

Academic Medical Center

The Challenge: Help a large academic medical center network-enable patient monitoring devices in 24 neonatal and 77 adult ICU rooms to support a new clinical information system.

The Solution: Implement a Lantronix multiport device server to network-connect the serial-based medical devices in a compact form factor.

The Result: The automated flow of information from the monitoring equipment to the clinical information system increases accuracy and vastly improves staff productivity.

The Challenge: Seeking Higher Standards in Critical Patient Care

With nearly three quarters of a million patient visits annually in and around the Boston area, the client, a leading academic medical center, is rated as one of the top hospitals in the country. Passionate about leading-edge patient care, the hospital recently committed to upgrading its clinical information system, starting with its 24 neonatal ICU rooms, which can house up to 72 babies, and its 77 adult ICU rooms.

The hospital's current clinical information system required clinicians to manually jot notes into charts and then transfer the notes into the electronic system, a process that introduces human error. Newer generation clinical information systems have the advantage of automating the clinical workflow and documentation processes, creating an electronic medical record rather than a written chart. Because clinicians spend less time manually charting patient information, the system helps increase staff productivity, decrease costs, reduce errors, and improve patient outcomes.

One of the hospital's biggest challenges was in network-connecting critical care bedside equipment, including ventilators in the NICU rooms and such devices as cardiac-output, heart-assist, and continuous-dialysis machines in the adult rooms. Serial-based devices such as these require a serial-to-Ethernet converter to translate the serial communications to TCP/IP communications and facilitate the flow of information over a network. The hospital also wanted to secure the converter device to the wall in each room, which required a relatively small footprint.



“[The ETS8PS] worked as promised. It was one less thing for me to worry about, which is huge in a big project like this when you've got a lot of things in play.”

— Senior Technical Analyst, Clinical Application Services

The Solution: Lantronix Supplies the Central Nervous System

Lantronix recommended the compact and versatile ETS8PS terminal server. Used as multiport device server, this product can connect virtually any serial device, such as medical equipment, retail and point-of-sale terminals, and industrial or business automation equipment, to an existing Ethernet network. With the ETS8PS, up to eight different serial devices can be quickly connected using standard RJ-45 connectors.

Due to the size of the deployment, the hospital chose to roll out the new clinical information system in phases, starting with a pilot program of twelve ICU units. According to the senior technical analyst of clinical application services, “We needed to make sure both the [clinical information software] and the ETS8 would work together as promised to meet the needs of our demanding ICU environments and our exacting ICU medical staff.”

The Results: Providing a Critically Important Link in Clinical Information

The ETS8PS passed with flying colors in the pilot program and was soon rolled out to the hospital’s 24 NICU and 77 adult ICU rooms. Because the data coming from the various ICU medical devices are recorded automatically and consolidated into one place, clinicians are able to perform their duties more efficiently, which has resulted in improved patient care. The new clinical information system has also improved the quality of documentation, which has the added benefit of allowing the hospital to build strong research databases that will eventually alert clinicians to issues before they become problems.

As the hospital expands the clinical information system upgrade throughout the lower care ICUs and other departments, Lantronix equipment will be an integral part of the standard set up. The only change will be moving to the EDS8PS, Lantronix’s next generation multi-port device server, which provides a 32-bit processor for increased performance and enhanced capability for customized applications. According to the senior technical analyst, “When you start a relationship with a vendor, you get to meet the people on the inside — the technical people doing the work. When it came to Lantronix, the price was right, the information was good, and they successfully proved themselves in the pilot project.”

QuickLink:

For more information on the ETS8PS terminal server, visit <http://www.lantronix.com/it-management/ethernet-terminal-servers/ets8ps-ets16ps.html>

LANTRONIX®

15353 Barranca Parkway
Irvine, CA 92618 USA
Tel: (800) 526-8766

Tel: +1 (949) 453-3990
Fax: +1 (949) 450-7249
www.lantronix.com

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