



HP Tech Dossier
FOCUS: **K-12 SCHOOL DISTRICTS**

Strategy Guide to Branch Office Consolidation for K-12 School Districts

Independently authored by IDG. All IDC data cited in this article, including graphics and sidebars, is excerpted from the IDC White Paper, "Supporting Branch Offices with Effective Technology in Challenging Times," May 2009, IDC #218329.
Sponsored by: Hewlett-Packard



Today, many schools are the IT equivalent of the old one-room schoolhouse. Technologically speaking, they are isolated and left on their own to do what they can with what they have. And what they have is a hodgepodge of outdated, nonstandard PCs, servers and printers, and little—if any—on-site IT support. When each school in the district operates on its own system, communicating and sharing information among schools is difficult at best.



When a school's IT system or local area network is down, faculty, students and staff lose access to their data and applications, essentially stopping the school in its tracks.



FOCUS:

Client Virtualization

Let HP experts help you architect, build and deploy a client virtualization strategy that is right for your organization.

www.hp.com/go/clientvirtualization

And yet data collection and reporting requirements

of legislation like No Child Left Behind and the American Recovery and Reinvestment Act (ARRA) are driving school districts to upgrade and centralize their IT systems. But combining schools and their IT technologies without a plan for adapting their IT infrastructure can be difficult, complicated and expensive, reducing any potential cost savings or increased efficiencies.

When a school's IT system or local area network is down, faculty, students and staff lose access to their data and applications, essentially stopping the school in its tracks. Teachers are unable to create lesson plans or prepare lectures; students can't conduct research to complete homework assignments. Elementary school parents may become frustrated that they are unable to e-mail their child's teacher a question about the next day's school field trip. Even worse is a security breach: If faculty or student data is lost, the damage to productivity and the school's reputation can be serious.

Midsize Districts, Big Costs

Midsize school districts face a special challenge when it comes to reducing costs in their local schools. IDC has found that the smaller the firm, the more branches (and branch servers) there are for a given number of employees. That makes management more complicated and difficult for midsize school districts and translates to significantly higher IT costs per user.

Here are some of the factors that contribute to these higher costs, and the potential savings that can result from upgrading:

- Nonstandard, older PCs and servers lead to high IT support and maintenance costs and more downtime. In addition to the already noted cost reductions from deploying new servers, IDC's research found that standardizing all PCs on Vista reduces IT staff by 16% and lost productivity due to downtime by 12%.
- Non-network printing or local printing is slow and requires maintenance. Migrating to a network printer with print management can

“We’re fortunate to have people at HP who are committed to helping us succeed with our 1:1 program.”

—Karen D. Fuller, chief technology officer,
Klein Independent School District

To learn more about the
1:1 technology program, [click here](#).

reduce IT staff by 25% and cut lost productivity due to downtime by 66%, according to IDC.

- Slow and intermittent WAN connections can sap productivity and cause employees to store data locally without backing it up to a central or disaster recovery site. IDC has found that centralizing storage with disk-to-disk backup can reduce IT staff by 76% and lost productivity due to downtime by 40%.

When consolidating, school districts have a chance to address these challenges. But the solution goes beyond updating the technology. The key lies in standardizing the infrastructure and operations: using the same servers, applications, security software, infrastructure management software and data backup for each school as well as the district. Not only will that ensure

that the entire system operates more efficiently, but by developing a proven template of solutions based on industry best practices, your organization can easily and quickly deploy the same infrastructure in new schools as it grows.

That’s the strategy at the heart of the branch office solutions built on HP’s Converged Infrastructure of servers, storage and networking. [HP’s ProLiant G6/G7 Servers with Intel Xeon 5500/5600 series processors](#) offer fast performance, enhanced management features and improved energy efficiency.

Manage

Coordinating IT resources across schools is always a challenge. Each system was likely created at a different time, and uses different brands of equipment of varying ages and capabilities. In the case of mergers, each school may have dramatically different equipment and levels of IT sophistication. And each one probably has its own IT inefficiencies, so putting their existing systems together tends to compound problems rather than solve them. An IT leader could end up with a proliferation of devices that were never intended to work together, leading to a high-maintenance and energy-hungry IT system that falls short in performance.

