

Consider an Enterprise Imaging Platform as Your PACS Replacement

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HYPE OR NECESSARY INVESTMENT?

We're several years past the COVID-19 pandemic but many organizations continue to struggle with the challenges left in its Delayed purchases, wake. outdated technology, staff shortages, and escalating costs due to the current economic environment, are some of the challenges facing today's healthcare leaders. Maybe you've managed to prolong a vendor contract to keep your older technology humming along until you secure budget approval to replace your outdated technology. Operational changes or even new organizational strategies could have your CIO discussing the importance of moving to an enterprise infrastructure - a VNA or Enterprise Imaging platform instead of purchasing a new departmental PACS solution.

Your departmental PACS may have served you very well in the past but as organizational needs shift to accommodate new care models, such as value-based care or even radiology contract changes, these new workflows may require you to evaluate solutions that provide better workflow orchestration capabilities. In fact, you may losing productivity because be of workarounds implemented due to persistent staff shortages. The biggest question most organizations face when it comes to imaging IT is to upgrade an existing PACS or replace it with an enterprise imaging solution - and regardless of the solution chosen, what will the departmental and enterprise impacts be after go-live.

Most experts seem to agree that an enterprise approach is quickly becoming the best way to go as our healthcare ecosystem evolves, yet when electing to replace your existing PACS with an enterprise solution you will no doubt be faced with these and other considerations:

- New training initiatives
- Data migrations
- New integrations
- Updated and new workflows

Depending on what your organizations needs are or how you are developing your enterprise imaging strategy, you may find yourself in for a lengthy selection process, especially when



working with a consultant to help you select the best technology for your organization, as you may go through an RFP process, and need to develop a change management plan within your organization. Undertaking a full PACS replacement is no small feat either, yet the positive benefits you gain from investing in modern technology will likely outweigh the perceived pain of the replacement. In fact, moving towards an enterprise solution is becoming more of a necessity than hype, but you must decide what your organization really needs and what are the steps to get there.



THE UPGRADE VS. REPLACMENT DILEMMA

When evaluating costs, upgrading your existing technology may be driving your initial selection process, and for some organizations that may be the best option. Yet even upgrading an existing solution can often be misleading. Depending on the PACS solution you currently have and the upgrade process you would go through, the cost of the upgrade may approach a new full system replacement.

There are some advantages that will help your ROI if you choose an upgrade, such as your radiologists know the product (unless your upgrade path is a complete system/platform replacement), you have an established vendor relationship and contract in place, and your 3rd party integrations are already developed and intact, and you can generally take data migration off the table. However, if you have workflow challenges within your department and organization, need more advanced workflows, are beginning to introduce Artificial Intelligence (AI)



solutions into your existing radiology workflow, or need enhanced system interoperability, then an upgrade may not be the best choice for your future needs and choosing that path could ultimately cost you more in the long run. As you evaluate the upgrade vs. replacement dilemma, consider the following workflows and how you would handle them with your existing PACS solution:





What other systems, besides your EHR, will you need to plan for advanced Interoperability and integrations?





Departmental solutions work great for their intended department but not always so great for the enterprise. Departmental solutions are generally purchased to solve specific workflow needs, yet older systems were purchased when reimbursement models and provider needs were different, and the legacy solution probably met those needs very well. Now, as new care and reimbursement models emerge, modernizing legacy technology may be needed to improve patient outcomes and potentially improve some reimbursements. Likewise, value-based care models require access to information along with providing cross departmental collaboration as a critical component, and siloed imaging solutions do not meet the needs value-based care demands.

Looking beyond the walls of radiology, one must analyze how the needs of other caregivers in the care continuum needs access to medical imaging data. Different users will have different needs and priorities on how they use imaging data, and because of the change in how caregivers receive, access, and process clinical information, you should consider how imaging fits into the overall organizational strategy of your key stakeholders (executives, IT, payers, and clinicians). When properly evaluating the needs of everyone imaging impacts, changing systems may make the upgrade vs. replacement decision much easier.

RESTRUCTURING MEDICAL IMAGING FOR THE ENTERPRISE

Many of today's PACS vendors have developed web-based user interfaces for high demand reading environments and access from anywhere (and on virtually any device). Using a robust image viewing platform integrated to an enterprise imaging or VNA platform can be another option to consider, as you get the workflow benefits from a high performing viewer (keeping your departmental workflows and clinical tools intact) yet establishing an enterprisefocused backend which opens the door for better scalability, access, and security of all your imaging data.

