Enterprise Imaging VNA – Enriching Patient Imaging Records

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Agfa HealthCare's Enterprise Imaging VNA solution is a modern, standards-based platform purpose-built on the latest technology. Health Management.org spoke to Christien Lefebvre, Global Program Manager, Enterprise Imaging VNA for Agfa HealthCare to discuss the VNA solution, what benefits it offers and why healthcare organisations and clinicians should transition to it.

Key Points

- Agfa HealthCare Enterprise Imaging VNA is the next generation cloud-enabled enterprise workflow and data management solution that can store native and non-native medical images and documents, allowing geographic boundaries to be removed.

- The focus is on extensive data management, collaboration, indexing to make data available when needed.

- The data consumption and distribution model helps with patient diagnostic times and reduces patient reimaging requirements when a patient moves from facility to facility.

- Agfa HealthCare VNA's data protection focus is to have all its data stored on the VNA system both encrypted at rest and in transit.

Can you tell us something about the Enterprise Imaging VNA solution from Agfa HealthCare?

The Agfa VNA is the next generation cloud-enabled enterprise workflow and data management solution that can store native and non-native medical images and documents, allowing geographic boundaries to be removed. The VNA solution has been innovated over the last 12 years to bring a collaborative model for data management that increases the availability of patient data while helping improve the timeliness of care by reducing the requirement to reimage patients. The focus of the Agfa VNA solution is based on extensive data management, collaboration, and indexing to make data available when needed.

When you say vendor neutral, what do you mean exactly?

The Agfa VNA offers true neutrality built on a state-of-the-art cloud-enabled solution, allowing clinical users to query for a complete patient timeline. The Agfa VNA has been deployed globally in over twenty countries now for over a decade. Agfa's focus on neutrality is towards connected image sources, format independence and consumer independence. With the help of the Agfa VNA Dicom tag morphing ability, applying

(NIST) guidelines. The patching process ensures our deployed "golden images" pass Nessus vulnerable scans before being installed. We also use a combination of DIMSE-C, IPV6 and HTTPS services depending on the dataflow requirements. We integrate user access via industry standardised login modules to ensure integration with our customer policies around accessibility and encrypted SSL user authentication. Understanding the concern around patient data from an unwanted security access point, we also use data segregation rules based on external system Application Entity Titles (AETs) defined within the Agfa VNA Access Control List (ACLs) Application Programing Interface "API." On top of these layers of patient data protection, we have detailed ATNA logging exported to an external repository. Agfa VNA's data protection focus is to have all its data stored on the VNA system both encrypted at rest and in transit.

How does the VNA solution benefit radiologists and clinicians with their everyday tasks?

The Agfa VNA solution allows all clinical users to access all the relevant patient data regardless of the treatment area or diagnostic areas. This data availability and collaboration-centric enable model provides clinician users with all the avail-

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Image Object Change Management "IOCM" and preservation mapper, allows its users to define a common taxonomy for data growth, significantly when expanding in non-Dicom imaging and document areas.

Is VNA limited to unifying imaging data in one central location, or is there more that can be done?

I immediately think of federation, compatibility, interoperability, and potentially endless integration options; for example, with the proper Agfa VNA workflow, the Agfa VNA can acquire any patient data, regardless of the Original Equipment Manufacturer (OEM) or datatype (image or document). The Agfa VNA can then categorise and store this newly acquired data based on the available dataset from the HIS or a clinical console. There are additional data nominalisation offerings that clinical users can use to enrich this newly acquired dataset.

How does Agfa's Enterprise Imaging VNA solution ensure patient data is protected?

The Agfa VNA works with best-of-breed standards to ensure patient data is protected, starting with an aggressive patch management process following National Institute of Technology

able patient data to help determine the best possible treatment plan. The ability to share information, study comments and the extensive patient data historical timelines allows for cross treatment plans. The Agfa VNA can even unlock medical advances by enabling clinicians to link illness across service areas. The Agfa VNA enriches patient imaging records with data previously inaccessible to a diagnostician from enterprise modalities and service areas.

What makes your VNA solution different from that of your competitors?

