SUCCESS STORY

Delivering Unbreakable Creative Content – Faster, Better, More Affordable

"By adding Vmirror™ to our Apple Xserve and Xserve RAID, we were able to replace our existing mid-range server and storage with an alternative that is faster, easier to maintain, and costs much less – while also raising our overall levels of data availability and protection."

KEVIN HARRISON, Director of IT, The Richards Group

KEY HIGHLIGHTS

Location: Dallas, Texas

Industry: Advertising

The Challenge

- Replace existing mid-range server and storage systems with more cost-effective alternative
- Protect creative content against unexpected loss or outage
- Minimize downtime
- Maintain performance needed to support 150 content creators and designers

Vmirror Benefits

- Improved data protection and availability levels
- Higher performance from more cost-effective system platform
- Simple, centralized administration and less complexity
- Greater deployment flexibility with ability to add local disaster recovery capability

The Customer

Starting 30 years ago in a garage with a single employee, The Richards Group (TRG) has grown into a powerhouse, full-service advertising agency of national prominence, boasting a staff of over 700 people and annual billings approaching $1.25 billion. Stan Richards, the company principal and founder, has been featured in the *Wall Street Journal, Adweek,* and *Inc. Magazine* and has been nationally recognized for communications and creative work that has placed him in the Art Director Hall of Fame with Ted Turner, Walt Disney, and Andy Warhol.

Based on strengths in branding and creative work, TRG has developed a diverse base of national and international clients that include Comcast, CompUSA, The Home Depot, Hyundai Motors, Motel 6, Nortel, Raytheon, and Reliant Energy.

The Challenge: Faster, Better, More Affordable

Faced with the needs of a growing agency and a self-imposed goal of improving overall data protection levels, Director of IT Kevin Harrison and Sam Carvalho, IT manager, began to research alternatives to improve or replace their mid-range server and storage system. The existing system had served the needs of the company for several years, and the time was quickly approaching when either an upgrade or replacement would be required.

Performance and Scalability. High performance was a key requirement for TRG's server and storage solution, because it directly affects the productivity of 150 graphic designers, art directors, and photo retouchers, of whom 50 to 75 are online at any single time. The

system has been organized to serve two organizations that place large demands on the storage system for the reading and writing of large files, while also requiring significant storage capacity. The two groups, known as Color by Numbers and Creative groups, perform photographic retouching and color correction, and develop high-resolution print ads, respectively. Because both groups regularly create and edit large graphics and photo files of 1GB-3GB in size using storage-consumptive applications like Adobe® Photoshop® and In-Design®, storage system performance and capacity expansion were among the primary considerations for any solution that Kevin and Sam would select.

Figure 1. Vmirror Flexibility. Vmirror engines can be clustered over a Fibre Channel connection whether in a single enclosure or at distance. Single engine appliances may be located in separate physical locations and connected via FC link, creating a single, logical appliance to mirror over distance for disaster recovery applications.

Data Protection and Availability. For an agency of TRG's size, data protection and system uptime are essential for meeting client requirements. Loss of data stands to adversely affect projects needed for client events or marketing campaigns. Communication media and the competitive nature of advertising have reduced the turnaround window for advertising content, particularly in response to competition.

To protect against data loss, TRG performed both full and incremental backups of its Color by Numbers and Creative group data on a regular basis. With the next system, Kevin and Sam decided to increase data protection by adding mirroring in addition to regular backup, with an ultimate goal of creating a full disaster recovery solution with redundant systems in two different locations. In case of outage at one location, operations would be able to continue unimpeded from computing resources and data at the alternate site.

Affordability. Why not simply upgrade rather than replace the existing TRG solution? Cost was a big factor. Mid-range system and storage solutions represent major capital investments and also require substantial operating expenditures for system management, service, and support. Furthermore, adding mirroring and disaster recovery promised to increase operating and capital expenditures by as much as 3-4 times over the existing solution.

Thus, the TRG IT staff investigated avenues including upgrade options, Network Attached Storage (NAS), and Apple-based alternatives.

The Solution: Faster, More Flexible, High-Availability System at Lower Cost

Assessment of the alternatives did not take long, since advantages and disadvantages of each quickly became apparent.

Adding mirroring protection to the existing solution would require additional storage capacity, purchase of an identical storage array, and expensive replication software for each array. System performance would not improve unless the server was also upgraded. NAS was also examined, and while it offered improvements in manageability, its performance fell short of requirements. Apple, with excellent price/performance offerings in Xserve™ and Xserve™ RAID offered significant advantage over the other two alternatives, but only offered

mirroring software for data protection. Thus, Kevin Harrison was extremely receptive when his Apple sales representative told him that he could protect the Apple Xserve RAID with Vmirror, a high-availability SAN appliance from Vicom Systems.

