

CHALLENGE	SOLUTION	BENEFIT
Replace outdated computers with Intel® architecture computers that can deliver outstanding Internet performance and run leading-edge educational and administrative applications	Dell™ PowerEdge™ 2550 servers with dual Intel® Pentium® III processors and PowerEdge 6450 servers with four Intel Pentium III Xeon™ processors, Dell OptiPlex™ PCs, Dell Latitude™ notebook computers, a Dell storage area network (SAN), and Dell OpenManage™ software; Microsoft® Windows® XP and Microsoft Windows 2000 operating systems	Exceptional Internet performance; higher staff productivity; high availability; increased learning opportunities for students

Technology becomes a teaching aid

Novi Community School District enhances teaching and learning with Dell-Intel-Microsoft infrastructure

Technology is a critical element for any educational system today. Children from kindergarten through high school now use computers for a variety of educational purposes—from using word processors to accessing the Internet.

The importance of the latest technology is not lost on the citizens of Novi, a suburb of Detroit, Michigan. Many Novi residents—professionals who work for the “big three” automobile manufacturers—are power users at both work and home. They also want their children to have access to the latest technologies.

Classroom needs outstrip computers

As teachers within the school district began to leverage the advancements in technology more fully, and the student population swelled by 50 percent, aging computers became a hindrance to the learning environment. Teachers, students, and parents alike began to complain about the less-than-optimum computers available to students.

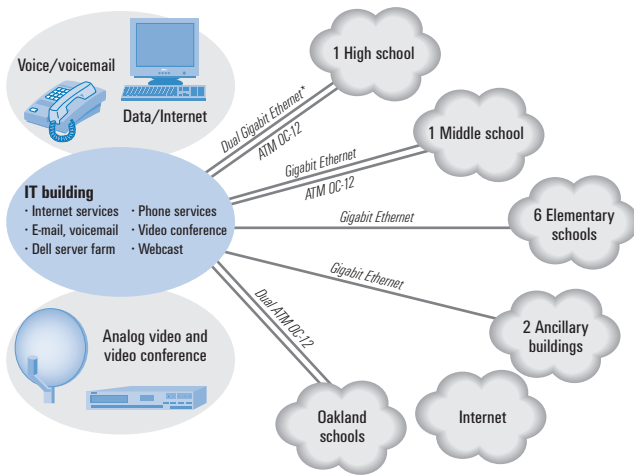
Although many teachers were comfortable with computers, they could not use the latest applications such as Microsoft®

PowerPoint® software because of the older computers. These old computers crashed frequently, Internet performance was slow, and educational opportunities involving streaming video and other rich graphics were simply inaccessible.

“Most of our students had far more advanced systems at home,” explains Jim Fry, director of technology for Novi Community School District. “The students didn’t want to do assignments at school; they wanted to take them home.” With technology becoming increasingly integral to teaching all grades and more critical to the district’s goal of providing more individualized instruction, the school board recommended a \$15 million overhaul of the district’s technology infrastructure. In June 2001, the voters approved the measure, and the selection process began.

Dell goes to the head of the class

The Novi Community School District knew it wanted an Intel® architecture platform because of its low total cost of ownership (TCO) and the broad availability of hardware and software for the



* Gigabit Ethernet indicates compliance with IEEE® 802.3ab and does not connote speeds of 1 Gbps

The Novi Community School District chose an Intel architecture using a full Dell infrastructure

platform. The school district further decided to look only at the largest manufacturers because they were more likely to offer a stable, long-term relationship and strong experience in the educational market.

After a rigorous evaluation of five major computer companies, which included site visits and detailed requests for proposals, the Novi Community School District chose Dell as its platform provider. “Dell has a great reputation and great products,” Fry says. “We talked with other school districts and heard many good things. Dell is at the front of the innovation curve, but it is not at the bleeding edge. Dell takes the most promising technologies and perfects them. Plus, we can get just about everything we need from Dell, which simplifies procurement.”

A new infrastructure for learning

Over a four-year time frame, the Novi Community School District will buy a significant amount of Dell™ hardware, support, and services. The district has yet to fine-tune its shopping list, but plans to buy 3,000 to 4,000 Dell computers for the district’s eight schools (six elementary schools, one middle school, and a high school) and administrative offices. The breakdown includes:

Servers. The district will eventually purchase approximately 30 Dell servers for e-mail, application, file sharing, and database needs. To date, the district has installed 25 servers: a mix of Dell PowerEdge™ 2550¹ servers with dual Intel Pentium® III processors in a 2U form factor and PowerEdge 6450¹ rack-mount systems with up to four Intel Pentium III Xeon™ processors running at 900 MHz in a 4U chassis.

Storage area network (SAN). The initial setup is direct attach storage based on the Dell |EMC FC4500 Fibre Channel storage system and the Dell PowerVault™ 136T LTO™ tape backup library. The district will move to a SAN, also based on the Dell |EMC FC4500 system, to give Novi Community School District a more powerful, centralized storage system that can easily handle growing data volumes and multimedia data formats.

