Hudson Falls Central School District

HP Thin Clients deliver reliable, flexible classroom technology

"HP Thin Client computing makes us a lot more efficient with the technology budget."
–Greg Partch, Director of Education Technology for the Hudson Falls schools

HP customer case study: HP thin client solution delivers on the promise of technology in the classroom

Industry: Education

Objective:

Provide reliable technology in the classroom, while improving student access

Approach:

Hudson Falls Central School District implemented HP Thin Clients in the classroom linked to HP Server Blades, and the ClassLink application delivery system

IT improvements:

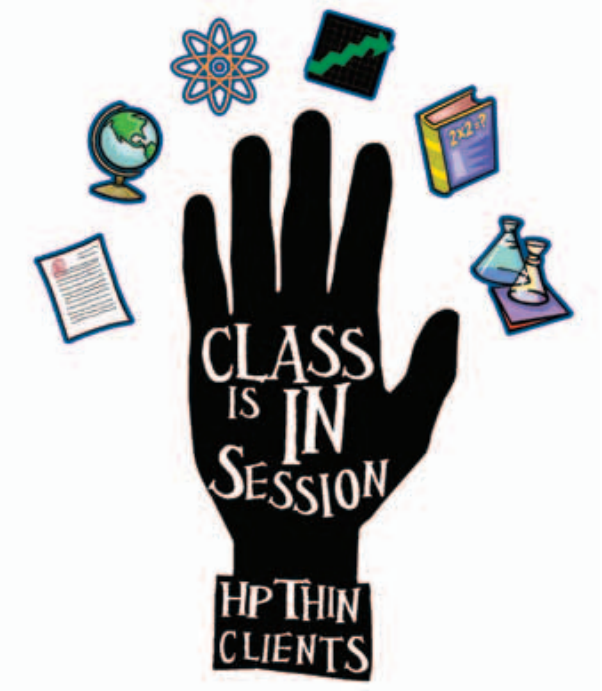
- Greater reliability with HP t5530 Thin Clients
- Centralized software management from data center

Business benefits:

- Lower costs due to:
  - licensing fewer copies of software and managing access at the server
  - replacing traditional desktops with thin clients that cost substantially less
  - centralized server (and software) management in the data center
- Improved access with greater number of workstations, more uptime
- Students access a consistent desktop anytime, anywhere
- More 'time on task' in the classroom

When Greg Partch left his job in industry to join the Hudson Falls (N.Y.) Central School District and head its technology department, he faced a major challenge. The town had lost most of its traditional industrial base, so schools were terribly under funded, yet desperately in need of effective classroom technology.

"I needed to find technology that would be cost-effective, that would run all the time, be accessible almost 24 x 7, and not require a large staff to manage it," says Partch, Director of Education Technology for the Hudson Falls schools. "A virtualized environment with HP Thin Clients and application servers combined with the ClassLink technology portal, does all that for us."



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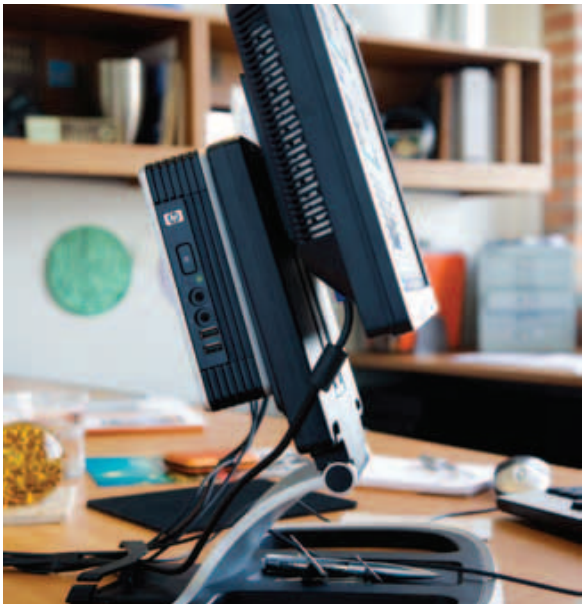

A new paradigm for classroom technology
Thin client computing is a new paradigm for classroom technology. Traditionally, schools deploy individual desktop PCs. But often with challenges. "Kids can get into the operating system, delete applications, download the wrong patch, upgrade to a new version of an application that isn't compatible with everyone else, and pretty soon you've got a classroom with technology that won't work," says Partch. "A lot of schools have a lot of computers that really don't work well."

