Consolidation and integration dominate PACS and RIS offerings

January 17, 2001 | PACS and Informatics [1], Speech Recognition [2], Vendors [3]

Growing interest in enterprise distribution of images has prompted the major film and modality vendors to look beyond radiology and cardiology for new business. New marketing strategies are designed to bridge the gap between the radiology department and everyone else. The message is less about the technology and more about the process of adopting it. "Workflow" has replaced "image quality" as the watchword of digital imaging in medicine.

Internet-based applications were central to GE Medical's presence at the meeting. In addition to its traditional PACS offerings, GEMS emphasized the growth of its Information Technologies division, which includes the company's ASP and e-commerce efforts. Building on its parent's foundation in networking, Marconi Medical Systems is trying to evolve from a modality-based company to an IT/IS provider.

In a similar vein, film companies want to be seen as providers of digital technology. Kodak's Health Imaging Division, which includes the new PARIS integrated RIS/PACS group, expects to introduce more than 50 products next year, three-fourths of which will be digital. Agfa focused more on its strategic partnerships with Comdisco and Inphact (and the resulting ASP capabilities) than it did on product-specific upgrades.

Despite such new dalliances, none of these firms have turned their backs on bread-and-butter businesses characterized by "traditional" PACS. Each exhibited enhancements to existing PACS products. Several showcased improvements in RIS integration and enterprise distribution capabilities. Voice recognition and 3-D viewing capabilities were also hot topics. Vendors now offer integrated digital dictation with their radiology workstations, and some are enabling their PACS to respond to voice commands.

Agfa

- **Web-based enterprise-distribution capabilities of Impax PACS were featured.** These capabilities give clinical and administrative staff access to images, reports, and RIS scheduling. Impax offers embedded RIS and voice recognition, which are also available on the Toshiba simPACS, a department-centric PACS built using Impax technology licensed by Toshiba from Agfa. Other extensions to Impax and the Impax R4 workstations include advanced diagnostic tools for radiology specialties, with 3-D visualization; workstations for clinical subspecialists with unique workflow issues such as orthopedics and cardiology (Impax for Cardiology, shown as a work-in-progress at the RSNA meeting, is currently in beta testing at Brigham and Women's Hospital in Boston); and the ability to access results via e-mail and images on CD-ROM.

- **PACS Watch 2 is a new system-monitoring and reliability product.** It provides remote monitoring capabilities for Impax to anticipate potential system problems and alert service personnel.

ALI

- **ALI continues to position itself as an independent IT software company in the PACS industry.** The company launched two new enterprise-oriented PACS products: ALI Instant Archive and ALI UltraPACS AnyWare. Instant Archive uses network-attached storage redundant array of inexpensive disks (RAID) technology to eliminate prefetching and autorouting routines, giving referring physicians quick access to images from anywhere in the enterprise. UltraPACS AnyWare is an
Internet-enabled workstation designed for remote viewing applications.
- Version 4.4 of UltraPACS includes 3-D viewing, integrated speech recognition, and video streaming capabilities.

Algotec
- Emphasizing its Web-based approach to PACS and the management of patient information, Algotec sees the Internet as a business tool for radiologists and as a means of linking radiologists with referring physicians, who in turn can use the 'Net to bring patients more directly into the diagnostic and care process. The company introduced version 4 of MediSurf, its Java-based image display engine that enables radiologists to simultaneously view and compare any series or studies from any modality, regardless of location. MediSurf also offers 3-D viewing and image processing through a new program called 3D Surf.
- Version 3 of Algotec's MediStore archiving product provides extended support for the company's ASP offering and for DVD and AIT storage media.
- Med-e-Mail automatically combines radiology reports with thumbnails of key images and sends them by e-mail to referring physicians. Users wanting more image detail can use a software link embedded in the Med-e-Mail report to pull up the complete study through the Internet.

Avreo (formerly Riptide Technologies)
- Avreo showcased its Web-native ARIIS (advanced radiology integrated Internet solution) product, an XML-based radiology information workflow system. The company is working to integrate all parts of the healthcare practice management chain, including scheduling, claims processing, and e-commerce capabilities, into its clinical offerings.

Cassling Diagnostic
- With the creation of subsidiary Artesian Medical, Cassling Diagnostic focused on providing systems integration for PACS customers. Artesian actually incorporates the existing networking integration component of CDI, which has more than 300 installations to date.
- Partnering is a key component of Artesian's strategy. Vendor partners include Applicate, Merge, Barco, Cisco, Fuji, FileLink, Dome, Rorke, Vidar, and Voxar. Artesian is also offering an ASP model through a newly formed relationship with Inphact.