PCs. The district will purchase nearly 3,000 Dell OptiPlex™ GX260 PCs containing the Intel Pentium 4 processor for classroom and staff use. The goal is to have one computer for every two students and a computer on every teacher’s desk.

Mobile. The district will purchase some 300 Dell Latitude™ C610 notebook computers and distribute them among schools on “floating” mobile carts. The district will implement full wireless roaming through all its school buildings. It is also investigating the use of tablet computers, PDAs, and other wireless devices.

Systems management. The Novi Community School District will implement the Dell OpenManage™ systems management software throughout the district. OpenManage will help to simplify remote server and desktop management for Fry’s small staff, allowing technicians to deploy, monitor, and manage systems remotely from a central location.

“Internet speeds on the Dell machines were amazing. The kids’ productivity went up 300 percent.”

– Gary Kelly
History Teacher
Novi High School

Support. For servers and storage systems, the Novi Community School District purchased Dell Gold Support that provides 7x24 remote and on-site² support, service level agreements, priority phone support and spares delivery, and other fast-response features.

Microsoft foundation brings power, flexibility

The district chose the Microsoft Windows® XP operating system for all desktops and Windows 2000 for all servers. Microsoft Active Directory® directory service provides a consolidated directory

¹ Newer models are available at <http://www.dell.com>.

² For 7x24 service, Dell will dispatch a service technician within four hours of determining the hardware problem. The service technician may not arrive until the following business day if dispatched after 4:00 p.m. local time. Service may be provided by a third-party provider under contract with Dell. Technician will be dispatched if necessary following phone-based troubleshooting. Availability varies.

“Technology brings so many exciting possibilities to education, and the Dell-Microsoft infrastructure will let us take advantage of them all.”

— Jim Fry
Director of Technology
Novi Community School District

management system and helps to simplify the management of both users and resources. Other key software includes Microsoft Exchange 2000 Server and Microsoft Outlook® for e-mail and collaboration software; Microsoft SQL Server 2000 for database applications; Microsoft Internet Information Server (IIS) for Web server access; Microsoft Office XP for word processing, spreadsheet, and presentation applications; and Microsoft SharePoint™ Portal Server 2001.

“A Microsoft foundation gives us consistency across our entire district. It also gives us access to the broadest choice of software for classroom and administrative needs,” Fry says.

District portal for information-sharing

Microsoft SharePoint Portal Server will provide a single district-wide document management system for teachers to store lesson plans, student portfolios, test results, attendance records, and other information.

The high-capacity Dell SAN will allow teachers to store even data-rich items such as video projects and audio files of student speeches. In fact, key milestones of students’ entire school careers can be stored digitally for a complete electronic record of their K-12 accomplishments. Teachers, parents, administrators, and students will be able to securely access this material for reference. For example, if one teacher creates a winning unit on the Civil War, this unit and all its lesson plans will be available online for other teachers to use.

Technology motivates, liberates

Debbie Madeja, a third- and fourth-grade teacher at Deerfield Elementary School in Novi, comments that technology is a great motivator in the classroom. “Even the youngest children are very

intrigued by computers and often very comfortable with them,” Madeja says. “It’s visual, tactile, and interactive. Even something as simple as writing an essay is easier on a keyboard than on paper for many kids. Because their writing looks better, they take more pride in it and work harder to improve it.”

According to Gary Kelly, a history teacher at Novi High School, the Internet and computers also help individualize learning and make it a 24x7 activity. “Kids are busy; they have a million activities. As we put more of our teaching materials online, students can access them at 2:00 A.M. if they want. History won’t be limited to the one hour they are in my classroom,” says Kelly.

This new technology infrastructure enables teachers in the district to tap into online courses at local colleges and universities, which broadens the district’s offerings far beyond its teachers’ expertise and the district’s budget. Kelly says, “Students can take these online courses at school or from home. Technology is bringing dramatic new possibilities to education.”

Running the business of education better

The new Dell-Intel-Microsoft infrastructure also will allow the Novi Community School District to run its business operations more efficiently. “No one ever has enough time, money, or personnel,” says Fry. “The Dell and Microsoft technologies will enable us to communicate more effectively, share documents more easily, and generally be more productive. We plan on using video conferencing to bring staff together for meetings and even involve parents.”

Fry says the new infrastructure also will allow the district to push information to parents and teachers and to link all types of devices into the district’s technology infrastructure through Microsoft .NET-based technologies. “More and more kids are bringing PDAs to school,” Fry says. “I see a day when we’ll be able to push information out to PDAs, laptops, and other wireless devices; students will have 24x7 real-time access to databases and assignments, parents will know by 9:00 A.M. if their kids did not show up for school, and students on field trips can enter data on handheld devices. Technology brings so many exciting possibilities to education, and the Dell-Microsoft infrastructure will let us take advantage of them all.”



FOR MORE INFORMATION

<http://www.dell.com/servers>

<http://www.intel.com/xeon>

<http://www.microsoft.com>