Samsung Cloud Displays Unlock Efficiencies for Physicians and Accelerate Electronic Health Record Adoption

OVERVIEW

Customer Need

Olympic Medical Center (OMC) in Port Angeles, Wash., had been building a virtual environment to support faster electronic health record (EHR) adoption by its physicians. The program's success depended on the ability of the virtual solution to make the physician's job easier and more productive, while maintaining patient data security. The existing program utilizing tablets suffered a setback, however, when challenges integrating key applications such as physician dictation software led to an inefficient workflow, loss of productivity and higher costs.

Samsung Solution

Transitioning to Samsung's Cloud Displays enabled OMC to integrate essential applications into its virtualization solution and resulted in faster workflow and physician engagement. With the zero-client technology built right into the monitor, Samsung Cloud Displays were the ideal choice for streamlining the technology footprint throughout the medical facilities, lowering acquisition and support costs, and improving productivity, all while protecting patient data security.

Results

OMC's initial deployment of Samsung Cloud Displays has resulted in significant cost savings from transcriptions, power consumption and reduced IT maintenance. The successful implementation has also advanced electronic health record adoption at OMC, leading to a plan for a larger-scale deployment of Samsung Cloud Displays at all locations.

THE CUSTOMER
Olympic Medical Center

Based in Port Angeles, Wash., Olympic Medical Center (OMC) is an award-winning public hospital district responsible for providing comprehensive health care to the 70,000 residents of Clallam County. It provides inpatient services at its flagship Olympic Memorial Hospital and a wide array of outpatient services across its network of facilities in Port Angeles and Sequim. A charter member of both the Seattle Cancer Care Alliance Network and the Swedish Health Network, the community-owned organization has two divisions: Olympic Medical Physicians, which provides primary and specialty care services; and Olympic Medical Home Health, one of the top 500 home care agencies in America.

photo: Olympic Medical Center

Information technology has become a significant strategic focus as OMC moves forward with electronic health records (EHR) and advanced clinical applications to improve employee productivity and deliver quality, comprehensive and coordinated care to patients. In 2013, OMC expects to begin implementing a shared EHR system with Providence Health & Services, a not-for-profit health care organization, that will give health care providers secure access to a patient's medical history and make it easier to achieve coordinated care across an expanded scope of services.

photo: Olympic Medical Center

THE CUSTOMER NEED

A secure virtualization platform supporting physician dictation software, mobility and improved workflow

Regulatory requirements and government incentives to improve healthcare quality and efficiency through information technology have prompted healthcare providers to focus on achieving faster EHR adoption by implementing a virtual environment. However, for programs to be successful, the virtual solutions need to help make the work of physicians easier and more productive, while maintaining the reliability and security of patient data.

OMC had a head start on virtualization, beginning with servers in 2008 and then deploying virtual VMware View™ desktops on tablets in 2010 in conjunction with the rollout of a new EHR system for its ambulatory center. The initial strategy to thin down existing desktop workstations was implemented by rolling out the Windows-based tablets which physicians could take into patient exam rooms and dock when they returned to their offices.
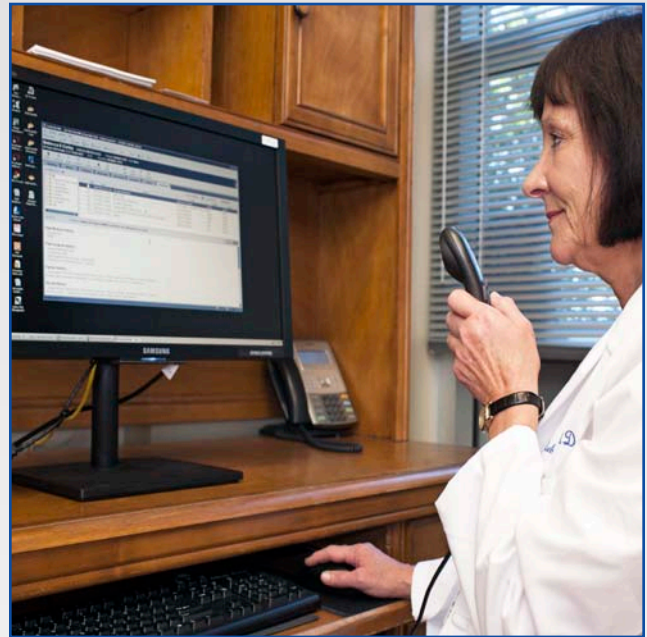

photo: Olympic Medical Center

However, integration with key productivity applications such as Dragon NaturallySpeaking, the speech recognition software from Nuance Communications, posed significant limitations. "The configuration was far from perfect," said Sean Johnson, OMC's Information Systems Manager. "At the time, we were forced to have Dragon loaded locally on the tablets, and the physicians had to cut and paste their dictated notes over to the host server. The many issues with the workflow caused most of our physicians to abandon Dragon for a more traditional, and more costly, transcribed dictation model."
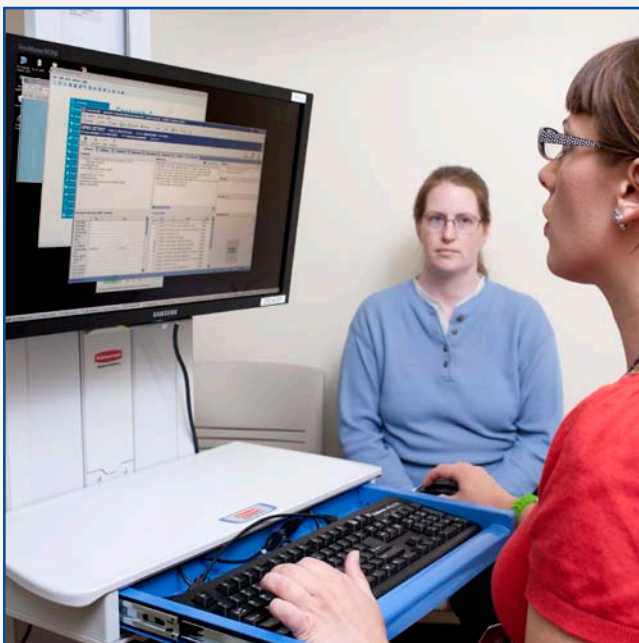

photo: Olympic Medical Center

As OMC continued to invest in building a virtual environment, the IS staff began evaluating alternative types of zero-client platforms to deploy. "We read about the Samsung Cloud Displays online," said Johnson. "We decided to order a few for testing, and the rest is history."

