Imaging Center CTOs and IT Pros ‘unPAC’ Patient Data

The CTO at central Florida’s largest Imaging Center discusses PACS, VNAs and image management and how he leveraged an Enterprise Imaging Platform to regain imaging control and automate specialty workflows.

All paths to an enterprise-wide image management solution need not be the same. From regional imaging centers to research hospitals, healthcare organizations like Radiology and Imaging Specialists, a leading radiology provider in central Florida, are evaluating their unique data management requirements and defining organization-specific strategies to gain control of patient data access, sharing and management. These strategies often include the adoption of an Enterprise Imaging Platform that forms the core of a new, universally connected, universally shared and universally accessed enterprise-wide solution.

Leading healthcare systems and imaging centers across the U.S. including Sentara Healthcare, University of Virginia Health System, San Diego Imaging Medical Group, Penn Medicine and Wake Radiology are leveraging Enterprise Imaging Platforms to address key data interoperability and sharing issues that are inherent in their existing PACS. These enterprise image management platforms offer advanced vendor neutral technologies including sophisticated archiving, customizable communication workflow and universal visualization solutions that collectively help address the patient data management challenges that health systems encounter.

RIS Chooses an Enterprise Imaging Platform to Unify Patient Records

Radiology and Imaging Specialists (RIS) conducts over 700,000 procedures each year across five regional hospitals, two multispecialty clinics and five imaging centers. Managing this volume of patient study data requires sophisticated communication workflow, archiving and analytics tools which, according to RIS chief technology officer David Marichal, don’t always integrate optimally and aren’t available from legacy PACS vendors.

“Taking an imaging study and turning that into a reportable event can be a resource intensive process when dealing with numerous disparate organizations and vendor systems without sophisticated management tools.”

Managing patient data across the RIS enterprise required a new approach, one that would allow RIS to unify patient records breaking the proprietary “lock” their older PACS architecture and referring facilities had placed them in. "We are replacing legacy PACS that had proprietary architectures with a new Enterprise Imaging Platform from Mach7 Technologies. We are moving ten years of patient images to the new Mach7 VNA and part of that transformation will create master patient IDs that will consolidate patient records across our enterprise,” said Mr. Marichal.

Marichal’s goal is to leverage the power of the Enterprise Imaging Platform to take all types of patient data (DICOM and non-DICOM) and assign patient level identification. With the new systems in place, RIS will consolidate patient data at an enterprise level. According to Mr. Marichal, “Our new system will offer a complete view of the patient that wasn’t possible before and that patient’s complete record will be available, regardless of which clinic they go to – all of their records will be consolidated. We’ll finally unify all of the disparate image sets and unify the patient records so it follows them regardless of which location they are in.” Enabled by Mach7 Enterprise Imaging Platform, referring physicians and radiologists will have total access to the full patient record.

“Having access to the full patient record will help our radiologists better interpret the study and improve diagnosis, positively impact outcomes and improve patient satisfaction – all metrics that we want to actively monitor,” said Marichal.
Why Is Now the Time to Deploy an Enterprise Imaging Platform at Radiology and Imaging Specialists?

A first step on the road to improved analytics and business management often begins with better data management. The RIS team wanted better access, control and management of patient studies. “We have images coming in from disparate locations,” noted Marichal. Beyond imaging centers, clinics and hospitals all forwarded RIS study data with different medical record numbers (MRNs). Patient records were all archived in the PACS, but were not associated with one another. “There may have been key pieces of information in a patient’s study history that couldn’t be interpreted during diagnosis because one or more associated studies were buried in the archive. We needed better access and control of our patient data,” said Marichal.

PACS Vendors Propose Solutions

When RIS launched their evaluation of image management platforms, their PACS vendors proposed solutions. “Our PACS vendors all proposed schemes to improve our workflow and imaging access, but we needed a more powerful, newer architected archive and communication system to help us with the data flows,” said Marichal. “Mach7 Enterprise Imaging Platform will give us so much more power because it can deal with all types of image data sets. That is what we need, along with study data normalization, consolidation and correlation across our enterprise.” Even though RIS is primarily a radiology practice, their clinics manage light images as well and need a way to normalize all types of study data and manage it to their specific protocols including access, sharing and eventual disposal.

