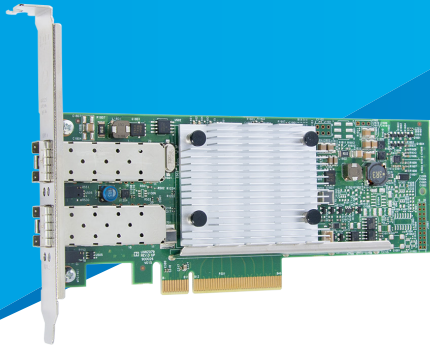


# Enhance VMware Uptime and Efficiency

QLogic 10GE Converged Network Adapters  
Improve vMotions 4-5x



Faster vMotions, less risk, and higher quality  
Service Level Agreements

## EXECUTIVE SUMMARY

Today's data centers require support for cutting-edge technologies, such as virtualized services, tiered storage, and workload mobility. Environments enabled by vMotion™ benefit from the ability for a high-performance I/O infrastructure to ubiquitously support all the protocols required for tiered storage services. QLogic has created a demonstration that showcases the ability to execute vMotion on the IP LAN infrastructure, while simultaneously supporting both iSCSI and FCoE storage protocols, using a single QLogic 10Gb Converged Network Adapter. The 10Gb Ethernet-based demo shows greatly improved vMotion performance as compared to 1GbE NICs.

### QLogic Multi-Protocol Converged Network Adapters Enhance VMware® Functionality and Efficiency

- Consolidate virtualized servers and tiered storage by converging FCoE, iSCSI, and 10GbE traffic onto a single adapter.
- Support data stores across multiple storage tiers (using different protocols), yet maintain full vMotion functionality for your highly available cluster.
- Execute high-performance vMotion while protecting the performance of mission-critical applications over LAN and SAN infrastructures.
- End-to-end visual representation of network and storage connectivity—all the way from the physical adapter to the virtual machine (VM).

## HIGH-PERFORMANCE WORKLOAD MOBILITY IN TIERED STORAGE ENVIRONMENTS

**Challenge:** Enabling workload mobility in virtualized environments become complicated when using tiered storage services, which may require each node in the resource pool to support multiple storage protocols simultaneously. Heterogeneous tiered storage may include: SAN elements, such as Fibre Channel and iSCSI, and NAS elements supporting file level protocols, such as CIFS and NFS. In addition, workload mobility exacerbates bandwidth issues on the network because workloads shift in real-time to meet the varying resource requirements of virtualized applications. The need to provide adequate bandwidth for vMotion while simultaneously protecting service-level performance for mission-critical applications may overwhelm network architectures based on legacy 1GbE technology.

**Solution:** The QLogic® FastLinQ® 8400 Series Converged Network Adapters support today's most compelling set of powerful networking virtualization features: SR-IOV, switch-independent NIC partitioning (NPAR), tunneling offloads (VXLAN and NVGRE), and industry-leading performance, thus enhancing the underlying server virtualization features. The QLogic FastLinQ 8400 Series CNAs also simultaneously support protocol offloads for storage traffic using FCoE and iSCSI.

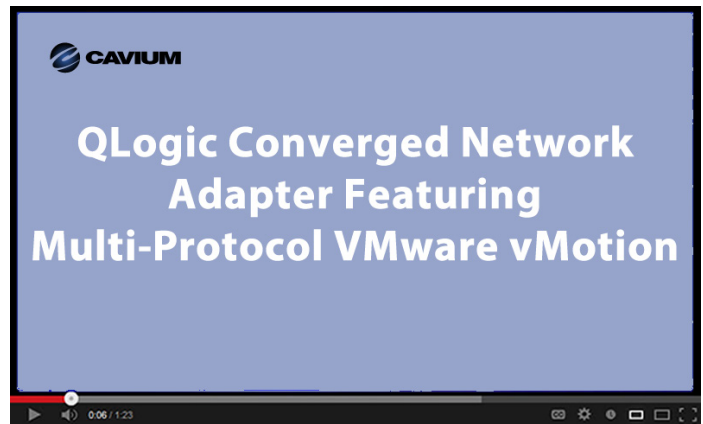
NIC Partitioning (NPAR) enables a seamless migration from multiple 1Gb Ethernet Adapters to a consolidated 10Gb Ethernet infrastructure by exporting a number of independent virtual interfaces. Each interface can dedicate a share of the adapter hardware resources to a specific VM. NPAR allows customers to flexibly provision bandwidth across four partitions per port while simultaneously running multiple protocol functions (NIC, FCoE, and iSCSI). NPAR helps consolidation efforts by enabling administrators to proportion the total 10Gb bandwidth across each partition in as small as 100Mb increments with the ability to reallocate it and other resources as needed.

The QLogic FastLinQ 8400 Series Converged Network Adapters boast industry-leading networking performance with dual-port throughput equaling approximately 40Gbps and FCoE transaction capabilities exceeding 2.5 million IOPS. The adapters provide 10Gb Ethernet connectivity to host servers, eliminating performance bottlenecks for I/O-intensive applications, such as vMotion. Protocol offloads reduce server CPU utilization across all operating systems, leading to faster server application performance and higher levels of server virtualization. QLogic adapters offer users peace of mind and confidence, as proven through the company's market share leadership: #1 in Converged Network Adapters. The QLogic FastLinQ 8400 Series Converged Network Adapters offer the highest reliability, availability, and serviceability options that customers rely on to meet and exceed stringent service-level agreements for enterprise data centers.

**FOR MORE INFORMATION**

- [The 10GbE CNA for the Software-defined Data Center](#)
- [QLogic Converged Network Adapters](#)

Related Video: [Product Demonstration—QLogic Converged Network Adapter Featuring Multi-Protocol VMware vMotion](#)



[Click on the Image to Watch a YouTube Video](#)

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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.



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