VMware Technology Creates A Flexible IT Infrastructure That Reduces Overall Costs While Simplifying Administration

"My interest is always to make sure we're using technology to deliver as much benefit as we can to the students. VMware technology plays an important role in that endeavor by supporting our information portal, which helps us to reliably deliver information to approximately 800,000 students, parents, teachers, and administrators."

— Deborah Karcher, CIO,
Miami-Dade County Public Schools

KEY HIGHLIGHTS

Challenge

Create scalable IT environment for school district

Solution

VMware technology creates a flexible IT infrastructure that reduces overall costs while simplifying administration

VMware at Work

VMware vSphere, featuring:

• VMware ESX Server with VMFS

• VMware High Availability

• VMware vMotion

• VMware Distributed Resource Scheduler

• VMware vCenter Server

Miami-Dade County Public Schools

A Technology Leader

Miami-Dade County Public Schools (MDCPS) is the largest school district in Florida and the fourth largest in the United States, with a student enrollment of 339,975 and 53,500 employees.

Creating an IT infrastructure for such a vast organization requires careful strategic thinking when it comes to technology purchases. Fortunately, MDCPS has long been a nationally recognized technology leader within the education realm. "We invest heavily in IT, but we make sure we're spending our dollars properly," says Deborah Karcher, chief information officer of MDCPS.

This philosophy led MDCPS to explore virtualization as a cost-effective way to scale its IT infrastructure. "The traditional model of one application running on one physical server wasn't going to allow us to scale as effectively as we wanted to," says Craig Rinehart, administrative director of business and operational services. "That's when we started looking into VMware solutions."

Investing Wisely

For MDCPS, VMware vSphere—which unifies discrete hardware resources to create a shared dynamic platform—was a smart way to help transform its physical IT infrastructure into a flexible and scalable virtual infrastructure.

"We looked around at some other virtualization vendors, but we didn't see a truly competitive offering," says Rinehart. "VMware was the pioneer in enterprise virtualization, and it really showed in the maturity of their product."

Leveraging VMware technology has allowed MDCPS to create 645 virtual machines running on just 43 vSphere-managed hosts. "Every application that we run in the school system—from payroll to grade reporting—touches VMware technology in some way," says Rinehart. "We're talking about hundreds of applications."

Reliable Services for the District

Built-in features like VMware High Availability, VMware vMotion, and VMware Distributed Resource Scheduler help ensure that these critical education applications are readily available throughout the school district.

"Just because it's 5pm does not mean that the day is done," says Karcher. "For example, we have an information portal that provides our students, parents, and teachers with access to homework assignments, grades, and other information on a 24/7 basis. We had nearly a million users last month. If the portal is unavailable because a server needs to be taken down after hours for maintenance, that's an inconvenience to a lot of users. VMware technology helps us avoid those types of interferences, which allows everyone to more easily access the information within the portal and be more productive."

Rinehart adds: "Having a virtual environment also allows us to better handle peak periods, when there are spikes in usage for our education applications. Since VMware does so much automatic adjusting of resources behind the scenes, we really don't have

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"I can't think of a single application or business process in our organization that isn't in some way relying on or utilizing VMware technology."

— Craig Rinehart, Administrative Director of Business and Operational Services, Miami-Dade County Public Schools

to worry about a server overloading and becoming unavailable. The end result: we can reliably deliver the technology services the district needs to meet their goals."

Cost Effective IT

In addition to simplifying IT administration, VMware technology has helped MDCPS to reduce capital and operational expenses. "I don't think we've had to purchase any physical servers in the last 3 ½ years," says Rinehart. "Every new application has been deployed as a virtual machine on our VMware hypervisors. The cost savings on hardware purchases alone is millions of dollars. And that doesn't count operational expenses like energy usage."

Ultimately, these savings help everyone in the school district. "My interest is always to make sure we're getting as much benefit as we can to the students," says Karcher. "With VMware technology supporting our IT infrastructure, that's precisely what we're able to do."

Results

• Virtualized 95% of IT environment
• All tier 1 applications virtualized
• Approximately 50,000 Exchange mailboxes virtualized
• $5.18 million in hardware savings
• $1.5 million in energy savings

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