

Kettering Health Network

PROFILE

Industry

Healthcare

Corporate Headquarters

Dayton, Ohio

Employees

Staff 9500
Physicians 1500

Annual Operating Budget

\$1,039,084,549

Web Site

<http://www.khnetwork.org/>

THE NUMBERS

- 1,200 VMware View virtual desktops

IN BRIEF

Objectives

Kettering Health Network wanted to make its new Epic EMR system as easy as possible for clinicians to use so they could spend more time with patients.

Solution

Kettering's new VMware View virtualized desktop environment ensures that its clinicians have ready access to EMR and other applications. It also improves the usability of those applications by streamlining and automating logins, which in turn frees clinicians to focus on patient care.

Business Impact

- Streamlined logins free 10–15 minutes per shift for each caregiver.
- Because no sensitive data is stored locally, security is easier to manage.
- Thin clients use less power and can be managed remotely for improved efficiency, with fewer disruptions.

VMware View Simplifies Clinician Experience with Epic EMR at Kettering Health Network

“By streamlining logins, our VMware View environment functions as a technology accelerator, complementing our Epic implementation to transform how we provide patient care.”

— Bill Hudson, Director of Information Technology, Kettering Health Network

Information technology plays an increasingly critical role in the management and delivery of healthcare services. But as healthcare providers develop their IT strategies, they must continually weigh the benefits of technology against its potential impact on staff—and ultimately, on patient care.

Kettering Health Network (KHN), an integrated healthcare network based in Dayton, Ohio, faced precisely this issue as it implemented its Epic electronic medical records (EMR) system. Kettering knew its EMR technology would optimize its medical-records management, but it also requires clinicians to record and access information via computers many times per shift. Kettering therefore needed to minimize potential disruption to caregivers' workflows and focus on making their interactions with the new Epic EMR system as easy and nonintrusive as possible.

Kettering found a way to do this. It deployed a VMware View™ virtual desktop environment, making it easy for clinicians to adopt their new Epic EMR system and ultimately transform the cost, quality and delivery of patient care.

Addressing PC Sprawl

Kettering's virtual-desktop initiative was not its first experience with virtualization. Several years ago, it replaced traditional rack servers with a VMware vSphere® environment running on HP BladeSystem servers. The project was highly successful, delivering benefits such as gains in productivity, faster server provisioning, smaller datacenter footprint, reduced maintenance time and improved information security.

Kettering's initial goal was to use desktop virtualization to drive parallel benefits within that environment. “We looked at virtualization on the desktop side to help us reduce the cost of our PC deployment,” explains Bill Hudson, director of information technology at KHN. This was a pressing concern. To accommodate its caregivers—such as nurses administering medicine and physicians in need of clinical test results—Kettering had installed PCs in “every nook and cranny” across its 60-plus healthcare facilities. But saturating the environment with computing devices meant that some were only lightly used. Kettering wanted a way to reduce overhead costs associated with maintaining all of those machines.

Because KHN already had an established relationship with VMware, implementing VMware View was a natural choice. “We were familiar with the VMware technology,” Hudson says. “And tying our VMware server infrastructure into a virtualized desktop infrastructure was a big plus for us, because it enabled us to have one product group for all of our virtualization needs.”

“We’ve had a relationship with VMware for quite a while. And while we’ve looked at other tools and technologies, VMware has always been a little more mature—a little more advanced, with better technology.”

— Bill Hudson, Director of Information Technology, Kettering Health Network

To help with architecting a virtual desktop environment, Kettering turned to VMware channel partner Open Systems Technology (OST). “OST helped us with our Epic rollout,” says Hudson. “So when we began looking at VMware View, we brought them back.” The team defined several use cases. The primary one, which it branded as CareLink Plus, is a clinical desktop. This is designated as an inpatient device that pushes out clinical applications for use by caregivers. There is also an Information Systems desktop image, and plans for a business office-automation use case.

