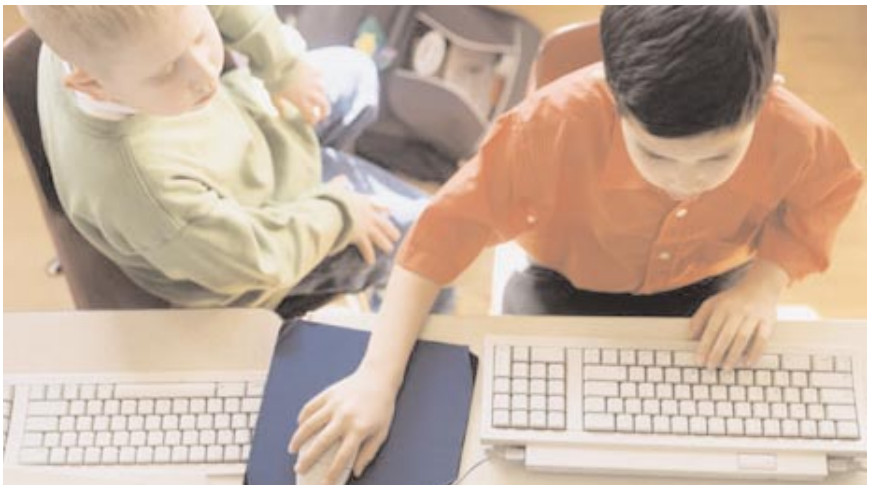
Growing District Balances Technology Needs and IT Support



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Michael Dodge

Assistant Superintendent

Manteca Unified School District

Manteca Unified School District, Manteca, California

Like many school districts, Manteca Unified School District (MUSD) has a growing population and increasing emphasis on using technology for everything from instruction to homework to administrative operations. In 2004-2005, the district enrolled 23,000 students and expects to add 1,500 students per year. By centralizing applications and support through network-based computing and standardizing on thin-client hardware, the school district expects to expand access for students and teachers to critical applications and information without adding network staff or increasing the cost per student for technology.

Located in California's San Joaquin Valley, MUSD serves a growing suburban population in an agricultural community with 25 schools and 1,500 faculty members. Within this diverse community, MUSD is committed to providing a safe environment where quality education establishes a foundation for life-long learning for the district's students.

Do More with Less

Given the large area of the district and small IT staff, quality technical support for classrooms and business offices throughout the district proved challenging. Three district technicians support 7,500 desktops at 25 school sites in the communities of Manteca, Lathrop, French Camp, part of Stockton, and unincorporated areas. The district knew that better, more reliable access to technology could help improve operations as well as instruction.

The district identified standardization as a critical barrier to the expansion and sustainability of technology use for administration and instruction. Multiple versions of software made it difficult for administrators and faculty members to share templates, forms, and data files. To upgrade or update the mix of Macintosh and Windows®-based

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Solution Architecture

- Wyse Products
  - Wyse® Winterm™ thin clients
  - Wyse™ Rapport® software
- Servers
  - Microsoft® Terminal Services on the server
- Applications
  - SASI
  - Microsoft Office Suite
  - FileMaker
  - Reflections
  - Adobe® Acrobat®
- Network
  - Wireless WAN

PCs, the IT staff had to physically touch every machine. The district network was too slow to support more students accessing the Internet and not robust enough for the IT department to provide remote support.

Like most school districts, MUSD had to reconcile any technology updates and expansion plans with budget limitations. They asked: How can we increase access to technology for students and faculty on a fixed budget, while balancing network, hardware, and software expenditures?

A Better Solution: Wyse Winterm Terminals

To standardize and centralize, the school district implemented network-based computing using Microsoft® Terminal Services and Wyse® Winterm™ thin clients at two new schools and in one of the business departments.

With network-based computing all data and application processing occurs on powerful servers at the school site or district offices with only screen images, mouse clicks, and keyboard strokes traveling the network. Students and faculty members have access to the servers using a unique, secure log-in from any device on the network. The district implemented the most commonly used applications first on the thin clients to keep the desktop familiar. Teachers have access to SASI, the student information system; Microsoft Office Pro; FileMaker databases; and Adobe® Acrobat®. Business staff use these applications plus Reflections.

About the size of a small textbook, Wyse Winterm thin clients take up less space on student desktops, have a faster boot time, less memory requirements, and a lower cost per unit then traditional fat clients. To test their proof of concept with thin clients, MUSD deployed Windows CE and Windows XP embedded thin clients in a new high school, a new elementary school, and the business services department. The IT staff use Wyse™ Rapport® device management software to view remote device status and conduct inventory from the district office.

"After one year, thin clients have become the district standard," said Michael Dodge, assistant superintendent for the district. Due to the lower cost of implementation of thin clients versus desktop PCs, they were able to upgrade to a 100MB wireless Wide Area Network.

Benefits of Affordable Technology Access

In the schools, every teacher using thin clients has secure access in the classroom to the student information system. By using the electronic attendance forms, the district has increased the quality of attendance records and eliminated staff hours needed to collect and scan attendance bubble sheets. "Schools have seen what happens when attendance goes from bubble sheet to electronic," said Dodge. "Attendance rates go up and it saves staff hours."

By keeping support costs down through network-based, thin-client technology, MUSD has been able to increase access to technology at two new schools. The average cost of a thin client for the district is $500 compared to $900 for an equivalent PC. The district

supports more thin clients with the existing staff of three technicians through centralized, remote management. Software upgrades and hardware expansions occur on the servers, so that technicians no longer have to touch each desktop. Although some specialized applications require the district to maintain some fat clients, thin clients meet the needs of the majority of users, most of the time. According to Dodge, "Our power users have 10 documents open all at once while being signed on to the county office."

In addition, thin clients have reduced operating costs by lowering utility costs and extending the refresh cycle for desktops. Because thin clients have low power requirements and do not generate heat, the district has seen electricity costs go down by $250,000 per year. (Not all of the savings are a result of thin clients.) With no moving parts to break down, thin clients last longer than typical desktop computing devices.

During the implementation, Dodge and his staff have worked with Wyse to load necessary drivers on the thin-client desktops to support the increasing number of peripherals teachers and students use: disk keys, BlackBerry® devices, smart boards, and other tools.

Going Thin, School by School

The district is converting all school desktops to the network-based solution at a rate of one school per month, expecting to finish by the 2006-2007 school year. As older computers fail, they will be replaced by less expensive, longer-lasting thin clients, and new schools will start fresh with thin-client implementations. The district also plans to move servers from the schools to the district office.

Dodge envisions more frequent and more common use of technology as the district increases its ability to provide more reliable, more ubiquitous access. "We see putting more machines in classrooms at a two-to-one rate of students per thin-client device," he said. "We also see more and more forms and applications that we can use and share across the network now that we have standard versions of software. We see students and teachers able to access their school desktops from home with an Internet connection and a web browser. And eventually, we envision that parents will have access to performance and achievement to help close the communication loop between schools and families and improve education for all."

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