Morgan County Schools

THE NUMBERS

- 700 concurrent virtual desktops
- 1,200 classroom desktops
- 3 IT staff members; approximately 1.5 full-time equivalents for desktop environment
- 90 percent reduction in help desk calls

IN BRIEF

Objective
- Refresh 1,200 classroom computers
- Ease desktop repair and maintenance
- Rapidly deploy new educational tools
- Build on efficiency gains achieved by virtualizing datacenter

Solution
- Virtualized classroom computers
- Began virtualizing staff and administrator computers
- Next step: Provide remote access

Business Impact
- Improved customer service and the ability to support new educational tools and methods
- Shifted IT staff time from repair and maintenance to improving customer resources
- Reduced help desk calls 90 percent
- Cut annual client device energy costs $30K
- Sped application deployment from one week (physical servers) to four hours (using ThinApp)

Georgia K–12 School District Virtualizes Desktops to Improve Student Services, Simplify IT Management, Embrace Change

"Desktop virtualization gives teachers and faculty a better desktop experience; eases IT repair and management; cuts costs; and enables the school district to adapt readily to advances in educational tools and methods."

— Jay Cawley, Director of Technology, Morgan County Schools

Morgan County Schools (MCS) is a K–12 district based in Madison, Ga., that serves 3,300 students in five schools, with a teaching and administrative staff of 300. With only 1.5 full-time equivalent employees to repair and maintain 1,500 student and employee computers, the MCS IT department was hard-pressed to keep up. Device repair and application updates consumed too much time, and as a result teachers and students did not always have the latest resources at their fingertips.

MCS wanted something better: a better desktop experience for students and faculty; easier infrastructure management for IT staff; and greater flexibility for the school district to keep up with advances in educational tools and methods. The answer was desktop virtualization with VMware® View™.

In March 2010, MCS deployed View and replaced 1,200 end-of-life classroom PCs with Wyse P20 zero clients. Benefits started to show immediately, with help desk calls dropping 90 percent and energy costs falling $30,000 a year. An upgrade to Microsoft Windows 7, which previously would have taken a year, was accomplished overnight.

"Looking at the district's educational mission, virtualization enables us to provide IT resources more efficiently and adapts readily to change," says Jay Cawley, MCS Director of Technology. "The View environment cost the same as it would have to refresh desktops," he adds, "but over time the district will accrue savings through hardware cost avoidance and staff time efficiencies."

Desktop Initiative Builds on Datacenter Virtualization

MCS chose VMware View as its desktop virtualization platform because the district was already familiar with VMware vSphere® and its ability to speed and simplify IT processes.

"When we'd had a physical environment, it had been extremely difficult to launch new initiatives or implement new applications," Cawley recalls. "We had to put in another physical box, install the operating system and then manage the hardware. Our virtual environment made it much easier to bring up a new server and give it the appropriate resources to run the application. It took a couple of hours instead of a couple of days."

The efficiencies of virtualization have enabled MCS to pursue new initiatives, such as improving services for remedial students. Recently, the district implemented Fast ForWord reading software on its existing virtual infrastructure, and did so within hours—instead of days—while eliminating the need to spend $7,000 on a new physical server.

vmware®

"We felt that for the limited staff and time we had, VMware View was a logical extension of our virtual infrastructure, and we could build on our existing knowledge."

Jay Cawley
Director of Technology,
Morgan County Schools

When it came time to replace the 1,200 end-of-life classroom computers, MCS could have bought a new standalone fleet and left the desktop architecture essentially unchanged. However, it saw an opportunity to extend the efficiency gains it had seen in the datacenter to the desktop.

"We felt that a View environment would last longer and be more manageable, and we could be more responsive," Cawley says. "We put a layer of abstraction between the physical hardware in the classroom and the operating system. In our minds that's somewhat cloudlike."

VMware View Streamlines Desktop and Application Management

View has changed the nature of desktop management at MCS, Cawley says. Instead of spending their time traveling to fix, repair and monitor computers, IT staff can focus on datacenter efficiencies and improved resource delivery.

The feature in View that MCS found particularly valuable was VMware View Composer with VMware Linked Clones technology for image management and storage optimization.

"Thanks to Linked Clones and the ability to make resource pools, we can deploy hundreds of machines within hours," Cawley says. "What's more, we've used only about 20 percent of the storage we thought we'd use."

MCS uses VMware ThinApp® to reduce the size of its gold master image and to streamline application deployment and management. "It takes just four hours to 'ThinApp' an application," Cawley says, "compared to a week if using a management product such as Altiris or LANDesk to deploy to physical desktops."

"ThinApp brings two main advantages," says Chris Argo, MCS Computer Support Specialist. "One, we can deploy software much faster; we can have it out to all the desktops within a day. And two, through the View console, we can control who has access to the software."

Students Gain Rich Access to Resources

With VMware View and Wyse zero clients, MCS students gain fast, rich and reliable access to the latest collaborative-education tools. Login takes just 30 seconds, compared to 5 minutes previously, and the Wyse P20 zero clients consume less energy. Their PCoIP capability is particularly advantageous, Argo says, because much educational software is Adobe Flash–based and therefore resource-intensive.

"Desktop virtualization gives teachers and students a more stable and adaptable environment, and a better desktop experience," Argo says. "There was no way to upgrade the old computers without replacing them. Now, we can just bump up RAM or CPU without having to replace physical hardware. Long term that will produce cost savings, and it provides a more dynamic environment in which we can quickly meet user needs for new applications or patches."

Centralization makes IT management less physical and more strategic, Cawley adds. "The gains are substantial. We can do a lot more with fewer resources than we could in a physical environment."

View into the Future

The district is now migrating staff members such as secretaries, guidance counselors and food-service managers to View virtual desktops. Looking to the future, MCS is testing remote access to allow faculty, administrators, staff and students to be able to access their virtual desktops from the classroom, across campus or at home, from any connected device.

"We see a day when it will no longer be relevant whether the user has a laptop, iPad, netbook, Android device or something else," Cawley says. "They'll install a View Client and access the rich features of a full desktop. That's our goal."

IMPLEMENTATION OVERVIEW

VMware Products:
VMware vSphere 4.1
VMware vCenter™ Server
VMware View 4.6
VMware ThinApp 4.6
VMware View Composer

Applications:
Microsoft Office 2010
Educational software for students
Administrative software for employees
Adobe Dreamweaver; Adobe Flash; Adobe Fireworks; Google SketchUp; SMART Technologies Notebook; Vernier Logger Pro; Windows Movie Maker; GIMP photo editing software; Curriculum Advantage Classworks; Advanced Learning Systems

Platform:
Server:
HP ProLiant DL380 blades
NetApp FAS3020
Cisco 6513 switch
Desktop:
Cisco B200 Blade Servers
NetApp FAS3210
Wyse P20 zero clients

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