A few years back, the term "Deconstructed PACS" was mentioned a fair amount, although, "Restructured PACS" seems more appropriate. Deconstructed PACS implies -"destroying" or to tearing down traditional PACS systems into individual components with less focus on how those components fit into the enterprise. By contrast, "reconstructed imaging" models with a focus on an enterprise strategy employs a balance of important individual departmental needs and workflows along with enterprise considerations. Reimagining (and reconstructing) how everyone views medical imaging focuses on a core software platform with highly advanced add-on workflow capabilities, open communication and interoperability. This enterprise solution is generally supported by a single vendor at a cost of ownership that makes more sense than traditional PACS when taking the enterprise into focus.



A big factor to consider is if the enterprise imaging vendor uses 3rd party applications as part of their solution set. To simplify and improve support, they should provide support for those applications, which simplifies contracting and support structure.

Even with the benefits of a restructured enterprise imaging strategy, there will be some challenges, depending on the solution and vendor you choose, such as:



Will there be a single support contract for all components or as you add on new capabilities (specialized viewers, for example) will those require additional support contracts?



Ensuring all integrations work and identifying quickly where a problem may exist when an issue occurs. The enterprise imaging platform should handle most interoperability and data exchange workflows. Additional integrations would be with 3rd party specialized viewers, analytics tools, etc.



On-going training considerations for clinicians at the enterprise level who would use and access the data stored in your solution, since different images may launch specialized viewers.



A strong IT and support department to help you mitigate and work through common issues, provide first line support, and on-going user training A reconstructed model provides departmental efficiencies while ensuring a long-term solution for archiving, data recovery, security, and lifecycle management that can adapt quickly and easily as your healthcare needs continue to evolve.

If you maintain a siloed imaging approach, constantly changing those solutions to new, more modern siloed solutions typically requires a large investment in data migration, re-indexing, and re-archiving your data.



With a true enterprise solution, your data is moved once and then any workflow replacements would be attached to the back-end archive without the need of data migrations in the future.



THE VNA FIRST APPROACH

A VNA-first approach combines data from all modalities, including your PACS, digital pathology, imaging reports, artificial intelligence (AI) algorithm outputs, 3D reconstruction datasets, and so much more. All that data is stored in a consolidated archive that is accessible from anywhere and at any time. Access to the images is integrated into your EHR to provide a true longitudinal view of a patient's complete clinical and medical record.

From the EHR, clinicians can launch the image sets from within the patient record and view them on an enterprise or specialty viewer. From this centralized storage archive, radiology, cardiology, referring physicians, patients, AI, clinical researchers and others can all access the imaging data without impacting your network traffic in radiology, allowing the radiologists to maintain the rapid access they demand on their PACS viewer (generally, the departmental PACS may have a small cache, but the enterprise solution becomes the source of truth and long-term archive for all imaging data). The VNA becomes much more than a common source of PACS data, providing built-in rules for data retention and complex routing capabilities to meet the needs of most organizational workflows.

Medical Images are no longer needed from within the department alone as today's healthcare has evolved far beyond that. Value-based care and cross-departmental collaboration among care teams has increased other clinical staff's needs to access data outside the walls of the department it was collected in, improving clinical decision making and better care coordination. Better yet, users no longer need to "guess" if imaging data exists or waste time "hunting it down".



Using a VNA to image enable your EHR provides even more access for other physicians without impacting departmental PACS performance or workflows. Ensuring you have the maximum benefit of flexibility, one should consider keeping PACS and VNA vendors separate, as this provides the most "neutral" benefit for the future while providing the ultimate in flexibility. In other words, an independent VNA will ensure you have the maximum flexibility when your needs change – and limit any future data migrations.

For even more flexibility, consider cloud-hosted (or hybrid models) of VNAs and Enterprise Imaging Solutions as they provide the ultimate in data access, optimized security, and disaster recovery options that traditional VNAs and PACS do not.

When evaluating your enterprise imaging and VNA strategy, keep in mind these systems are optimized for far more advanced security, designed for mass storage of virtually any object type, and can quickly and easily enable outside clinical teams to utilize important imaging data to make better clinical decisions.







FINAL THOUGHTS

Like any strategy in today's complex healthcare environment, there is no "right" or "best" plan of approach. Every organization is different and unique and will have priorities that drive their decision process and imaging journey. However, as we continue to evolve and adapt in healthcare, the needs of the department, while important, can no longer trump the needs of the organization. While, departmental workflows are needed to improve efficiency and provide optimal patient experiences, care teams are becoming ever-more interconnected and that requires new tools and enhanced workflows that increase collaboration and optimization of the patient care experience in every health system to remain competitive.

Even more important, when your clinical staff has access to all imaging and clinical data at any time, they can make better decisions, which greatly impacts and optimizes the patient care they provide. Finally, optimized patient care from highly efficient clinical teams can lower the cost of healthcare and improve patient outcomes by providing better treatment pathways only possible through consolidated, centralized clinical data.