

www.datadirectnet.com



Digital Intermediate (DI) Infrastructure
Foundation for Post-Production Services

www.datadirectnet.com

Challenge

RIOT required a very high-performance, highly flexible and highly-scalable storage system that enabled interactive, interactive multi-user access to HD and 2K DI resolution DI content.

Application

High-performance and scalable storage enabling shared file system-based digital intermediate (DI) post-production workflow.

RIOT selected DataDirect S2A-based storage system as it provided:

- Unmatched performance scalability—alternative approaches showed performance degradation in face of concurrent user access to HD/2K content
- Out-of-the-box support for broad range of shared file systems
- Ease of deployment and management

RIOT Leverages DataDirect Networks Silicon Storage Appliance to Enable Highly Efficient and Collaborative DI Workflow Generation DVD Compression and Authoring

RIOT is a bi-coastal digital studio providing creative visual effects, animation, telecine and post-production services for all forms of visual media. RIOT employs a team of world class artists, complemented with proprietary virtual tools that provide a work environment that creates a level of freedom never before experienced.

RIOT's work spans advertising, television and feature films and the studio has won numerous awards in all these mediums; including an Academy Award, Emmy Awards and Clio's. Its clients include top advertising agencies such as BBDO, Crispin Porter Bogusky, TBWA/Chiat Day and Wieden & Kennedy. Selected episodic credits include The Sopranos, Deadwood, Cold Case, and Prison Break. RIOT has digital studios in Los Angeles, New York, and Atlanta.

Leveraging recent advances in technology allowing post-production workflows to be quicker, and more flexible, practical and convenient, RIOT recently selected SGI's RM660 as the primary storage to support their digital intermediate workflow. The SGI RM660, based on DataDirect Networks' field proven S2A (Silicon Storage Appliance) 8500 storage solution, enables real-time processing in 2K and HD application environments. In an environment requiring very high speed data movement, from 200MB to 1.2GB for every second per stream, RIOT relies on DataDirect Silicon Storage technology to provide advanced performance and agility.

"We regard our digital intermediate infrastructure as a critical business asset," said Robb Cadzow, Chief Engineer at RIOT. "Use of DataDirect Networks Silicon Storage technology in our new DI environment will allow highly improved quality and productivity for video post-production."

Streamlined, Highly-Productive DI Workflows Using S2A8500

The main task of a RIOT's DI infrastructure is to move digital film images between various pieces

of equipment in the DI facility. As high-resolution image files predominate, film sequences require extremely large amounts of data. To maintain the required performance level, the storage system must continuously handle data at the required rate while scaling to support concurrent read and write access from multiple users and applications. Therefore, choosing the correct storage infrastructure was imperative for RIOT.

In comparison, DataDirect's S2A solutions easily scale to supporting concurrent multi-user access while removing the infrastructure challenges in the way of high performance and reliable end-to-end delivery of DI data.

"We found the DataDirect S2A 8500's unique architecture and optimized support for shared file systems allowed not just high concurrency but also equal read and write performance. These unique capabilities delivered on all counts, allowing support of up to two 2K streams of real-time reads and one stream of real-time write along with several streams of real-time HD," says RIOT's Cadzow.

DataDirect S2A: Accelerating the Shift to All-Digital Post-Production

Use of DDN's S2A storage technology brings the promise of high performance SANs to high-end studios like RIOT with minimal time required for installation. With exceptionally high system resiliency, the S2A allows studios to scale storage with high performance Fibre Channel disk storage. The S2A architecture simplifies performance, management and availability enabling RIOT to lower initial and ongoing IT equipment costs, reduce management burden, and accelerate its collaborative workflow process. With DDN's S2A storage solutions, RIOT can safely and easily accelerate and scale real-time 2K and HD digital intermediate workflow and data consolidation.

RIOT has initially installed 18.6 TB of raw capacity used as shared storage between the studio's



Case Study

Thomson Spirit 2K telecine, Da Vinci color correction system, AutoDesk Fire editing system, Flame compositing and Inferno visual effects suites. This allows RIOT to easily scale their bandwidth and capacity needs as they grow, while empowering real-time collaborative workflow throughout their digital post-production process.

RIOT found SGI® RM660 based on DataDirect's S2A technology to be the ideal storage solution for high throughput, high capacity and multiple operating system environments found in today's digital intermediate and post production environments.

"We chose the SGI® RM660 after considerable due diligence to find a storage solution that would meet our scalable, extremely fast throughput and high availability requirements," said Robb Cadzow, Chief Engineer at RIOT. "Its architecture, based on DDN's S2A technology, has broad industry support and enables a wide range of shared and parallel file systems that allow us to utilize the many types of workstations and applications to create in real-time regardless of file format."

"The industry proven S2A storage system, integrated into high performance solutions like SGI's RM660, is helping to accelerate the industry's shift to an all digital environment, enabling true real-time collaboration and the inevitable transition from 2k (2048x1080) to 4k (4096x2160) digital intermediate workflow," concluded Cadzow.

DataDirect Networks Silicon Storage Appliance (S2A) technology facilitates the deployment of a single, high performance, integrated storage solution. This enables you to focus on application requirements rather than technology, while ensuring that your storage network will be capable of seamlessly supporting your long-term storage needs.

DataDirect S2A storage systems function as a high performance engine that simultaneously support Fibre Channel storage area networks (SAN) and network-attached storage (NAS). The S2A consolidates and fully

integrates a parallel, non-blocking architecture with SAN functionality in one simple, easy to use intelligent device. The S2A system delivers high performance, highly reliable storage solutions that are easy to install, easy to scale and easy to manage. The S2A's unique architecture and consolidated functionality removes the complexity, congestion, latency and contention of generic RAID systems delivering very high performance with dramatically lower total cost of ownership and improved return on IT investments:

Fibre Channel and Infiniband SANs have become the de facto standard for storage networking in high performance computing centers, providing significant advantages over direct-attached storage through improved storage utilization, higher data availability, reduced management costs, and highly scalable capacity and performance.

NAS has become synonymous with reliability and simplicity. Originally deployed in data sharing environments, NAS solutions have become a preferred solution for enterprise applications and environments where automated performance tuning and sophisticated data management capabilities can reduce costs, improve data availability, and simplify operations.



DataDirect Networks is the leading provider of scalable storage systems for performance and capacity drive applications. DataDirect's S2A (Silicon Storage Appliance) architecture enables modern applications such as video streaming, content delivery, modeling and simulation, backup and archiving, cluster and supercomputing, and real-time collaborative workflows, that are driving the explosive demand for storage performance and capacity. DataDirect's S2A technology and solutions solve today's most challenging storage requirements, including providing shared, high-speed access to a common pool of data, minimizing data center footprints and storage costs for massive archives, reducing simulation computational times, and capturing and serving massive amounts of digital content.

Major corporations, supercomputing centers and rich media organizations, including AOL, Ascent Media, Autodesk, Boeing, CNN, Disney, Federal Reserve Board, FedEx, Ford, Hess, Kodak Gallery, Lawrence Livermore National Laboratories, NASA Ames, RIOT, Sandia National Laboratories, Sony, Technicolor, Time Warner, Thomson, Universal, and Veritas DGC, utilize DataDirect Networks high performance, high capacity solutions.

DataDirect
NETWORKS
Performance. Capacity. Innovation.

9351 Deering Avenue . Chatsworth . California 91311
phone +1.800.TERABYTE (837.2298) . fax +1.818.700.7601
sales@datadirectnet.com
www.datadirectnet.com