Storage and Backup Consolidation with Zero Backup Window

CASE STUDY

Building on two centuries' experience, Taylor & Francis is a leading international academic publisher. With offices around the globe, the Group publishes more than 700 journals and around 1,800 new books each year. Informing Academics from Past to Present.

The distributed servers with individual tape backups were showing their age. Backups involved manually moving large numbers of tapes each evening. The whole system was prone to human error. The amount of data was increasing and exerting pressure on the diminishing backup window.

Paul Messer, UK & Europe Network & Infrastructure Manager of Taylor and Francis, started to survey the market to determine what was possible. "These people kept coming in, putting a box on my desk and saying this is what you want. I didn't know what I wanted, so I have no idea how they knew."

"At our first meeting with Paul all he knew was that he wanted a SAN" said Richard Pain who managed the project.

The first requirement for all of us was to understand the existing infrastructure, performance, pain points and data. An analysis of the network was performed and critical areas identified.

The next stage was to educate Taylor and Francis about the technology and what could be achieved. At the same time they started to draw up their wish list – "We don't know if it is possible, but it would be really good if we could…"

Through this iterative process the aspirations were defined and a process put in place to develop a system to meet those aspirations.

The basic remit was to consolidate as far as possible, to reduce reliance on tape for backup (ideally eliminate it altogether) and to improve the performance and resilience of the system.

The primary operating system was Windows. The other

Summary

Problem

- Distributed systems
- Minimal Management
- Negligible resilience
- Poor utilisation

Solution

- Tiered storage
- SAN
- Centralised backup
- Point in Time Copies

Technology

- HP Servers
- LSI/StorageTek Primary Store
- Brocade FC Switches
- SATA Secondary Stores
- Overland LTO-2 Libraries
- StoreAge SVM
- BakBone NetVault

Benefits

- High availability
- High performance
- Disaster tolerant
- Reduced management
- Hourly SnapShots
- Zero Backup Window

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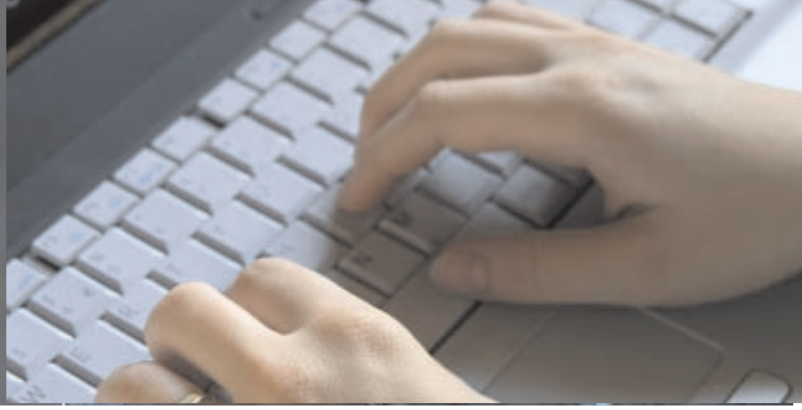

CASE STUDY

About Solution Centre

Solution Centre provides vendor agnostic services, consultancy and solutions to public, charity and commercial organisations.

The technologies centre on data availability and security.

We map technology to the business need and as we authorised by all major manufacturers in our field we can give independent and impartial advice from initial problem analysis, through solution definition, implementation to ongoing comprehensive support.

We understand that the technology we work with may not be mainstream to our customers and work with them to provide all the support they need.

operating systems that did exist were soon to be phased out, so they were not included in the project.

The solution was based on the LSI/StorageTek D280 disk system. This provides a very high performance, highly available system which is ideal for open system applications. A group of secondary stores were also deployed. These were based on SATA arrays. SATA is ideal for near line purposes, where I/O activity is not the prime concern. The system interconnect was 2Gbps fibre channel fabric using Brocade switches. The whole system was virtualised and managed with StoreAge SVM. We recommended retaining tape and suggested an Overland LTO-2 solution with BakBone NetVault software.

The StoreAge SVM introduces an abstraction layer between the physical storage and the presentation to the system manager. This permits pools of storage to be created across various storage platforms and allocated to the servers. Unlike most other virtualisation solutions, this is "out of band". Data access from each client is direct to the storage device so it introduces no performance degradation.

The SVM has premium features which include:
MultiView – is a snapshot copy application that creates multiple read/write point-in-time image copies of any virtualized volume on any storage device in a SAN

MultiCopy - is a data replication application that creates multiple read/write point-in-time physical copies of any virtualized volume on any storage device in a SAN

MultiMirror - offers enterprises an advanced Disaster Recovery solution via Asynchronous and Synchronous Mirroring, as well as Local and Remote Mirroring

Exchange Policy Manager – facilitates "best practices" for Exchange storage management by defining the policies, schedules and operations for the entire Exchange environment, and then automatically executes those best practices as directed.

Data was migrated from the direct attached storage on to the SAN and policies set up to take point in time copies of the data. Specific attention was paid to Exchange where using Exchange Policy Manager snapshots were taken on an hourly basis.

Selected snapshots could be mounted by the backup server (the snapshots are read/write and may be mounted by other servers). The snapshots could then be backed up to the virtual tape library on one of the SATA boxes and could be duplicated to tape as required. The bandwidth between two sites is to be increased; this will allow MultiMirror to copy volumes from the D280 to an offsite SATA array to provide a less capable, but very cost effective failover store.

Taylor and Francis were really excited by the power and flexibility of the solution and what it could do. They came up with many new ideas to help ease the support burden and improve data management.

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