

Case study

Needham Bank

HP t410 Smart Zero Client delivers virtualization value



Industry

Financial services

Objective

Gain efficiencies and flexibility in growing community bank

Approach

Virtualize desktops using HP t410 All-in-One Smart Zero Client

IT matters

- Eliminated need for expanded power infrastructure
- Streamlined device deployment
- Streamlined computer image management

Business matters

- Reduced power consumption of desktop devices by nearly 97%
- Gain flexibility to grow without increasing IT footprint
- Enhance employee productivity, customer service
- Simplify security, regulatory requirements



“We waited to virtualize desktops until we clearly saw the benefits and overall impact. The HP t410 Smart Zero Client—13 watts of power, one wire, streamlined management—was a game changer.”

– James Gordon, first vice president, IT, Needham Bank

Needham Bank is the preeminent community bank in Needham, Mass. As a mutual bank owned by shareholders, Needham Bank distinguishes itself through service to local customers and organizations. Increased loan demand has spurred rapid growth, with employment tripling over the past five years to 160 workers at the bank’s five branches and one back office. Seeking efficiencies and flexibility, the bank had virtualized its server environment. It also was interested in desktop virtualization, and for three years tested a variety of client devices. None provided clear advantages until something new appeared on the market: the HP t410 Smart Zero Client. With its All-in-One design, 13-watt power envelope and single-wire connectivity, the HP t410 All-in-One Smart Zero Client proved to be a game-changer driving desktop virtualization at Needham Bank.

Before it adopts a new technology, Needham Bank wants concrete advantages clearly articulated. Several years ago, the benefits of server virtualization became clear enough—and the technology sufficiently mature—for the bank to virtualize its data center on a VMware platform with HP ProLiant DL385 Server hosts. The bank also was interested in desktop virtualization but held off because the justification was not yet convincing.

“With server virtualization, the advantages were immediately clear—straightforward return on investment (ROI),” says James Gordon, first vice president, IT, at Needham Bank. “In contrast, the primary benefits of desktop virtualization remained somewhat foggy. Was it hard costs, soft costs, easier management? I didn’t find the benefits clear enough to sway me.”

So Gordon watched, waited and for three years tested a variety of desktop virtualization client devices. Then one day he was having lunch with an executive at HP who mentioned a new zero client that is designed to operate within a 13-watt power envelope. “I thought he’d stayed out in the sun too long and was hallucinating. I didn’t think a client could run on less power than a light bulb,” Gordon recalls. “But we ordered a few to test. Sure enough, I plugged it into my Power over Ethernet (PoE) switch and it came on, auto-negotiated the IP address and found itself on the network. I was able to log in instantaneously from that one wire. My IT team and I felt like cavemen who had discovered fire.”

HP t410 AiO spurs bank to virtualize desktops

The HP t410 AiO is designed to operate within a 13-watt power envelope at 200 nits of brightness through PoE. No A/C attach is required, just a single wire for connectivity and power. The bank started with 10 devices and plans to deploy additional ones to every employee over the next 24 months. The hardest part of deployment is removing the legacy PCs—untangling the wires, and removing and destroying the hard drives as required for data security. The zero clients themselves, lacking hard drives, pose no threat to security; the sensitive bank data and applications reside in the secure data center, not onboard the device.

Needham Bank’s initial 10 zero clients are used by tellers in the bank’s main office. So

confident was the bank in the technology that it deployed first in the bank’s most business-critical area: customer service. Subsequent rollouts reach loan officers, executives, marketing staff, compliance officers, and IT staff. “It’s a complete PC replacement, but the only thing the user notices is that the screen went from blue background to gray.” Gordon says. “No additional training is needed.” The zero clients, eliminating tangled wires, look nicer too, and create a better working environment with fast connectivity, reliable uptime and less clutter.

Power consumption drops nearly 97%

The most dramatic benefit is power savings. The bank’s typical legacy PC drew 400 watts¹, 365 days a year around the clock, needing to be on overnight for patching and maintenance. The t410 AiO is a 13-watt terminal that needs to run just nine hours a day.

