CASE STUDY | HEALTHCARE

Peconic Bay Medical Center Launches Advanced Hospital Information System

Featuring LG Electronics' First Zero Client Monitor Solution for Universal Power over Ethernet (UPoE) Application

Goal

A solution that could deliver our new core hospital information system to the bedside for clinical documentation and physician order entry

Solution

Installed LG's 22-inch Zero Client Monitors (model N2210WZ) in patient rooms and LG's 19–inch Zero Client Monitors (model N1910LZ) at nurses stations

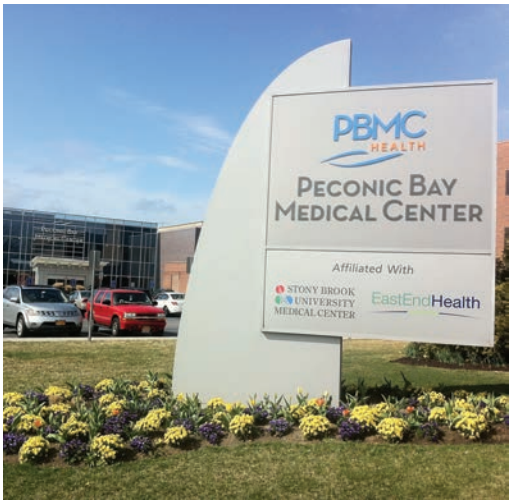
Results

Easy installation and the Energy Star®-certified and EPEAT-listed monitors contribute to energy efficiency and reduced energy costs for the hospital

Peconic Bay Medical Center is a 182-bed acute care and rehabilitation facility located in Riverhead, NY. It serves as a designated Stroke Center and features a highly regarded Emergency Department, an advanced surgery center, and Centers of Excellence in Joint Replacement and Bariatric Surgery, with a growing range of leading-edge medical services.

The largest hospital on Long Island's East End, Peconic Bay Medical Center (PBMC) is an anchor facility for PBMC Health, a comprehensive continuum of services and providers dedicated to serving the full range of healthcare and wellness needs of the families and communities of Eastern Suffolk County and all of Long Island.

A key component of the PBMC Health mission is to continuously improve upon the quality of care delivered and ability to cover all of the health and wellness needs for the communities they serve. Maintaining the most up-to-date technology solutions for hospital staff and patients has become a critical factor in supporting this mission.



In mid-2012, hospital operations staff initiated a large-scale project to replace the existing hospital information system (HIS) with a new platform that would integrate leading software and technology solutions to provide one of the industry's most advanced platforms for managing clinical documentation, order entry and patient information, while also bringing these tools directly to the patient room for enhanced bedside care.

DIAGNOSIS: A HIGH-TECH SOLUTION NEEDED FOR ENHANCED PATIENT CARE

"We needed a solution that could deliver our new core hospital information system to the bedside for clinical documentation and physician order entry," said Tom Chiasera, director of network services & communications for Peconic Bay Medical Center. "We had already tried using mobile medication carts with wireless devices attached to them to support our medication administration system, however, they proved to be difficult to maintain, requiring frequent battery changes, repairs and replacements.

"Medication carts are also costly and there never seems to be enough of them," continued Chiasera. "Taking them out of service for repair resulted in a less than happy nursing staff already stressed from the demanding day-to-day care of patients. There had to be a better way."

PBMC Network Services staff decided to bring in systems integration and IT specialists from Siemens Healthcare to evaluate options and help build a custom solution. The collaborative project team determined that putting a stationary device in every patient room would ensure availability to caregivers, letting nurses and physicians work together by the patient's side. However, they needed to find a way to accomplish this while keeping the reins on cost, which was no easy task.

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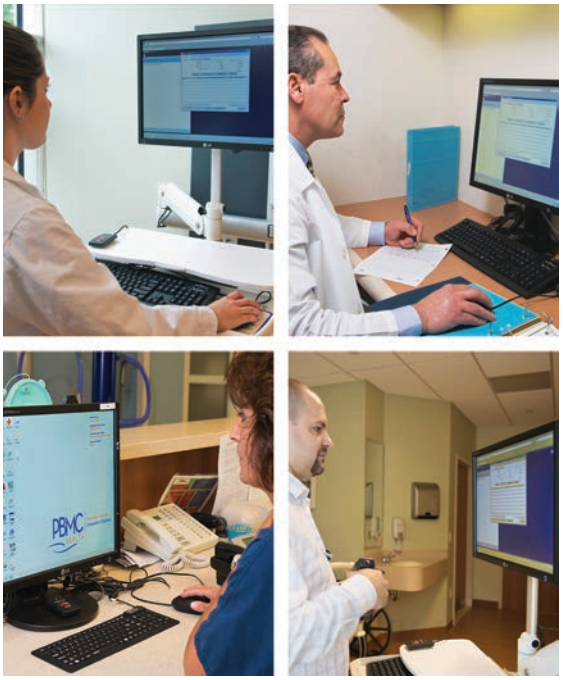

