

## Image Analytics Redirect Radiology Workflow

'Enterprise' is the new battle cry in radiology workflow.

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More so than in previous years, the imaging informatics arena is less dominated by PACS, and more by new advanced visualization and analytics solutions such as 3D/4D imaging, CAD and multimodality image fusion.

The clinical utility of such tools does not need further demonstration today. In fact, these tools call for investment in the latest imaging systems by allowing for a meaningful interpretation of ever-growing and diversifying image datasets. However, it is the workflow model that these solutions propose that is becoming top-of-mind for every stakeholder in the imaging enterprise. While it is important to be able to manipulate, analyze, measure, quantify and be guided through 3D reconstructions, the challenge lies in the ability to do so in a workflow-efficient, and thereby cost-efficient, fashion.

For the radiologist, having to log in to multiple systems, or worse, to move physically to different workstations, reduces productivity as well as satisfaction levels. The lack of system integration, which limits the usability of the findings in the diagnosis process and the final report, isolates these systems in the imaging workflow. For the CIO, the replication and transfer of large datasets, which adds strain to an already over-utilized network and storage infrastructure, challenges the management and the ROI on these systems.

The modality OEMs' scanner workstations, which constitute the facade for their newest CT, MR and other PET/CT multimillion-dollar imaging systems, demonstrate wonderful features, processing speed and image quality. However, only a small part of the functionality is currently available on these vendors' PACS systems, as this requires significant additional development efforts that remain works-in-progress for several years, let alone providing a way to incorporate them on third-party PACS.

For third-party advanced visualization vendors, the buzzword is no longer 'cardiac' but 'enterprise'. Many vendors have expanded their solutions portfolio to additional clinical areas and sell direct to end-users. However, the vendors are now focusing on the delivery model for their applications, most notably over thin clients, through third-party PACS systems or over the Web. This allows distributing advanced imaging and analytics throughout the enterprise, where users other than radiologists are starting to express interest. The advances made in the mainstream IT industry, offering more efficient server-client technology and more powerful computing platforms (whether it be CPU-based, GPU-based or application-specific [ASIC]) are proving highly beneficial to radiology IT where the need for workflow integration, IT consolidation and centralization is higher than ever before.

The message coming out of all tiers of competition, including workstation vendors, PACS vendors and OEM vendors of advanced visualization technology, is consistent and expresses the understood benefit of integrated solutions in enabling the efficient use of advanced visualization in the imaging workflow.