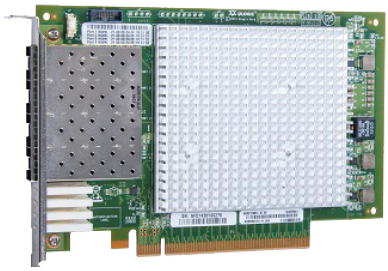
Marvell Enhanced 16GFC Delivers Exceptional Value

Marvell QLE2694 vs. Emulex LPe16004



KEY BENEFITS

- **Complete Investment Protection:** Field upgradable to 32GFC—one investment that spans across two generations of application performance needs.
- **Reduced OPEX:** 75% Lower power utilization vs. Broadcom's Emulex—QLogic® adapters from Marvell save up to $180K in operating expenses.
- **Full Suite of Fabric Integration:** Only QLogic StorFusion™ delivers the most complete integration with the Brocade® fabric enabling accelerated deployment, rapid diagnostics, and single point of management.
- **Unsurpassed Reliability:** QLogic Port Isolation design supports each port with independent, isolated hardware resources to ensure fail-safe operation and peace of mind that millions of customers rely on.

QLogic adapters lead the competition with superior features, lower power, higher performance, and investment protection

EXECUTIVE SUMMARY

Enterprise organizations rely on their Fibre Channel (FC) storage area network (SAN) for fast, reliable access to critical applications and data. To keep up with growing business demands and exponential data growth, IT administrators may deploy the latest servers, solid-state storage devices, and network components to meet performance and service level agreement objectives.

QLogic Enhanced 16GFC adapters from Marvell include advanced capabilities that Emulex 16GFC adapters lack, like field upgradable to 32GFC, industry's lower power consumption, improved TCO with QLogic StorFusion™ technology, and an architecture that complements the legendary reliability that SANs are known for.

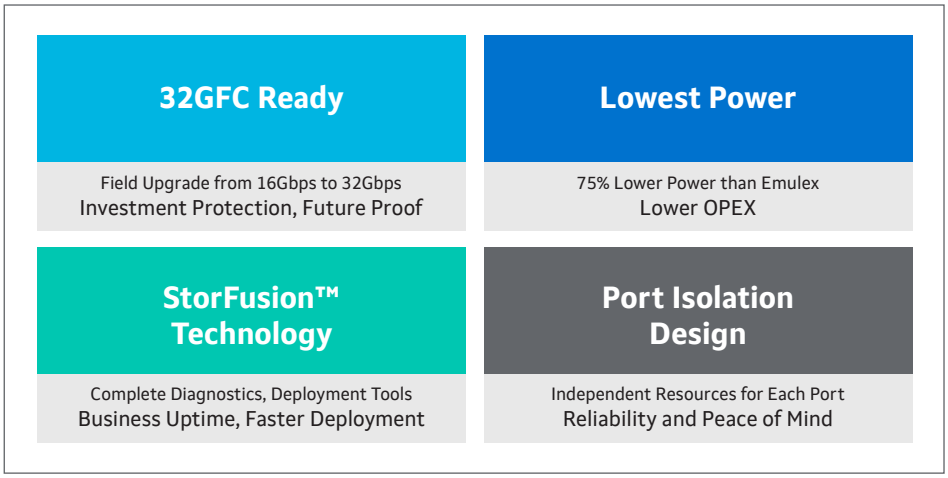


Figure 1. Marvell Enhanced 16GFC Advantages vs. Emulex

INVESTMENT PROTECTION

IT requirements are changing! CIOs and IT administrators demand high performance, dynamic Fibre Channel infrastructure that can support high VM density and work as an elastic resource, mitigating future migration costs and complexity.

Organizations must protect their IT investments. Flexibility is a no longer a "good to have" option—it is a necessity. QLogic's latest technology future proofs the enterprise data center by delivering the industry's first Enhanced 16GFC adapter that is "field upgradable" to 32GFC, allowing administrators to scale their SAN infrastructure to twice the speed without a rip and replace.

