



Higher Education Services



Virtualization Solutions:

Centralize computing and applications to enhance access and reduce costs



Case-in-Point

Business Need: The West Virginia College of Law Library wanted a cost-effective, easy-to-manage desktop computing solution that would use less energy and reduce staff time required to maintain the equipment.

Solution: The library implemented a Dell On-Demand Desktop Streaming solution using Dell desktops optimized for flexible computing to provide students with enhanced access to the library's computer laboratory. In the new virtual environment, the Law Library client machines have no hard drive, which reduces virus maintenance, extends service life, and decreases power consumption.

Benefits:

- System deployed and running in less than two weeks
- Software updates and installations in minutes vs. days
- Two hours or more per week of IT staff time saved in virus remediation
- Library and lab are now quiet and cool
- Approximately 50 percent decrease in energy usage for desktop PCs
- Projected 67 percent longer refresh cycles for desktops PCs

"We're seeing around a 50 percent power savings with Dell OptiPlex FX160 flex clients compared to traditional PCs."

Keith Walton

Manager, Network Services
West Virginia University
College of Law

Gartner ranks Dell #2 worldwide for hardware maintenance and support and #4 for services in the education sector based on 2009 revenue. *

For more than 25 years, Dell has collaborated with both K-12 and Higher Ed to enhance connectivity for classrooms, campuses, and school districts. Dell technology is used by more than 8 million primary students in 410,000 classrooms worldwide, and our solutions are deployed at more than 14,000 colleges and universities.

*Gartner IT Services Market Metrics Worldwide Market Share: Database, July 26, 2010.

University and college CIOs can realize financial and operational advantages using virtualization technologies

Years of growth and increased technology requirements have left many higher education institutions with a decentralized cluster of IT systems across departments and perhaps across campuses. In many instances, there are also multiple software applications to manage along with towers of unstructured data stored in "silos" and disconnected repositories. Left unchecked, the challenges of decentralized data and non-integrated systems threaten to consume the IT resources your institution needs to innovate and get ahead.

CIOs are increasingly turning to virtualization to increase centralized computing and applications access for students, faculty, and administrators while creating a more manageable systems environment that has significant, long-term financial benefits. Yet, most IT professionals would agree that understanding how best to utilize new virtualization solutions in a campus environment can be a challenge.



What virtualization technologies can do for you

Dell can help you develop and implement a virtualization plan for your institution that can produce a return on investment that justifies the expense, even in today's cost-conscious environment. Whether you're considering virtualization to improve computing and applications access for end users or to reduce operating and support costs across your data center(s), we can help you chart your course and build a business case.

Reduce IT management costs and equipment expenses

Using platform architecture and applications management strategies grounded in open technology standards, our Virtualization Solutions for Education can deliver results that achieve both campus-wide and departmental cost savings, enhance systems and information security, improve data storage options, and simplify IT management. To enable education professionals to focus more time on creating a better learning environment while enhancing campus connectivity, Dell offers a full line of virtual solutions for:

- Desktop (Client) Virtualization, including Virtual Lab solutions
- Server Virtualization
- Cloud Technologies

Desktop (Client) Virtualization. By virtualizing desktop and remote client devices, you will be able to offer more robust mobile computing, reduce support requirements in shared environments such as labs and libraries, better control applications access and provisioning, and establish stronger overall network security. We offer a complete array of virtual client solutions including: Remote Desktop, On-Demand Desktop Streaming™, Dedicated Remote Workstation, Hosted Virtual Desktop, and Virtual Lab solutions.

Server Virtualization. By moving applications storage to centralized servers and away from individual devices, you can create a more flexible and productive work environment that requires less maintenance. Our services team can help you successfully choose and deploy the right

solution(s) for your infrastructure. To help with ongoing management, our support engineers are highly trained on Citrix, VMware, Microsoft, and other platforms.

