



CASE STUDY

DigitalFilm Tree

QLogic® 9000 Directs an Ensemble Cast of Postproduction Systems

Challenge

Build a storage area network (SAN) to consolidate the storage for multiple, data-intensive video-editing applications running on multiple operating systems.

Solution

One QLogic® 9000 Fibre Channel switch manages a 40TB SAN, which includes 14 Apple® PowerMacs® running OS X®, six PCs running both Linux® and Microsoft® Windows®, and three SGI® Irix®-based workstations; two StorNext® FX metadata controllers, eight Apple Xserver® servers, and six Microsoft Windows XP render nodes for multiple postproduction software applications.

Results

The 128-port 4Gbps QLogic 9000 switch radically reduces project turnaround time by doubling throughput with high-definition and standard video formats in a pool of shared data—all without sacrificing the quality of postproduction work.



Using a mixed IT environment for postproduction creativity makes the high quality of DigitalFilm Tree (DFT) projects stand out in Hollywood. By employing numerous applications running on Apple OS X, Linux, Microsoft Windows and SGI Irix, DFT can select tools best suited for specific tasks, such as editing, compositing, special effects, and titles. As a result, the company attracts numerous high-profile postproduction projects. DFT film credits include Cold Mountain, Crank, and Napoleon Dynamite, and the company has been an integral part of the popular Scrubs television series.

“Not being religious about a particular platform has earned us a reputation for delivering superb results inside our post house,” said Ramy Katrib, CEO of DFT. “This reputation has also resulted in a substantial consulting business—major film and television studios rely on our expertise to get the most out of their own technology investments.”

While using multiple applications can provide the most polished results for film and video, this approach can be also time-consuming unless all the systems used for postproduction are linked for shared workflow. But until recently at DFT, said Katrib, many of these processes were slowed by the inability of company staff to work on the same project simultaneously.

Speed and more data call for switching star power

Fortunately for company editors and artists, DFT has created a shared workflow environment for some projects, such as assembling dailies—raw footage directors view and edit after filming—for the television production of Scrubs. In this editing setup, Apple desktops, laptops, storage, and applications access a shared 20TB storage pool managed by stackable 2Gbps QLogic 5200 Fibre Channel switches.

A similar collaborative environment for more complicated projects that need multiple applications would make DFT more competitive. “We wanted to get all of our applications running on other systems—such as Irix, Linux, and Windows—to share storage in the same way as the daily assembly environment,” Katrib said.



“But in order to provide everything from special effects to color correction required by motion pictures today, we needed switching power for the new 4K digital rates, where every 24 frames of footage can consist of more than 8,000 pixels. This called for more powerful switching in a new SAN.”

A powerful switch capable of managing 40TB of shared storage would be central to the new environment. This would allow DFT staffers to combine their efforts simultaneously in the mixed environment—as well as allow this work to be performed on files with 4K data rates, where one second of high-definition video can require as much 1.5GB of storage.

“Conventional wisdom says that managing high-definition video requires an expensive director-class switch with at least 100 nonblocking ports,” Katrib said. “To get nonblocking performance, we would have had to pay a quarter-million dollars—expensive even by Hollywood standards. And unlike QLogic, which has lengthy experience with film and video, other switch vendors did not seem to understand the challenges in the entertainment industry very well.”

QLogic lands another starring role

When Katrib learned that QLogic now offers a new 4Gbps stackable switch with the traffic handling capacity of many director-class switches, he immediately investigated the device. “Our past relationship with QLogic was exceptional—and we were eager to see if QLogic could provide us with the switch we needed for our new SAN,” he said.

Designed to the Core™ for Open Systems, the QLogic 9000 stackable chassis switch helps increase workflow efficiency in environments that rely on multiple applications and operating systems. With the capacity for up to 128 nonblocking ports in a single chassis, the switch provides multiple slots for a range of I/O interface blades, such as any mix of 4Gbps and 10Gbps Fibre Channel blades used for high-end applications.

“The QLogic 9000 is the backbone of our entire postproduction infrastructure. Throughput has easily doubled, and we have seen a corresponding increase in productivity and time savings. Outside our post house, this switch promises to be a key component in our consulting engagements where we help major film and television studios maximize their existing IT investments.”

