Healthcare IT News *presents*

The VNA Strategy: Balancing Workflow and Enterprise Imaging Management

As healthcare providers implement health information technology (IT) to comply with federal mandates and participate in quality of care programs, Vendor Neutral Archive solutions can play a critical role in helping them meet their needs today and in their future IT initiatives. Forward-thinking healthcare providers around the world are already successfully meeting this challenge with VNA.

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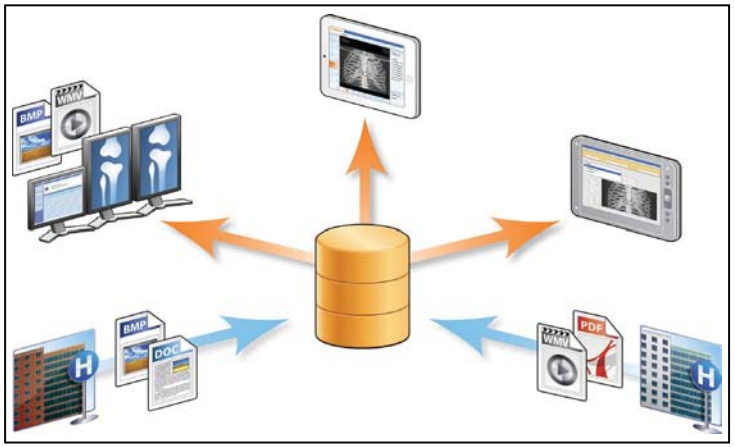
The Value of VNA

ENABLING EXCHANGE, ACCESS, WORKFLOW

ONE OF THE MAJOR GOALS of the Health Information Technology Economic and Clinical Health (HITECH) Act of 2009 is to improve care coordination and the overall quality of—while reducing medical errors and duplicative care in a cost-effective manner through by using healthcare IT. Data management and access, which require the integration and consolidation of information from disparate clinical systems, are key to achieving those goals. Architecting enterprise-wide IT changes, however, needs to be aligned with both departmental and enterprise workflow in order to truly drive adoption and transform delivery of care.

To enable data management and access, healthcare providers have deployed enterprise storage, workflow and universal viewers; however, none of these solutions alone has the operational capabilities to fulfill all requirements. Vendor Neutral Archive (VNA) is becoming an attractive enterprise



solution because it is architected to store medical information in a nonproprietary, interchange format, which allows it to adapt to any enterprise or departmental information-sharing workflow and open standard. This standardization and flexibility enable healthcare providers to aggregate, store, share and access clinical information across the care spectrum – sometimes, without even having to replace existing IT systems nor interrupt the clinical workflow. VNA's ability to seamlessly provide enterprise access via universal viewers and integration with existing clinical systems helps eliminate the need to maintain multiple silos, which saves capital investment, IT resources and time.

"Vendor Neutrality" really refers to the distinction from departmental archives running separate implementations, which are specific to departmental workflows and are often proprietary. Often, a departmental archive cannot handle or share other departments' data, while VNA supports numerous industry standards such as the IHE (Integrating the Healthcare Enterprise) standards XDS/XDS-I. This allows data sharing workflows across clinical data repositories and data types, such as DICOM and non-DICOM. ▪

The Value of VNA

SUPPORTING DATA CONSOLIDATION AND MIGRATION, AND INFORMATION LIFECYCLE MANAGEMENT

AS HEALTHCARE PROVIDERS TRANSITION from legacy proprietary archive to enterprise repository, they understand that clinical information consolidation and migration will be an ongoing process, which makes standardization even more valuable as an investment for future IT initiatives. Often, data must migrate across heterogeneous vendor systems, which requires significant downtime and disruption to end-users. Healthcare providers should look for a VNA that can deliver the descriptive DICOM image header information, or metadata, independent from the DICOM image pixel data, or actual image. This capability enables data to be migrated seamlessly over time without interfering clinician's ability to access patients' prior information, which is critical for diagnosis. This can be especially useful to avoid moving large volumes of data during peak network usage time, or moving through low-bandwidth networks from remote sites. Transitioning the legacy archive over a longer period of time can avoid costly capital purchase upfront for more storage that may not have been anticipated.