Hudson Falls' thin client environment prevents that. The HP Thin Clients have no hard drive and no resident software. Instead, when students or teachers log in, they get a virtual desktop from an application server back in the district's main data center. The desktop is delivered by ClassLink software, an application delivery system developed specifically for education.

"We realized 10 years ago that schools need help with their instructional technology," recalls Berj Akian, the founder and CEO of ClassLink. "What teachers and students really want is technology that works and provides reliable access to their software, and that's what we built."

ClassLink delivers a customized virtual desktop to the HP Thin Client with the exact instructional learning software tools intended for that student (based on the student's login identity and class schedule). All told, the district has more than 120 educational software applications available on its servers. First graders get a virtual desktop with one set of software, second graders a slightly different set, and so on. By high school, the student's virtual desktop features programs for specific classes.

And the student gets the same access whether he or she is logging in at school, at home, or the public library. So students can start a project at school, and continue it from nearly anywhere they have access to a computer. They log in and have all the same software, as well as their personal project files located in their home folders.

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Akian says there's real synergy between the schools' HP Thin Client infrastructure and his company's virtual desktop software. "ClassLink makes a great instructional desktop that delivers software using application servers and virtualization. HP is a great leader in that area. They are dedicated to developing application servers and virtualization solutions. When you take the strength of ClassLink and the dedication of HP, together we can offer education what it really needs: reliable instructional technology."

In the classroom, Hudson Falls teachers agree. "It was very frustrating working with our old classroom computers because I'm no technology guru, and you couldn't count on anything working the way it was supposed to," says Joy Lindsay, a first grade teacher at Hudson Falls Primary School. "With the HP Thin Clients, I can do a lot more as a teacher. We can

Customer solution at a glance

Primary applications
Classroom technology

Primary hardware
- HP t5530 Thin Clients
- HP Server Blades

Primary software
- ClassLink
- VMware
- Citrix
- NetApp

divide the class into groups, and while I'm working with one group, another group is doing exercises on the computers. And they're so kid-friendly and easy to use, that if one student has difficulty, all they have to do is turn to their neighbor for help. They really can learn from each other."

Anthony Nassivera, an American history teacher in the high school, is equally enthusiastic. His students can retrieve assignments and handouts from his shared folder on the network, then access a variety of software programs and research sources to begin their work. And he doesn't have to spend his whole prep period making sure the computers will work. "I'm able to spend a lot more time on instruction now," he says. "With HP Thin Clients and ClassLink's instructional desktop, technology's not taking over the classroom. Instead, it's making learning possible. It's allowing students with different learning styles and learning speeds to work in their own way."

Akian notes that research supports Nassivera's point. Thin client computing is more reliable, provides better access and therefore makes the most of instructional software. "What that all adds up to is that the class spends more 'time on task'–which every educator knows is one of the most important things to improving learning. We've found thin client technology in the classroom increases time on task."