— Ramy Katrib
CEO of DigitalFilm TreeC

The modular design of the QLogic 9000 can reduce storage costs by allowing other less expensive blade options, such as QLogic iSCSI Intelligent Storage Router I/O blades for applications that require less bandwidth than high-definition applications. The switch also accommodates future growth seamlessly. And with the HyperStack™ connection, which is achieved with four 200Gb dedicated backplane interconnects between chassis modules, DFT can connect another QLogic 9000 to support a total of 256 ports.

SAN-wide stability, which ensures continuous productivity, is provided by software tools included with the switch. “Enterprise Fabric Suite 2007™ provides comprehensive fabric management tools, and this lets editors and artists concentrate on post-production instead of spending time troubleshooting SAN problems,” Katrib said.

According to Katrib, the overall cost of the new QLogic switch is far less than competing director-class switches. “When we realized that we could have the switching power we needed at a third of the cost of a director-class switch, we immediately purchased a QLogic 9000.”

The QLogic 9000 greenlights shared workflow across systems

Thanks to the easy-to-use QLogic software tools, installation of the new switch was fast and nondisruptive. “It only took one of our staff members a couple of hours to get the switch running,” he said. “The switch just plugs right in and automatically discovers the paths to storage devices and workstations.”

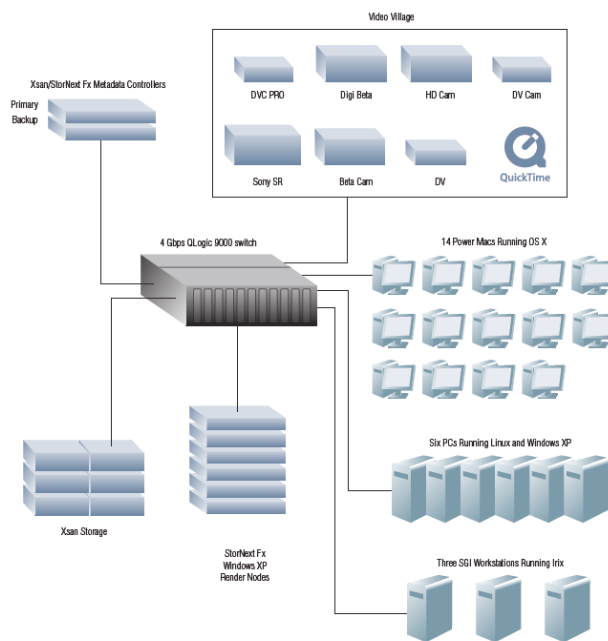
With the switch in place, DFT can now maximize the use of high-end applications in a shared and collaborative environment. Katrib said, “In our new SAN, we now have access to both speed and quality in our work. None of our staff needs to wait for other editors to finish work. For example, dailies can be captured with Apple tools—while at the same time effects are created on Irix systems and compositing work is done with Linux- and Windows-based applications.”

According to Katrib, substantially increased productivity and decreased costs are directly tied to the QLogic 9000. “The new QLogic switch has

easily doubled throughput—and we’ve seen a corresponding increase in productivity and time savings,” he said.

Katrib also believes the switch will lead to more consulting opportunities for DFT. “Outside our post house, this switch promises to be a key component in our consulting engagements where we help major film and television studios maximize their existing IT investments,” he said. “Our consulting clients come to us because we have real-world experience with the problems they face—and in the real world, companies of all kinds need to work with mixed IT environments. Hollywood may have a reputation for creating fantasies, and those fantasies are brought to the screen more efficiently with the QLogic 9000.”

QLogic 9000 provides nonblocking access to storage from multiple workstations



As seen in this illustration, the 9000 enables DigitalFilm Tree editors to work with various applications running on Apple, Irix, Linux, and Windows operating systems. The switch's 4Gbps Fibre Channel links allow multiple workstations to access uncompressed high-definition files in which one second of video can require as much as 1.5GB of storage.



Corporate Headquarters QLogic Corporation 26650 Aliso Viejo Parkway Aliso Viejo, CA 92656 949-389-6000 www.qlogic.com

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