

The IT Perspective

Prepare your imaging department for growth with these must-have solutions. **By William “Buddy” Gillespie**

WHILE THE PAST several years have been challenging across many spectrums in health care, it's crucial to the success of your organization that you continue to invest in technology that will allow you to maintain a competitive edge. Here, key information technology (IT) questions are addressed.

How does a radiology department know when it's time to upgrade IT systems?

The vast majority of imaging systems (RIS and PACS) were implemented eight to 10 years ago. As a result, these older applications are facing end-of-life scenarios relative to not only technology, but also from a feature/function perspective.

Since the (HITECH) Health Information Technology for Economic and Clinical Health Act was established in 2009, the focus for hospitals has been on the implementation of the EMR systems exclusive of ancillary departments. Therefore, HIT budgets were absorbed by the fast track to meet meaningful use requirements and collect the ONC provided incentive dollars. As the Stage I Meaningful Use goals are met, hospitals will once again turn their attention to ancillary applications and direct the IT budgets to refresh the aging applications such as RIS and PACS.

A couple of factors are making imaging directors aware that their systems aren't what they used to be, including:

1. Older platforms lack the ability to fully integrate with new EMR applications, much less provide the seamless interoperability required today in the age of a continuum-based clinical process for patient care. For example, most integrated health systems are implementing enterprise resource scheduling. Since imaging is a major player in the process of scheduling patient appointments, it is imperative that the RIS applications have the ability to interface with the enterprise scheduler. The majority of the older RIS products lack the open architecture to achieve that level of integration.

2. Another major issue, which will rise to



the forefront over the next couple of years, is the proprietary format of the imaging studies stored in the legacy PACS systems. Almost every PACS vendor has used a storage structure that's not DICOM compliant. This structure will make it impossible for hospitals to migrate the archived studies to a new PACS vendor. A vendor neutral archive (VNA), however, will provide a migration path for the non-DICOM images to a secondary storage (neutral) environment under a full DICOM structure, thus making it possible for a hospital to implement a new PACS without the loss of historical images.

Regarding IT and medical imaging, what features are must-haves and why?

The applications and technology infrastructure must be based on open architecture; this is a core requirement for the systems to integrate with the other applications and platforms across and outside the health system.

The database structures should be industry standard vs. proprietary. The need for

analytic reporting and clinical decision support requires a robust data dictionary and meta-data along with the ability to extract the data as appropriate.

The ability to scale the technology architecture to comply with the growth of the health system relative to the geographies of care and volume of studies also is crucial.

As well, the ability to import study information from a third-party provider is critical as hospitals enter into ACO agreements with multiple and disparate providers that may have their own source of RIS/PACS solutions.

What new technologies or features will be available in the near future that also may have an impact on how a radiology department operates?

Several exist. Mobile health will allow physicians and radiologists to view images and results from anywhere, anytime. This increased degree of accessibility will challenge the existing process to be more responsive in the scheduling and delivery of diagnostic results.

The requirement for contemporaneous reading/interpretation of images between the radiologists and physicians will require higher bandwidth(s) from the networking/connectivity infrastructure.

And, as mentioned above, the advent of enterprise scheduling will remove imaging from being just a vertical ancillary and bring that department into visibility as a health system player.

Imaging PACS and cardiology PACS solutions are blending together; this will allow for a coupling of the disparate processes between the two service areas. This event also will justify the existence of a single archive for the storage of images.

Another disruptive technology on the forefront is the PACS “UniViewer,” which represents a single viewer solution that engages with the PACS archive and provides the viewing features for all service lines and specialties, thus removing the requirement for multiple and disparate technology for each modality. ○

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