DeJarnette
- Radiance PACS, introduced at the 1999 RSNA show, has since been installed successfully at a beta site in Akron, OH. New features include integrated voice dictation and 3-D reconstruction (through a relationship with Voxar). DeJarnette also announced a partnership with Dynamic Healthcare to jointly develop an integrated RIS/PACS.
- Positioned as a PACS provider and clinical systems integrator, DeJarnette provides a value-priced product and strives to be more responsive to customer needs and technology advances than larger companies. While some of its business in DICOM connectivity and software toolkits has declined, DeJarnette sees growing interest from IS companies, especially in light of the IHE initiative.

Eastman Kodak
- The company's PARIS division showcased plans to integrate its PACS and RIS technologies more tightly and better facilitate enterprise access to images and information from either a PACS or a RIS workstation. The company is focusing on four major growth areas: stand-alone PACS functionality, integrated PACS with
digital capture devices (such as its computed radiography and digital radiography products), multiRIS PACS integration, and new distribution models such as ASPs. PARIS is in the process of adding the RealTimeImage progressive streaming technology to its workstations to speed image access over dial-up networks, and the division expects to make this capability commercially available early next year.

Fuji

- Version 2.0 of the Fuji PACS Synapse debuted. The system is designed to bring the power of PACS to users outside the radiology department, regardless of the network backbone or number of sites on the network. New features include multifacility, multiRIS, and multireading-group capabilities. Multiple databases can be accommodated with secured log-ins that control the user's ability to see different facilities within an enterprise. Networked facilities can share information despite different HIS/RIS systems and reading groups.
- Version 2 of its AON (access over networks) compression and distribution technology suite made its second consecutive appearance at the RSNA meeting. The AON toolset includes AON Subscription, which allows remote users to access selected sets of information through a secure Internet or intranet connection; AON Engine, an embedded wavelet compression technique that enables on-demand access to full or partial images over lower-bandwidth networks; and AON Factor, which assigns a relative value of compression to an image.

GE

- PathSpeed PACS was enhanced to improve enterprise distribution of images with the goal of eventually eliminating the need for film outside the radiology department. A proprietary lossless compression technology, called TruRez, was integrated into the system. TruRez combines integer wavelet transforms and lossless compression to help providers across the enterprise view full-resolution images without worrying about bandwidth or workstation constraints. Using a progressive technique, TruRez enables thin Web clients on any end-user computer and optimizes data transmission based on existing bandwidth and workstation viewer capabilities. Compression ratios range from 5:1 to 60:1, depending on the robustness of the viewing workstation. During demonstrations on the RSNA show floor, users were able to access a chest image in two to three seconds over both T1 and POTS lines.
- Other PathSpeed improvements include tighter integration with the Cerner RIS, IDX RIS, and speech engines from Talk Technology and L&H. Also being integrated into the PathSpeed workstation are 3-D and volume rendering (still in clinical trials), along with orthopedic templating to enable specialty-specific CAD.

Imco

- The Imco-Rad line of PACS products was featured in four settings designed to match system capabilities with user need, based on facility size. The company also introduced a regional archiving approach to off-site image storage, an ASP fee-per-use model, and Web browser capabilities for image retrieval and review. The new Secure Storage Center is a regional archive that uses the Internet or a virtual private network to transfer and access images and other medical information, providing high-speed private communication between the customer's site and Imco. The first center is in Wisconsin. The company plans to build or contract with centers in other regions as warranted by demand for the service. Imco has also established a Network Monitoring System and a Systems Integration Center, which will allow the company to produce a wider variety of systems and improve delivery times.

Image Technology Laboratories
In its first appearance at an RSNA show, the company exhibited its new ITL PACS. The system features a modular Windows-based architecture appropriate for users from small imaging centers to large hospitals, as well as IDNs (integrated delivery networks), according to the company. ITL PACS also supports several medical and software design interoperability standards, including DICOM, HL7, HTML, TCP/IP, and CORBA. The company will sell complete systems or add components to existing PACS, as well as support a purchase, lease, or ASP model.

Marconi Medical Systems

- Major points of emphasis were enterprise workflow, flexibility, customization, multiRIS integration, and flat-panel displays. The company is now integrating voice recognition capabilities from Talk Technology and L&H into its PACS workstations. (Marconi offers the Talk Technology miniRIS with its PACS for smaller sites.)
- The Xyloc proximity security card was demonstrated. The card automatically logs a user on (and loads preset protocols) when addressing a workstation, then logs the user off after a session is completed. Starting in spring 2001, the Marconi JPACS will also feature embedded security mechanisms provided through its relationship with Xcert. The company expects to offer new compression and progressive streaming capabilities with its PACS as well.