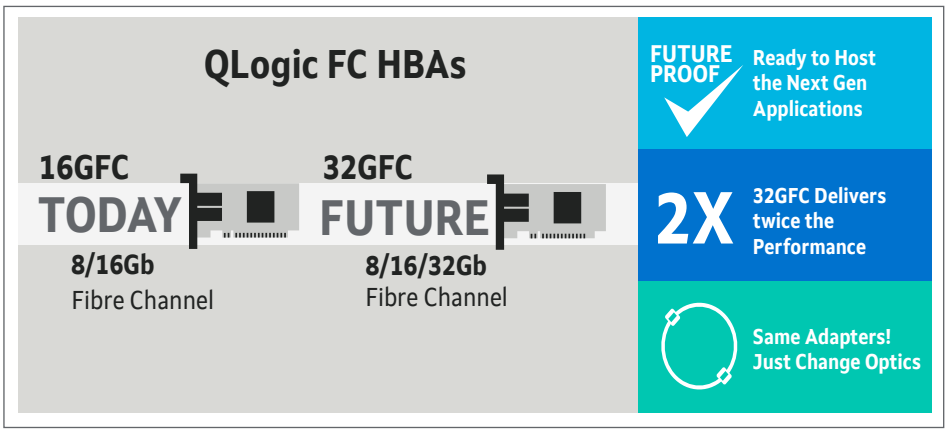


Figure 2. 32GFC Ready for Complete Investment Protection

REDUCED OPEX

All around the globe, more and more data is being shared every day, while there is also a shift towards environmentally responsible thinking. The significant increase in the amount of data means that more energy is required to power up and cool the enterprise data center. Therefore, data centers play an important role in reducing the amount of energy used to run large infrastructure complexes.

QLogic StarPower™ technology revolutionizes the power-to-performance ratio by delivering the industry's lowest power profile—up to 75% lower than Emulex—while delivering the highest performance.

