University of Denver Gains Seamless Storage Virtualization and Full Disaster Recovery in Cross-Campus Data Centers

"We needed to continue to bring new services online for the University and to remain fully functional in the event of a loss of an entire data center. SANRAD's storage virtualization and iSCSI connectivity solution clearly offered the best combination of enterprise-class reliability and low cost."

Ivan Fetch, IT Manager, University of Denver

The Customer

Ranked as one of the top 100 universities in the United States by Newsweek, the University of Denver prides itself on graduating students who make a difference in the world. Founded in 1864, when Denver was little more than an isolated outpost for gold miners, the University of Denver has grown to over 8000 students and faculty members today. Its rich history includes a tradition of innovative scholarship and community engagement. The University of Denver sets high standards of excellence not only in its academic programs but also in the quality of services it delivers to its constituents.

The Challenge

Bring new applications online, optimize storage virtualization, and maintain operations in the event of a data center loss

With over 200 servers, 2000 clients, growing data and applications, the University of Denver needed to upgrade its IT infrastructure with minimum disruption to its operations.

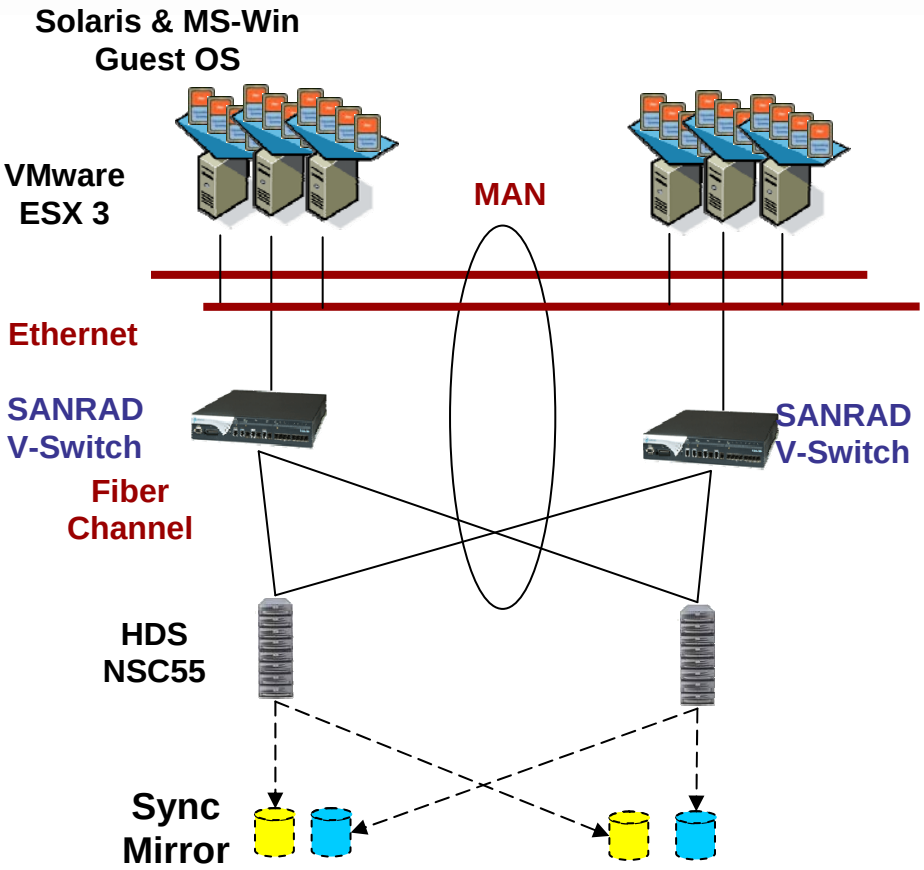
Given this demanding environment and new server virtualization projects, it could not afford downtime in backup, data migration, and implementing disaster recovery. Another key driver was its limited budget which required an economical yet robust solution.

The environment consisted of SUN servers and VMware. However "while VMware supports clustering and SAN connectivity we needed a way to have our VMFS volumes mirrored as we mirror our existing SUN campus clusters." The University required a real-time solution which would provide mirroring without having a single point of failure.

The Solution

iSCSI, Replication, and Virtualization

The University of Denver evaluated several alternatives from multiple storage and virtualization vendors. Ivan felt that "SANRAD provided our VMware environment with the same level of access to storage which our existing campus clusters enjoy. Open architecture, clusterability, powerful mirroring and disaster recovery without user intervention, quality customer service, and the ability to fit our budget made SANRAD the obvious choice for our project." SANRAD's V-Switch solution extended the University's high- availability SAN to VMware servers by providing mirroring, clustered iSCSI between two data centers, including both FC and iSCSI multipathing.



The Benefits

Full protection from data center loss and ability to bring up new applications seamlessly

As a result the University has successfully VMotioned virtual machines to their first data center while shutting down the second. The University also removed one storage array and SANRAD V-Switch, without impacting the virtual machines. Once the second data center was back online, the V-Switches were instructed through SANRAD's easy management console to resynchronize their mirrors with the second storage array. In a few simple steps, the University gained full redundancy. The University now has comprehensive enterprise-class protection in the event of a data center loss.

With SANRAD, the University can continue to scale their solution as their needs grow:

- Extending replication to remote data centers
- Replication software on the SANRAD switch eliminates the need for costly software on each server and pain of administering all the licenses
- Seamlessly add storage arrays from any storage vendor
- Support for the best of both worlds: Fibre Channel and iSCSI SAN