Merge Technologies

- Having historically based its business on connectivity products, Merge Technologies is now taking a phased approach to digital image management that emphasizes workflow applications for small to mid-sized hospitals. The company takes a radiology-centric approach to PACS, although its products are designed to work within other departments as well. Archiving products can be integrated with any HIS or RIS. The company is gearing up to launch a suite of integrated workflow applications that will be sold to OEMs and to customers through Merge's new direct sales force.

Philips Medical Systems

- Version 7 of the Inturis PACS was released under the "myPACS" brand name. The company has developed a series of "my" products and services that emphasize customization and personalization.
- myView allows users to see images on demand with myPACS and features customizable workstations, personal dynamic work lists, and user-specific configurations.
- myBlanket includes multilevel security features (such as audit trails and biometrics), high-availability servers, and built-in redundancy.
- myTeam is Philips' professional services group, which offers workflow analysis, project management, and network implementation.
- Philips has also signed agreements with StorageTek and EMC to integrate their data archiving and storage technologies into Inturis/myPACS.

RealTimeImage

- After introducing its iPACS product at the 1999 RSNA show, RealTimeImage has struck partnerships with Kodak and InSite One. RTI will integrate its pixels-on-demand image streaming technology into Kodak's Distributed Medical Imaging (DMI) systems and into InSite One's InDex digital image storage and retrieval service. RTI's proprietary technology uses a wavelet-based processing algorithm to generate partial spatial transforms of areas of interest in an image, enabling remote users to view and manipulate images in real-time.
- The debut of iPACS Portable moves RTI into the wireless market. The portable system is designed to enable point-to-point streaming of medical images from a...
lightweight server to an individual reviewer over any wireless or wired Internet connection. Using iPACS Portable in conjunction with a portable ultrasound, CR, or other image-acquisition system, diagnostic-quality images can be streamed from a wireless-enabled PC or laptop server in the field. Images are available on the receiving end via a unique IP address assigned to the remote computer. Access to the images can be gained from a PC or workstation via the Internet and viewed in real-time, even providing real-time consultation over a separate phone line.

SAIC

- The systems integrator is taking a less radiology-centric approach to PACS. Healthcare organizations have not always reaped the full potential of PACS because the rest of the enterprise remains dependent on film, according to the company. Rather than talking only to radiology administrators, SAIC approaches both the CIOs and radiologists to develop an enterprise system from the get-go.
- SAIC maintains a vendor-neutral approach, although it has some partnerships in telecommunications and other enterprise technologies. Rather than working with a specific system or technology, the company looks at the various components-viewers, workflow engines, data storage middleware, and storage area networks—necessary to create the most effective system for each customer.
- The firm claims 16 healthcare customers in the U.S. and Canada.

Siemens

- ASP offerings were showcased along with its new Web site siemensmedical.com. The Web site is designed to enable the company to approach customers, patients, and providers from a disease-specific perspective and better provide them with the clinical information they need to make decisions regarding care and related purchases. The portal is initially intended as an e-commerce entry point, but the company says it will eventually include communities that link radiologists and referring physicians, making patient data available whenever and wherever it is needed.
- SMS Physicians Dashboard is already moving the company in this direction. The browser-based product resides on a user's PC and makes available intranet and Internet access to clinical information, patient records, images, and any other applications relevant to the user's day-to-day workflow.
- Siemens highlighted Syngo software in relation to the IHE, particularly in systems integration, data workflow, and user training.

Stentor

- The company is in a technology development partnership with IDX. Stentor's iSyntax wavelet compression-based streaming technology adds enterprise image access capabilities to the IDX RIS, according to IDX. The firms debuted several joint products as works-in-progress at the 2000 RSNA show, including a perpetual archive and a diagnostic workstation that uses a touchscreen interface.

StorComm

- Several new products were launched at the RSNA show in support of the company's goal of creating an integrated clinical data repository and electronic medical record (EMR). These products include ImageAccess Real-Time Monitoring, which allows radiologists to look at exams in process, and Image Access MedChat, a collaborative feature for MedView that lets users consult in real-time over a LAN or the Internet. StorComm is also looking at expanding beyond radiology into echocardiology and orthopedics.
- StorComm and 3M Health Information Systems announced an agreement to integrate StorComm's ImageAccess clinical image management system into 3M's Care Innovation healthcare information system. Through the agreement,
StorComm gains access to 3M’s client base in information systems and becomes a player in the emerging EMR market. The companies will jointly market the integrated system, which will keep the ImageAccess name.

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