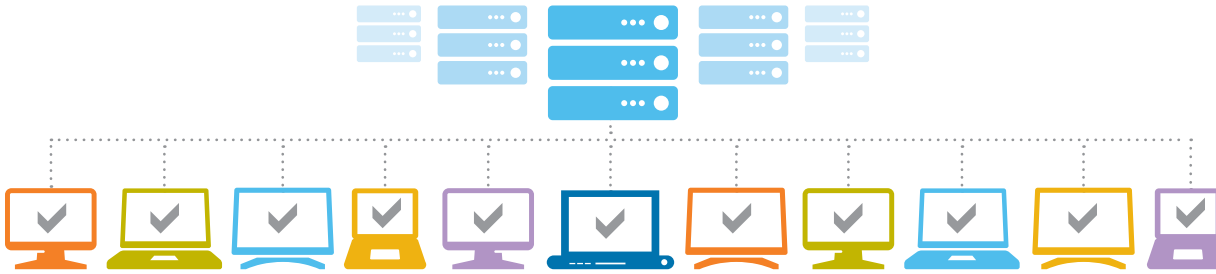
VIRTUALLY AMAZING

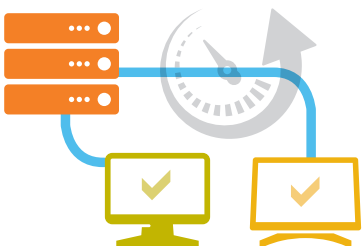
Northeast Alabama Community College cuts costs, increases reliability by deploying virtual desktops.



Imagine a technology solution that could streamline management responsibilities, reduce maintenance headaches, slash power and cooling costs, bolster security, and even alleviate hardware expenditures.

Sound virtually amazing?

Impressively, virtualized desktop infrastructure (VDI) has made all of those advantages – and more – a welcome reality to IT administrators. The technology has certainly made a believer out of Northeast Alabama Community College (NACC) in Rainsville, Ala., which recently deployed a VDI solution in several of its computer labs.



One of the leading community colleges in the South, NACC first implemented VDI as a pilot program in 2011. After rolling out HP thin clients within an English writing lab, the college immediately became sold on the technology.

"We'd heard about virtualized solutions and VMware and decided to run it as a test in the English department," explains NACC's IT Director Sam Dobbs. "Our college president has always emphasized being at the forefront of technology, so we are constantly seeking new ways to do things. We looked at all of the benefits and really didn't see a whole lot of downside to it."

Indeed, an increasing number of organizations are reaping the many rewards of VDI. International Data Corporation (IDC), a global provider of market intelligence, advisory services and events for the information technology, telecommunications and consumer technology markets, highlighted the growth in a recent study, *IDC MarketScape: Worldwide Desktop Virtualization 2011.*

"Existing hindrances to effective desktop management, combined with reduced IT budget during the past recession, have the organizational IT leadership turning to virtualization for reducing end-user computing costs," the report states. "Enterprises have quickly discovered that the use of virtualization to support desktop workloads creates a range of significant benefits. These benefits include improved IT management efficiency, price efficiencies and capabilities."

At NACC, the pilot program was so well received that the college has already implemented VDI in four additional computer labs. "It was phenomenal success, so we are moving forward at a fairly quick pace," Dobbs reveals.

With a total of 24 computer labs on a campus that serves 3,400 students, Dobbs envisions that all but two or three specialized labs will ultimately be converted to a VDI environment. "The pilot was so successful that when we did our budget request the following year, we specified that as lab equipment comes up for replacement, we would

Sam Dobbs, IT Director, Northeast Alabama Community College, Rainsville, Ala.

start putting in more virtualized labs," he reveals. "I see no reason why we can't eventually change all of them."

To date, NACC has rolled out 147 HP t5740 thin clients with the labs. The flexible series is designed with the latest technologies to deliver a true PC experience, plus legacy host support, multimedia and business-class web browsing.

The solution is complemented by VMware View, which simplifies desktop and application management while increasing security and control. The virtualization platform delivers a personalized high-fidelity experience for end users across sessions and devices. It also enables higher availability and agility of desktop services unmatched by traditional PCs, while reducing the total cost of desktop ownership up to 50 percent. Users can enjoy new levels of productivity and the freedom to access desktops from more devices and locations, while giving IT greater policy control.

Additionally, NACC purchased VMware ESX Server and an EMC storage area network (SAN). The college's overall solution has resulted in significant savings, both up front and well into the future.

"The thin clients are much cheaper than PCs," Dobbs points out, adding that the long-term price tag is also reduced due to lower support costs associated with thin clients, coupled with the fact that the devices will last longer than traditional PCs.

"We expect to get seven to 10 years out of our thin clients," Dobbs reports. "Normally, we'd replace our PCs every three to four years, so it cuts our replacement costs in half to begin with. And then we also expect to cut our costs significantly down the road in support savings."

NACC has already found welcome relief in lower utility bills. "The thin clients have cut our power usage by at least 75 percent," Dobbs estimates.

Furthermore, the devices are alleviating cooling requirements. "That's always been a problem in a lot of our labs, particularly the ones that have gone into older buildings where the air conditioning was not really designed for putting all of those computers in one place," Dobbs shares. "The thin clients are helping out a great deal, both from the perspective of student comfort in the labs and also from reduced cooling costs. They are certainly saving us a lot of money."

Advantages Aplenty

Desktop virtualization has also proven to be worth its weight in gold when it comes to easing management and maintenance responsibilities at NACC. In an IT department staffed by just two technicians, plus Dobbs – who also teaches – the VDI solution has dramatically reduced manpower demands.