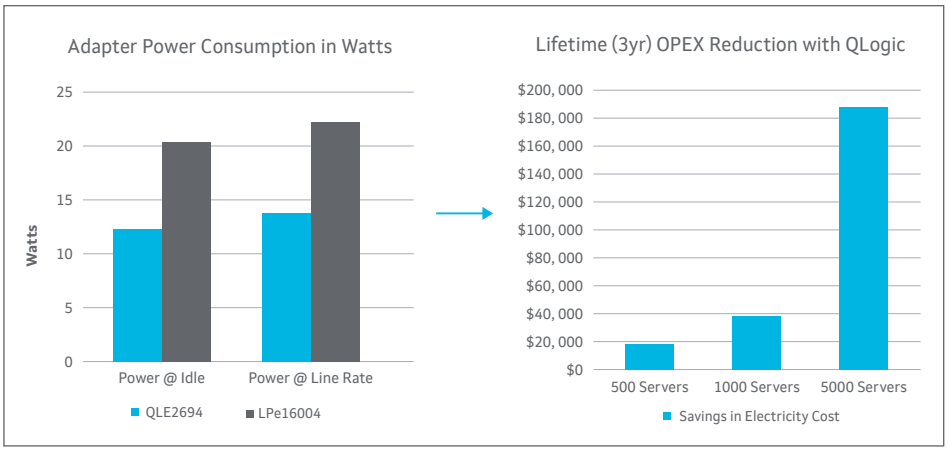


Figure 3. Adapter Power and OPEX Reduction

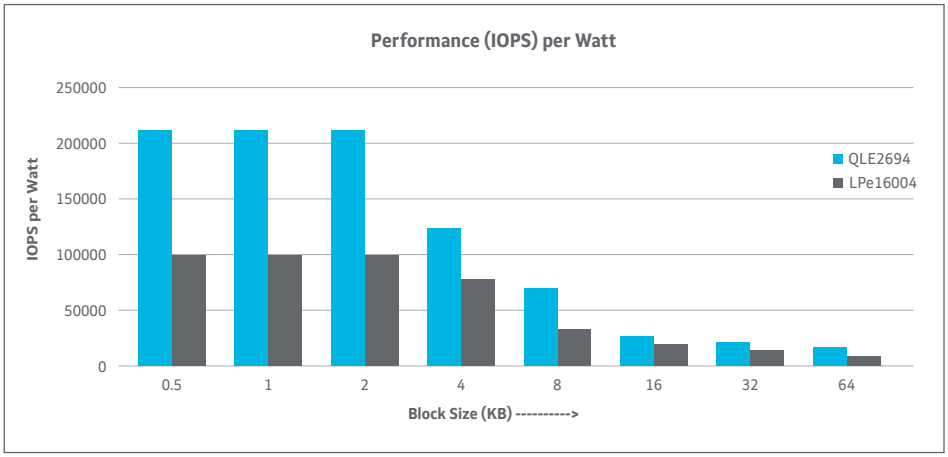


Figure 4. QLogic Adapters Deliver Twice the Transactional Performance per Watt

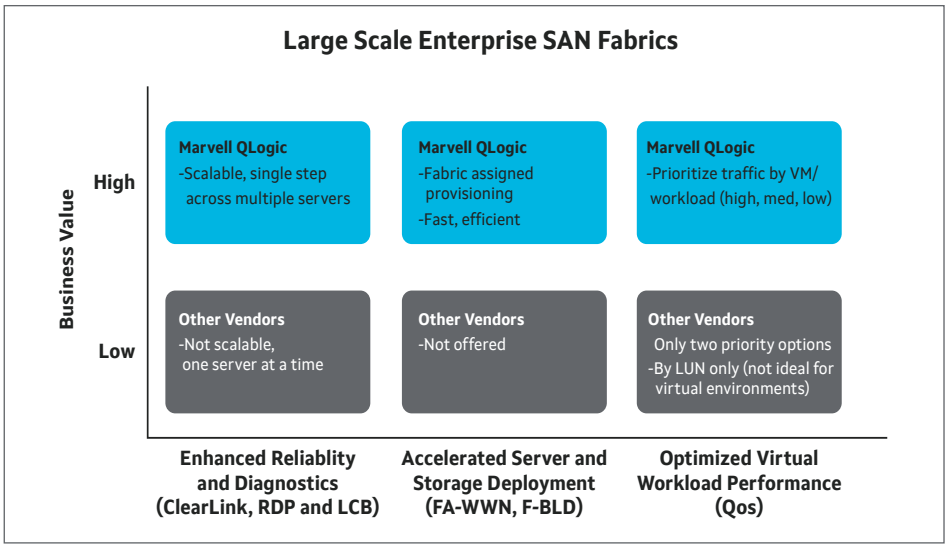


Figure 5. Large Scale Enterprise SAN Fabrics

StorFusion™ – Full Suite of Fabric Integration

QLogic Enhanced 16GFC (Fibre Channel) adapters include advanced capabilities (like StorFusion™) enabled when deployed with supported Brocade 16GFC switches and systems. By implementing these industry-leading solutions together, administrators can take advantage of enhanced features that improve reliability, accelerate deployment, and increase virtual workload performance.

Although integrated into the Brocade fabric at a few points, the Emulex adapter lacks the full breath of integration, central point of management, and rapid deployment features. This makes the Emulex 16GFC adapters unsuitable for large scale enterprise SAN fabrics. (See Figure 5.)

Unsurpassed Reliability

QLogic QLE2694 Quad-Port Enhanced 16GFC (Fibre Channel) Adapters feature a high-availability architecture aligned with true enterprise-class, mission critical requirements. The QLogic architecture offers complete port-level isolation across its quad-port ASIC. The QLE2694 design provides discreet functionality with separate processor, memory, and firmware for each port.

The Emulex architecture breaks from traditional high-availability best practices, thus compromising requirements for enterprise deployment and creating several key challenges. Consider that a shared resource architecture lacks independent functionality; therefore, port 0 can be affected by any number of SAN issues occurring on port 1, including defective SFPs or cables, RSCN storms, or CRC errors. As another example, a firmware crash on one port can affect the other port, lowering the solution's reliability.

