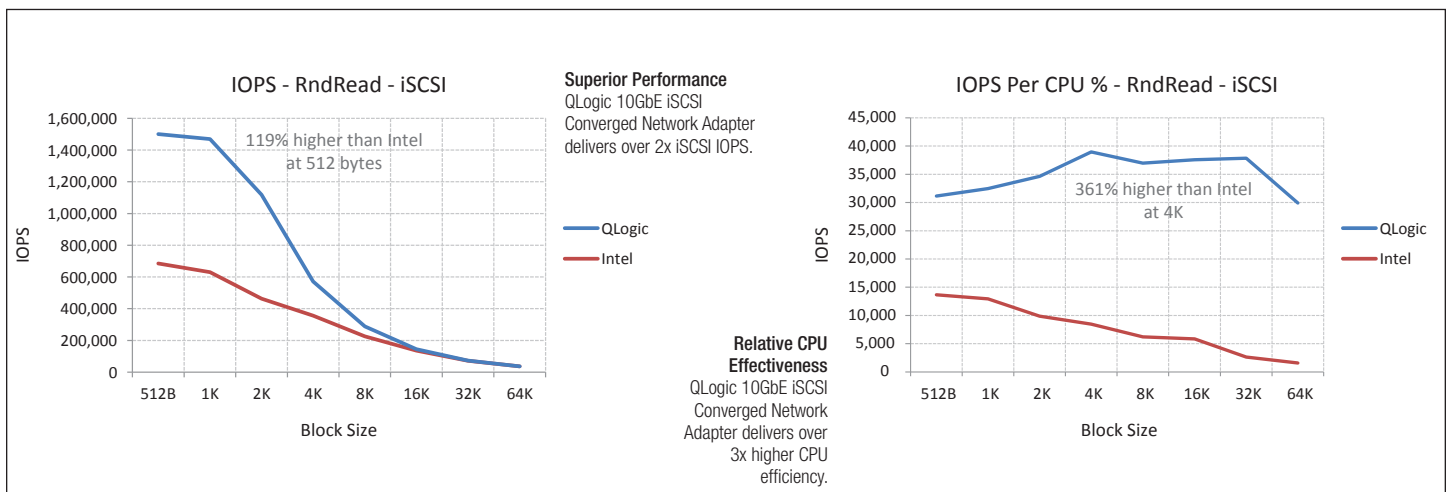
- Hardware iSCSI Converged Network Adapter
 - iSCSI Converged Network Adapter offload including header and data digest
- Common iSCSI driver stack for the 578XX family of controllers
- iSCSI Converged Network Adapter features
 - iSCSI initiator IPv4 and IPv6
 - iSCSI boot IPv4 and IPv6 Converged Network Adapter offload
 - iSCSI boot IPv4 and IPv6 host software stack
- Operating systems support:
 - Windows® Server
 - Red Hat® Enterprise Linux® and Novell® SUSE Linux Enterprise Server
 - VMware® vSphere®
- Lossless iSCSI-Offload over DCB (iSCSI-Offload-TLV)

UNIFIED MANAGEMENT APPLICATION

- Centralized, cross-platform management suite for configuration and management across all protocols
- Integrated multiprotocol dashboard with all management functions across iSCSI Converged Network Adapter, L2, and FCoE Converged Network Adapter

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 figures show the relative performance (iSCSI IOPS) and CPU effectiveness (IOPS per CPU%) of QLogic’s iSCSI offload versus Intel non-hardware offload iSCSI adapter.

Source: Demartek Labs, May 2014 (http://www.demartek.com/Demartek_QLogic_57810S_FCoE-iSCSI_Adapter_Evaluation_2014-05.html).

Environment: Intel Xeon E5-2690 8-core server running the Microsoft® Windows® 2008 R2 SP1.



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