The Agfa VNA solution differentiates itself by enabling an organisation to go beyond a consolidated archive. Most VNA systems connect a few PACS systems to a centralised archive and offer the ability to ingest from modalities. With the Agfa VNA solution, service areas that create imaging content can go onboard to the solution quickly with little effort through clinical acquisition and normalisation tools. Agfa HeatlhCare has worldwide experience, and we have expertise in integration with over fifty clinical service areas, hundreds of PACS and thousands of imaging devices and systems. Our extensive integration experience drives the VNA solution for hospitals,

Scalable, vendor-neutral image storage

1000

With over 1000 PACS and VNA deployments worldwide, Agfa HealthCare has connected with every major vendor in the world.

+ 1000

The Enterprise Imaging VNA integrates with hundreds, if not thousands, of products and acquisition systems from different vendors.

60

One of Agfa HealthCare's largest Enterprise Imaging VNA installations connects 60 hospitals.

Image Credit: Agfa HealthCare

health networks, and regional or national imaging collaboratives, knowing that they will not have their data left on an island when planning their long-term digital care strategy.

Is this a costly solution for healthcare organisations? Or is it likely to result in long-term savings if implemented properly?

VNA investments vary widely based on desired VNA workflows, XDS, FHIR enablement, and BCDR strategy within the Agfa VNA solution. The Agfa VNA offers an immediate soft Return on Investment (ROI) concerning infrastructure and resource power and better long-term Total Cost of Ownership (TCO). The Agfa VNA solution can reduce resources and hardware by consolidating PACS and archives, enhancing data management efficiency by reducing redundant configuration, and allowing care facilities to capture revenue with crucial evidence from hospital service areas that have previously lost or missed billing opportunities. This broad approach to consolidation of imaging systems and increasing collaboration across service areas allows for improved data sharing, modelling, and capacity planning, resulting in a long-term cost-benefit model that healthcare leadership should not ignore.

How do you ensure healthcare organisations that adopt this platform use it effectively? Is there training for the people involved, or is this easy to use?

Within the Agfa VNA platform, there are advanced services that monitor and report on the overall system. We classify these services into two categories: "System reporting" and "Process reporting." The Agfa VNA services allow for clinical and operational insight into VNA system health, overall performance and reports on the institution's mission-critical KPI are being archived. Our VNA dashboards that handle our System and Process reporting are customisable, allowing the administrative user to alter the views based on any user's particular role and job function. Along with these VNA dashboards and

monitoring services that help ensure the system operates effectively, we offer advanced training paths to ensure all administration can manage their Agfa VNA environment. The focus of the Agfa VNA is to have all system tools configurable via our API so that it allows for ease of use and customisation. A simple search Agfa VNA Knowledge Base (KB) offers administrative and clinical users a step-by-step guide to make their desired changes.

The VNA & PACS market is projected to have healthy growth by 2023. Do you have any plans to improve/add on to this feature?

We are focused on three main areas that are already in development and prototyping;

1. We are expanding our non-Dicom native workflows leveraging lossless compression and reviewing the ontology of these studies; our API can leverage a proper taxonomy to ensure the clinical user experience is appropriate. There is very little value in acquiring non-Dicom data if there are limited tools to index this information for clinical end-user search and find properly.

2. We are expanding our VNA federation model to support multi-health systems and international level federation in the cloud. The focus around federation growth is our data accessibility to our streaming zero-footprint viewer (XERO) to offer more shared workflows. Shared workflows and collaboration are the future for sizeable multi-enterprise health networks and academic collaboration.

3. The final main focus is on AI and machine learning within the VNA environment. I feel that the poor uptake of AI within some aspects of healthcare is based on the dataset. There is a need to apply AI and machine learning to a small dataset while ideal in certain areas of medicine. I believe there are extensive options when applying machine learning to enormous datasets in trillions of objects. With proper anonymisation and correct AI-defined paraments, it is hard to imagine what we can learn around medical imaging. ■

For more information about Agfa Healthcare's VNA solution, please visit https://global.agfahealthcare.com/vna/