Look, ma—no desktop: Welcome to thin-client computing

New desktopless systems remove many of the hassles of your office computer network

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Solo dermatologist Doug Wilson, MD, in Paducah, KY, has a monitor, keyboard, and mouse in each of his six exam rooms for his electronic charts, but there’s something odd about this picture. Missing is the familiar box or tower that houses the electronic guts of a desktop computer. It’s been replaced by a device about the size of a top computer. It’s been replaced by a device about the size of a top computer. It’s been replaced by a device about the size of a top computer. It’s been replaced by a device about the size of a top computer.

“Don’t worry. It’s a thin client,” he says.

The 4”x4”x2” device is a ClearCube blade. Workstations based on these small, high-powered, cloud-based computing systems have run nonstop since it debuted in September 2004. says Brian Boisvert, president of ClearCube Technology, a maker of PC blades in Austin, TX. A ClearCube blade isn’t cheap—prices range from $1,600 to $3,000—but Boisvert says each blade can support up to four workstations, making the per-user price competitive with a desktop scenario.

A thin client can lower your hardware bill.

“Isn’t this contrary to the ‘desktop jungle’ that we’ve seen in our offices?” asks Dr. Wilson. “I can’t believe people haven’t been using this all along.”

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Medical director of a seven-physician Family and Internal Medicine Associates in Lebanon, KY. Their system has run nonstop since it debuted in September 2004, says Brian Scott, MD. Having three servers provides valuable redundancy, he adds. “If we lost one, we’d still be functional,” Dr. Scott said.

They’re not as easily stolen or broken as a table, and wired connections are more reliable than wireless ones, notes Dave Orr, vice president of technical services with NextGen Healthcare Information Systems, Horsham, PA, which sells electronic health records and practice management software.

Easyer maintenance

But a big fleet of desktops represents a maintenance headache. Each one has an operating system and application programs that must be upgraded regularly. Likewise, each one needs defenses against viruses, spyware, and the like. You also have to undo damage inflicted by staff who, say, mess with desktop settings.

Thin clients, however, let people connect directly to a tightly controlled server for their computing needs. Most are stationary, although you can find mobile ones, too—a tablet without a hard drive. They’re modern versions of the “dumb terminals” prevalent before the arrival of personal computers, says Brad Rowland, an executive with Wyse Technology, San Jose, CA, which makes thin clients.

Because you mostly concentrate on keeping the server humming, thin clients dumb down network maintenance. True, they have simple operating systems that may require occasional updates, but it’s nothing compared with the constant tweaking of Windows XP on a desktop. With no moving parts, thin clients stay on the job longer than desktops, generate less heat, consume less power, and don’t make any noise. Their smaller footprint conserves precious space in an exam room.

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Being “dumb” also makes thin clients appealing in the HIPAA era. The only way to download data through Dr. Wilson’s thin client is through USB ports, but these are disabled by default. And now the icing on the cake: A thin client can lower your hardware bill. A 2005 study from IDC, an IT research firm based in Framingham, MA, showed that the average price for a workstation built around a thin client was $276 less than one with a business-grade computer. You may need an extra server—specifically, a terminal server—to support your thin clients, but you still can save 10% on overall hardware costs, says IDC analyst Robert O’Donnell.

A solo practice with a handful of workstations and no EHR might not benefit from the economies of scale, though, says Dan Jarrett, president of EHR vendor Ulrich Medical Concepts, Paducah, KY. The technology makes more sense in larger practices desiring a computer in each exam room for the sake of electronic charts, says Jarrett, whose firm has recommended thin clients to its customers.

Now, the drawbacks

The advantages of thin-client computing come with trade-offs. To start, you’re utterly dependent on your server, says Stanley Crane, chief technology officer of Allscripts, an EHR vendor headquartered in Chicago. “That guy has to be on all the time,” he said. “If anything happens, you’re done for the day.”

Networks relying on desktops aren’t as vulnerable. If the server dies, staffers can make do with the desktops.

The track record for thin-client durability is a little more comforting, at least for seven-physician Family and Internal Medicine Associates in Lebanon, KY. Their system has run nonstop since it debuted in September 2004, says Brian Scott, MD. Having three servers provides valuable redundancy, he adds. “If we lost one, we’d still be functional,” Dr. Scott said.

Another drawback is that a thin-client workstation doesn’t have enough cyberpower for viewing x-rays or scanning documents, says computer consultant Ron Sterling of Silver Spring, MD. But there’s an easy solution: Build a network that combines thin clients and desktops. You’ll probably want to dole out desktops to privileged computer users, such as a practice administrator who might need accounting software on her machine.

If you’re itching to give everybody the power of a personal computer, but want the benefits of thin-client computing, there’s a high-tech alternative called “PC blades.” With this technology, you’re moving the components of a PC box or tower—microprocessor, random access memory, hard drive, etc.—from a worker’s desktop to a back-office rack. Each transplanted PC on the rack is called a blade. Workstations connect to a blade via a small port device similar in size to a thin client.

All the work of nursing and safeguarding PC blades is concentrated in one location, and that can be done automatically in one fell swoop, says Carl Boisvert, president of ClearCube Technology, a maker of PC blades in Austin, TX. A ClearCube blade isn’t cheap—prices range from $1,600 to $3,000—but Boisvert says each blade can support up to four workstations, making the per-user price competitive with a desktop scenario.