

# healthcare informatics

## SHIFTING VIEW: The Vendor Neutral Archive (VNA) in Today's Healthcare Landscape A Conversation with Gregory Strowig, Vice President, TeraMedica Division of FUJIFILM Medical Systems U.S.A., Inc.

They say image is everything.

And, more and more, clinical images – or the photographs, videos, audio recordings, and other clinical visual representations – are helping physicians provide higher quality care to patients across the country. But those images are only good if the physician can easily access them—for example, while reviewing other pertinent information within a patient's electronic medical record (EMR) at the point of care.

Greg Strowig, Vice President responsible at the TeraMedica Division of FUJIFILM Medical Systems U.S.A., Inc. in Milwaukee, says that most people think of traditional picture archiving and communication systems (PACS), when you mention enterprise clinical image management. But PACS was designed with radiology in mind, and today all kinds of physicians – not just radiologists – need access to images to quickly and accurately diagnose patients.



That's why he argues that vendor neutral archives (VNAs) are critical to helping modern healthcare organizations provide higher quality patient care and reducing overall healthcare spend. A VNA is software that acts as an intelligent data repository and interoperability engine for medical images and other unstructured clinical content, such as patient-related documents, sound, or video. He speaks with *Healthcare Informatics* about why VNAs are a critical foundational architecture in today's chaotic healthcare environment and how they can extend your PACS capabilities beyond the radiology department. In addition, Strowig discusses how the dollars saved from the implementation of a VNA directly ties into improved patient care and perception.

### The definition of the vendor neutral archive (VNA) has been called "shifty." How do you define it?

**Strowig:** At its core, a true VNA is enterprise software that provides extreme data and systems interoperability. It sounds funny to say "extreme" interoperability—but it's accurate. VNAs provide the ability to transform clinically focused information from a source to a consumer, whether it's another system or to a human end user. Some VNA vendors focus on document-based data or administrative content. But our VNA was always based on supporting the standards for clinical information—it has high scalability and is very adaptable both on the input and outside sides when it comes to that information.

That extreme interoperability is the key difference to note for when you talk to today's VNA vendors. A true VNA is a platform that can work with a myriad of systems—any you might find on the trade floor at HIMSS, RSNA, and so on—and it must be able to transform data from its source to its destination fluidly so it is not disruptive in the clinical realm. Your system has to adapt to the needs of a variety of departments—radiology, cardiology, dermatology, emergency, what have you—so data can be stored by the clinical specialty into the VNA and viewed by clinicians throughout the enterprise without anyone having to adopt an unnecessary workflow or process.

A VNA is a system that can work without an order for a procedure, yet is still able to integrate the content logically with your EMR. This is important to many clinical specialties, such as endoscopy or dermatology, where there may not be an electronic order-based workflow in the department. And, to force this type of workflow in the specialty, just to introduce a VNA, would be disruptive. VNAs must have this extreme interoperability, otherwise they are just imposters.

### How does a VNA differ from today's PACS systems?

**Strowig:** If you compare a PACS and VNA, you realize that they are

different despite having some overlapping data management capabilities. PACS are really optimized for workflow throughput in the radiology or cardiology departments. They have specialized functions. The user interface is highly optimized so diagnostic readings can be done quickly. A VNA doesn't do those same things. Instead, it's optimized for enterprise management of content; to sit behind that PACS or be in the frontline of other departments because there are no PACS to provide workflow, data quality control, or worklist capabilities.

While the VNA must provide differing levels of support for each specialty's workflow, if you try to use your PACS as a VNA, all of that predetermined workflow gets in the way because dermatology doesn't work in the same way that radiology does. You can't make a PACS work everywhere—but a true VNA will support all the different departments that now are relying on images to help them provide great care.

For patient care, VNAs have the ability to centralize data from across the healthcare enterprise into a single patient view. The VNA is the multimedia complement to the EMR. It gives clinicians access to images, video, sound, documents—those other things that may be beneficial to see while using the EMR. It gives you speed and spread of access, which allows better clinical decision making. It improves patient communication, physician collaboration, and diagnostics just by having this ability to see the complete patient record.

There are also associated benefits for the patient including fewer repeat tests, and with that, reduced radiation exposure, as well as better determination as to which patients to transfer between facilities. But really, it's about a patient's data not being tied up in a particular department or even in a particular hospital. That information can now be shared, to the patient's benefit, across the enterprise or even across a health information exchange (HIE) or region.

### What about benefits to the business side of the house?

**Strowig:** There are several benefits with a VNA. You can reduce the costs associated with duplicate imaging as well as with unnecessary patient transfers. If I'm a clinician in a rural area, I can share the images I've taken of a patient with a specialist at a critical-care facility and know for certain whether I need to transfer that patient. You save costs and you deliver better patient care.

Beyond that, VNAs offer the ability to manage your storage more intelligently. You can delete images digitally and save on storage. And as storage costs evolve, and technology evolves, your VNA can seamlessly help you manage the data across the technology. Also, you don't have to buy

individual storage from individual vendors for individual systems across the hospital anymore. A VNA affords you the ability to have one common storage infrastructure, which obviously, gives you economies of scale.

You have the ability to have one system that connects the EMR, reducing your ongoing interface costs. You can implement upgrades of your EMR quicker because you're testing one interfaced system instead of 10, 20, or even 30 different interfaces from various systems across the healthcare enterprise.

Another huge benefit is the reduction of risk associated with data security and disaster recovery. Departments are using DVDs, thumb drives, or even taking pictures with their smart phones. These approaches as well as individual departmental systems are not backed up, have no governance, and no ability to be audited. Putting these existing systems into a professional IT platform allows you to get that information under common control.

A VNA provides a platform to integrate new partners or acquisitions very quickly. If your organization is going to acquire a hospital across town with their own set of systems, you can use the VNA to pull that data into your systems to speed up the transition.

And, since your data is in an enterprise VNA, when it comes time to change one of those departmental systems for whatever reason, there is no need to expend effort or money on migrating the data. The data stays in the VNA while the departmental systems become more "plug and play."

### What do you wish the average hospital CIO understood about VNAs?

**Strowig:** The VNA is a critical foundational architecture to help them manage the myriad systems, devices, and data that continue to grow within their enterprise. It is a strategic platform that you can lay everything else on top of—including departmental systems and viewers. When you have the right perceptions, and understand that it is a long-term strategic foundation, it is something that can not only solve today's problems but also help you tackle tomorrow's.

It is a platform that requires the right governance and strategic planning to properly implement. But, when done right, it is a solution that frees up the CIO from having to solve dozens of individual problems with individual solutions and interfaces. **The value of the VNA and good governance, gives CIOs the kind of infrastructure that allows them to address situations as they arise.**

