



## CASE STUDY

# NetBank

## QLogic® HBAs Reap Returns for Home Mortgage Lender NetBank

### Challenge

The IT department of NetBank managed a growing storage area network (SAN) with multiple operating systems and hardware platforms to provide reliable 24/7 access to mission-critical applications—while also helping secure compliance with Federal regulatory reporting requirements. The time challenge that faces most IT departments is no different at NetBank. There is a need for SAN equipment that is quick and easy to set up and once installed, just works.

### Solution

A 110TB SAN composed of over 100 Fibre Channel 4Gbps HP StorageWorks® FC1143 HBAs from Hewlett-Packard (manufactured by QLogic as the QLA2460); HP EVA8000 storage arrays; HP ProLiant® DL and HP BladeSystem servers with QLogic Mezzanine Cards running VMware® ESX Server® virtualization software as well as the Linux® and Microsoft® Windows® operating systems.

### Results

QLogic HBAs provide high performance and reliable connections within the heterogeneous SAN, which gives users uninterrupted access critical to key banking operations such as mortgage loan processing and data management for compliance with the Sarbanes-Oxley Act and the U.S. Office of Thrift Supervision reporting requirements. Their reliability also helps provide for reliable access to e-mail and other corporate functions.



Data storage requirements for financial institutions are daunting: homeowner mortgage information management, e-mail archiving, record-keeping, and data retention for federal reporting requirements. IT managers are constantly challenged to provide a storage infrastructure that delivers continuous and prompt access to mission-critical data.

Fibre Channel HBAs are a critical component to providing the connections between servers and the SAN fabric. At NetBank, HBAs need to ensure access to mission-critical data and prevent storage system downtime. They also need to be functional with the servers, storage and software used by the operation. Ideally, they are quick to install and maintain and work so well that they become invisible. NetBank found all of that and more with the QLogic HBAs from HP.

### The NetBank SAN

The primary NetBank SAN environment serves 50 HP ProLiant servers. The virtualized servers run VMware ESX Server along with Linux, Microsoft Windows 2000, and Windows 2003 operating systems. HP EVA8000 storage arrays house the data. Each server is connected to the SAN by two HBAs for redundancy—a total of 100 Fibre Channel HBAs. NetBank was able to take advantage of server consolidation by using HP BladeSystems running VMware for server virtualization. QLogic HBAs enabled higher levels of server consolidation in VMware environments due to its architecture that continued to deliver scalable performance as multiple virtual machines were added; resulting in lower power, cooling and infrastructure costs.

With QLogic HBAs from HP, they were able to standardize on QLogic whether the server is running Window, Linux and VMware. It also doesn't matter if the server is a ProLiant DL series or a BladeSystem server. NetBank was able to standardize on a driver and firmware revision even though the HBAs were a mix of 2Gb and 4Gb.



### HBAs Provide Non-disruptive Upgrade Path

NetBank had used 2Gb Emulex HBAs for some of their Windows servers. QLogic's leadership in providing Fibre Channel connectivity for HP BladeSystems and HP servers running Linux gave NetBank a mixed HBA environment. The HP HBAs from QLogic for Linux include a failover feature built into the driver to provide multi-path software for redundant data paths. Just set it up and if one data path fails, the HBA will failover to the data path that is working. According to Flowers, "Our primary goal in adopting the SAN was to provide high availability, centralized management, and enterprise features that allow us to operate more efficiently. In this very competitive business, we cannot tolerate downtime. QLogic's failover driver for Linux is great, just set it up once and leave it alone, it just works."

Additionally, Flowers noted that QLogic's "Unified Driver" approach eliminated the need for firmware maintenance. The firmware is packaged along with the driver, reducing the number of components that need to be managed by NetBank's administrators. He noticed that the firmware upgrades of QLogic HBAs were not required unlike similar upgrades for the Emulex adapters. "The QLogic Unified Drivers are linked with firmware eliminating potential interoperability issues, simplifying the installation process and easing upgrades," he said, "I was able to upgrade the QLogic HBAs in half the time." The ease of use of the QLogic HBAs allows NetBank IT administrators to focus on improving applications that enhance bank services rather than doing HBA maintenance.