Streamlined Logins

After the team had defined its CareLink Plus use case, Kettering gave OST a new challenge: to streamline the virtual-desktop login process.

OST rose to the challenge by leveraging a combination of hardware and software tools. For hardware, the team chose HP thin clients equipped with “tap badge” radio-frequency identity (RFID) proximity badge readers. This device enables users to log in to their virtual desktops by simply tapping their ID badges on the reader.

But initial tests showed that it was still taking about 15 seconds to log in, so OST further streamlined the process by leveraging Sentillion software—a tool that enables single sign-on for multiple applications. As a result, after users log in to their VMware View desktops, they have immediate access to all applications they are authorized to use.

This highly secure login procedure ensures that only authorized users access Kettering applications. At the same time, it automates and streamlines the login process, which saves time and eliminates the hassle factor. “We’ve saved our staff about 20–30 seconds every time they log onto a desktop, compared to accessing our old desktops,” Hudson says.

Because caregivers use their systems dozens of times per shift, the aggregate time savings is as much as 10–15 minutes a day. That’s 10–15 minutes that physicians and nurses can spend caring for patients instead of interacting with technology.

When users are done with their login session, they click an exit button on a toolbar displayed on the screen. The next time they log in, they are exactly where they left off when they last logged out—another key time-saver. “They tap their badge and they can start working again,” Hudson says.

It’s almost impossible to overstate the value of the VMware View system’s user-friendliness. “We’ve minimized the intrusion of the computer into the patient-care process,” Hudson says. “This technology lets us be less about technology, which means we are more about quality of care.”

Tremendous Impact on Patient Care

That said, the VMware View implementation delivers other benefits as well.

The HP thin clients are less expensive to manage and run. Because they require less power, for example, they will allow Kettering to reduce its future power consumption. Kettering IT staff can update the virtual desktops remotely. “We can deploy patches or update operating systems without having to physically touch the workstations,” Hudson notes.

Another big benefit is security. “We always know that there is no patient information stored locally on our thin clients that are used to access our VMware virtual desktops,” Hudson says. “With a traditional desktop, we can’t be sure. So if one gets stolen, we need to perform an analysis to validate that the systems’ users followed proper procedures with that system. If someone walks off with a thin client, we don’t have those same concerns.”

In the future, Kettering will further refine its VMware View deployment. Today, it has nearly 1,200 staff using the virtualized desktop environment. Eventually, 30–50 percent of its desktop usage will be virtualized, accommodating around 8,000 users.

“VMware View addressed the drivers we identified for desktop virtualization, including agility, and being more responsive to Kettering’s business needs.”

— Bill Hudson, Director of Information Technology, Kettering Health Network

Part of this conversion will include retiring the Citrix application that Kettering deployed previously. “We find VMware View desktops are easier to manage,” says Hudson. “We end up doing far more troubleshooting on the Citrix systems, whereas with VMware View, we can deploy multiple use cases, and add additional functions and features without affecting global users. So we’ll be retiring as many Citrix use cases as we can.”

Kettering is also piloting a VMware View deployment that can be accessed via the iPad. “We have many physicians who are very excited about this,” Hudson notes.

Finally, Kettering plans to enable roaming so that physicians can securely access their CareLink Plus images on systems outside the inpatient environment—for example, from their home computers.

“Our Epic project in general is having a tremendous impact in how we provide patient care,” Hudson concludes. “And VMware View is where ‘the rubber meets the road.’ It provides the middle piece by helping physicians access medical records.”

IMPLEMENTATION OVERVIEW		
<p>VMware Products</p> <p>VMware View 4.5</p> <p>VMware vSphere</p>	<p>Applications</p> <p>Epic EMR system</p> <p>Partner</p> <p>Open Systems Technologies</p>	<p>Platform</p> <p>HP thin clients</p> <p>HP BladeSystem servers</p> <p>HP P4800 SAN Solution</p>