Maintaining data integrity and synchronization are essential, especially with data originating from different healthcare organizations and IT systems with non-uniform methods of patient identification. Thus, an XDS-i Registry or a global worklist can maintain data integrity and manage synchronization. For image display, departmental system often relies on DICOM tags for display protocol that aid diagnosis – the concept of DICOM Tag Morphing is something healthcare providers should consider so that all incoming information on their patients is reliable, synchronized and uniformly displayed for clinician evaluation.

When clinical information is consolidated and stored and clinicians have a unified view of that information, IT departments can more easily and uniformly manage the lifecycle of all protected healthcare information (PHI) stored on a VNA. By centralizing clinical and legal retention policies and procedures and leveraging automated rules within an Information Lifecycle Management (ILM) solution, healthcare providers can reduce their overall storage costs as staff can easily manage large amounts of data. ▪

The Value of VNA

SUPPORTING IT SIMPLIFICATION AND CONSOLIDATION – ENSURING SUCCESS WITH STRATEGIC PLANNING

IT DEPARTMENTS DEVELOPING SIMPLIFICATION and consolidation strategies often include clinical storage system virtualization combined with business continuity and disaster recovery. Infrastructure migration to the cloud has proven to be a viable option to reduce total cost of ownership without significant upfront investment. VNA as a Cloud-based Service can be part of the strategy that can further reduce IT costs and demands on IT system administration and resolve enterprise clinical workflow challenges.

When clinical viewing consolidation is incorporated with storage and workflow consolidation, even greater productivity and clinical quality improvements are gained. The implementation of a zero-footprint universal viewer, with expanded standards support, sophisticated workflow, display and security tools, helps improve enterprise imaging workflow. The same concept can be applied to a patient-focused image viewer where patients can securely access electronic medical record (EMR) data alongside imaging information. This kind of sophisticated "neutral" viewing is required in order to access heterogeneous information via a unified global worklist or an image-enabled EMR.

Real-world implementations of VNA offer solid guidance. Given the complexity of a deployment that impacts an organization's multiple departments and IT systems, healthcare providers should develop a multi-phased implementation plan and create a strategy that meets their particular needs but with an eye toward future goals. ▪

Healthcare providers that purchase VNA merely to simplify IT hardware or consolidate radiology images, however, are not realizing VNA's full potential. When VNA initiatives focus on enterprise imaging plans that reflect the overall organizations' needs, multiple benefits are achieved:

- IT departments reduce costs associated with no longer managing a large number of disparate IT systems.
- Clinicians have access to a unified view of their patients' clinical information across disparate systems.
- Patients are more engaged as they can easily access and help manage their own healthcare
- System availability supports disaster recovery and business continuity plans.
- Simplified and rapid data migration helps eliminate clinical service interruptions.

Solving Real-world Workflow Challenges with VNA

The following four case studies highlight how healthcare providers of various sizes and in different healthcare markets addressed their unique workflow challenges with comprehensive enterprise imaging strategies, which underscores VNA's versatility and robustness.

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WINTHROP-UNIVERSITY HOSPITAL
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Assistance Publique Hopitaux de Paris (AP-HP):
VNA enables enterprise access for government health networks

ASSISTANCE PUBLIQUE HOPITAUX DE PARIS (AP-HP), a 47 hospital public health system in Paris, consolidated clinical information storage and access to improve clinician workflow and quality of care. AP-HP recently updated its 23 individual, multivendor PACS and consolidated storage of imaging studies into a unified solution that uses global worklists to accelerate access to images. A centralized independent archive in the primary data center now stores 1.6M DICOM studies and reports annually. This central database provides a registry for all radiology studies performed and enables subspecialty and cross-facility global worklist development, regardless of image origination. Within 10 seconds of being archived, imaging studies from all facilities are available to all clinical users.

