

HP LeftHand SANs help University of Florida housing department reduce storage costs while improving availability



“From a disaster recovery perspective, HP LeftHand SANs get us closer to our goal of zero downtime, so that our students and staff never experience loss of access to their data and applications.”

– Matt Pendleton, Systems and Network Administrator, University of Florida

Industry: Education

Solution: HP LeftHand SANs

Objective:

Upgrade server and storage infrastructure to increase capacity, availability and disaster tolerance – while reducing downtime

Approach:

Deploy HP LeftHand SANs

Business technology improvements:

- Enhanced storage capacity, flexibility and scalability
- Ability to grow storage volumes “on the fly,” without disrupting Microsoft Windows operation
- HP LeftHand SANs and VMware technologies work together seamlessly; provide for virtual servers and storage and improved utilization
- Fast, simple add-ons of storage capacity as needed

Business outcomes:

- Increased storage capacity and capacity utilization to support department growth
- Savings in storage cost due to flexibility and ease of expansion
- Trouble-free operation reduces staff work load
- “Set it and forget about it” storage allows focus on other tasks

Reliable data environment holds keys to campus housing

Founded in 1853, University of Florida (UF) is now the nation’s fourth-largest university. Enrolling approximately 50,000 students annually, UF has more than 900 buildings spread throughout a 2,000-acre campus. UF residence halls have a total capacity of some 8,500 students, and five family-residence villages house more than 1,900 married and graduate students.

Within UF’s Division of Student Affairs, the Department of Housing and Residence Education is responsible for keeping track of these buildings and the people who live in them. Historically, the department had used direct-attached storage to manage its data; but when the department nearly doubled in size, due to a university reorganization, it was clear that they needed a new approach.

“More than just solving our storage problem, we wanted to drastically reduce downtime and create more redundancy in the system,” says Matt Pendleton, a systems and network administrator at UF. “It was really important for us to achieve less than one hour of downtime per year, and we knew we couldn’t do it with direct-attached storage in a Microsoft® Windows® environment, because that’s not the preferred method of clustering for Microsoft.”

Growing right along with Gator Nation’s storage needs

UF evaluated several storage area network (SAN) vendors, and in the end it was clear that only the HP solution fit the bill. “What really sold us was the ability of HP LeftHand SANs to grow volumes on the fly without disrupting Windows,” said Pendleton. “We don’t know how many files we will need to store in the future, so HP LeftHand SANs give us the capability to be flexible with our storage.

Customer solution at a glance

Storage for mission-critical applications running in a VMware virtualized environment on HP LeftHand SANs

Primary hardware

- 4 HP ProLiant DL360 G5 Servers for Windows Server
- 3 HP ProLiant DL360 and 2 DL380 G5 Servers for VMware
- HP LeftHand SANs on 6 HP ProLiant DL320s Storage Servers

Primary software

- HP SAN/iQ Software
- VMware ESX Server 3.5 and ESXi
- Microsoft Windows Server 2003/2008, Enterprise and Standard Editions
- Microsoft Exchange Server 2003
- Microsoft SQL Server 2005, Standard Edition

Why HP?

- Flexibility and scalability of HP LeftHand SANs
- Ability to grow volumes without disrupting Windows
- Seamless integration with VMware technology
- Long-term user of HP technology
- Combination of cost, functionality and ease of management of HP P4000 SAN

“Before, if you filled up a storage volume you had set at 100 gigabytes [GB], you would have to build a whole new volume to get more storage. With the HP LeftHand SANs, I just go to the Centralized Management Console and tell the software to add another 50 GB to the volume – and it just does it, without having to take anything off line.”

The HP LeftHand SANs have a total capacity of 16 terabytes (TB). “We treat it as 8 TB usable space,” explains Pendleton, “because we write all data two times, using the built-in Remote Copy and replication capability. The software lets you write data 1x, 2x or 3x for different levels of data protection. With replication, the HP LeftHand SAN Solution backs itself up. We have a Campus SAN topology, with six HP ProLiant DL320s Storage Servers, three in one location and three in another location in an active/active set-up. It all looks like one SAN to the applications, but having it stretched across two sites means a higher level of data protection and availability.”

The Snapshots feature built into HP LeftHand SANs provides an additional level of disaster tolerance by creating point-in-time snapshots of designated volumes, making restores fast and simple. Snapshots also improve capacity utilization by reducing storage capacity used by backups. In addition, the distributed clustered architecture of HP LeftHand SANs provides superior data availability compared to traditional SAN technology.

The HP LeftHand SANs support the department’s primary applications, including VMware, Windows Clustered File Server, Microsoft Exchange and, increasingly, Clustered Microsoft SQL Server. All the applications the SAN supports run on HP ProLiant servers, including seven DL360 G5 and two DL380 G5 servers.

Virtualized HP solution earns top grades in economics

Just as importantly, the HP LeftHand SAN Solution provides a foundation for the department’s server virtualization efforts, which helped to create a more redundant system. “We virtualized more than 25

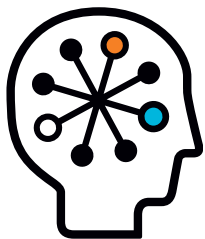
of our mission critical servers using the VMware Infrastructure 3 platform,” said Pendleton. “HP LeftHand SANs are optimized for virtual environments; so, having them on the back end for storage allows us to take advantage of advanced VMware features like VMotion and High Availability. That combination of functionality reduces downtime – and helps keep our systems up and running across multiple data center sites, so that we can see the department through any type of disaster.”

Reviewing the varied benefits of the HP LeftHand SAN Solution, Pendleton concludes: “It’s definitely saving us money in terms of not having to purchase more storage than we need, since it can grow volumes so quickly and effortlessly. It’s also saving us work-hours, because we don’t have to dedicate overtime to fixing something that goes down at night. We have full confidence that our HP LeftHand SANs will be up – as a result, we can ‘set it and forget about it’ and focus on other tasks in the department. If we decide to add more space to our HP LeftHand SANs, it’s as simple as buying more HP ProLiant Servers. Once we receive them, it only takes 15 minutes to see the storage show up in the Centralized Management Console as available for allocation.

“Last but not least, the way HP LeftHand SANs and VMware technology work together so seamlessly has been a huge benefit to our organization. We see these technologies providing the scalable, reliable virtualized storage environment we need to support UF’s growing storage needs.”

About University of Florida

UF (www.ufl.edu) is a major public, comprehensive, land-grant, research institution. The state’s oldest, largest and most comprehensive, Florida is also among the nation’s most academically diverse public universities. Florida has a long history of established programs in international education, research and service. It is one of only 17 public, land-grant institutions that belong to the Association of American Universities.



Technology for better business outcomes

For more information, go to www.hp.com/go/storage

For more HP StorageWorks customer stories, go to www.hp.com/go/storage/casestudies

© Copyright 2009 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein. This customer’s results depended upon its unique business and technology environment, the way it used HP products and services, and other factors. These results may not be typical; your results may vary. Microsoft is an HP supplier as well as an HP customer.

Microsoft and Windows are trademarks of Microsoft Corporation. Other trademarks are the property of their respective owners.

4AA2-5518ENW, April 2009

