

Millfield School Selects SANRAD V-STOR for its high availability and scalable storage infrastructure

MILLFIELD is a leading independent school based in Somerset, well known for its sporting excellence. Demand for network storage is growing exponentially as more work is completed online and with more media based projects being set. From screen recordings, podcasts, video files to music files all departments in the School are crying out for more and more storage. Millfield's IT managers recognized that its existing storage and backup infrastructure fell short of keeping up with this demand.

"We knew that in order to support the needs of students and staff, we would need to improve our storage network and we also wanted to guarantee availability of critical services" said James Farwell, Network Manager, Millfield School. "The inefficient storage capacity and low availability and complexity of our existing SAN simply did not have the ability and capacity to meet the requirements."

The Millfield School storage infrastructure was vulnerable to disaster due to single point of failure so there was a demand for a disaster recovery solution that ensures site failover and rapid resumption of application services. Additionally there was a need for a redundant architecture to help maximize the availability of critical applications. With the increasing amount of data, inefficient storage utilization and in order to prepare for rich media applications, there was a need to increase the storage capacity per user and improve storage management.

In addition to the above, Millfield's IT managers are under pressure to meet the requirements whilst maintaining cost effectiveness.

The Solution

Millfield evaluated several alternatives from multiple storage and virtualization vendors. Following a competitive bid process which included many "traditional" enterprise-level solutions, Millfield School decided to work with SANRAD business partner Insight to implement storage infrastructure based on SANRAD V-STOR. The V-STOR is a highly functional, highly available and scalable yet cost effective storage solution, which meets the storage and business continuity needs of Millfield School.

A clustered pair of SANRAD V-STOR storage arrays are deployed in two server rooms configured with SAS drives and allow for the



The Challenge

Upgrade storage capacity for data growth; Improve backup processes and reduce administrative efforts with reliable, highly-available storage and centralized storage management.

The Solution

Millfield deployed a clustered pair of SANRAD V-STOR storage arrays with storage virtualization support. The SANRAD, V-STOR SAN system uses mirrored volumes providing a no single point of failure storage infrastructure. Using the integration with Windows 2008 Failover Clustering, an end to end complete high availability architecture was achieved.

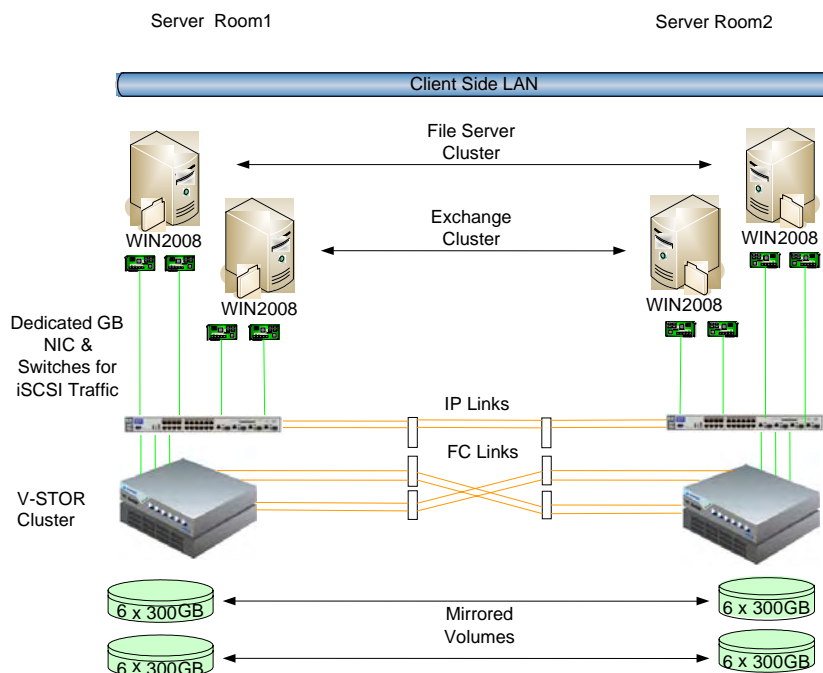
The Benefits

The SANRAD V-STOR enables a highly available and cost-effective scalable SAN, provides high storage utilization, and improve reliability and availability of data storage infrastructure. Centralized storage simplifies management and backup processes.

creation of mirrored volumes between the RAID chassis providing a no single-point-of-failure storage infrastructure.

The data paths use split iSCSI connections from the V-STORs, thereby creating a dual path configuration for the SAN traffic. The V-STORs are set up in a cluster and run in active-active mode with servers split between the V-STORs for load balancing. The V-STOR storage arrays use FC lines between the two server rooms for efficient synchronous replication. Mirrored volumes were created from the virtual storage pool for complete high availability between the two sites.

The following diagram describes the topology of the implemented solution.



The Benefits

A key benefit of the use of V-STOR's storage virtualization with iSCSI clustering technology is that during failover each and every connectivity parameter is transferred to the alternate site, this includes iSCSI target IPs, access security definitions, and even SCSI persistent reservations. Therefore, since all storage connectivity information has been transferred to the surviving V-STOR, there is zero interruption to service, and no IT intervention required. As the Windows 2008 secondary cluster node kicks in to action, it immediately reconnects to the data and continues servicing end users automatically.

SANRAD's V-STOR open storage virtualization enables the IT managers to allocate storage dynamically based on the changing demands of applications, yielding higher disk utilization. IT managers can dynamically grow and reuse capacity based on application needs. The increased storage capacity enables more data to be stored as demand expands. The successful implementation has provided satisfaction to the IT staff and has reduced overhead costs throughout the School.

All storage management, provisioning and monitoring functions such as volume creation, expansion, iSCSI target creation, security access control and email alerting is carried out from the central StoragePro management interface.

Last but not least, implementing the SANRAD V-STOR based solution exceeded the original objectives, came within the allocated budget and reduced the operational costs.

"The SANRAD V-STOR storage virtualization architecture has made a significant difference to the storage network capabilities", said James Farwell, "The School has greatly simplified its storage environment. It has improved performance, and sped up the process of allocating storage. School IT staff are confident the new system will easily scale to meet future needs as storage demands increase."