



# Citrix Solutions in Education

Enterprise-class *reach* and *reliability* for  
*primary and secondary education.*



*Citrix application server software and services enhance the learning experience for students, educators and the learning community by providing a comprehensive CORE curriculum.*

- C**onnecting learning communities
- O**ptimizing the learning environment
- R**eaching equity goals
- E**nsuring enterprise-level performance





# *Connect* your education enterprise to *efficiently* run your entire *school community.*

## Management for the school enterprise.

The challenges facing schools today are daunting. In addition to providing

instruction to growing student populations, educators face mounting pressure to provide more individualized instruction. And school districts experience organizational and operational complexity similar to that found in major corporations.

But what if schools and school districts had a simple, efficient, cost-effective way to meet these

challenges? Consider how productive educators could be—and how much more effectively students could learn—if they could tap resources that have boosted productivity at 80 percent of Fortune 500® companies. Think how efficient administrators could be if schools could centralize scheduling, attendance, email, state and federal reporting and individual education plans. How smoothly schools would run if they could simplify technology management. And how far budgets would stretch if schools could extend the useful life of their hardware and software investments. Citrix® application server software can provide answers to these and other needs.

## Connections for teaching.

New technology won't help schools unless staff and teachers have equal access to it. With Citrix solutions, teachers on every corner of a campus can have immediate access to the same software. Communication is improved between departments. New opportunities for collaboration are created. In-service staff development can be streamlined, maximizing the capabilities of existing staff and increasing productivity throughout the school.

## A focus on opportunity.

Increasing the efficiency of schools is important, but educators must also create new opportunities for learning both inside and outside the classroom. And they must keep pace with new teaching methods. Citrix application server software promises to extend education beyond the confines of the classroom to the rest of the world. Now students, faculty and staff can access a range of interactive software programs, word processing, graphics programs and email from anywhere. Regardless of the computing device they're using. Whether they're working in the computer lab, the classroom, the library or at home.

*The Citrix solution gives students and educators high-performance access from any device to data and applications on a central server. Because the solution is software-based, a school or district can provide full connectivity to powerful applications while leveraging its current infrastructure—including servers, wiring and desktop or portable computers.*



# *Optimize* learning environments for *student* and *faculty* excellence.

Develop new skills that enable lifelong learning.

The Citrix approach to computing creates opportunities for improving the entire education system — including the learning process itself. Now it's easier than ever to extend the learning environment outside of the school — 24 hours a day — so that learning becomes independent of time and place. Students are empowered to take more responsibility for their own learning. And they're encouraged to develop skills that will foster lifelong learning.

Empower teachers for individual instruction.

As educators strive to increase levels of individualized instruction, they need new technologies to track students' work, assure that the work is evaluated effectively and increase communication and collaboration throughout the learning community.

Citrix application server software offers a host of features that make these practices possible. Teachers can monitor the progress of students working on computers at their own pace and in their own style — whether they're in the same classroom or across town. They can access powerful programs for designing individualized lesson plans. And they can

share information with colleagues more easily than ever before.

Improve continuity from school to school.

Individualized curricula create a greater need for effectively mapping students' progress and tracking their learning across many years and many locations. Citrix application server software is uniquely suited to this task. Educators can use the Internet to reach records and applications from anywhere, using any device — from desktop to laptop to wireless — using any computing platform, whether Windows®, UNIX®, Linux® or Mac® OS.





# *Reach* equity goals by offering more *access* to more *people*.

## Provide access across the digital divide.

The gap between those who have technology and those who don't is very real. Inequities exist among homes, schools and even classrooms. A Citrix solution, however, can provide consistent access and a consistent user experience to everyone. Now all students and educators in a school or district can access the same applications and information — anywhere, using the devices they prefer or can afford. Schools can get more use from their existing equipment. The digital divide is narrowed.

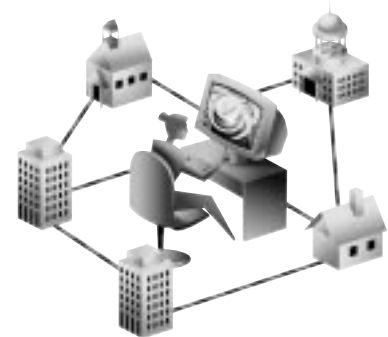
## Involve parents, teachers and schools.