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Interoperability and Workflow Are Key

A successful imaging center requires interoperability across disparate referring facilities and a mix of vendor acquisition devices and visualization systems. Universal, standards-based Enterprise Imaging Platforms enable communication, drive new revenue channels, speed diagnosis and reduce storage carrying costs and network latency, helping healthcare organizations like RIS achieve their business and patient management goals. “Mach7 delivered a unified single dashboard for our image data that we’ve never had before. This is a powerful tool to help us manage our imaging data. We’ll finally have visibility into how many studies we’re moving a day, more insight into our operations and a view of how our images are moving across the enterprise. From a radiology IT perspective, we’ll have access to analytics and control of our data that we’ve never had before – access that will directly impact our business, our clinicians, physicians and our patients,” said Marichal. “That is a very powerful tool to manage our images.”

Enterprise Imaging Platforms Directly Impact Key Stakeholders, Decrease Time to Diagnosis and Increase Patient Satisfaction

As modalities and visualization tools advance, traditional PACS technologies have lagged in their ability to adopt and embrace the enablement of these technologies through effective communication and storage of these formats. Visualization and automated, specialized workflows are becoming table stakes in enterprise image management and Enterprise Imaging Platforms that have advanced VNAs are leading the call to deliver.
Where to start?

The question so many healthcare organizations are asking focuses on how to take the first step toward vendor independence. Health IT teams like David Marichal’s at RIS are investing in Enterprise Imaging Platforms that can be phased in and expanded over time. These platforms may start in single departments or may address a few simple use cases or workflows. Over time, these powerful platforms form the foundation of an enterprise management solution that delivers comprehensive views of the patient’s electronic care record. They have “plug and play” access to best-of-breed specialty visualization solutions. They can resolve proprietary storage formats enabling standards-based storage and interoperability. All of these advances make it possible to accelerate care delivery, centralize access and lower IT costs across the enterprise.

Enterprise Imaging Platforms offer health IT teams, clinicians and diagnosticians the flexibility to “define their own path” to a vendor-independent, enterprise-wide image management strategy. It is time to take the first step.

Vendor Neutrality and Enterprise Imaging Platforms Will Be Part of Every Enterprise Image Management Strategy by 2018

The emergence of solutions leveraging vendor neutral archives has led to a 5x increase in Enterprise Imaging Platform deployments over traditional PACS in the last three years alone. This rapid adoption paradigm is driven in part by the deployment of EMR systems, growth of healthcare “big data” management requirements and market consolidation through mergers and acquisitions. Health IT teams are partnering with enterprise image management companies to chart a course toward vendor independence. The market is rapidly shifting toward universal vendor neutrality in archiving, visualization and workflow/communication solutions.

The ability to finally “unPAC” imaging archives and connect patient data across the enterprise has contributed to the growth of the VNA market, projected to top $1 billion by 2018, possibly eclipsing PACS market share by 2020. Enterprise Imaging Platforms are unlocking disparate PACS archive silos, consolidating patient data and simplifying sharing and access across the healthcare industry.

About Mach7 Technologies

Mach7 Technologies is a global provider of enterprise image management solutions that allow healthcare enterprises to easily identify, connect, and share diagnostic image and patient care intelligence where and when it is needed. Mach7’s innovative communication and workflow technology delivers complete image management including rapid record identification, integration, synchronization and routing, advanced clinical viewing, and optimized vendor-neutral archiving across the enterprise. Healthcare institutions around the world use Mach7 solutions for archiving, clinical productivity improvement, IT cost savings, health information exchange, meaningful use compliance, and improved patient data communication.

As an example, RIS has partnered with a cancer center to improve prostate cancer diagnosis and biopsy protocols. Through a specialized clinical workflow, a RIS radiologist creates an MRI of the prostate (as a diagnostic tool), maps out the area of interest and sends the study to the cancer center. The cancer center urologist can then overlay the 3D MRI data set onto their ultrasound biopsy unit and use the MRI as a roadmap to perform a targeted biopsy of the prostate. Today that workflow is manual and requires clinicians to push studies to the proper viewing workstations for both the radiologist during study mapping and for the urologist during procedure visualization.

With the Enterprise Imaging Platform, this highly specialized workflow will be completely automated. Studies will be directly and automatically routed to each location when needed and loaded onto the specialty viewers required by each physician. “With one upgrade in how we manage and store studies, we are impacting the cancer center, radiologist, urologist, clinicians and the patient – that is at least five key stakeholders. This updated flow of information will mean the radiologist’s information flows directly to the urologist prepping for the biopsy, all with no manual intervention. We shrink the overall timeframe and remove human error elements – all enabled by the VNA. This was simply not possible with our legacy proprietary PACS,” noted Mr. Marichal.