Next-Generation Server Attach for HPE Customers

HPE and Marvell QLogic Enable FC Data Center Storage Connectivity



QLogic 16Gb and 32Gb Fibre Channel technology from Marvell for HPE delivers more performance, better reliability, and simplified management for the data center.

Industry Background

Storage infrastructure requirements are expanding. IT decision makers have said that the reason centers on increases in unstructured data, such as text-heavy documents and images from the medical and legal industries, plus large content databases containing rich media. The complexities of many IT environments continue to grow as well. IT administrators are responding to rapidly changing business models, the need to support mobile devices, and escalating demands of business applications. Enterprise data center administrators confronted by these new business challenges are focusing on improving asset utilization to enhance performance and flexibility while reducing costs. Customers require a secure and reliable storage network that is open and interoperable. High-performance I/O is vital to meet the key performance indicators of the enterprise data center.

Having a robust management tool saves time during setup and maintenance of the infrastructure. HPE® and Marvell are hearing from IT administrators that they need a strong server connectivity strategy to protect their infrastructure investments and get the best performance from their equipment.

Marvell QLogic® 16Gb Fibre Channel (FC), 32Gb and 64Gb FC technology delivers high-performance, resilient connectivity, security and simplified management, which are three requirements in a next-generation server attach strategy that can resolve today's challenges in the data center environment. QLogic FC HBAs for HPE are a resilient storage networking protocol with added performance, flexibility, and functionality to meet the requirements of an organization's server connectivity.

Tier-One Application Requirements for FC Storage Attachment

The increasing complexity of new technologies, the escalating demands of business applications, and the huge surge in the volume of data that you need to process have IT organizations struggling to keep up. QLogic 16Gb, 32Gb and 64Gb FC for HPE delivers the full potential of high-density server virtualization, cloud architectures, and next-generation storage required to handle your Tier 1 enterprise application requirements. These adapters also support FC-NVMe for connectivity to next-generation storage arrays. The innovations that HPE-branded QLogic adapters deliver help you get the most out of your Tier 1 enterprise applications or virtualization deployments.

The five main application workloads that benefit from the implementation of HPE-branded QLogic FC technology are:

Hypervisor Deployments

- Double the virtual machine (VM) density, while maintaining SLA requirements
- VM-ID and CS_CTL provide full quality of service (QoS) control to the VM in conjunction with HPE B-Series and C-Series 16/32/64Gb FC Switches
- Complete isolation between VMs

Database Applications

- Scalability to meet exponential growth in database sizes and end-of quarter transaction processing
- Reduce backup/restore time windows by half

Pre-configuration and Rapid Deployment

- QLogic StorFusion™ from Marvell provides the ability to pre-configure WWN and boot LUN in conjunction with HPE StoreFabric® B-series and C-Series 16/32/64Gb FC SAN
- QLogic StorFusion™ from Marvell speeds deployment and rapid replacement of failed servers for cloud service providers

Enhanced Security, Reliability and Troubleshooting

- SN1610Q 32Gb and SN1700Q 64Gb FC adapters support silicon root of trust that prevents the installation of malicious firmware
- Diagnostic port cable and optics diagnostics ensure reliable connections
- Link cable beacon (LCB) to speed connection identification
- Automatic buffer-to-buffer credit recovery (BB-CR) helps overcome performance degradation, congestion, and link resets

HPE Network Orchestrator and HPE Smart SAN for 3PAR®

- Marvell QLogic FC HBAs are fully integrated with HPE Network Orchestrator and HPE Smart SAN for 3PAR management software to support simplified zoning and diagnostics from a management virtual machine or the HPE 3PAR management console

Customer Benefits

IT administrators experience the highest levels of uptime using the HPE-branded QLogic FC solutions with Stor Fusion™ technology, especially when used in conjunction with HPE StoreFabric Bseries or C-Series 16/32/64Gb FC SAN switches. Investment protection is achieved through backwards compatibility and flexible technology deployments. Customers can meet and exceed SLAs using QLogic FC solutions by achieving superior performance and reducing the potential of I/O bottlenecks in the data center.