Better communication throughout a school system leads to more effective operations and greater community involvement. Using the Citrix computing model, communication among teachers — including discussions, peer support and collaboration — is enhanced, because all teachers have access to the same applications and data. New opportunities for distance learning are created. Teachers can send reports to

their students' homes — and receive responses directly from parents. And parents can access their child's homework assignments, monitor grades or check on progress reports from the teacher. Parents and teachers can improve their interactions, and everyone can become more involved in the education process.

## Impact the entire community.

The Internet offers students a previously unimaginable perspective on the world. Now Citrix application server software can make this immense resource a financially viable learning tool in every classroom. A Web-based learning environment for schools not only can bring the world into the schools, but it can extend the school beyond its walls to the community. The same networks created for in-school computing can connect the school to city hall, public libraries, teen centers and community centers. Not only can students learn outside of the classroom, but the entire community has access to school-based resources.



# *Ensure* enterprise-class quality of *service, performance and security.*

## Services for the entire technology lifecycle.

The level of technical support available at a school can have a direct effect on the quality of education a child receives. Both teaching and learning are impaired if educators cannot fully utilize their technology. Citrix application server software provides a solution that is centrally managed, so the whole organization can move to a higher level of computing without overwhelming the teaching or administrative staff.

What's more, the entire computer network now can maintain an unparalleled level of performance and uptime. Central management ensures that mission-critical applications are continually available, reliable, predictable and secure. And new products and services can be rapidly deployed while compatibility issues are minimized. In fact, every stage of the technology lifecycle — acquisition, deployment, management and upgrade — is made easier.

The Citrix solution also offers the potential for districtwide standardization. Because it enables use of a full range of computing

devices including PCs, Macintosh® computers, thin clients, handheld devices and notebook computers, Citrix application server software can give everyone in the school district access to the same resources and computing tools.

## Improved security for records and operations.

As schools adopt more businesslike practices, student, government and financial records will become increasingly centralized — creating a critical need to maintain security while providing ready access for educators within the school and throughout the district. Citrix application server software enables both data safety and secure access. Student access to servers and drives can be limited — only the applications they need are provided — with marginal ability to change configurations or alter the software programs. Data can also be encrypted to protect sensitive student and school records.

## A higher-performing technology investment.

The reality for many schools is that much of their computer equipment is old, outdated or unreliable. Citrix



technology helps schools manage this problem by optimizing their existing IT investments. Both legacy equipment and inexpensive thin clients can be used to access the latest software. The current network infrastructure — including servers, wiring and desktop systems — can continue in use, containing costs and minimizing the need for an expensive network upgrade.

The Citrix solution helps to eliminate disparities in resources among schools in a district. It reduces short-term expenses and lowers the long-term total cost of ownership. And by giving students, teachers and administrators access to any application using any device over any connection, Citrix creates completely customized computing experiences that respond to the needs of the entire learning community.



# *See* how schools are using Citrix Solutions.

## Creating excitement in the learning community.



For the Lemon Grove School District near San Diego, California, the need to provide a lower-income community with effective education on a tight budget led to a Citrix solution. For students, access to educational materials from home — delivered with full audio and video capabilities — led to a new excitement about learning.

The Lemon Grove educators' goal was a "connected learning community" that could make use of inexpensive Windows-based terminals and the school's aging PCs. The answer was a network that connects the districts' eight schools to homes, libraries, community centers and teen centers through cable hookups.

Using a software suite called LemonLINK, teachers now deliver lesson plans digitally to students, families access news and information, and students complete homework online and submit it via email — with outstanding results. "This technology puts the power back into the hands of the child," says Barbara Allen, director of Project LemonLINK. "In recent testing, at-risk middle-school students using computers gained as much as two years' growth in reading and math in the first six months of the school year."

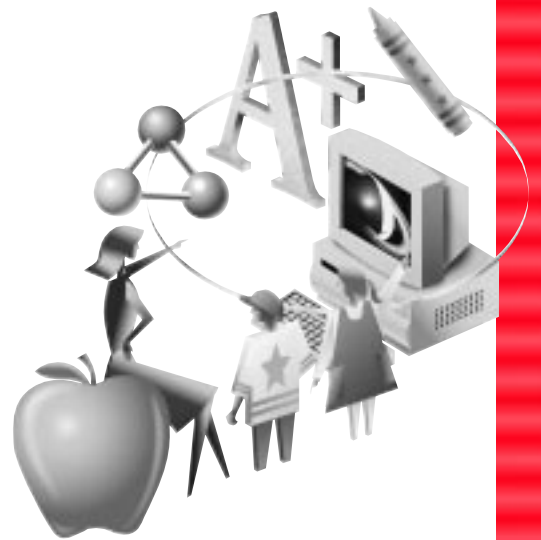
## Meeting mandates quickly and economically.