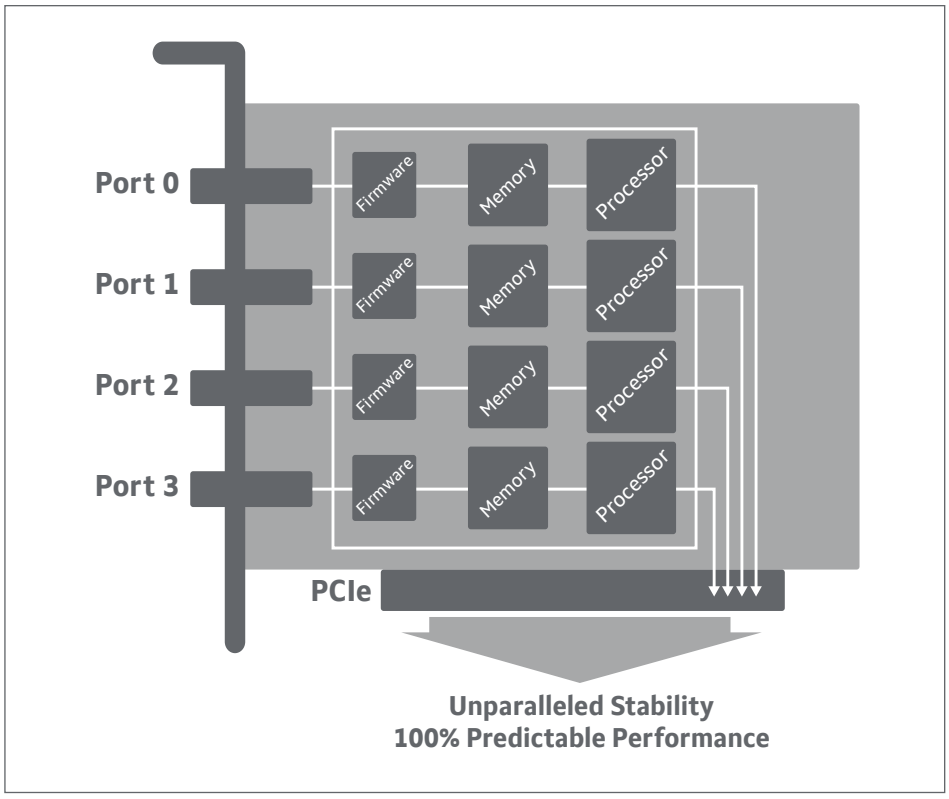


Figure 6. QLogic Single ASIC Design with Dedicated Resources Per Port

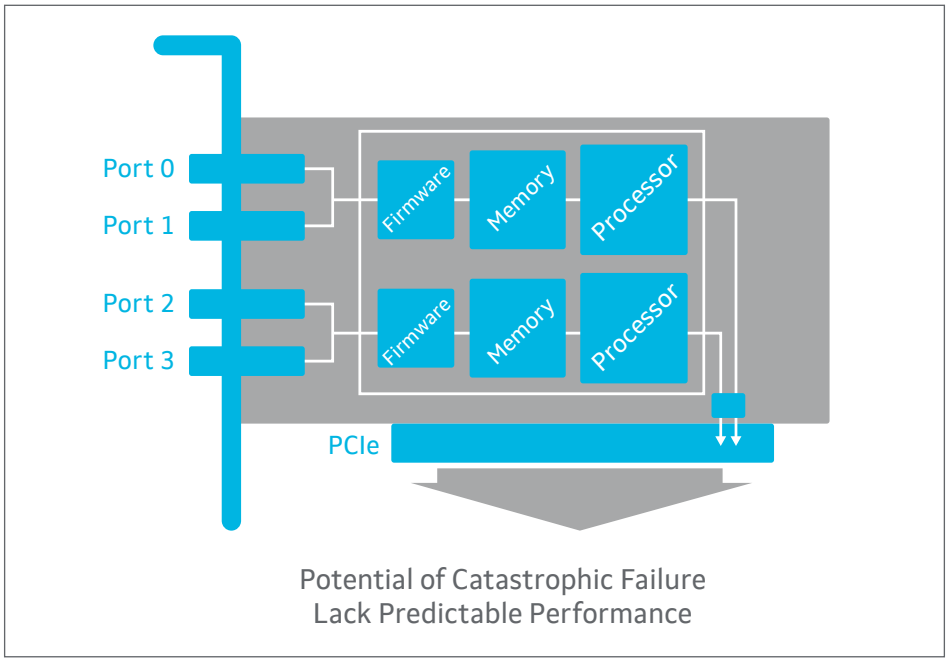


Figure 7. Emulex Multi-ASIC Adapter with Shared Resources and High Power Utilization

Per Port Functionality	QLogic	Emulex
Independent CPU	✓	✗
Isolated Memory	✓	✗
Independent Firmware Image	✓	✗

Table 1. QLogic Architecture Advantages

SUMMARY

QLogic Enhanced 16GFC adapters from Marvell include advanced capabilities that Emulex 16GFC adapters lack, like field upgradable to 32GFC, industry's lower power consumption, StorFusion™ technology, and an architecture that complements the legendary reliability that SANs are known for. QLogic Fibre Channel remains the clear choice for customers who want the most advanced and reliable Fibre Channel solution to drive enterprise applications.