"The Teradici® PCoIP® (PC-over-IP) Chipset used in LG's Zero Client Monitors greatly simplified set-up for all terminals, allowing them to be configured in bulk over the network instead of individually. This feature reduced system building and support time, minimizing trouble shooting and helping us to expedite roll-out in the process."

Michael Morgano, principal consultant with Siemens Healthcare

"We're extremely pleased with the new HIS system for Peconic Bay Medical Center, and products chosen as part of the solution. Siemens and LG worked together to ensure that our functionality needs were met on time and within budget."

Demetrios Kadenas, chief development officer, Peconic Bay Medical Center

After considering various wireless laptops, tablets and PC options, they concluded that using VMWare to virtualize a customized desktop delivered to a Zero Client device in the patient room was going to be the best option to meet both the hospital's need and budget restrictions.

"As we investigated the costs of providing power to all of the patient rooms, we discovered that our power plant was insufficient to deliver the necessary emergency power and remediation became cost prohibitive," said PBMC's Chiasera. "I learned that Cisco recently developed a new technology called UPoE (Universal Power over Ethernet) that's capable of delivering up to 60w of power over an Ethernet cable. This could potentially save us about $150,000 in power plant upgrade costs."

Thus began the search for a device that could be powered over the UPoE network, was low cost, and provided a robust solution to the end user – capable of powering a barcode scanner transmitter/charger, RFID reader for tap and go functionality, a keyboard and a mouse.

"While still a prototype at the time, we found that LG's 22-inch Zero Client Monitors (model N2210WZ) provided exactly the solution we were looking for," said Michael Morgano, principal consultant with Siemens Healthcare. "Product specialists from LG jumped right in and worked with our team to make sure that the new monitors could meet the customer's needs, including integration of a UPoE power splitter for the terminals, making our concept become a reality and an innovative application combining the benefits of UPoE and Zero Client devices."

The LG Zero Client Monitors were installed in every patient room and mounted on articulating arms, allowing the ability to face either patient in a two-patient room. All PCs at the hospital's nurse stations were also replaced with LG's 19–inch Zero Client Monitors (model N1910LZ). These smaller devices delivered the same look and feel, keeping everything consistent with the patient rooms. Because the nurse stations had sufficient power, UPoE was not necessary.

According to Morgano, "The Teradici® PCoIP® (PC-over-IP) Chipset used in LG's Zero Client Monitors greatly simplified set-up for all terminals, allowing them to be configured in bulk over the network instead of individually. This feature reduced system building and support time, minimizing trouble shooting and helping us to expedite roll-out in the process."

CHART-WORTHY RESULTS TO DATE

"PBMC Health seeks to institute remarkable technology for each of our facilities, especially within our primary facility," said Demetrios Kadenas, chief development officer, Peconic Bay Medical Center. "We're extremely pleased with the new HIS system for Peconic Bay Medical Center, and products chosen as part of the solution. Siemens and LG worked together to ensure that our functionality needs were met on time and within budget."

The new Energy Star-certified and EPEAT-listed monitors are also contributing to energy efficiency and reduced energy costs for the hospital. Zero Clients consume as little as 15 watts per hour, compared to the 65-250 watts per hour consumed by a traditional PC. Additional benefits for healthcare facility operators include reduced maintenance issues through elimination of moving parts (such as fans and hard drives), as well as increased data security enabled by centralized software management.

According to an initial survey of PBMC staff, the ability to reduce equipment and associated clutter in patient rooms and at nurse stations is also a substantial benefit in an environment where cleanliness and organization are critical, and space is at a premium. Popular features also include reduced noise and LED backlit screens. The new screens were deemed "bright and user-friendly, but easy on the eyes," which are important factors for proper order entry and clinical documentation.

PBMC Health is now working with Siemens Healthcare to evaluate opportunities for LG Zero Client Monitor installations in other PBMC Health facilities.

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