In order to fulfill the State of Illinois' Technology Blueprint, each school district must deploy five computers in each classroom within a five year technology plan. But meeting this mandate could be difficult for cash-strapped schools. Dolton School District 148, an economically disadvantaged district outside Chicago with an enrollment of 3,200 pre-kindergarten to eighth-grade students, found its answer in a Citrix solution.



Now Dolton can use its older multiplatform computers in conjunction with inexpensive thin-client terminals — and it will meet the deadline with ease. "We felt like we were 10 years behind," says Tobin Mitchell, director of information services for the district, "and all of a sudden, we're about five years ahead."

The Citrix solution helps Dolton save money in other ways. The network/hardware support staff for the entire district is only two people — but that's enough for the centrally managed Citrix environment. Mitchell estimates that continuing the old system would have required at least one additional staff member. And the Citrix solution boosts staff productivity. The student database, for example, was a "memory hog." Now, says Mitchell, "It's so lightning fast, it's unbelievable."



### Serving application needs cooperatively.

In the world of primary and secondary education, demands for data and record keeping are huge and technical staff are overtaxed. But in Washington State, the Puget Sound Educational Service District (ESD) eases the strain. It employs a Citrix solution to create the eDataDoc Cooperative, which manages server-based applications and data for schools in the largest educational community in the state — with 35 school districts and more than 200 private schools.

The cooperative functions as an application service provider (ASP), delivering access to applications and data in a secure environment to its member schools. The first use is a special services application, Academic Tracker, that helps special-education teachers create individual educational plans (IEPs). Now teachers have information at their fingertips that they can't get from other student record databases.

“The co-op is a great way to ensure that teachers always have the applications they need to manage student records,” says John P. Reeg, director of network services at the ESD. “Now everything is simplified — from creating lesson plans to providing parents with information about their children’s educational progress.”



## How Citrix application server software works.

Citrix application server software shifts application processing from individual computing devices to a centralized server. Because data processing occurs on the server, any device — including older Macintosh computers and PCs, inexpensive thin clients and a host of others — can access the same powerful administrative and instructional applications. Only low-bandwidth information, such as mouse clicks and keystrokes, is transferred between the device and the server, ensuring high performance.

In the Citrix computing model, applications can be accessed across multiple platforms including Windows, Mac OS, UNIX and Linux — over a variety of connections, including Internet, LAN, WAN, dial-up or wireless.

Schools have the option of hosting applications on a school-based server, which allows fast deployment, easy updating and simplified management. Or they can access applications via the Internet by subscribing to the product offerings of an application service provider (ASP).

The bottom line is that students, teachers and administrators now have equal access to applications that look, feel and perform as if they're running on a powerful, multimedia desktop.

## The Citrix family of products.

Citrix is the world leader in application server software and services with a family of products that includes:

- Citrix MetaFrame™ for Windows 2000 Servers
- Citrix MetaFrame for Microsoft® Windows NT® Server 4.0, Terminal Server Edition
- Citrix MetaFrame for UNIX Operating Systems
- Citrix VideoFrame™
- Plus a suite of comprehensive management tools

Please visit [www.citrix.com/education](http://www.citrix.com/education) to find the reseller nearest you.



Citrix MetaFrame employs the most advanced architecture in the application server software industry.



Worldwide Headquarters  
Citrix Systems, Inc.  
6400 NW 6th Way  
Fort Lauderdale, FL 33309 USA  
Tel: +1 (800) 393 1888  
Tel: +1 (954) 267 3000  
<http://www.citrix.com>

Americas Headquarters  
Citrix Systems, Inc.  
6400 NW 6th Way  
Fort Lauderdale, FL 33309 USA  
Tel: +1 (800) 437 7503

European Headquarters  
Citrix Systems International GmbH  
Rheinweg 9  
8200 Schaffhausen  
Switzerland  
Tel: +41 (52) 635 7700

Asia Pacific Headquarters  
Citrix Systems Asia Pacific Pty Ltd.  
Level 3, 1 Julius Avenue  
Riverside Corporate Park  
North Ryde NSW 2113  
Sydney, Australia  
Tel: +61 (0) 2 8870 0800



*Now everything computes.™*