

► Challenge

- Backing up individual devices was taking too much time and was becoming a major technical resource hog.
- Replace Bardel's DAS environment which was no longer meeting the company's increasing, more complex data requirements.
- Economical IP connectivity.
- Redeploy Bardel's existing storage.

► Solution

- Implementing an iSCSI IP-SAN solution after comparing with other software-based solutions and Network Attached Storage systems.
- Software-based solutions were excluded due to their lack of functionality and scalability.
- Whereas NAS systems were excluded because of their several hundred thousand dollar price tag.

► Benefits

- Provision and re-provision disk space to support the changing data requirements of projects.
- Create new data space on the fly, allowing Bardel to manage its approximately 24 terabyte capacity efficiently.
- Speed and ease of creating mirrored data without interrupting production and the ability to consolidate all storage management functions.

"We were experiencing storage hardware failures – enclosures, controllers, drives – that both interrupted production and were difficult and time-consuming to recover."

Jason Gray
IT MANAGER at BARDEL



SANRAD Takes Starring Role in Bardel Entertainment's IP SAN

Animation is among the world's oldest art forms, with rudimentary attempts to bring life to still pictures discovered on the walls of prehistoric caves. This primitive effort showed movement and aided in the tribal storyteller's ability to convey information to those around him in a new and entertaining way.

Bardel Entertainment Inc. is a Vancouver, Canada-based entertainment company involved in the acquisition, development, production and distribution of quality-animated programming for children and families. For more than 15 years, Bardel has provided traditional and digital animation services to the international market on feature films, television series, interactive media, commercials and web-based content. The studio has utilized its diverse production experience by combining various animation techniques to develop "hybrid" production pipelines, which gives it the ability to provide its clients with unique, cost-effective animation services.

Bardel's storage architecture was built on a software-based Direct Attached Storage configuration. The company found that backing up individual devices was taking too much time and was becoming a major technical resource hog. As the total storage capacity to support production efforts grew past the ability of its software-based solution, the need arose to find a system that could scale in capacity while efficiently managing the company's increasingly larger and more complex data requirements.

The company began looking for a solution that would allow for failover to secondary devices or volumes while maintaining configuration of access and user rights and permissions. It also wanted an open system that would allow it to continue using existing storage assets for cost-savings benefits.

Jason Jason Gray, IT Manager at Bardel looked at a number of different solutions, including several software-based solutions and Network Attached Storage systems. The former were excluded due to their lack of functionality and scalability, while the latter was dropped from consideration based on its several hundred thousand dollar price tag. Jason decided the best solution to fit Bardel's needs was an iSCSI-based IP SAN solution from SANRAD.

IP SANs allow a few to hundreds of servers to attach to an infinite number of storage volumes using iSCSI over TCP/IP networks. With IP-SANs, storage capacity can scale to hundreds of terabytes with any type and brand of storage system, allowing IT managers to choose the storage systems that best fit the performance and reliability needs of the organization, including different classes of storage. In addition, companies can use any type of network (10,100,1000) and combine operating systems (MS, Linux, HP-UX, Solaris, AIX, Netware) within the SAN network. IP SANs also include mechanisms for security, data replication, multi-pathing and high availability.

IP-SANs also enable businesses to use standard Ethernet equipment, NICs, tools and the knowledge base within their IT staff. Because the IP-SAN can use different grades of storage, it's easy to construct a SAN with primary, secondary and even tertiary storage.

"This storage-device independence allows us to maintain Fibre Channel connections where throughput matters most and use iSCSI for projects, user files, email and database functions," said Gray. "Storage device independence allows capacity growth on a wide range of disk types, taking advantage of performance improvements and cost reductions as needs and budget restrictions arise."

By implementing an iSCSI IP-SAN solution, Bardel was able to cut the cost of creating a storage network by as much as 70 percent over Fibre Channel alternatives. By using standard, economical IP connectivity, IP-SANs enable the pooling of storage to maximize resource utilization by up to 90 percent compared to only 30 percent with DAS solutions previously used. Data mirroring and storage failover services ensure complete data availability.

While hardware consolidation and storage pool virtualization reduces the time and effort required for full data protection, another motivating factor in searching out a new solution was the need to rapidly and reliably provision and re-provision disk space to support the development project portion of the Bardel environment. These projects require often-varying amounts of data for short durations. The iSCSI IP-SAN is able to create new data space on the fly, allowing Bardel to efficiently manage its approximately 24 terabytes of storage capacity while quickly and reliably supporting individual users or workgroups.

Among the unexpected benefits of implementing an iSCSI IP-SAN solution is the speed and ease of creating mirrored data without interrupting production – which Gray terms "almost live data expansion" – and the ability to consolidate all storage management functions.

"SANRAD's V-Switch has performed flawlessly since the straightforward and problem-free installation," said Gray. "It has freed staff time to address network problems and to schedule server/storage maintenance, such as technical refreshes and upgrades."

In the future, Gray intends to use the local asynchronous and global synchronous data replication features of its iSCSI IP-SAN to develop an offsite archive as part of a bonding requirement, which will also include journaling and archiving snapshots.

"The SANRAD product organizes us very well as part of our total business continuance and regulatory response programs," said Gray. "Anyone in film and video production who has a need for a 'lower-cost-but-still-high-performance' alternative to Fibre Channel SANs and to those who would benefit from consolidation of existing storage assets should consider the SANRAD product".