Saint Vincent Catholic Medical Centers

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— Tony Antinori
Executive Director and Vice President of Technology and Operations, St. Vincent Catholic Medical Centers

KEY HIGHLIGHTS

Challenge
Move a medical center's outmoded IT infrastructure into the 21st century while saving money and energy—and ensuring the availability of critical applications that nurses, doctors and other clinicians rely on

Solution
Use vSphere and VMware View as the foundation for two internal cloud environments—one for servers, the other for PCs and thin clients—that save money, time, power, and above all, improve patient care

VMWare at Work
vSphere featuring:
- VMotion
- Distributed Resource Scheduler (DRS)
- High Availability (HA)
- Site Recovery Manager (SRM)
- VMware View
- VMware ThinApp

Deployment environment
- vSphere running on a mixture of Cisco UCS blades and HP blade and rack-mounted servers—including ProLiant DL580 G4 servers—with storage on a Xiotech Emprise 7000 SAN
- Guest operating systems: Windows Server 2003 and 2008, Windows XP/Vista Desktop OS
- Mission-critical applications running in production on virtual machines: Microsoft Office Suite and a wide array of clinical, pharmacy and administrative applications, including McKesson HPF, eClinicalWorks from GroupOne Health Source, Emergisoft Emergency Department software, several Cerner applications, and GE Centricity solutions for the operating room and record-keeping

St. Vincent Catholic Medical Centers

St. Vincent Catholic Medical Centers of New York City is renowned for providing medical care and education of the very highest standard. But until recently, St. Vincent's IT infrastructure wasn't on the same lofty level. That's changed today—thanks in large part to VMware technology.

"We virtualized 85 percent of our infrastructure in 90 days," reports Tony Antinori, executive director and vice president of technology and operations at St Vincent. "We were on an aggressive timeline because we had to address two immediate issues. One was the lack of a disaster recovery plan, and the second was the failure of outdated hardware. The two together posed a great risk of losing clinical data, and that demanded remediation immediately."

Since the project kicked off in the spring of 2008, St. Vincent has retired roughly 200 servers while totally revamping its IT infrastructure with the addition of more than 250 virtual machines. By running vital applications on virtual, not physical servers, the medical center has improved the availability and performance of those applications, slashed capital and operating costs, and sped up the rollout of new systems. "VMware Infrastructure has helped St. Vincent move into the 21st century and improve the healthcare experience for our patients," Antinori observes. "And we've accomplished that while cutting our anticipated hardware, power and cooling costs by $3.4 million over the three years, which is helping us stay on a solid financial footing."

The benefits of St. Vincent's adroit deployment of VMware solutions are perhaps most evident in its Emergency Department, which has a new clinical system that's not just a showcase for virtualization and cloud-computing technology, but an example of how that technology can improve care and ultimately, save lives. The medical center has two internal clouds, both hosted on VMware ESX: One is for infrastructure servers, the other for PCs and thin-client devices. "On the server end, our ED system runs on hosts that have been beefed up with VMware Infrastructure and vSphere, and on the other end, we're using thin clients with VMware View," Antinori explains. "Thanks to the new technology, screens go much faster, which means emergency personnel can see more patients. And obviously, time is of the essence in an emergency room."

Antinori says VMware View, VMware ThinApp and thin-client technology gives clinicians the tools they need when and where they need them. "We are deploying thin clients—or zero-footprint clients as we like to call them—to key clinical areas where we can enable physicians, nurses and other staff to have access to essential applications and data wherever they go," he explains. ""At this stage, we have about 30 applications we have virtualized with ThinApp that are running on VMware View virtual desktops , so a doctor can log on in the Emergency Department, then pick up where he or she left off while making the rounds upstairs. Information is more readily available, and there are fewer mistakes. Thin clients and VMware desktop solutions are making the care a lot better for our patients."

The clinical system may be the medical center's most notable application of cloud computing so far, but more is to come. St. Vincent plans to enhance its environment with VMware vSphere, the world's first cloud operating system, and beyond that, the sky's the limit. "VMware technology is one of the major ways that we're achieving the cloud and the whole shared-services model," Antinori says. "It lets us not only deliver IT service to clinicians and business units effectively and economically, but, as we mature in our cloud environment, we can potentially offer our services to other healthcare providers and hospitals."

Results

- The hospital's IT infrastructure is 85 percent virtualized, and approximately 200 physical servers have been retired.
- Server consolidation gives a major boost to St. Vincent's "green" efforts, and there are significant benefits on the client side, too. Switching from traditional PCs to thin-client devices has resulted in huge power savings: from about 160 watts for a traditional PC to roughly 13 watts on a thin client. That translates into an annual savings of upwards of about $20,000 per 1,000 devices.
- Overall costs savings for hardware, power and cooling are estimated to be $3.4 million over the three years.
- The energy saved from virtualization programs qualified St. Vincent for a $120,000 grant from the New York State Energy Research and Development Authority
- VMware management tools offer better reliability, availability and disaster recovery. "One of the biggest benefits of using VMware is peace of mind," Antinori says. "It's great to know that our systems are now covered in the event of a disaster or hardware failures. And whether we're talking about disaster recovery or just day-to-day availability, it's pretty big to be able to assure our clinicians that their applications are going to be available 24/7."
- VMware View's centralized management and storage means better data integrity. "With a fat PC, patient information would be stored on an array of local hard drives," Antinori points out. "With the deployment of virtual PCs on VMware View, all that information is now on the SAN. That means we can watch more closely as the information is gathered and distributed, and control how it's shared and stored. That's a huge help when it comes to compliance."

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