Cloud Technologies. To help CIOs address the challenges of academic, administrative, and research computing, we offer extensive cloud virtualization strategies. Whether you establish a cloud environment in your existing data center(s), or partner with Dell to choose hosting services at our high-security, high-availability facilities, we can help add significant efficiencies and optimize savings opportunities relating to how IT is used and consumed. In addition, our open source architecture provides greater flexibility both up-front and in the future.

Effective virtualization deployment

At Dell, we have three fundamental principles that guide our approach to virtualization:

- **Standardization.** With our open standards approach, we offer the flexibility, experience, skill sets, and vendor relationships needed to build the best solutions for your environment so you aren't locked into propriety technologies,
- **Simplification.** We work with you to reduce redundancies, free up servers, and drive complexity out of the system.
- **Automation.** We use virtualization as the foundation for creating a more uniform IT environment that requires fewer touches along with less maintenance and support.

"Now we can respond much faster to requests for new software and provide a better user experience. With Dell On-Demand Desktop Streaming, we can update all of the PCs in the library in a matter of minutes instead of several days."

Keith Walton

Manager, Network Services
West Virginia University College of Law

Five steps to virtualization

Our five-step virtualization process offers a systematic approach that helps ensure disciplined procedures and predictable results:

1. Workshop
2. Assessment and Health Check
3. Design and Plan
4. Implementation
5. Management and Support



At Dell, we practice what we preach . . .

We can speak first-hand about the significant benefits virtualization delivers. We deployed virtual data environments in our own IT ecosystem and have seen tremendous financial and operational benefits.

"We've already eliminated 6,000 servers and virtualized 7,000 others, with the goal of reaching 10,000 servers by the end of 2010. The result is a savings of well over \$100 million for Dell during the course of two years — that is \$100 million we are able to reinvest in innovation and product development."

Steve Schuckenbrock,
President
Large Enterprise, Dell

Additional successes

Customer #1

The University of Wisconsin –Parkside (a public institution serving 5,300 students) deployed the Dell™ On-Demand Desktop Streaming solution with Dell OptiPlex™ FLX desktops to centralize management of desktop images (operating systems and software stacks) and enable students to choose their own set of applications. The benefits include:

- Easier, centralized management of IT
- Up to 36 days of IT staff time saved per year in changing images
- Tighter security with simple reboot to clear viruses

"What makes this so easy is that instead of touching the 10 to 30 machines in a lab to reimage, all the changing is done from one centralized server."

Bob Zimla
Desktop Support Technician
University of Wisconsin-Parkside

Customer #2

Dell consulting is helping a medical center create a virtualized server environment to eliminate up to 90 servers and reduce power consumption by an anticipated 20 percent.*

Customer #3

We helped virtualize a renowned research center, realizing a savings of \$500,000 over five years and energy savings of approximately \$129,000 per year. Plus, they have reduced CO₂ emissions by 712 metric tons.*

Why Dell?

As the second largest provider of hardware products and the fourth largest provider of services in the world to education customers, we have gained valuable first-hand experience by partnering with more than 14,000 college and university campuses around the globe. From business consulting, to applications solutions and business process services, to complete infrastructure support, Dell offers a full range of services and solutions to help usher in a new generation of computing capabilities that will better connect your campus and enhance the learning experience for your students.

Take advantage of virtual technologies

Dell has a long history of delivering robust solutions to higher education institutions. We provide the experience, expertise, capabilities, and options needed to help transform your IT environment with virtualization. With higher efficiency computing, added flexibility, and reduced costs, you will see significant advantages across your campus and throughout your extended network.

Virtualization benefits summary

- Enhance the end user experience by simplifying remote access
- Reduce support cycles to save maintenance costs
- Create flexibility for budgets and planning by implementing a pay-per-use model
- Improve information security
- Balance workloads between your resources to reduce bottlenecks
- Shift your IT team's focus from managing physical hardware to enabling innovation and new capabilities

For more information about any of our offerings, please contact your Dell representative or visit dell.com/services.



*Each of the customer results shown in this document is taken from a published case study available online at: <http://content.dell.com/us/en/corp/about-dell-case-studies.aspx>