Explicit Reductions in IT Costs Due to Best Practices/Technology Solutions

Best Practice/ Technology Solution:	Reduction in IT Staff	Reduction in Infrastructure Cost	Reduction in Lost Productivity	Reduction in Power, Cooling and Space
Deploy Branch Server and Server Management	50%	30%	70%	30%
Centralize Storage with Disk-to-Disk Backup	76%	50%	40%	9%
Upgraded and Managed Networks	23%	60%	99%	13%
Implement Comprehensive Security Measures*	12%	0%	60%	0%
Standardize all PCs on Vista	16%	0%	12%	0%
Migrate to a Network Printer with Print Management	25%	23%	66%	0%

* Security includes improved management, deployment of firewalls, antivirus, antispyware/malware, VPN for remote connectivity, network access control and intrusion detection.

SOURCE: IDC’s Business Value Research, 2009

Taking a unified, standardized approach will help IT leaders better manage IT resources and reduce costs. [HP's Total Care program](#) makes it easy to acquire, deploy and maintain IT infrastructure solutions. Through Total Care, HP offers reference solutions that combine server, storage, management and data protection software, as well as networking, PCs and printers. Your local HP channel partner can customize these reference

“With the HP Insight Control software, I can remotely deploy a server image to one or many servers at the same time, in 20 minutes total.”

—Brent Albasini, network engineer,
Fife Public Schools

[Read how](#) HP helped Fife Public School District improve academic performance using HP BladeSystem.

Critical Issues

Today's schools can no longer afford to be isolated. Increasingly, curricula are standardized, teachers post assignments and grades online, and school districts file reports to state and federal government agencies. Without a centralized, effective IT system, school districts may find themselves at a disadvantage.

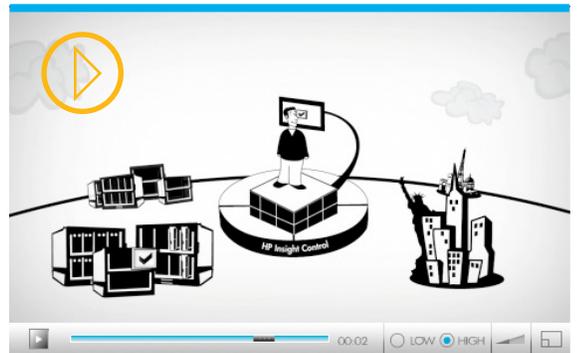
Among the most critical issues for school districts are:

- **INFRASTRUCTURE/NETWORK RELIABILITY AND AVAILABILITY:** Slow or spotty network performance impacts productivity of students, teachers and administrators. Staff needs to be able to depend on centralized resources such as learning gateways and data warehouses.
- **ENTERPRISE-WIDE DATA COLLECTION AND REPORTING:** Increasing federal and state mandates (No Child Left Behind and many of the education projects funded by the ARRA) require districts to collect, analyze and report information on student performance.
- **SECURITY:** IT systems, networks and storage must adhere to privacy and data security practices to protect student and teacher information.
- **REMOTE MANAGEMENT:** Individual schools may not have on-site IT, so the ability to remotely manage systems is critical.

solutions to address your school's system specific requirements and business type.

What's more, schools often have little or no on-site IT staff, so remote support and management are essential. And the more similar the deployments are, the easier they are to manage. HP Insight Control and HP Insight Remote Support are infrastructure management tools that your staff or channel partner can use to proactively manage physical or virtual systems from any location.

To learn more about Insight Control, watch this video:



Protect

Securing the network and the data can be a challenge in school systems. Slow transmission times can lead users to store data locally rather than backing it up to the district office. The chaotic mix of equipment, various versions of software and inconsistent oversight can leave gaping security holes. The network may be vulnerable and data may not be stored securely. Finally, disaster recovery and business continuity plans may be lax or even nonexistent.

HP Total Care infrastructure solutions incorporate various data backup, encryption and replication features to address these problems. You may use the consolidation opportunity to upgrade individual school servers to Windows Server 2008, for example, which can be replicated to your district office's server. Perhaps you need to migrate to shared storage, a strategy that would enable you to implement centralized data protection, including replication to the district or regional office.

Solution Snapshot



Miami-Dade County Public Schools runs an enterprise technology infrastructure that rivals those of major private sector corporations.

