Taking Image Distribution on the Road

As physician practices become more mobile, so too must their tools. But technology and, therefore, physicians have been limited by components and infrastructure. Previous radiology systems were unable to transmit images with ease. Obstacles to swift and clear transmission include growing image data volumes, network congestion, inadequate Internet bandwidth, limited client hardware resources, and viewing software that occupies a large footprint.

Fortunately, technology marches on, and advances in both hardware and software at Kjaya Medical, Stamford, Conn, have produced VoXcell, a solution that enables real-time viewing of images with advanced visualization. The next-generation thin-client image distribution and visualization system received 510(k) clearance from the FDA this past fall. The platform delivers images at any time to any basic desktop or mobile PC that can access a cable, DSL, or cellular broadband Internet connection.

Physicians can load patient studies, display 2D images, and perform desired reconstructions instantly over the Internet from any location. Preliminary and full reads can be easily completed at once. According to Kjaya, these capabilities create more effective workflows, for both the individual physician and the health enterprise, which may result in higher patient volumes and increased revenues. Most importantly, however, the technology can also contribute to better outcomes.

With greater access to diagnostic-quality, 3D images, physicians are more likely to use and manipulate the films, producing greater confidence in their diagnoses. Referring physicians and specialists can simultaneously view images without having time or location restrictions, making conferences easy and more productive.

VoXcell and Xcell

VoXcell works by conducting real-time 3D processing of large-volume data sets. The system streams the 2D axial slices and 3D reconstructions of MRI, CT, and PET-CT scans so they are available on demand. Image quality is maintained at diagnostic levels, and multiple formats are available for streaming and interactive viewing.

The Xcell hardware incorporates completely off-the-shelf components, including the latest generation of graphics processing units (GPUs). The strategy keeps costs down and flexibility up. According to the company, its NIVIDIA and ATI GPUs are approximately 30 times faster than current Intel central processing units. Techies might appreciate knowing the system delivers 2.4 TFLOPS of 3D processing power; laypeople will appreciate the unlimited storage and scalability.

Kjaya's VoXcell can integrate with existing PACS, HIS, RIS, and EMRs, and is available as a managed service, which eliminates the need for significant capital. The package includes the hardware, software license (for an unlimited number of users), hardware and software support, hardware and software upgrades, HIPAA compliance, storage and archiving, and a data center.

The many components are integrated in a configuration that is intended to be seamless to the physician users, who benefit from no longer being tethered to a dedicated workstation or reading room. "Accessing pediatric images ubiquitously is a challenge today. I know this firsthand as a pediatric surgeon covering six different hospitals," said Donald C. Lui, MD, PhD, surgeon-in-chief at the University of Chicago Comer Children's Hospital. The ability to view images over the Internet is, as Lui puts it, "of great clinical relevance."

—Renee Diiulio

Bridge to the EMR

In the last decade, the CardioGram system from CompuMed has become the telecardiology solution of choice for a significant number of the state correctional prison systems across the nation.

Fueled by the success of its flagship system, the Los Angeles-based medical informatics company has developed the CompuBRIDGE telecardiology electronic medical records (EMR) solution.

"Nowhere is the challenge of providing quality health care more complex than in a correctional facility," said Maurizio Vecchione, CEO of CompuMed. "Electronic medical records have been shown to have an impact on the safety, effectiveness, and cost of health care by having the right information at the right place at the right time. CompuBRIDGE, built with the experience of our correctional industry success, can help correctional health care customers as well as any other health care providers who use ECGs extensively transition into integrated digital medical records."

Designed to capture and integrate electrocardiogram (ECG) results and over-reads into an existing EMR system, CompuBRIDGE EMR does not require the practice to employ additional software, hardware, or specialized servers. It offers hosted solutions for facilities without a general EMR system, providing these institutions with access to ECG data via any Web-enabled computer.

"CompuBRIDGE EMR is part of our strategy to help health care providers implement an integrated digital information solution," Vecchione said. "We use a standards-based architecture for ease of integration and optimal interoperability. It allows our clients to automatically integrate ECGs and over-reads with most EMR systems."

Users of CompuMed's telecardiology services will have the ability to data mine patient records and electronically transfer them to their own EMR systems, which include patient administrative systems, electronic practice management, and laboratory information.

The CompuBRIDGE EMR is currently undergoing beta customer testing. Upon completion, CompuMed will make the system available to the general marketplace.

—Elaine Sanchez

email article
|
contact editor
|
print article

Subscribe to Issue Stories

LOOKING FOR EXPERT ADVICE?

Experts here are available to answer all your questions!

Please contact us for more information about this feature, or to become an expert.

MEDIA CENTER

Interactive Media

Archives
Newsletter
Videos
Podcast Series

Resources

Classifieds
Calendar
Consumer Resources
Media Kit
Advertiser Index
EAB