

Hospital Lowers IT Costs and Improves Clinician Productivity with Virtual Desktops



Metro Health implemented Virtualization Experience Infrastructure (VXI), including Virtualization Experience Client (VXC) endpoints.

EXECUTIVE SUMMARY

Customer Name: Metro Health

Industry: Healthcare

Location: Grand Rapids, Michigan

Number of Employees: 2,400 Employees

CHALLENGE

- Provide high-quality care
- Minimize IT costs
- Increase productivity for mobile clinicians by providing faster access to clinical applications

SOLUTION

- Built scalable foundation with Cisco Virtualization Experience Infrastructure (VXI) with VMware View
- Lowered costs by replacing thin clients and PCs with Cisco Virtualization Experience Client (VXC) 2211 endpoints

RESULTS

- Decreased data center infrastructure costs by 30 percent
- Saved 3850 hours to provision 1400 endpoints, the equivalent of two full-time contractors for one year
- Reduced time spent on clinical workflows, including remote image access, clinical desktop access for nurses, and dictation for physicians

Challenge

Serving Grand Rapids, Michigan and the West Michigan area, Metro Health is an integrated health system, which includes a new hospital, the Metro Health Medical Group, other affiliated physicians, neighborhood outpatient centers, a philanthropic foundation, the Metro Health Village and campus, and more.

As part of ongoing efforts to improve quality of care and the patient experience, Metro Health implemented the Epic electronic medical records (EMR) system. The IT team wanted to provide access to the system on any device, from anywhere, both inside the hospital and at home. "Our goal was to extend our systems out to a variety of form factors and locations to provide anytime, anywhere access to patient information," says Bill Lewkowski, chief information officer and executive vice president for Metro Health.

Metro Health faced three major decisions on the EMR technology: the virtualization software, the data center platform for hosting the virtual machines, and the endpoints that personnel would use to access their virtual desktops. "Our vision was for everyone to work on a virtual desktop, from doctors and nurses accessing medical records, to technicians who view X-rays, to professional staff accessing any of our 450-plus applications," says Aivars Apsite, technology strategist at Metro Health.

Solution

Metro Health found a reliable, scalable, easily manageable platform in the Cisco® Virtualization Experience Infrastructure (VXI) with VMware View. Cisco VXI, which unifies virtual desktops with voice and video services, operates a FlexPod platform that includes Cisco Unified Computing System™ (UCS®) B-Series Blade Servers and NetApp storage. Cisco VXI supports the PC over IP (PCoIP) protocol, which Metro Health preferred over remote desktop protocol (RDP), because it provides a better video experience with video and with peripheral devices connected to thin clients.

Next, Metro Health began evaluating endpoints that personnel would use to access their virtual desktops in patient rooms, nursing workstations, and physicians' and administrators' offices. Criteria included USB ports for scanners and other peripheral devices; audio ports for headphones and a microphone for dictation; and support for video, for training and telepresence sessions. The IT team also wanted to minimize the time needed to keep the device software up to date.

At first, Metro Health was planning to replace their aging PCs with thin clients. But the software image on the thin clients quickly outgrew memory capacity, leading the IT team to conclude that zero clients would be better because there is no OS image to manage on them.

After extensively evaluating three zero clients, Metro Health selected the Cisco Virtual Experience Client (VXC) 2211 endpoints. "VXCs support high-quality audio and video as well as virtual desktops," says Apsite. "And of the three zero clients we evaluated, only the Cisco VXC worked well with our dictation system and scanners." Metro Health has deployed 1400 Cisco VXC endpoints to date. Employees can also access their virtual desktops from outside the hospital, even at home, using personal tablets or laptops with VMware View client software.

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— Aivars Apsite, Technology Strategist, Metro Health

Metro Health also takes advantage other Cisco communications and collaboration applications, including Cisco Unified Communications Manager and Cisco Jabber™ for presence and instant messaging. Cisco Unified Workspace Licensing keeps costs down and helps Metro Health quickly add new applications. And to minimize data center costs, Metro Health hosts Cisco Unified Communications Manager as virtual machines on Cisco UCS C-Series Rack Servers.