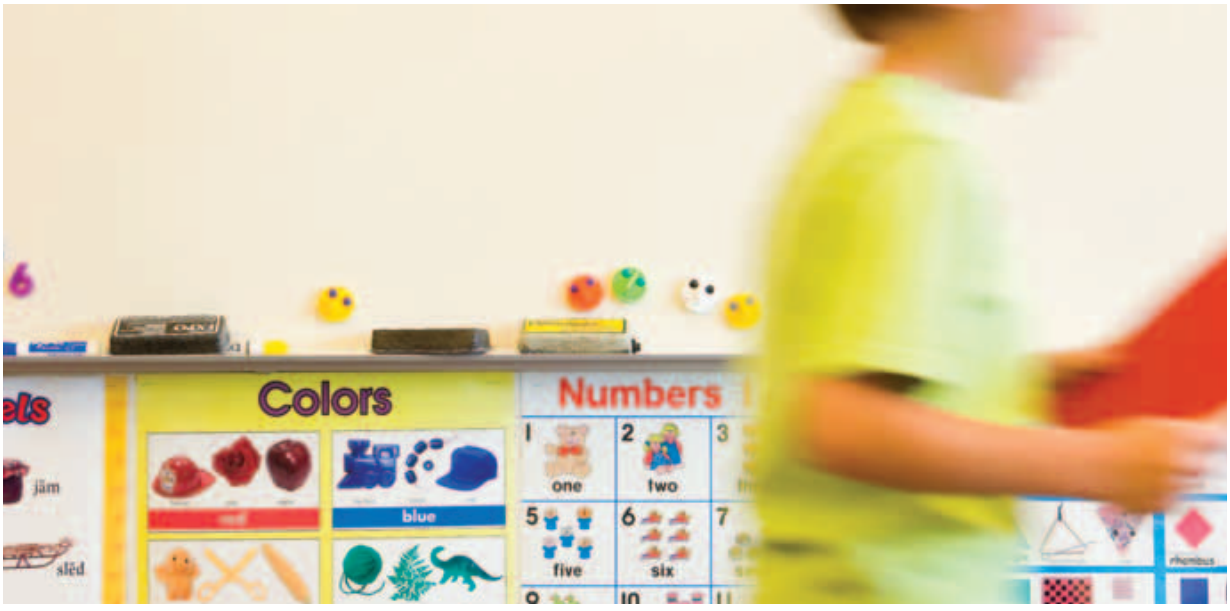
Stretching school dollars

Partch says the thin client environment doesn't just deliver a better instructional tool–it also does it for far less money. The savings come from less expensive hardware, easier IT management, and savings in software licensing.

First, user hardware is less expensive. Thin clients typically cost substantially less than a well-equipped desktop PC would. And Hudson Falls has deployed more than 1,500 thin clients giving some classes 1:1 access. Of course, there's the added cost of the servers back in the data center, too. Partch intends to cut that cost down to size by running VMware software to support virtualization on HP Server Blades and a NetApp storage solution. As a result, the district will support all the students and teachers on just 15 server blades (compared to 70 servers pre-virtualization).

"Our research into the market made it clear that HP has taken the lead in product performance, and customer support and service in servers and virtualization," says Partch. "I won't put a critical application on a server that is out of maintenance. With virtualization I know that our virtualized servers can be configured to move automatically to a different physical server upon a hardware failure. Through virtualization and these blade servers our whole system is much more reliable."

The thin client is also much easier to support. Rather than sending technicians to each classroom to deal with desktop units that have developed hardware or software issues, most of the management takes place back in the data center. "Instead of managing 1,500 copies of software on individual desktop PCs, we have it on 11 servers, so we manage 11 copies. In fact, we essentially only manage one," Partch says. "The total



cost of ownership is much lower. And our staff can spend time on more value-added projects."

As for hardware issues on the thin clients, Partch chuckles. "Nothing really breaks. We may have to replace a keyboard or a mouse, but that's it."

Finally, the district saves on software licensing. Suppose the district wants to make a given piece of software available on 750 computers. Rather than purchasing 750 copies, it might purchase a license for 100 copies. The ClassLink application portal has a software-metering feature within it that monitors the number of users that have launched the software. When the 101st student tries to use it, ClassLink shuts them out from using the metered application.

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"If we had to buy licensing for every desktop for every application, it would bankrupt the district," Partch explains. "Thin client computing makes us a lot more efficient with the technology budget."

Bridging the digital divide

Providing better access, greater reliability, and lower cost would be enough for any senior technology manager, right? Partch argues that Hudson Falls' HP Thin Client solution provides one more important benefit.

Some students are substantially disadvantaged when it comes to technology away from school. But in Hudson Falls, any student who has a phone line and any kind

of computer–even one that's otherwise obsolete–can log in and access the same desktop they have at school. Students can also have access through the network connection the District provides the Hudson Falls Public Library. Additionally, through this system and using HP Thin Clients, Partch enabled the students at the nearby county detention center for incarcerated youth to have prescriptive access to their software applications as well. "It goes a long way toward bridging the digital divide," Partch notes.

Looking ahead, Partch is now working with organizations throughout the state to help other districts take advantage of the benefits of thin client computing. "What Hudson Falls is doing today is being considered as a possible approach to state-wide technology needs in public schools for the future," he notes. "The savings are potentially huge. But what's more important is that a thin client solution based on HP and ClassLink technology can deliver what computers have long promised in education."

Contact the HP Reference2Win Program, 866-REF-3734 for more information.

To learn more, visit www.hp.com
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