NORTH SHORE MEDICAL CENTER
HP Thin Client solution delivers just what the doctor ordered

North Shore Medical Center

"With HP Thin Clients, we have improved performance for the user, enhanced security, reduced power usage, and simplified support issues—all while realizing significant cost savings. They're just what the doctor ordered."
—Demetrios Papayannopoulos, IT Manager, North Shore Medical Center

HP customer case study: HP Thin Client solution delivers improved performance, flexibility, security—all at a lower total cost

Industry: Healthcare

Objective:
Make desktop environment more responsive to the needs of clinicians at North Shore Medical Center and its satellites

Approach:
North Shore Medical Center standardizing on HP Thin Clients supported by HP blade servers in the central data center

IT improvements:
- Improved security
- Easier application deployment, administration, manageability
- Improved reliability

Business benefits:
- 30 percent cost reduction
- Remote access to clinical applications from anywhere in the center (and eventually, outlying clinics)
- Reduced power usage
- Faster user log-in
- Session "follows" the user anywhere in the medical center
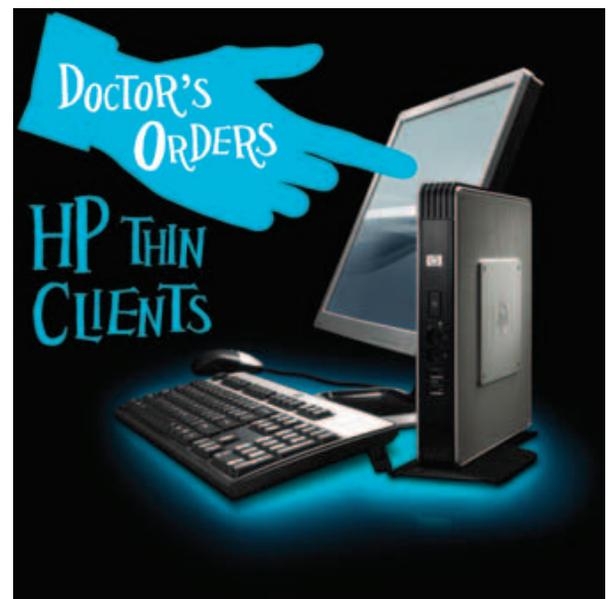
When the North Shore Medical Center in Massachusetts evaluated its desktop environment, it found a number of issues to resolve: Desktop machines were often past their prime, slow, and didn't provide clinicians with the flexibility they wanted. But rather than simply updating the desktops, North Shore pursued an entirely new strategy: HP Thin Client computing supported by HP blade servers in the data center.

North Shore Medical Center is a 300-bed community hospital affiliated with Partners Health Care, serving north suburban Boston including Salem, Lean, Danvers and other communities. The system also operates some 70 remote sites, ranging from small physician offices to clinics.

> "The thin client solution offers us the flexibility to provide access and grow our systems as never before. HP has long been a preferred vendor and technology partner for us. This is just one more example of how their vision is delivering to meet our needs."
> Demetrios Papayannopoulos, IT Manager, North Shore Medical Center

When the IT staff first began to look into the desktop situation, it confronted a familiar story: Equipment that was seriously outdated was hampering the work of clinicians. "We took the opportunity to look at it from a clinical perspective, a business perspective, and an IT perspective. And we quickly concluded that we would benefit from a different technology approach altogether," says Demetrios Papayannopoulos, IT Manager at North Shore Medical Center.

A new strategy for the desktop
North Shore consulted a number of IT vendors, and found that HP not only offered the best thin client computing solution, but also a long-term strategy to go with it. "We didn't just want to address this problem with a short-term fix," continues Papayannopoulos. "We wanted to find someone with a vision as to where the technology was going in the future, and the only ones we found who articulated that vision was HP."

The North Shore Medical thin client solution includes some 200 HP t5730 Thin Clients running the Windows® XP embedded operating system, and deployed throughout the hospital for use by clinicians. They are supported by five HP ProLiant BL685c G5

blade servers back in the IT department. Medical staff can log in from a thin client workstation anywhere in the Center to access the Health Information System (HIS), imaging studies and other clinical applications. Equally important, as they move from one floor or wing to another, they can log in to another thin client and access the same "session" as before.

"When we were gathering requirements for our new system, that was the first thing doctors and nurses requested: They wanted their session to follow them wherever they go," Papayannopoulos explains.

Clinicians highly value the flexibility they have to move throughout the facility visiting various patients and departments. They also like the faster log-in provided by the thin clients. With the older desktops, Papayannopoulos notes, it might take a physician as much as a minute to log in and began accessing patient records. With thin clients supported by HP blade servers, log-in is cut down considerably.

Users also have a cleaner, less-cluttered workspace because of the small footprint. The thin clients are often mounted on the back of a 19-inch diagonal HP monitor to conserve space on desks and manage the cables that support the client. In fact, thin clients are even mounted on carts for use by nurses dispensing medication. While on the carts, the thin clients are powered by a long-lasting battery and take advantage of wireless networking[1] to reach the supporting HP blade servers.