"So far it has made a big difference in terms of staffing resources," Dobbs confirms. "In the past, we had to spend a lot of time refreshing every lab on a regular schedule, which would take several hours. The current refresh time using VMware is a little under 30 minutes to recopy all of the desktops."

The process of completing updates and desired changes has also been made seamless by the solution. "It's very easy to do upgrades and add software in the virtualized environment," Dobbs explains. "You just update the master copy and clone it out to all the stations in the lab." >

Even more, the lack of repairs demanded by the thin clients has further freed up staffing bandwidth.

"These things have no mechanical parts, no fans, no disk drives with motors, no standard magnetic drives," Dobb explains. "That should also reduce the number of failures we have to deal with in the first place."

Perhaps most important, the VDI solution has dramatically enhanced reliability at NACC. After the thin clients were deployed last semester in the college's online testing lab, Dobbs received numerous unsolicited positive responses from instructors during the first week the center was in use.

"In the past, it was not uncommon to hear reports of software glitches and other problems with the online tests," Dobbs acknowledges. "Yet instructors are now reporting zero issues with their online testing environment."

John Walker, an adjunct instructor of NACC's online physical science course, is among the professors singing the praises of the new technology.

"Being an online instructor, I typically don't have any contact with the computers on campus, as I am able to work remotely," Walker explains. However, at the end of each semester, the instructor does meet with his class in a campus computer lab in order to administer the final exam.

"In previous semesters, without fail, at least three to five students from each class have had computer issues in the middle of the final exam," Walker says. "Sometimes, they will be 95 percent complete with the exam, and there will be some sort of a 'hiccup' that messes up their progress, and I am forced to clear out their initial attempt – sometimes more than once – and force them to start the test all over again."

Not so this past semester, when Walker gave the final within one of NACC's new VDI computer labs. "I was delightfully surprised that all of my students were able to easily log on and complete their exams without a single issue," he reports. "It was my first reliable testing session since I've been employed with NACC."

Looking Ahead

Going forward, NACC shows no signs of slowing its virtual world.

"We are planning on deploying VDI in more labs," Dobbs notes, adding that the college is also looking very seriously at replacing classroom computers with thin clients. "I think that would be ideal," he continues. "We have a lot of problems with those computers with so many different people using them. Adding thin clients would allow us to cut back on a lot of repair trips out to the classrooms."

As seamlessly as NACC's VDI migration has gone, the purchase process was made equally easy by CDW•G, Dobbs reveals. "They were very involved in helping us," he acknowledges.

"My CDW•G account manager did a great job getting me the initial information to make a decision," Dobbs shares. "He also made the evaluation process of different vendors very easy.

Our account manager has always been very attentive to our needs," Dobbs adds. "It's highly unusual for us to have any problem with an order and if there ever is one, it's taken care of immediately."

The IT director also commends the value afforded by CDW•G. "We feel like the pricing we get is very competitive," Dobbs reports, noting that he also appreciates the expertise of the company's representatives, as well as their knowledge of so many different IT landscapes. For example, Dobb's rep recently recommended a new brand of monitor, Planar, which

"The thin clients are helping out a great deal, both from the perspective of student comfort in the labs and also from reduced cooling costs. They are certainly saving us a lot of money."

– Sam Dobbs, IT Director, Northeast Alabama Community College

proved to be an ideal fit for the campus.

"In the past, one of our biggest support costs was replacing monitors damaged by poor power," Dobbs explains. "But these new monitors have proven to be extra reliable under very difficult power conditions. "I was not familiar at all with the particular product," he continues, "but at the recommendation of my account manager, I bought a few and tested them out and they have turned out to be a really big savings for us.

"We have been very pleased with all of the support provided to us by CDW•G," Dobbs sums up. ■

VIRTUAL DESKTOP INFRASTRUCTURE (VDI): BENEFITS AT A GLANCE

There's no denying that IT administrators have a lot to deal with when it comes to overseeing today's network infrastructure. Between the escalating cost of upgrading desktop computers, and the time and manpower required to manage them, desktop virtualization is becoming more appealing. Among the benefits that VDI users are reaping:

Enhanced Manageability — It has become increasingly cumbersome to manage hundreds (or thousands) of desktops in both educational and corporate infrastructures. But VDI enables central management of all desktops, as well as the ability to control what is being installed and used on the devices. From deploying new virtual desktops to administering updates or installing new programs, IT personnel are able to execute their tasks with surprising speed using VDI. Rolling out patches, deploying new software, and even adding RAM or hard-disk capacity all happens at the central server level.

Increased Security — With VDI, there is greater control of how desktops are secured. For example, images can be locked down from external devices and administrators can prevent data from the image from being copied onto a local machine. Remote users also benefit as sensitive data is stored on the server in the data center rather than on the device. Even if a device is stolen, the information is still protected.

Cost Savings — Using thin clients in a VDI deployment not only lowers equipment costs compared to desktop computers, but lengthens return on investment (ROI) since the thin clients will operate longer.

OS Migrations Made Easy — Without VDI, if an IT administrator wants to roll out Windows 8 to a select few managers, he would have to examine the equipment and most likely upgrade hardware, memory, disk space, etc. Yet using VDI, a Windows 8 image can be easily pushed out from a central location to a particular group of staff.

Snapshot Technology — With VDI, IT personnel can roll back desktops to different states, providing exceptional flexibility for end users.

Going Green — VDI is a great way to reduce carbon footprints and save money in power costs. Thin clients use less electricity than desktop computers and expel much less heat, which in turn lowers cooling costs.