



Are You Buying the Right HBA for Your EMC Storage

Advantages of QLogic SANblade 2400 Series FC HBAs in EMC Environments

Introduction




HBAs are often the last element discussed in a SAN implementation, even though they are the single most important component for determining performance, down-time, and troubleshooting. Given such pivotal factors, isn't worth taking the time to research which HBA is best suited for your environment?

QLogic SANblade 2400 series FC HBAs are engineered with unique enterprise features that help SAN administrators to standardize on QLogic FC HBAs in EMC environments.






This document summarizes the many advantages integrated into QLogic SANblade 2400 series FC HBA solutions over Emulex LighPulse 1150-E and 11000-E FC HBA solutions.

Category	QLogic QLx2400-E Series	Emulex LPx1150-E	Emulex LPx11000-E	Customer Benefit
Performance				
IOPs/port	150,000 http://www.qlogic.com/knowledgecenter/briefs/papers.asp#fc	100,000	100,000	Enables server consolidation and lowers datacenter costs. <ul style="list-style-type: none"> • 50% more IOPs. • 246% higher performance in Windows. • 78% higher performance in MS-Exchange. • 35% Higher Performance in Oracle. • 39% Higher performance in VMware.
True-Enterprise Features				
<ul style="list-style-type: none"> • Intelligent Interleaved Direct Memory Access (iIDMA) • Dual Read DMA (DRDMA) • Out of Order Frame Reassembly (OoOFR) • Overlapping Protection Domains (OPD) 	✓ http://www.qlogic.com/knowledgecenter/tech_briefs.asp	No	No	Highest Performance in 4Gb and mixed speed environments.

QLogic FC HBA Advantage in an EMC Environment

Category	QLogic QLx2400-E Series	Emulex LPx1150-E	Emulex LPx11000-E	Customer Benefit
Ease-of-Use				
Unified Firmware/Driver	✓ http://www.qlogic.com/documents/datasheets/knowledge_data/whitepapers/CB06004-UD.pdf	No	No	<ul style="list-style-type: none"> Guaranteed driver/firmware interoperability. Eliminates disruptions from incompatible driver and firmware. Reduces installation support-time by installing one piece of software instead of two.
Host bus Identification on Bracket	✓	No	No	Quickly identify 4Gb adapter host bus as PCI-X or PCIe.
WWPN on Bracket	✓	No	No	Faster installation and configuration.
Separate LED for 4/2/1 Gb speeds on Bracket	✓	No	No	Separate LEDs enable IT mangers to quickly identify link speeds and diagnose the HBA without using a management application.
				
Boot Support				
x86	✓	✓	✓	Single SKU for all operating systems and platforms. Lower cost of inventory.
EFI	✓	✓	✓	
FCode	✓	No	✓	

QLogic FC HBA Advantage in an EMC Environment

Category	QLogic QLx2400-E Series	Emulex LPx1150-E	Emulex LPx11000-E	Customer Benefit
Operating System Support				
Windows 	✓	✓	✓	246% higher performance in Windows.
Linux 	✓	✓	✓	QLogic has 7+ years of field-proven Linux-based solutions.
Solaris 	✓	No	✓	Lower inventory costs with a single SKU for all operating systems.
Netware 	✓	✓	✓	
VMware 	✓ http://www.qlogic.com/documents/datasheets/knowledge_data/whitepapers/CSG-WP06011.pdf	✓	✓	39% higher scalability in multi-VM (Multiple Guest OS) environments. Lowers datacenter costs by 28% through higher levels of server consolidation.
Warranty				
Standard 3 year	✓	✓	✓	
Free 5 year option	✓	No	No	67% extended investment protection, providing 20% lower total cost of ownership based on average annual hardware maintenance costs.

Summary

IT managers know that choosing the right HBA for their SAN infrastructure has a significant impact on the performance, scalability and reliability of their enterprise storage environments. The results of the above comparison between QLogic and Emulex 4Gb FC HBAs demonstrate that QLogic 4Gb FC HBAs are distinctly superior to Emulex's offering; QLogic HBAs represent the best-in-class in virtually every category.

Performance leadership

- 50% more IOPs (150K versus Emulex maximum of 100K IOPs per port)
- 246% higher performance in Windows
- 78% higher performance in MS Exchange
- 39% higher performance in VMware environments
- 35% higher performance in Oracle
- Higher performance in mixed speed environments

QLogic FC HBA Advantage in an EMC Environment

A Better 4Gb with True Enterprise Features

- **iiDMA**-QLogic iiDMA (patent pending) technology detects the maximum link rate (speed) that the target node can support and sends frames at that rate. This ensures that the initiator transmits at the maximum link speed without throttling-down to the lowest target speed on the network.
- **DRDMA**-A Direct Memory Access (DMA) read request is a request from a DMA module (or channel) to transfer data from a host system to a storage device. QLogic (patent pending) DRDMA technology significantly improves overall system performance by allowing multiple DMA read requests to be issued and processed efficiently.
- **OoOFR**-Out-of-Order Frame Reassembly (OoOFR) is a QLogic patent pending feature that reassembles the out-of-ordered frames as they are received. OoOFR ensures the highest throughput by not retransmitting frames when they are received out-of-order.
- **OPD**-Overlapping Protection Domains (OPD) is QLogic's unique implementation within the FC controller (ASIC) that offers the highest level of data protection. OPD generates a new check (parity or ECC) before stripping out the old check. The new check ensures that data remains protected, at all times, as it traverses through the FC controller.

Ease of use

- Unified drivers
- Host bus identification on bracket
- WWPN on bracket
- FC speed indication via separate LEDs

Solaris Sparc support

- Full driver and boot support with single SKU

Warranty

- Highest reliability backed with 5 year warranty

For further information see :

http://www.qlogic.com/knowledgecenter/tech_briefs.asp

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