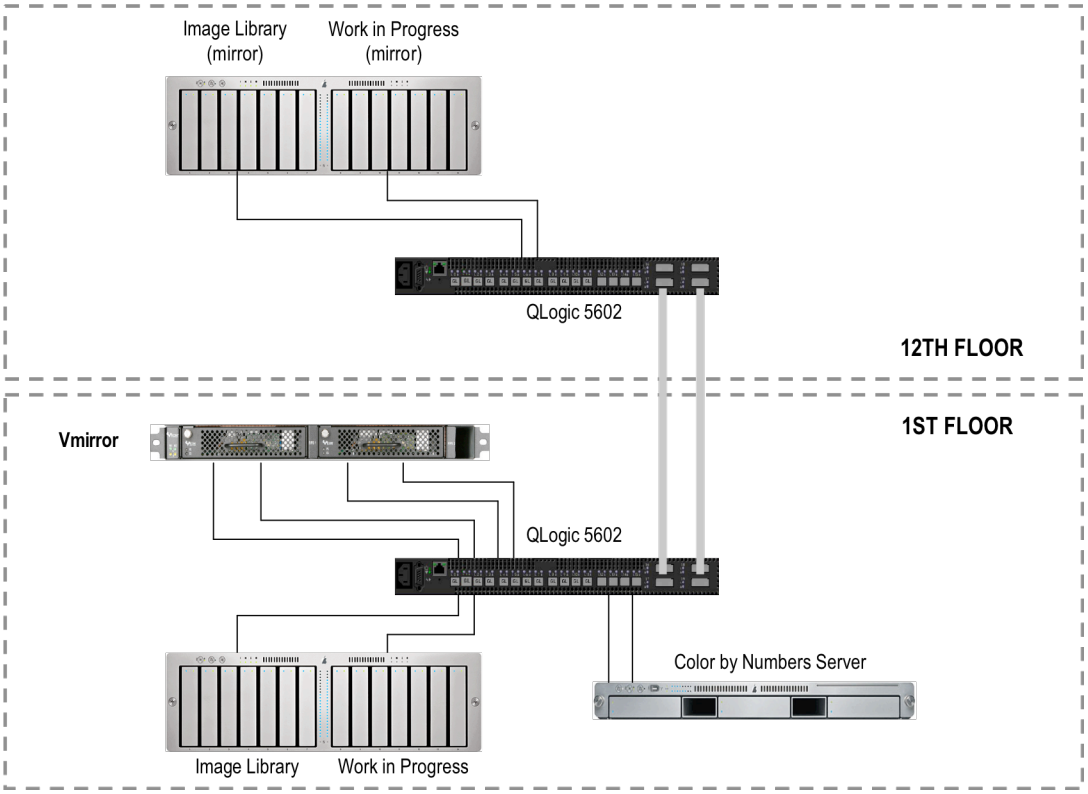
Vmirror is a purpose-built Fibre Channel appliance that transparently protects Xserve RAID data using high-performance hardware mirroring and delivers a sustained, rated throughput of 350 MB/second. A dual-engine Vmirror appliance creates high-availability Xserve RAID storage by providing two independent, active-active data paths into mirrored sets of Xserve RAID data. This redundant architecture ensures that no single component failure can introduce downtime or data loss, while also increasing performance by guaranteeing access to stored data. If a component fails, Vmirror's hardware logic instantly fails over to the alternate data path and storage without interrupting host operation.

The result: TRG users are able to access creative contents continuously, while stored contents are protected against unexpected failures of all key components on the data path, including switch, FC link, controller, HBA or disk.

Evaluation. After consulting Vicom sales and support engineers, Kevin Harrison invited Vicom to demonstrate Vmirror's capabilities in an in-use test at TRG for the Color by Numbers group. After more than two months of testing, Kevin Harrison was convinced – the Apple/Vmirror solution not only proved that it would provide continuous access and protection of stored data, but also delivered better performance than the incumbent solution. In addition, Kevin was especially impressed with Vmirror's trouble-free operation and easy management that eliminated multiple layers of software imposed by mirroring software. "Vmirror worked so well that it was kind of scary," said Kevin.

Solution. As shown in Figure 2, TRG's new server and storage solution consist of an Xserve G5 server and 14-drive Xserve RAID storage systems configured as RAID 5. To mirror each pair of Xserve RAID units, a dual-engine Vmirror appliance has been connected to the Xserve G5 host and Xserve RAID storage system via redundant QLogic 5602 switches with XPack Modules that connect the switches between two floors. Configuring the server, storage, Vmirror, and switches in this manner provides complete operational and data redundancy with continuous access to content produced by Color By Numbers and accessed by the Creative groups. To further protect contents, TRG also employs staged, network backups via additional Xserve RAID storage, backup server, and 2-hour data snapshots.