Results

30 Percent Reduction in Infrastructure Costs

Implementing VMware View on Cisco VXC reduced infrastructure costs by 30 percent.¹ These savings include capital costs, operating expense, power consumption, higher application availability, and productivity improvements in three critical workflows:

- Remote image access: Physicians no longer need to use a specialized workstation at the hospital to view medical images. Instead, they can view images anywhere, on any device, including any Cisco VXC endpoint at the hospital or a personal laptop or tablet at home. Enabling physicians to review images without traveling to the hospital can accelerate decision-making to improve quality of care, and also improves work-life balance.
- “Follow me” clinical desktops for nurses: In a typical 10-hour shift, Metro Health nurses need to retrieve or enter information at least 50 times. Now nurses can log into any Cisco VXC at any location within seconds to access all of their applications, reclaiming the three minutes they used to need to begin using their applications on a PC.
- Dictation for physicians: Instead of looking for a specialized dictation workstation, physicians can connect their microphones to an audio port on any Cisco VXC endpoint. They save walking time, and being able to record notes sooner after the patient session helps to increase accuracy.

“Overall user response has been very positive, especially for physicians using the Cisco VXC endpoint to work with the EMR application and do dictation,” Apsite says.

“Restarting the Cisco VXC takes less than 30 seconds, compared to 2 minutes for thin clients. For 1000 staff members, saving 1.5 minutes twice a month frees up 600 hours annually for patient care.”

— Aivars Apsite, Technology Strategist, Metro Health

Lower-Cost Endpoints

Replacing the original thin clients with Cisco VXC 2211 endpoints further lowered costs:

- Freed up 3850 hours of IT staff time for provisioning: Installing a Cisco VXC endpoint takes 15 minutes, compared to 3 hours for a PC. For 1400 endpoints, the savings amounts to 3850 hours, or almost two full-time employees (FTEs) for one year. “Assuming a fully burdened salary of \$50 hourly, savings amount to \$192,500 every time the hospital refreshes its endpoints,” says Apsite
- Saved 240 hours on each software image update: When Metro Health used thin clients, installing a new scanner driver took two weeks for three FTEs, or 240 hours, representing US\$12,000 in staff time. “Now we centrally manage the software image for all virtual desktops, eliminating any time spent managing drivers,” says Apsite.
- Lower equipment costs: Cisco VXC endpoints cost one-third less than PCs. In addition, Metro Health can refresh them every 44 months instead of 36 months. “Cisco VXC endpoints have no moving parts, which means we don’t have to refresh them to keep up with technology advances,” says Apsite.
- Lower licensing costs: Eliminating antivirus licenses for 1400 desktops saved \$13,000 annually.

¹ [Optimizing Clinical Workflows with VMware View and Cisco VXC](#), white paper, 2011.

Increased Productivity for Staff

Metro Health asks employees to restart their endpoints every two weeks, which is much faster with Cisco VXC 2211 endpoints than with thin clients or PCs. "Restarting the Cisco VXC takes less than 30 seconds, compared to 2 minutes for thin clients," Apsite says. "For 1000 staff members, saving 1.5 minutes twice a month frees up 600 hours annually for patient care."

Next Steps

Now Metro Health is planning to increase the value of its Cisco VXi by also using it for video. Staff and board members will join Cisco TelePresence® sessions to participate in board meetings and multidisciplinary meetings, where multiple specialists discuss a case. In addition, physicians will be able to conveniently view training videos on new procedures using any Cisco VXC endpoint or personal device with VMware View. Medical residents who miss classes look forward to viewing lectures stored on Cisco TelePresence Content Server.

Another plan to improve the patient experience is enabling staff to send instant messages to mobile colleagues when patients are ready, using Cisco Jabber on personal tablets or Cisco VXC endpoints. "As an alternative to calling a nurse's Cisco Unified Wireless IP Phone, a receptionist can send an instant message to find out when the nurse will be available, helping to improve patient satisfaction," says Apsite. Nurses can also use Cisco Jabber to see which specialists are currently available and send an instant message requesting a consultation.

PRODUCT LIST

Unified Communications

- [Cisco Unified Communications Manager](#)
- Cisco Unified IP Phones
- [Cisco VXC 2211 Endpoints](#)

Collaboration Applications

- [Cisco Jabber](#)

Data Center

- [Cisco VXi](#) with VMware, deployed on [FlexPod](#)
- [Cisco Unified Computing System \(UCS\) B-Series B200 Blade Servers](#)
- [Cisco Unified Computing System C210 Rack Server](#)
- VMware View 5, ThinApp, and vSphere
- NetApp FAS3240 Storage

For More Information

To learn more about Cisco Collaboration, visit:

<http://www.cisco.com/go/collaboration>.

To find out more about Cisco TelePresence, visit:

<http://www.cisco.com/go/telepresence>.

To join conversations and share best practices about collaboration, visit: <http://www.cisco.com/go/joinconversation>.



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