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Success Story

Reel FX Creative Studios

Powering Up Production with SGI® InfiniteStorage NAS 2000

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– Scott Correll
IT Director
Reel FX

Recognizing the explosive trend of digital storage in the creative media industry, Silicon Graphics is addressing today's demands and will deliver the seamless upgrades of tomorrow with a simple concept: SGI® network-attached storage (NAS) today, SGI® CXFS™ Storage Area Network (SAN) tomorrow. For mid- to large-size post-production houses and animation and effects studios, this not only solves today's avalanche of data, it ensures easy, cost-effective expansion as their business grows.

A prime example is Reel FX Creative Studios, a Dallas, Texas-based 3D animation and visual effects studio experiencing phenomenal growth. Reel FX purchased one of the first SGI® InfiniteStorage NAS 2000 systems, which provides universal data access and flexible, scalable and secure high-performance networked-attached storage. Like many successful creative media studios, Reel FX was confronting the growing pains of the data explosion, pains most acutely felt when artists and animators need to access the same data simultaneously. Seeking an economical, IP-based networking and centralized storage solution with high-speed, simultaneous data access—regardless of operating system—Reel FX turned to Silicon Graphics, which delivered the only available solution that meets their current needs. And, as expected growth continues, the InfiniteStorage solution from SGI can cost-effectively expand to increase network bandwidth, adding hundreds of terabytes of data. The SGI NAS solution is also capable of growing into a full SAN with SGI® InfiniteStorage Shared Filesystem CXFS, which combines the flexibility and ease of use of NAS with the power and speed of SAN architecture, with no data conversion necessary.

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"We have grown by leaps and bounds in the last year," says Scott Correll, IT director, Reel FX. "Our render farm went from 20 machines to 100 and our desktops went from about 25 to 54. Our suites have gone from three to five. Our major problems were throughput, loss of data—just a multitude of problems. It's been painful. We tried IDE and SCSI RAID, Windows RAID, and NAS and SAN units from a couple of companies, but nothing was designed the way we work, which is very similar to the way a lot of facilities work. Then we started talking to SGI and we found that SGI NAS 2000 was designed the way we work."

The SGI InfiniteStorage NAS 2000 at Reel FX currently comprises a 4TB SGI® TP9300 storage system based on technology developed by LSI Logic Storage Systems, Inc. and an SGI® Origin® 350 server, with four Gigabit Ethernet cards feeding an increasingly typical multiple-platform media facility. At Reel FX, SGI Infinite Storage NAS 2000 transparently integrates with a large number of Linux®, IRIX®, Mac OS® X and Windows® animation, rendering, audio production, client proofing, and video editing and compositing seats. Because of the superior bandwidth and performance of the SGI InfiniteStorage NAS 2000, Reel FX artists and animators using any operating system can access the same files at the same time on the same network, with no file copying necessary.

The NAS 2000 leverages hardware designed from the ground up with heterogeneous high-availability in mind. The XFS® 64-bit journaled filesystem ensures fast recovery of large media files and guaranteed rate I/O. With features such as redundant power supplies, cooling fans, and RAID 5 data protection, there is no loss of data. To further ensure reliability and accessibility of information, Reel FX purchased SnapShot, which allows a facility to recover files mistakenly deleted between scheduled system backups. Whether due to application or user error, SnapShot ensures recovery under all circumstances.

With 61 employees, Dallas-based Reel FX's workload, using SGI Infinite Storage NAS 2000, includes the recently finished effects and compositing for the NBC movie Saving Jessica Lynch (which aired Nov. 9, 2003). Their Christmas rush included a direct-to-DVD G.I. Joe feature, and effects for several feature films as well as a movie for the Disney Channel and a television show called Dream Hackers for the Sci-Fi Channel. At the same time, Reel FX was working on 24 television commercials, including heavily animated Hasbro spots for Nerf, Transformers, Super-Soaker, and My Little Pony.

"The main problems that we had before were speed and stability. Whenever you weren't in the heat of battle, everything was fine. But when you're going 24 hours a day, everybody is hitting the server, and all the render farm machines are hitting the server, it would just completely bog down," said Dale Carman, Chief Visioneer of Reel FX. Carman is a lead animator and director of the as-yet unnamed direct-to-DVD G.I. Joe movie—the second the company has produced. "Because nothing we'd looked at had the bandwidth and performance we needed, we had pretty much resigned ourselves to the fact that we would have to segment up the work, which means that everyone cannot access the same files at the same time. It means you have multiple servers that just copy things over. Now, this is a huge workflow issue. We rarely have the luxury of time on our side, to have data in such a finished form that we can move it over to somewhere else and have it be current, because things change so frequently. Our experience with the SGI NAS 2000, so far, has been: we can't make it slow down. It's been able to handle all of it, everybody going at it, full force."

According to Carman, recent perform-ance testing shows SGI NAS 2000 deliv-ers throughput and Reel FX is seeing a 20 to 25 percent improvement over their old servers. "We tried a lot of different solu-tions, and it just seemed like everything we tried didn't have the bandwidth and performance power to handle the intense pounding we were giving it. Now, SGI NAS is handling all of the transactions, and we're getting about a 25 percent improvement," he added, "but it's a sus-tained improvement, which is even more valuable."

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Correll noted the significant change in data access speed to the server, adding, "Before the SGI NAS 2000, we would render to the server and work would come to a complete halt. It would take literally minutes just to browse the directory. Now, you don't even know that it's rendering. It's amazing. Plus, storage capacity was expandable beyond anything we could ever possibly need. We expect we'll be able to stick with this for many, many years to come."

Reel FX, which almost doubled its workload over the last year, expects to expand as new ad agency and movie effects contracts are awarded. A key part of its purchasing decision was the ability to use all existing SGI NAS 2000 hardware and software as a stepping stone to seamlessly upgrade to a heterogeneous SGI SAN with Fibre Channel and SGI CXFS shared filesystem software.

"To my knowledge, SGI has the only system that when you add multiple servers to the SAN, they all are able to see the data individually—they can all see every bit of the data," added Correll. The SGI SAN upgrade option turns SGI NAS 2000 into a powerful NAS/SAN gateway, allowing a facility to centrally manage a single shared pool of data simultaneously accessible by NAS clients and heterogeneous SAN clients, regardless of operating system, because the storage appears direct attached to each server. The SGI SAN upgrade delivers ultimate flexibility and the best of both NAS and SAN architecture.

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Corporate Office	North America 1 (800) 800.7441
1500 Crittenden Lane	Latin America (52)5267.1300
Mountain View, CA 94043	Europe (44)118.925.75.00
(650) 960-1980	Japan (81)3.5488.1811
www.sgi.com	Asia Pacific (67)6771.0290