Thin is in:
Conroe ISD prepares for web-based future with HP Thin Client

> "We've been using HP Thin Clients quite extensively for online testing. The old paper environment is going away. The future for us is web-based computing—and the HP Thin Client is engineered exactly for this."
> —Dr. D. Scott Barrett, Assistant Superintendent for Technology, Conroe (Texas) Independent School District

HP customer case study: HP Thin Clients support shift to web-based computing/online testing at Conroe ISD

Industry: K-12 education

Objective:
Prepare school district for paradigm shift to web-based computing, starting with high-stakes testing

Approach:
Migrate to a thin-client environment

IT improvements:
- Simplify device deployment and management
- Increase computing reliability and uptime
- Decrease maintenance burden
- Reduce power requirements/deploy in old buildings

Business benefits:
- Prepare for new online testing requirements
- Shift to emerging paradigm of web-based computing
- Achieve TCO savings in capital, operational and maintenance costs
- Increase productivity through easy application access, reliable uptime

Along with slate tablets and chalk erasers, toss into the dustbin of educational history the little oval test answer filled precisely with No. 2 pencil. The way Dr. D. Scott Barrett sees it, everything—from End-of-Course evaluations to project research—is moving to the web. At Conroe Independent School District in Conroe, Texas, where Dr. Barrett is Assistant Superintendent for Technology, a key tool in this transition is the HP Thin Client.

"The paradigm of the computer as we know it is changing; the future we see is going to be web-based," says Dr. Barrett. "In school districts such as ours, this change is being driven in large part by online testing requirements. The HP Thin Client—we call it our Web PC—is bringing us into this future with confidence."

> "Our big focus right now is getting ready for online testing. The HP Thin Client is engineered exactly for this. We just launch programs through our web browser and they pop up on any one of our HP Thin Clients without us ever having to touch the machine."
> Dr. D. Scott Barrett, Assistant Superintendent for Technology, Conroe (Texas) Independent School District

HP recommends Windows Vista® Business.

Think thin

Thin clients are solid-state devices that generally connect over a network to a centralized server in a secure data center. "However, with a 1GB solid state drive on the WebPC, we install an image with Windows® XP, Internet Explorer, our e-mail collaboration package, and OpenOffice Portable so that a WebPC is a fully functional computer, with the reliability of a thin client – without the need to connect to a central server," Barrett explains.

The advantages of thin clients include greater control over data, easier deployment and maintenance, better security and improved reliability. Total Cost of Ownership (TCO) savings have been offered by leading analysts at typically 38 to 48 percent.

"Why HP Thin Clients? Because everything is heading toward the web—word processors, presentation tools, spreadsheets, testing. We're looking at HP Thin Clients with HP Neoware Image Manager to bring us into this new environment."
Dr. D. Scott Barrett, Assistant Superintendent for Technology, Conroe (Texas) Independent School District

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Anticipated TCO savings were Dr. Barrett's key driver for moving to a thin client environment. Conroe ISD serves 46,000 students on 49 campuses, soon to be 51 campuses. Its history with HP began four years ago, when the district moved to HP servers after having problems with another server brand. That experience was so positive that Conroe moved from non-HP brands to HP Business Desktop PCs and thin clients—in fact, just about HP everything. The district's HP solutions include servers, storage, HP Laser Jet printers, and HP notebook and desktop PCs. The HP Compaq dc5700 Small Form Factor

PC is Conroe's computer of choice whenever it needs processing power and graphics capabilities on the desktop. HP Compaq Business Notebooks with mobile, wireless carts provide traveling computer labs. The newest addition is the HP Compaq t6720 Mobile Thin Client which provides the convenience of virtual computing with the mobility of a notebook.

Conroe's thin client deployment started as an experiment in a single general-purpose lab. At the end of one class period, the students were asked to pick up their desktop PCs and leave them by the door. The incoming class picked up the HP Thin Clients, unpacked the devices and plugged them in. The machines worked immediately and have never stopped.

"Typically in a general purpose lab, nobody owns responsibility for it and therefore you have a lot of maintenance and downtime," Dr. Barrett says. "Imagine how much time and productivity is lost. The HP Thin Clients—they just work. We don't need a dedicated lab aide in that classroom—we were able to assign that person elsewhere—and we don't need to troubleshoot. It's just a solid, reliable machine."