For small or mid-sized customers with limited IT staff, HPE has simplified SAN management when deploying HPE 3PAR StoreServ® storage. HPE Smart SAN for 3PAR enables

the storage administrator to zone the fabric and run diagnostics directly from the HPE 3PAR management software. All QLogic FC adapters from Marvell for HPE are fully supported with HPE Smart SAN for 3PAR and HPE Network Orchestrator SAN management software. QLogic adapters for HPE work in conjunction with HPE StoreFabric B-series and C-Series switches and HPE Network Orchestrator software to enable this simplified management of the SAN.

HPE-Branded QLogic 16Gb and 32Gb Fibre Channel Adapters

Model	Part Number	Active Ports	Server Support
SN1700Q	R7N86A	1	Select HPE ProLiant and HPE Apollo servers[1]
SN1700Q	R7N87A	2	Select HPE ProLiant and HPE Apollo servers[1]
SN1610Q	R2E08A	1	Select HPE ProLiant® and Apollo Servers[1]
SN1610Q	R2E09A	2	Select HPE ProLiant and Apollo Servers[1]
SN1100Q	P9D93A	1	Select HPE ProLiant and Apollo Servers[1]
SN1100Q	P9D94A	2	Select HPE ProLiant and Apollo Servers[1]
QMH2672	710608-B21	2	Select HPE ProLiant BladeSystem Servers[1]
5830 C	777456-B21	2	Select HPE Synergy Servers[1]

[1] Refer to www.hpe.com/servers for specific product support information.

Demand the following in your FC data center storage attachment:

Key Requirements	HPE Branded QLogic FC Adapters	Competitor Based Offerings
Application Performance Enhancements		
· **Double application performance**	✓	✓
· **100 percent predictable IOPS and scalable performance per port**	✓	✗
· **Full QoS management at the VM level**	✓	✗
· **FC-NVMe ready**	✓	✓
Multi-port Traffic Isolation Architecture		
· **Independent ports provide highest reliability**	✓	✗
Enterprise-class Application Performance		
· **DSuperior VM density per server in vSphere®**	✓	✗
· **Faster decision making for data warehousing using Microsoft® SQL Server**	✓	✗
Secure Firmware/Root of Trust[2]		
· **Secure Firmware Updates**	✓	✓
· **Hardware Root of Trust**	✓	✓
Heterogeneous Interoperability		
· **Server**	✓	✓
· **Storage**	✓	✓
· **Operating system**	✓	✓

Demand the following in your FC data center storage attachment:

Key Requirements	HPE Branded QLogic FC Adapters	Competitor Based Offerings
Enhanced Diagnostics and Troubleshooting		
• **ClearLink diagnostics and LCB**	✓	✓
• **Enhanced fabric device management interface messaging and read diagnostic parameters**	✓	✓
Simplified Management		
• **Storage connectivity visualization**	✓	✗
• **Enterprise-class adapter management**	✓	✗

[2] Available on select HPE 32Gb and 64Gb FC HBAs. Refer to HPE QuickSpecs https://h41370.www4.hpe.com/quickspecs/overview.html

HPE and Marvell Qlogic Resources and Tools

General Information

- **Marvell HPE Microsite - www.marvell.com/hpe**
- **Marvell HPE Business Development Contacts**
- **HPE_QLogic_Fibre_Channel_HBA_Quick_Reference.pdf**
- **QLogic HPE Fibre Channel Selector Utility**
- **HPE SPOCK (Single Point of Connectivity Knowledge for HPE Storage)**

MARVELL

To deliver the data infrastructure technology that connects the world, we're building solutions on the most powerful foundation: our partnerships with our customers. Trusted by the world's leading technology companies over 25 years, we move, store, process and secure the world's data with semiconductor solutions designed for our customers' current needs and future ambitions. Through a process of deep collaboration and transparency, we're ultimately changing the way tomorrow's enterprise, cloud, automotive, and carrier architectures transform—for the better.

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