

BISHOP MCNAMARA HIGH SCHOOL

EMC VNXe unified storage and VMware support high-tech learning environment



ESSENTIALS

Industry

Education

Company Size

875 students

Business Challenge

- Decentralized and fragmented server environment difficult for small IT staff to manage
- Inadequate and rapidly depleting storage
- Inefficient data backup processes and no redundancy

Solutions

- EMC VNXe
- VMware
- EMC Unisphere
- EMC Local Protection Suite
- Citrix XenApp

OVERVIEW

Bishop McNamara High School is a private, Catholic coeducational high school founded in 1964, and located in Forestville, MD. Sponsored by the Brothers of Holy Cross, the school enrolls 875 students in grades 9 through 12. The school relies on its IT department to keep the school on the cutting edge of technology in order to deliver the most interactive and highest-quality educational experience.

BUSINESS CHALLENGE

The role of Bishop McNamara's IT department is to make sure systems work and are up to date, relevant, and accessible to staff, faculty, and students. But when Kevin O'Neal, director of IT, joined the school, the operation was decentralized and fragmented—consisting of a server room on one side of the campus and a separate room on the other side of campus, which housed other systems. Switching rooms facilitated connectivity between the two. The infrastructure was a challenge for O'Neal and a part-time IT specialist to maintain.

In addition, the school was relying on an aging RAID 5 storage system with sub-par performance to provide storage and archiving for school records. "The old system was quickly running out of storage space, so we had begun storing information on one of the servers as a stopgap," says O'Neal. "It was neither efficient nor the best use of our maintenance time."

To address these issues, Bishop McNamara needed to make significant upgrades to the IT infrastructure. The school initially implemented Citrix XenApp to centralize management of its Windows applications, but the system needed to be tuned for maximum performance. In addition, Bishop McNamara wanted to create a true data center that could effectively utilize all servers and deliver true enterprise virtualization.

SOLUTION

Bishop McNamara enlisted EMC partner and IT solutions provider Plan B Technologies to create a centralized, virtualized IT infrastructure that would make use of the Citrix XenApp interface to which all personnel are accustomed. The solution leverages EMC® VNXe® unified storage and VMware® to deliver a simple-to-manage, efficient, and affordable virtual storage solution, and Cisco Catalyst switches for faster and more reliable network switching.



CUSTOMER PROFILE

EMC²

Results

- Across-the-board efficiency improvements
- Noticeable performance improvements
- Eased burden for IT via centralized management
- Dual redundancy and enhanced data recovery
- Triple system uptime

"It's always nice to take technology from a whiteboard design, put it into practice, and see the immediate impact," says Donnie W. Downs, President of Plan B Technologies. "With technologies from EMC and services from Plan B Tech, we met our collective goal and improved the overall user experience."

The new, centralized data center features an upgraded server environment to adequately support XenApp, with VMware providing the virtualized server interface. To date, Bishop McNamara has virtualized 95 percent of its physical servers in the VMware environment, supporting about a thousand users including students, staff, and faculty who access the system via Wyse thin-client desktops.

"When Plan B Technologies recommended VNXe, we were impressed to learn that EMC has applied its expertise in unified storage solutions to deliver an affordable solution that is specifically designed for smaller organizations such as ours," states O'Neal.

"As we grow and our needs evolve, we will benefit from EMC's continual advances in enterprise technology that will be applied to smaller systems such as VNXe. This is a clear differentiator from other storage vendors, whose small business solutions tend to be disconnected from overall product strategy. It means we can build a storage strategy that mirrors larger enterprises, with backing from a company that knows storage from top to bottom," he continues.

CENTRALIZED MANAGEMENT AND CONTROL

An essential component of Bishop McNamara's new and improved IT infrastructure is EMC Unisphere® management software, which gives the IT team a centralized, unified dashboard into the entire virtual server environment.

"The ability to manage both the VMware virtual environment and the EMC storage environment from a single pane of glass is a tremendous time saver."

Kevin O'Neal
Director of IT at Bishop McNamara High School

"Instead of having to check and maintain each server individually like before, we now have the ability to view statistics for each virtual server to manage load, memory, and performance, and address issues quickly before they affect the user population," explains O'Neal. "The ability to manage both the VMware virtual environment and the EMC storage environment from a single pane of glass is a tremendous time saver for me and my small IT staff."

SIGNIFICANT PERFORMANCE IMPROVEMENTS

Both students and staff have recognized the significant performance improvements brought about by the centralized and virtualized IT environment. The performance improvements are most apparent with resource-intensive applications such as a shared Adobe Photoshop system running on the Citrix XenApp virtual servers, which students in the media and journalism clubs use to store and manage large quantities of digital photos.

"Students and faculty alike tell us they've seen a marked improvement in speed and performance when using Photoshop to access and store photos," says O'Neal. "By consolidating various, fragmented storage locations within VNXe, we have created a

true archiving system that will grow with us as our space requirements change.”

INCREASED DATA PROTECTION AND UPTIME

Installing the EMC Local Protection Suite in conjunction with VNXe has enabled Bishop McNamara to build in new levels of data protection and reliability that were not previously available. The VNXe dual storage processors offer immediate redundancy, with one processor immediately picking up the load in the event that the other experiences a problem.

The system also provides instant notification of any storage array problems. Through features such as point-in-time recovery with DVR-like rollback capabilities for block-based storage, the Local Protection Suite affords the school a measure of automatic data backup and recovery that was not available before.

In addition, O’Neal estimates that system uptime and availability have tripled since the installation of VNXe and the virtualized environment.

“Even small outages in network connectivity or needing to take a physical server down for maintenance can have an impact on our users’ ability to learn and teach,” he says. “With the new infrastructure, outages that affect users are simply a thing of the past.”

A SOLUTION FOR THE FUTURE

VMware server virtualization has given Bishop McNamara’s IT team powerful new server management and resource allocation capabilities. Based on load estimates for upcoming events throughout the year, the team can quickly bring up new servers and take down old ones. The team can also tailor the amount of resources needed for users during certain peak periods.

“Previously, this level of control was much more difficult and often involved procuring and installing a completely new physical server,” says O’Neal. “As our storage needs grow, we can easily add on to the VNXe environment without having to re-engineer the entire infrastructure.”

With the powerful combination of VMware, VNXe, and Unisphere, Bishop McNamara has built an IT infrastructure that can be easily supported and managed by a small IT staff, and yet provides the performance, data protection, and storage the school will need well into the future.

CONTACT US

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