8Gb Fibre Channel Scalability Advantage in VMware vSphere 5

QLogic 2500 Series Fibre Channel Adapter Outperforms Emulex—Best Performance and Scalability

QLogic 2500 Series 8Gb Fibre Channel Adapter from Cavium performance scaled higher than the Emulex adapter as the number of VMs increased from one to eight.
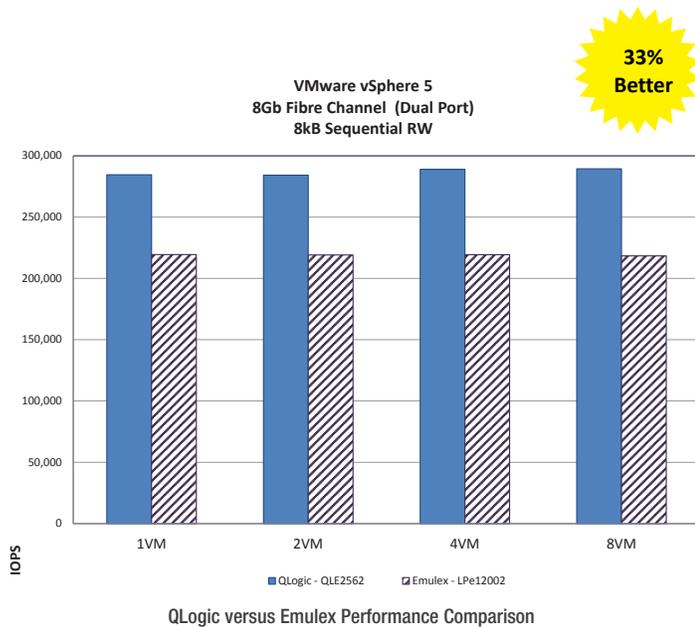
INDUSTRY CHALLENGES

Server consolidation through virtualization of the enterprise data center improves server utilization and lowers data center capital and operational costs. IT administrators must ensure that none of the subsystems become a bottleneck for successful deployment of a virtualized and consolidated data center. The evolution of consolidated server deployments and the move to 8Gb Fibre Channel infrastructure requires higher scalability when connecting servers to storage.

To meet the growing requirements of consolidated and virtualized environments, enterprise IT administrators must deploy a scalable, high-performance adapter architecture that can address the demands from multiple virtual machines (VMs) and applications running simultaneously on a single physical server.

VIRTUAL MACHINE SCALABILITY

Cavium™ performed head-to-head performance benchmarks showing the I/O performance and scalability advantages of the QLogic® 2500 Series 8Gb Fibre Channel Adapter from Cavium over the Emulex® LightPulse® 12000 Series 8Gb Adapter from Broadcom Limited. Cavium compared the overall performance of these 8Gb adapters when attached to an industry-leading, solid-state storage array to emulate real-world VMware® vSphere® 5 environments. The results show that QLogic 2500 Series 8Gb Fibre Channel Adapters from Cavium meet the demands of today's data center.

In vSphere 5 environments, the I/O performance depends on the workload generated by the VMs on a given vSphere host server. For the performance benchmark, Cavium implemented a configuration scaling the representative workload of VMs from one to eight. The following figure illustrates how the QLogic 2500 Series 8Gb Fibre Channel Adapter performance scaled higher than Broadcom's Emulex adapter as the number of VMs increased from one to eight. The figure displays the results—the QLogic adapter outperforms the Emulex adapter by 33%.

KEY DIFFERENCES

The QLogic 2500 Series Fibre Channel Adapter from Cavium is the superior choice for data centers using VMware vSphere 5 for the following reasons:

- **Proven Leadership.** According to Dell'Oro Group, QLogic adapters lead the market with a double-digit lead over the nearest competitor. With more than 14 million ports deployed across multiple hardware platforms and operating systems, QLogic Fibre Channel Adapters have been field tested in enterprise data centers.

- **Higher Application Performance.** QLogic adapters deliver increased scalability, better reliability, and higher customer service metrics for VMware vSphere 5 users.

- **Power Optimized.** QLogic StarPower™ technology allows the QLogic 2500 Series Fibre Channel Adapter to operate at 4.9W—an over 20 percent power advantage using Dynamic Power Management.

- **Enterprise Reliability.** QLogic adapters offer the highest levels of uptime as well as a proven Fibre Channel stack.

- **Warranty.** Cavium delivers the most reliable adapter backed by the industry's only five-year warranty.

- **Manageability.** Cavium's QConvergeConsole® delivers a Web-based, single-pane-of-glass management console for all generations of QLogic Fibre Channel Adapters.

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.

**VMware vSphere 5
8Gb Fibre Channel (Dual Port)
8kB Sequential RW**

33% Better

QLogic versus Emulex Performance Comparison

VMWARE VSPHERE 5 KEY BENEFITS

The QLogic 2500 Series 8Gb Fibre Channel Adapters from Cavium offer up to 33 percent higher IOPS and up to 33 percent higher throughput compared to the Broadcom's Emulex LightPulse 12000 Series Adapter.

- Highest levels of VM density
- Perform VM migrations in the shortest time

Cavium's customers achieve:

- Better server utilization
- Reduced operating expenses

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