Clinicians can view images and reports via a zero-footprint viewer tied into the AP-HP central EMR system. "By image-enabling our EMR access to clinical information at the point of care, clinical decision making and physician productivity have all benefitted," said Dr. Daniel Reizine, AP-HP PACS Coordinator and neuroradiologist at Lariboisiere Hospital. "As more non-DICOM/non-image based information is stored on the central archive, we believe these benefits will extend into other clinical areas of the AP-HP system." ▪

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Dr. Daniel Reizine
AP-HP PACS Coordinator
and Neuroradiologist
Lariboisiere Hospital

St. John Health System:
Maintaining critical services during transition

ST. JOHN HEALTH SYSTEM, a nine-hospital integrated health system based in Tulsa, OK, wanted to replace its legacy PACS and archive yet also wanted to implement an enterprise solution

to consolidate information from its many facilities. Rather than perform a costly and time-consuming data migration of the existing PACS archive to a new platform, Saint John implemented a phased migration approach that leveraged the capabilities of the new platform, which enabled critical services to be maintained during the transition.

Meta-data was migrated from the legacy PACS archive to the new platform, and image pixel data left to reside on the legacy archive was migrated on an as-needed basis. This approach ensured that all users could immediately access all historical information, as if it were stored on the VNA. Establishing the enterprise platform in this manner minimized the impact data migration had on the daily operations of the existing system and accelerated Saint John's new PACS go-live date. ▪

Spire Healthcare:
Consolidating clinical viewing across disparate systems

SPIRE HEALTHCARE, a 37-hospital private healthcare system in the UK, needed to provide its clinicians with access to patient images from any location and PACS environment. By leveraging VNA's neutrality, Spire demonstrated that clinical viewing consolidation can bring significant productivity and clinical quality benefits even if the VNA solution is implemented prior to storage consolidation. Spire implemented a zero-download clinical viewer that enables viewing from mobile and on-site devices, across their multivendor PACS environment. "We were aware of the importance of unifying clinical viewing to improve physician productivity and differentiate our services from those of our competitors," said IT Direct Stephen Hayward.

The ability for radiologists and clinicians to view images simultaneously, remotely and in real time enables both parties to discuss findings in a timely manner, as well as allows radiologists to rapidly prepare preliminary reports to help clinicians accelerate treatment options. "The fact that this works across different platforms is a great advantage, as many of our physicians work at multiple sites," said Andrew Milne, Imaging Manager at Spire Hartswood Hospital. "Our unified clinical viewing solution enables them to access needed information from any Spire hospital." ▪

"We were aware of the importance of unifying clinical viewing to improve physician productivity and differentiate our services from those of our competitors. We constantly look at how we can use technology to provide a better service to both patients and physicians."

Stephen Hayward
IT Director
Spire Healthcare

Play Audio

Andrew Milne
Imaging Manager
at Spire Hartswood Hospital

Winthrop-University Hospital:
Simplified infrastructure drives quality care, cost efficiencies

WHEN MINEOLA, NY-BASED Winthrop-University Hospital upgraded its PACS infrastructure, it wanted to consolidate data from multiple clinical departments, prepare for future hospital network expansion, and ensure that clinical and IT departments benefited from the enterprise-strategy shift. The cloud-based VNA storage infrastructure it deployed connects multiple systems and the single backend interface simplifies viewing access, which together enable clinicians to have "universal" workstation access. The separation of clinical storage from clinical viewing is expected to increase technology options and simplify future IT deployments.

Play Audio

Rick Perez
Administrative Director
of Radiology
at Winthrop-University Hospital

The IT department implemented enterprise-access policies to simplify new services deployment and manage users instead of servers, which improves information access and physician satisfaction. VNA centralizes and manages studies from patient-supplied CDs, freeing up radiologists from managing them. Finally, a redundant copy of all information stored in the VNA supports disaster recovery strategies. Hospital leadership expects clinical quality improvements to shorten length of stay and support Meaningful Use attestation. "Consolidating pockets of disconnect storage helped balance institutional storage needs, simplify creation and management of a business continuity solution and better support facility growth through redeployment of IT resources," said Rick Perez, Administrative Director of Radiology. ▪