### The Adapter of Choice

QLogic has become the adapter of choice at NetBank. In fact, they are looking at standardizing all of the IT facilities on QLogic. Over the course of the past few months, Flowers and his colleagues have followed the suggestions of the QLogic engineers to nondisruptively replace the 2Gbps Emulex adapters with 4Gbps QLogic HBAs throughout the primary storage environment. This process also allowed Flowers and his team to begin upgrading existing 2Gbps QLogic HBAs with faster 4Gbps models for faster performance and greater availability.

*"The QLogic HBAs provide our employees with uninterrupted access to data for their work, including staying abreast of regulatory compliance requirements and providing cutting-edge services to our customers."*

— Jeffrey Flowers, Manager of Systems Engineering and Storage Administrator, NetBank

Flowers observed also that QLogic engineers understood how important adapters are to financial institutions. “In our conversations with QLogic engineers, they provided us with a blueprint for switching out the Emulex adapters without disrupting our operations—and also showed us how we could gain faster access to information as well,” he said.

**NetBank Challenge/QLogic Solution**

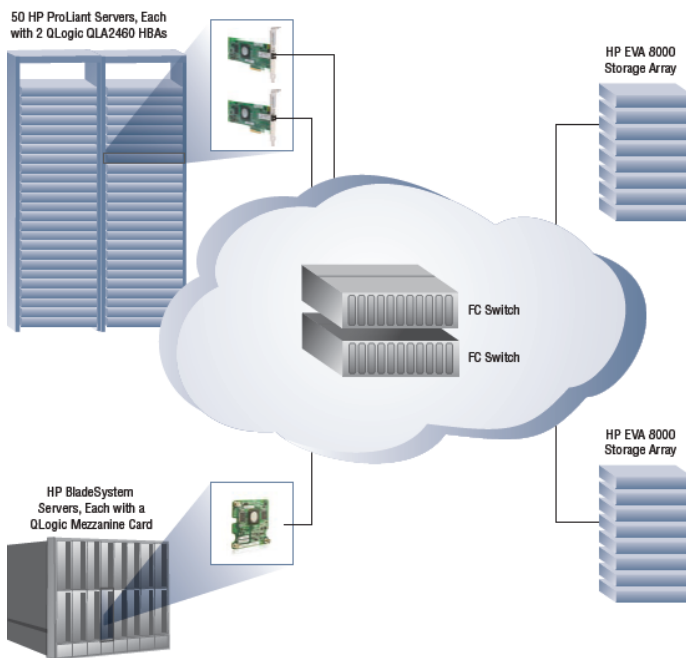
“The replacement process required almost no outside assistance because QLogic HBA installation is a plug-and-play procedure,” Flowers said. “Whenever we bring down a server with Emulex adapters, we simply install the faster, more reliable and scalable 4Gb QLogic adapters. During this process, using QLogic’s single-click install process makes the transition absolutely painless.”

“The HBAs from QLogic helped NetBank ensure uninterrupted data access for key operations,” explained Flowers. “And in our business, which is largely defined by regulatory mandates and customer requirements, there really is no margin for error. With the QLogic HBAs sold through HP, we meet these challenges with ease.”

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The QLA®2460, a single-port 4Gbps Fibre Channel to PCX 2.0 266-MHz HBA, provides new intelligent storage features that redefine enterprise-class HBAs, providing increased data protection, advanced frame routing, and enterprise-wide management capabilities. Key Features of QLogic’s QLA2460 HBA

- Intelligent interleaved DMA (iiDMA) ensures maximum utilization of data links in mixed-speed SAN environments
- Virtualization-ready Multi-ID and N\_Port support allow physical ports to be part of multiple logical networks
- Operating system driver support includes Windows, Linux, Sun® Solaris®, VMware, NetWare, and Apple® Mac OS
- Overlapping protection domains provide continuous protection for internal data paths
- Universal boot support manages multiple hardware platforms and boot options
- Enhanced link and transceiver diagnostics enable to monitor the health of HBA proactively



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