“After plugging an HP t410 Smart Zero Client into our Power over Ethernet switch, and watching it find itself on the network, my IT team and I felt like cavemen who had discovered fire.”

— James Gordon, first vice president, IT, Needham Bank

The bank is working with its electric company to calculate the resulting cost savings. In addition, by drawing power from the data center, the zero clients eliminate the need to wire individual buildings and to install backup generators. “What makes this solution radically different is that I am no longer plugging into a wall outlet,” Gordon says. “That outlet may or may not have redundant power or be well tested. Now I can deliver power via the data center, and that’s a complete game changer.”

The devices also are easy to manage. “It’s simple to patch three or four desktop images rather than maintain patch compliance on 180 or more PCs,” Gordon says. “We can deliver power, disaster recovery and patch compliance all over one wire. And if we have to add more virtual desktops to accommodate new employees, it’s easy.”

Customer at a glance

Application

Banking

Hardware

- HP t410 Smart Zero Client
- HP ProLiant DL385 G8 Server
- HP 5400 zL Switches
- HP Officejet Pro X576dw Printer

HP services

- HP Care Pack

HP solutions provide technology backbone

In the data center itself, the virtual desktop infrastructure is not drawing additional power because the host servers themselves are growing more efficient. Needham Bank runs its entire operation on three HP ProLiant DL385 Servers featuring AMD Opteron™ processors. Each successive server generation increases density such that the bank can increase workloads without increasing the size of its infrastructure. “The new HP servers are shipping with 768 gigs of RAM,” Gordon says. “I can comfortably put up to 200 virtual desktops on that server and still have CPU power left over, so from a consolidation point of view we can keep the number of physical servers constant.”

“With the HP t410, I can deliver power, disaster recovery and streamlined desktop access all over one wire.”

– James Gordon, first vice president, IT, Needham Bank

Applications running on those servers include banking software, and Microsoft® SharePoint, Microsoft Exchange and Microsoft SQL. The bank uses HP 5400 zL Switches for branch network access. “We have no latency problems over our core network,” Gordon says, “and the lifetime warranty with firmware upgrades makes me glad I chose these switches years ago.”

Needham Bank also relies on HP printers. Most recently, the bank acquired two HP Officejet Pro X576dw Printers, to see for itself whether the device can print up to 70 pages per minute. It can. Gordon keeps one in his office and the other is deployed in the audit area. “It not only produces up to 70 pages per minute, it’s also ePrint and AirPrint compatible and produces high quality color at a lower cost per page² than lasers,” Gordon says.

Gordon’s personal notebook PC is an HP Envy, a full notebook that also doubles as a detachable tablet with its own battery. “If I want to do serious work, I use the whole unit; if I just want to read, I detach the tablet,” Gordon says.

HP technology roadmap supports bank vision

Looking to the future, Gordon envisions leveraging HP technology to continuously improve service to the bank and the community. Some areas of the bank will want to deploy dual monitors, or larger ones than the HP t410 AiO’s 18.5-inch standard diagonal LED display. “I’m keeping a close eye on this product line,” Gordon says. “There’s a lot to leverage from it. And in the financial world, everything matters, from the time it takes to boot up a computer to efficient use of resources.”

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¹Legacy PC energy draw = 400 watts. The HP t410 Smart Zero Client is designed to operate within a 13-watt power envelope. Energy draw reduction nearly 97%.

²Cost per page (CPP) claim is based on the majority of color laser MFPs < \$1000 USD and color laser printers < \$800 USD as of August 2013, based on market share as reported by IDC as of Q2 2013. ISO yield is based on continuous printing in default mode. CPP comparisons for laser supplies are based on published specifications of the manufacturers’ highest-capacity cartridges. For details, see hp.com/go/officejet. CPP based on HP 970XL/971XL ink cartridges’ estimated street price. For more information, see hp.com/go/learnaboutequipment.