The HP Thin Client's solid-state design has no moving parts or fans, resulting in long lifecycles, increased uptime and greater power efficiency. At Conroe, this allows deployment of thin clients in buildings where PCs could not go. "Some of our older buildings were not built with enough electrical power to support PCs; we've been able to put thin clients and monitors in these classrooms," Dr. Barrett says. "Also, having no moving parts, the thin clients are locked down so there can't be any changing of the configuration." Another advantage is that the HP Thin Clients' built-in sound and USB ports make it easy to plug and play educational programs in the classroom.

High-stakes testing changes everything

Conroe ISD has some 3,000 HP Thin Clients, deployed in three key areas. In K-12 libraries and general-purpose labs, the devices are used for Internet research, and to access productivity software and educational applications through the campus terminal server. In elementary school classrooms, thin clients access software that helps children learn to read.

The critical application—the one that's changing the entire educational environment—is high-stakes testing. The district uses the TestNav™ delivery system, launched to the HP Thin Clients through a web browser. Recently 3,500 students accessed the Texas English Proficiency Assessment System (TELPAS) through thin clients. In 2011, Texas school districts will have to begin a phased implementation of the Texas Assessment of Knowledge and Skills (TAKS) online. Dr. Barrett plans to be ready. "End-of-Course testing is making a big change. We're getting rid of the old paper environment," he says. "We launch TestNav™ through our web browser and it pops up on any HP Thin Client throughout the district without us ever having to touch the machine." Conroe also uses a commercial web portal that provides a word processor and spreadsheet for online collaboration.

"It takes a paradigm shift because people are so used to having applications and storage on their computers," Dr. Barrett says. "But there are many inherent problems in this; for example, you go to another computer and your applications might not be on it, not to mention your files. With web-based computing, whether you're at home or across the world, as long as you have Internet access you have access to your applications and your files."

To get the most out of its HP Thin Client deployment, Conroe is testing HP Neoware Image Manager, software that centrally manages and streams operating systems and applications to thin clients and PCs on demand. "We have a trial right now to test Image Manager in our environment. It's a tremendous tool. It will allow us not only to utilize our thin clients but also to revitalize our older PCs," Dr. Barrett says. Conroe also uses Altiris Deployment Solution, which comes integrated into HP Thin Clients, to image machines across the network. "It takes about five minutes to image an HP Thin Client. We ship the device directly to the campus. They take it out of the box, plug it in and PXE boot to the network. The machine is ready to go in a few minutes, with no fuss or worry."

Standardizing on HP, he adds, simplifies maintenance and change management. "You can support the hardware a lot longer when the structure, the architecture inside, remains constant. It allows us to standardize our image, which gives a huge advantage in our ability to implement change."

Primary applications
Internet connectivity, access to productivity software, online tests and classroom applications

Primary hardware
• HP Thin Clients
• HP Compaq dc5700 Small Form Factor PC
• HP Compaq t6720 Mobile Thin Client
• HP Compaq Business Notebook with Mobile Wireless Classroom cart
• HP iPAQ Pocket PC

Primary software
HP Neoware Image Manager

Primary Services
Three-year limited hardware warranty

HP recommends Windows Vista® Business.

Contact the HP Reference2Win Program, 281-514-5755 for more information.

Big power, small footprint
Looking into the future, Dr. Barrett sees HP fulfilling Conroe's IT needs with big power in small packages. Already the HP Compaq dc5700 Small Form Factor PC packs significant processing power in a small footprint. Conroe ISD is also testing roughly 200 HP iPAQs, for example to access web-based[1] student information and surveillance systems.

"I envision, with everyone on the web, that we'll have little handheld devices that belong to the students. They'll walk into the classroom and pop the device into a cradle, a portal with a keyboard and a monitor. When they're done, they'll pick up their handheld device, stick it back on their belts and go to the mall—where there's a kiosk they can use for access," Dr. Barrett says. "When those days come, I know HP will be right at the forefront."

To learn more, visit www.hp.com

[1]A standard WLAN infrastructure, other Bluetooth-enabled devices, separately purchased equipment, and a service contract with a wireless airtime provider may be required for applicable wireless communication. Wireless Internet use requires a separately purchased service contract. Check with service provider for availability and coverage in your area. Not all web content available.

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