Figure 2. Color by Numbers Server and Storage Configuration

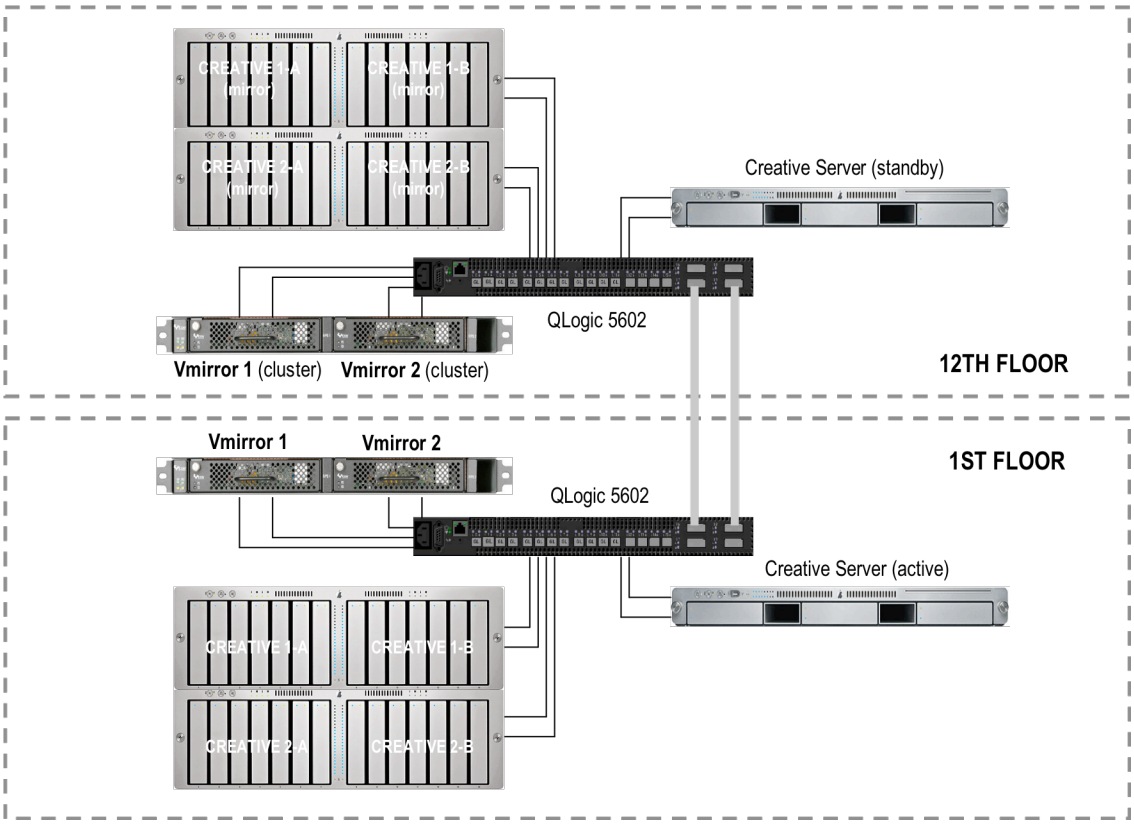


As shown in Figure 3, after initial success with Color by Numbers, TRG installed two additional Vmirror appliance, Xserve servers, and Xserve RAIDs for its Creative Group. In this configuration, TRG has installed a pair of clustered servers on separate floors in addition a dual, mirrored Xserve RAID to protect against outages caused by component or even catastrophic failure. Vmirror units provide automatic storage failover based on active-active logic, while failover for the active-passive server cluster is performed manually.

After several months of operating experience with the Creative infrastructure, TRG deployed a similar configuration of dual servers and mirrored storage systems for its pre-press group.

To provide a true disaster recovery capability in the future, TRG plans to physically separate server and storage in different buildings and mirror each of the systems using single-engine Vmirror appliances connected with an inter-building Fibre Channel link. Vmirror engines can be clustered at a distance using Fibre Channel and behave as a logical, dual-engine appliance when configured in this manner.

Figure 3. Creative Server and Storage Configuration



Business Benefits: Improved Business and IT Operations, Better ROI

TRG's encounter with the Vmirror/Apple solution was an exciting experience for Kevin Harrison and Sam Carvalho.

They had not only found a superior, more cost-effective computing and storage solution for the company, they had also added a new dimension of continuous access and data protection. Storage management has also been simplified, reducing demands on their time. With an eye on future disaster recovery enhancements, TRG's IT staff has put the company on a footing of assured business continuity with added advantages of lower cost of ownership.

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