

## Case study

# North East Independent School District



HP Thin Clients add management simplicity,  
reduce support requirements

### Industry

K-12 Education

### Objective

Update desktop infrastructure to increase efficiency of basic computing tasks, streamline support operations and expenses, lengthen desktop lifecycles and optimize instructional time

### Approach

Virtualize desktops with HP Thin Clients running VMware®

### IT matters

- Improve user experience by delivering a pristine desktop environment with every logon.
- Increase instructional time for teachers and students with a virtual environment that transitions technology management out of the classroom
- Increase efficiency in tracking, configuring, upgrading and centrally managing HP Thin Clients across the network

### Business matters

- Deliver reliable, easy-to-maintain desktop infrastructure cost effectively with HP Thin Clients
- Reduce support tickets by eliminating inappropriate software installation and malware problems at the desktop
- Dramatically lengthen lifecycles with easily reconfigured, extremely reliable HP Thin Clients



**“HP Thin Clients provide us with both ease of operation and device management. We have the ability to centrally administer all of our devices under a single pane of glass and to perform updates, patches, or enhancements to a single device or the entire fleet of devices in a short amount of time. The cost is minimal for additional HP Thin Client devices so we can scale out at a fraction of the cost when compared to traditional lab equipment, but the ability to quickly manage those devices once they come on-line is invaluable.”**

– Derek Nichols, Director of Technology Support, North East Independent School District



North East Independent School District in Bexar County, Texas, includes some 70 schools and serves 66,000 students in the San Antonio area. Running in a virtualized network with HP Thin Clients has extended the time between expensive upgrades and replacements, reduced maintenance woes, and allowed teachers to focus on instruction rather than worrying whether or not the technology was going to be working.

Several years back, Derek Nichols glanced at a very capable computer in a school computer lab that was nearing the end of its lifecycle. He noted this busy device was rarely tasked to perform complicated equations and seldom generated any of the complex graphics within its capabilities. It didn't need massive amounts of onboard storage. It didn't require extensive graphics processing. It didn't take advantage of multi-threaded processing.

But more importantly, North East Independent School District in San Antonio, where Nichols is Director of Technology Support, was about to refresh this computer and thousands like it with newer, more powerful machines. He began to wonder whether this approach, taken by the District since 1999, was the best practice and use of taxpayer funding.

"I watched the specs on our computers get greater and greater: faster, more memory, more storage space," he says. "The prices for these features were coming down, but the usage in some of our environments simply did not require those powerful resources."

**"There's not a whole lot that can break on a Thin Client. They just continue to run."**

—Derek Nichols, Director of Technology Support, North East Independent School District

As he considered the nearly 8,000 lab, library, and science lab computers in the 144-square-mile District with some 66,000 students, he noted that most were seldom used to perform intensive computing tasks in these general purpose locations where curriculum often called for lower-end processes such as those afforded by Microsoft Office and internet-based research and resources. Locally stored software faces risk of malware and user error. And the devices both draw electricity and generate heat.

## Exploring virtual desktop infrastructure

After some initial research – including looking at a nearby district's installation of 1,000 thin clients – and discussion with the District's

administration, Nichols approached HP Gold partner Intech Southwest Services in San Antonio. They explored the concepts and tools for a virtual desktop infrastructure, as well as some alternative solutions.

The Intech team set up a temporary server and a lab of HP Thin Clients for IT support staff, teachers and students to test. Nichols had experience working with HP, since the majority of the District's printers and computers are HP.

"We put the test lab in an elementary school and configured it to work in our environment," Nichols says. "We put some basic software on there – Microsoft Office, some elementary software titles, and a few different browsers in a standard Windows environment. We would experiment and test it, and we let the kids use it to see if it was capable of addressing their needs as well."

## Positive experience with HP Thin Clients and VDI

His team's and the students' experience with the VDI system based on HP Thin Clients was very positive. The kids continued to learn seamlessly in the test lab. And his technicians appreciated the straightforward solution.

"The HP Thin Clients are very simple to set up," Nichols says.

Bond funds would pay for new HP Thin Clients and increased network storage. State funding was available to help support an upgraded server infrastructure. Nichols turned to the Intech Southwest team and specialists at HP to help him select and configure the new solution.

"I sat back and explained, 'This is where I want to go. Help me get there,'" Nichols recalls. "And we really dove in."

