



KEY HIGHLIGHTS

INDUSTRY: EDUCATION



CHALLENGE

Provide high availability & effective disaster recovery across geographically separated data centers

SOLUTION

VMware Infrastructure 3 combined with LeftHand Networks open iSCSI SAN powered by SAN/iQ® to offer synchronous, automated business continuity

VMWARE AT WORK

VMware Infrastructure 3 Enterprise, featuring:

- ESX Server 3 with VMFS
- VirtualCenter 2
- VMware VMotion®
- VMware Distributed Resource Scheduler (DRS)
- VMware High Availability (HA)

LeftHand Networks open iSCSI SAN, featuring:

- SAN/iQ storage software platform
- SAN/iQ Network RAID
- SAN/iQ Multi-Site SAN

DEPLOYMENT ENVIRONMENT

- VMware Servers: HP ProLiant DL580 G4
- SAN/iQ Servers: HP ProLiant DL320s
- Guest operating systems: Windows Server 2003
- Applications: Security applications including Symantec Antivirus, Web servers, LAN Desktop

“We had an environmental power outage that took out one of our data sites. Thanks to VMware High Availability and LeftHand Networks’ open iSCSI SAN, there was almost zero downtime before our servers failed over to our other site. No one even noticed—it was business as usual.”

Jimmy Reid

Director of Technical Operations, University of Maryland School of Medicine

University of Maryland School of Medicine

The fifth oldest medical school in the United States, the University of Maryland School of Medicine was established in 1807. On the University of Maryland, Baltimore campus, the School of Medicine serves as the foundation for a large academic health center that combines medical education, biomedical research, patient care and community service.

The School of Medicine’s IT department had prior experience with VMware technology as a way to virtualize and consolidate its servers; however, it soon realized that VMware solutions could also effectively address their disaster recovery needs when combined with a storage solution from LeftHand Networks. “We were attracted to LeftHand’s Multi-Site SAN architecture, which shared storage functionality to be spread out across multiple sites,” says Jimmy Reid, director of technical operations at the School of Medicine.

Working with Maryland-based systems integrator System Source, the School of Medicine was able to design and deploy a complete VMware/LeftHand solution. Now, the School of Medicine has two of its eight server rooms—located six blocks apart from one another—doubling as storage sites with LeftHand open iSCSI SANs. These storage modules appear as one common SAN to the attached VMware servers, allowing automated failover across two separate data center locations. “The two technologies really work together beautifully,” says Reid.

Results

- **Reduced unexpected downtime from hours to seconds.** “VMware’s High Availability feature continuously monitors all physical servers in a resource pool and intelligently restarts virtual machines affected by server failure,” says Reid. “As a result, when we had a power outage affect one of our sites, the combined solution detected a failure within 15 seconds and restarted the virtual machines within a minute—as opposed to the several hours that would be needed for an administrator to physically go to the site and bring the servers online.”
- **Saved thousands of dollars in hardware costs.** “A lot of the new applications and servers that we deploy are going to be virtualized on to our VMware cluster and shared via our LeftHand SAN, at a fraction of the cost of high-end alternatives,” says Reid. “That is going to save us thousands of dollars in hardware costs in the coming months.”