The district is implementing a full-scale SAP environment to support its business operations. Its infrastructure includes a district-wide network connecting some 400 facilities; a feature-rich Microsoft® Office SharePoint 2007 Web portal to give students, teachers, employees, parents and community access to data and applications; a 50,000-user Microsoft Exchange environment to handle employees' e-mail needs; and a data warehouse to support its business intelligence application.

To handle all these operations, the district had to move to a centrally maintained platform, increase the schools' bandwidth, and install caching servers and security devices, says Deborah Karcher, CIO, Miami-Dade County Public Schools. The district chose to base this platform on the HP BladeSystem.

OBJECTIVE:

Solid technology planning and implementation to meet both short-term technology services goals and long-term technology needs

APPROACH:

Leverage technology leadership to design scalable, flexible solutions that also accommodate power constraints

IT IMPROVEMENTS:

- Environment more manageable
- Easier to service blades without interrupting services
- Leveraging HP services enables staff to accommodate requests outside their core expertise

BUSINESS OUTCOMES:

- \$1.8 million in cost savings in 18 months
- District runs up to 500 virtual servers on only 55 physical blades
- Technology enables rollout of new technology services
- Scalability, capacity enables services to be rolled out flexibly, as needed
- Growth in services accommodated without exceeding power consumption constraints
- Electronic grade book returns eight days of instruction to teachers per year

“Teachers are finding new ways to take advantage of what technology offers. Learning becomes more visual and auditory.”

—Brett Nanninga, superintendent,
Tri-Center Community Schools

To learn how technology saves money and increases learning time at Tri-Center Community Schools, [click here](#).

Grow

Recognizing that school systems of different sizes need different infrastructures, HP offers consolidation solutions for three sizes—small, midsize and regional—each of which can be customized to your school system. [Each offering provides the appropriate amount of data processing power, storage and bandwidth capacity for that size organization.](#)

Conclusion

HP's solution, based on its latest generation of ProLiant servers, addresses the need for standardization and coordination of IT resources. Designed for different sized organizations, it allows school districts to consolidate and centralize school IT systems, as well as to quickly add and integrate new schools and facilities in the most cost-efficient and productive way possible. Using these infrastructure solutions can help speed deployment, reduce costs and increase operational efficiency.

Suggested Reading

These additional resources include business white papers and previously published articles from IDG Enterprise.

MOTHER NATURE SPEEDS SCHOOL DISTRICT VIRTUALIZATION PROJECT

Virtualization tools help after blizzard bashes Colorado Springs data center.

HIGH SCHOOL KIDS PUT THEIR HEADS IN THE CLOUD

Minnesota's "Online High School" puts the cloud to work delivering virtual desktops to students on the wrong side of the digital divide.

PURDUE UNIVERSITY PLANS FOR POST-PC ERA

When [Gerry McCartney](#), CIO at [Purdue University](#), looks around his West Lafayette, Ind., campus, he doesn't see a future for the desktop PC. With savings in mind, the school's central IT department has already implemented server [virtualization](#), and it plans to move to a [virtualized desktop infrastructure](#), replacing desktop PCs with centrally managed systems that deliver applications from servers.

UNIVERSITY TURNS TO GREEN TECH TO FEND OFF POWER CRISIS

California State University East Bay (CSUEB) faced a serious datacenter problem: It needed an infrastructure overhaul, yet local utility company PG&E couldn't provide enough electricity to meet the institution's growing computational and storage needs.

REDUCING DOWNTIME AND BUSINESS LOSS:

Addressing business risk with effective technology

IDC customer-based studies show that using appropriate technology in consistent ways helps midsize organizations, even as they address changing requirements.

WHITE PAPER:

Bringing the Edge to the Data Center: A Data Protection Strategy for Small and Midsize Businesses with Remote Offices.

VOIP: COPPIN STATE SOLVES ITS 911 DILEMMA

Dr. Ahmed El-Haggan, CIO of Coppin State University, used a networking tool to provide 911 dispatchers the location information they need when VoIP users call with emergencies.

FINANCIAL FOCUS:

Using Predictive Analytics to Tap More-Profitable Customers

Auto loan provider Dealer Services used predictive analytics to find its most profitable customers and avoid the riskiest

