



## KEY HIGHLIGHTS

INDUSTRY: EDUCATION



Bowdoin

## CHALLENGE

Having to support a vast array of operating systems, Bowdoin College was running out of space and resources in its data center, and also lacked a disaster recovery plan.

## SOLUTION

Using VMware Infrastructure 3, Bowdoin College has partnered with Loyola Marymount University on the West Coast to build a co-located data center, boasting cross-country disaster recovery.

## VMWARE AT WORK

- VMware Infrastructure 3 Enterprise, featuring:
  - ESX Server 3 with Virtual Machine File System (VMFS)
  - VirtualCenter 2
  - VMotion
  - Distributed Resource Scheduler (DRS)
  - High Availability (HA)

## DEPLOYMENT ENVIRONMENT

- ESX Server on HP BL20pG2 and BL25p Blades
- VirtualCenter on HP DL385G2
- Network appliances: 3020C for iSCSI VMFS volumes and R200 for NFS shares
- Guest operating systems: Windows 2003, 2000, and XP, RedHat, Debian, FreeBSD, Solaris10
- Applications: Microsoft Cluster, print, Active Directory and Terminal Services, Blackboard, Microsoft IIS5 and 6, Apache, Tomcat, Microsoft SQL 2000 and 2005, MySQL, Oracle, CMS, Remedy, Altiris, digital asset managers, Exchange, Sophos antivirus, WSUS, KeyServer, OneCard system

*"If you are using VMware technology in production, you are two-thirds of the way to a robust disaster recovery plan before you even begin to design it. You get portable servers with flexible hardware requirements and ease of management. The new capabilities in VMware Infrastructure 3 of Distributed Resource Scheduler (DRS) and High Availability (HA), for instance, let you take advantage of resource pools and dynamically move virtual machines as needs change. Bowdoin has a VMware-first policy for any new system—not only because of the disaster recovery benefits of VMware virtualization, but also because of the other cost savings and efficiencies that VMware software enables."*

Tim Antonowicz, Senior Systems Engineer, Bowdoin College

## Bowdoin College

Founded in 1794, Bowdoin College is a private liberal arts college located in Brunswick, Maine. It is consistently ranked among the top 10 liberal arts colleges, with approximately 1,800 students, and 800 faculty and staff.

Prior to implementing VMware technology, the college had no viable disaster recovery (DR) plan. "Individual servers were backed up to tape, which was then stored in another building on campus," says Tim Antonowicz, systems administrator at Bowdoin, "but we had no remote storage. In the event of a catastrophic failure, it would have taken weeks—if not months—to recover."

Today, Bowdoin College and Loyola Marymount University in Los Angeles, Calif., have formed a business partnership to inexpensively provide an enterprise-class cross-country disaster recovery and business continuity solution using VMware Infrastructure 3.

## Results

- Reliable disaster recovery with ability to replicate virtual machines across the country to a hot site hosted by another educational institution
- Continued to grow IT capabilities without increasing footprint of data center
- Achieved higher availability, better load balancing, and enhanced fault tolerance with more than 70 percent of environment virtualized
- Co-located emergency Web, DNS, and Active Directory servers
- Critical systems are now DR-ready
- Avoided \$500,000 in hardware costs, now with 100+ virtual machines in more than 10 ESX hosts
- Saved \$15,000 in annual server maintenance