THE SAMSUNG SOLUTION
NC240 Zero-Client Cloud Display

Samsung Cloud Displays are a whole new class of professional-grade monitors especially designed for desktop virtualization and cloud computing. With thin- or zero-client technology built right into the display, they connect directly to the cloud and erase the need for a separate PC or thin-client at the user's desk.

OMC began testing the NC240 Zero-Client Cloud Display at a few sites that were not equipped with Dragon NaturallySpeaking. "The initial feedback was great," said Johnson. "The new Samsung workflow was much faster, the USB devices worked seamlessly and it was easier to use."

> "The new workflow is significantly faster and has cut my dictation and chart completion time by more than 30 minutes every day."
>
> – Dr. Rebecca Corley, Olympic Medical Physicians

When VMware View added support for Dragon NaturallySpeaking, OMC tested the new configuration with select physicians using the Samsung zero-client. The integration was simple and easy for OMC's IS staff and resulted in immediate time savings for physicians.

"We have been very satisfied with the cloud-based solution," said Dr. Rebecca Corley, based at Olympic Medical Physicians' Specialty Clinic in Sequim. "The new workflow is significantly faster and has cut my dictation and chart completion time by more than 30 minutes every day."

The VMware-certified Cloud Displays also contribute to mobility as physicians can log-in from any zero-client and begin dictating wherever they want. Patient information is more secure as the cloud technology ensures no data leaves the remote host or datacenter, and that individual workstations cannot be hacked or infected with viruses or spyware. All images transmitted to the displays are encrypted, providing a highly secure connection. Additionally, USB authentication ensures that no unauthorized devices can be attached to the system. And with the virtualized environment, Samsung Cloud Displays reduce maintenance, enabling IT support to save travel time and costs to service six remote locations in the OMC network.

"For healthcare organizations, where patient data security is paramount, Samsung Cloud Displays are able to centralize sensitive data and ensure it is protected," said Greg Spence, Sr. Product Manager for Cloud Displays at Samsung's Enterprise Business Division. "They also improve productivity by centralizing IT support and minimizing employee downtime, while providing a slim, clutter-free and energy-efficient computing solution."

Quick Profile:
SAMSUNG NC SERIES ZERO-CLIENT CLOUD DISPLAYS
As used by Olympic Medical Center

VMWARE SUPPORT: Certified for optimal use with VMware View 5.1

PROCESSOR: Teradici Tera1100

RAM: 128MB

DISPLAY SIZES: 19 / 22 / 24 inches

BRIGHTNESS: 250 cd/m2

RESPONSE TIME: 5ms

CONTRAST RATIO (TYPICAL): 1000:1

ERGONOMICS: Tilt, pivot, swivel, height adjustable

INPUT/OUTPUT: VGA in; DVI out; RJ45 Ethernet LAN; RJ45 LAN Hub; USB 1.1; RS-232C serial port; headphone out; audio in; mic in.

POWER (TYPICAL): 38 watts

OPTIONAL: Wall-mount bracket (VESA 100 x 100); speakers.

photo: Olympic Medical Center

"The success of this project has led us to plan a large-scale deployment of Samsung zero-clients throughout all of Olympic Medical Center's divisions by next summer."

– Sean Johnson, IS Manager, Olympic Medical Center

THE RESULTS
Wider Samsung Cloud Display deployment drives EHR adoption

OMC's initial deployment of Samsung Cloud Displays has contributed to cost-savings from transcriptions, power consumption, as well as the more frequent IT maintenance and hardware refreshes that thick-client deployments required. "We estimate a 5:1 cost ratio for thick-client and mobile versus cloud," said Johnson.

Equally important, the successful implementation has been a huge step in advancing EHR adoption at OMC. Physicians who had previously abandoned the use of Dragon, opting for costly manual transcription instead, have resumed using the voice recognition solution and all its functionalities made possible by the zero-client. Johnson said that apart from saving OMC money, the NC240 also contributed to the EHR system having the most up-to-date physician notes.

"We gained huge amounts on productivity," he said. "The success of this project has led us to plan a large-scale deployment of Samsung zero-clients throughout all of Olympic Medical Center's divisions by next summer."

The expansive plan includes having Samsung Cloud Displays in every OMC location where care takes place, replacing all the thick-clients and tablets. The deployment will begin at nurses' stations and throughout the Olympic Medical Physicians division. This will be followed by replacements in every clinical setting at OMC, including patient rooms. "Specialist physicians will be able to connect at Samsung zero-client displays as they do their rounds," said Johnson. "This is new for us and a big win for OMC to achieve strong and centralized data security and IT support."

Results of a recent survey of current users indicate enthusiastic support for widening the Samsung zero-client program. Its success has led to plans for Providence Health & Services to deliver the shared EHR system remotely to OMC through the Samsung zero-client. "This will be the first deployment of its kind for Providence," said Johnson. "Typically all their partners deploy EHR through a conventional thick client."

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