Flexibility, efficiency in the data center
In the data center, the infrastructure supporting North Shore Medical's thin client solution is a Citrix server farm consisting of five HP ProLiant BL685c blade servers, which are virtualized using VMware ESX software.

"VMware has allowed us to consolidate 30 servers to five," he says. "That helps us with operations, as we now are using less energy for power and cooling. It improves efficiency and provides us with cost savings."

"Virtualization allows us to have redundancy," notes Papayannopoulos. "If a server fails, then the virtual machines will immediately go to another server. Users are almost never interrupted. As a result, we have seen a huge reduction of support calls."

Papayannopoulos says the server infrastructure currently includes five dual-core servers with four processors each. Plans call for upgrading that environment to AMD quad core processors,[2] improving both processing power and energy efficiency while providing plenty of room for growth in the thin client computing environment. "That's the versatility that HP has built into its blade servers," Papayannopoulos notes.

He estimates that the total solution—including both thin clients and the servers supporting them—has resulted in significant energy savings.

Also important to his staff is the improvement in IT management. First, the thin clients themselves are much more reliable because they have no moving parts. In addition, applications are supported in the data center rather than at each individual desktop. So updating an application or deploying a new one involves changes to five centrally located servers, rather than 200 desktops scattered throughout the facility.

"In the past, servicing an application would take us hours," Papayannopoulos says. "Now we can accomplish the same thing in a few minutes."

The solution also enhances security. First, the thin clients are virus-resistant because there's no hard drive. "If a virus tried to infect a thin client, there's nowhere to write the virus. By rebooting the thin client, you eliminate the virus," Papayannopoulos says.

Moreover, patient data resides in the data center with the servers, not on the desktops. So even if a thin client is physically stolen, no data is lost. "It actually helps us maintain our HIPAA security initiative to make sure that no patient data is ever released," Papayannopoulos says.

Lower costs, improved user satisfaction
Overall, including lower costs for the thin clients, energy savings and improved efficiency in IT management, Papayannopoulos estimates that North Shore Medical Center's total costs to provide desktop computing have been reduced substantially.

Users love the new thin client solution. Physicians call them "turbo" devices. Users have asked for all devices to be standardized as thin clients.

For the IT department, the thin client solution means less time chasing down problems out on the patient floors, and more time for fine-tuning the infrastructure to better meet user needs. "HP support has been very helpful in customizing our implementation," Papayannopoulos says. "When we wanted to do things a little differently, they actually worked with us to create a customized build involving the Windows XP

embedded operating system that works specifically for our environment."

Looking ahead, Papayannopoulos envisions standardizing on thin clients throughout Partners Health Care. That would involve adding another 500 to 600 thin clients, but adding only a few more HP blade servers.

"One of the initiatives we have under way is to implement a Citrix appliance called NetScaler," he explains. "Physicians will be able to connect directly into a Citrix environment through NetScaler over the Internet and access all the applications they use at the medical center."

In fact, he says, its capabilities don't end at the Partners Health remote sites. If doctors happen to be in Europe for a trip, as long as they have Internet access, they'll be able to log into the Citrix environment and access the same applications.

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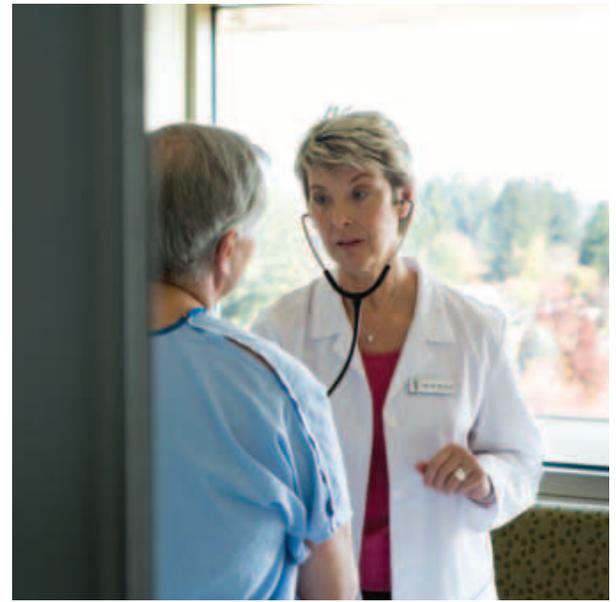
says Papayannopoulos. "HP has long been a preferred vendor and technology partner for us. This is just one more example of how their vision is delivering to meet our needs."

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[1]Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wireless broadband requires separately purchased service contract. Check with provider for coverage in your area.

[2]This system requires a separately purchased 64-bit operating system and 64-bit software products to take advantage of the 64-bit processing capabilities of AMD technology. Dual/quad/triple-core processing available with AMD technology is designed to improve performance of this system. Given the wide range of software applications available, performance of a system including a 64-bit operating system and a dual-core processor will vary.

This customer's results depended upon its unique business and IT environment, the way it used HP products and services and other factors. These results may not be typical; your results may vary.

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