The initial installation in 2013 included 5,000 HP t510 Thin Clients at schools across the District, with t520 Thin Clients added as new models became available. They run VMware on a Linux operating system, delivering a virtual Windows desktop and software programs to teachers and students across the network.

## Immediate decrease in help desk tickets

“Immediately, we saw a decrease in the number of tickets for break/fix or configuration issues,” Nichols says. He adds that in the past, most users had administrative rights that could be misused or inadvertently allow malware installations.

“We were constantly chasing users around the District at various campuses to bring desktops back into a normal state so that the subsequent users could have a good experience,” he explains.

Nichols’s team configured the VMware environment so it “clears previous user desktops upon logoff. Anything the users do, any changes they make, any software they delete, any file they manipulate, any pictures they put on the desktop, literally anything they do, and it doesn’t matter. The moment they log off, that virtual machine is refreshed and delivers a pristine environment to the next user.”

## Busy computer labs cooler and quieter

Nichols noticed busy computer labs are now cooler and quieter with the power-light Thin Clients that don’t need internal fans. And the new solution also offers instructional advantages.

“Login times are significantly shorter than our previous solution, and once users are logged on, everything is where it’s supposed to be,” Nichols says. “They spend more time on instruction vs. ‘OK, Johnny, since your machine’s not working, why don’t you pair up with Suzie’ and ‘... Oh, yours isn’t working. I need you both to sit next to Connor.’”

## Speeding management with HP Device Manager

Now, aside from a rare keyboard, mouse or monitor hiccup, or even rarer physical damage to a Thin Client, Nichols says instructors smoothly rotate multiple users through each device daily. Using HP Device Manager, District technicians track, configure, upgrade, clone and manage the devices across the network.

Early each day, they test logins across the campuses, noting any delays and heading off problems before they grow. Server-level protection heads off malware issues.

“By eliminating a lot of the needs for break/fix at the desktops, we have shifted attention to student handheld devices and tablets when they fall out of configuration,” Nichols reports. “The ease of centralized administration of the VDI clients allowed us to shift many of our personnel resources to better support other technologies within the District.”

Adding HP Thin Clients as needs increase also has proven to be quick and efficient,” he says.

“From a management standpoint, everything just plugs right into the Device Manager,” Nichols says. “We can see it. We can manipulate it and do whatever we need to do to ensure that device is ready each day for student use.”

The HP Thin Clients now fill libraries, science labs and general computer labs across the District. Teachers and administrators work with HP Elitebook Ultrabook computers while office and departmental staff typically utilize HP desktop computers. High-end middle and high school labs running graphics, engineering and 3D-rendering solutions are equipped with about 2,000 HP Z-Series Workstations.

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“In the next two years, the high-end labs are slated for a refresh,” Nichols says. “I’m putting ourselves in position now to explore potential options that may allow us to meet the higher computing needs of those labs with a virtualized solution.”

Asked what advice he would offer others considering a switch to virtual desktop infrastructure, Nichols says, “Take the time to ensure that you have addressed the finer details, all the way from the infrastructure side, to the desktop endpoints,

## Customer at a glance

### Application

Virtual Desktop Infrastructure

### Hardware

- HP t510 Flexible Thin Client
- HP t520 Flexible Thin Client
- HP Z -Series Workstations
- HP Elitebook 9470m Ultrabook
- HP Elitebook 9480m Ultrabook
- HP ProDesk 600 G1
- HP OfficeJet Printer

### Software

- HP Device Manager

to the operating system you're pushing out. Obviously, a lot of testing is critical to the success of an initiative this size so put your pilot environment through as many different scenarios as you can simulate in order to account for the different variables that will come into play once you move to production."

## HP Partner, Intech Southwest instrumental in success

He adds that his team's daily maintenance has been key, and that during implementation, communication with stakeholders and good documentation are very important. He credits the team at Intech Southwest with reliably meeting deadlines for delivery and installation, as they had with previous upgrades.

The goal was to boost efficiencies across the board with a solution that offered higher

upfront costs but ongoing savings, from daily operations to upgrades and replacement.

## Thin clients deliver in total cost of ownership

"There's not a lot that can break on a Thin Client," Nichols says. "They just continue to run. We're banking on longer lifecycles of 7 - 10 years on average, which means cost savings.

"It's been a great success for the District," Nichols says. "I have no regrets and am excited about the opportunities that this technology will afford our users for years to come."

**Learn more at**  
[hp.com/go/thinclients](http://hp.com/go/thinclients)

