

VNAbling PACS Unites Cardiology and Radiology to the Benefit of Many

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imagingBiz.com

Having been in the Sectra PACS fold since 2004, members of the radiology department at six-hospital CoxHealth in Springfield, Mo., didn't need much convincing to "VNABLE" their existing system so it could handle cardiology workflows on top of their own.

The idea was in play because the IT team wanted both under one storage umbrella. IT saw such consolidation as a way to stamp out siloes and usher in wider image access as well as greater EMR integration across the enterprise. Extending radiology's Sectra PACS with VNA components—that's what Sectra means when it talks about VNAbing—would accomplish those aims and more.

But there was a snag. As of early 2017, cardiology had recently installed a standalone storage solution for the image data it produces at the rate of 20,000-plus exams per year. In that challenge, Andrew Kellen, the solution architect supporting CoxHealth, saw an opportunity. Cardiology's new storage product "was going to create another silo," he recalls. "We knew we could repurpose that new storage into our Sectra VNAbled storage."

Buy-in doesn't just happen in any large organization, so Kellen talked through the details with Sectra, then put together a slide deck and presented it to the leadership of cardiology and radiology plus CoxHealth's CIO. During the presentation, Kellen underscored the benefits of moving to single-solution storage, which



would include image-enabling the EMR for both departments. He also mentioned that the investment was "very modest, especially in light of what we would end up with and where we will be sitting when all of this is up and running."

And the response from the high-level decision-makers? "It was immediate," Kellen says. "Everyone agreed it made perfect sense. We were able to get approval on it right away, and now it's all coming together. Migration started earlier this year and should be completely done by fall or winter."

Invisible to end-users

No one at CoxHealth is more delighted with early indicators of good things to come than CoxHealth's

heart-care people.

“I was an advocate of trying to get to this platform for a long time, even before we had the opportunity to do it,” says Becky Watts, administrative director of cardiovascular services. “There are a lot of ways that cardiology and radiology are separate from each other, but there are also a lot of ways they overlap.”

Watts says the single best benefit of the Sectra VNA for cardiology is the ability to extend image access to heart specialists no matter where they’re working or what they’re doing. For example, a cardiothoracic surgeon who needs to see cath-lab images in the OR can pull that data to his or her device quickly and easily.

“When everything is stored in individual, disparate systems, you’ve got to cut through multiple layers of complexity to try to make sure your physicians have the image where they need it when they’re with a patient,” Watts says. “This VNA solution takes all of that complexity away.”

One way the Sectra VNA simplifies image-viewing processes for the end-user is by incorporating the company’s UniView zero-footprint viewer. Kellen made that component a key part of his presentation, and CoxHealth will soon realize the anywhere-anytime-any device advantages that the HTML5 standard affords.

Further, CoxHealth is aiming to seamlessly integrate Sectra UniView with their Cerner EMR, as the viewer is readily compatible with most EMR systems. And it supplies secure access not only to images and their interpretations but also to referrers’ orders and clinicians’ notes.

Stated another way, if it’s related to imaging and it’s in the EMR, it’s available via Sectra UniView.

“From my perspective, it’s about the end-users not knowing or noticing that anything is any different on the back end,” says Kellen. “They’re in the EMR,

they see a report and there’s a button saying ‘View Image.’ They see what they need to see regardless of where that image data resides. It’s all seamless to the front end.”

Compressing costs

Going forward with the technology, Kellen plans to work with Sectra to enable end-users to do all this while staying within whatever window they have open in the EMR. And his plans don’t stop there.

“As a next step for the VNA, three to five years out, I think digital pathology is probably next” at CoxHealth, he says. “Pathology is going to go through the same thing radiology went through 15 years ago. Where radiology switched from film to digital, pathology is going to go from slides to digital.” Sectra is well positioned to assist with that process, as image management for digital pathology is one of its established areas of expertise.

For Matt Turner, CoxHealth’s system director for radiology, the present is plenty exciting in its own right.

“You can talk about the business side of this project, trying to control costs and make processes more efficient,” Turner says. “But the word *community* really epitomizes the way this organization approaches things. We are community-minded. Things like the VNA are enhancing our ability to care for individuals regardless of which door they come through or which facility they present to.”

The good news is, CoxHealth gets the best of both worlds, business and clinical. Kellen says the data-compression rules are much stronger with the VNA. Technically speaking, it uses the JPEG 2000 image compression standard rather than the “as is” approach cardiology had been using with run-length encoding compression. The bottom-line result is a reduction to one-fifth the storage space cardiology’s imaging data were eating up before.

“We’re going to see a big return on investment just in reduced storage costs,” Kellen says. “We’re going to take what was already up to about 60 terabytes of cardiology data and, ideally, get it down to about 11 or 12 terabytes.”

Meanwhile CoxHealth was able to leverage its virtual computing environment to perform the PACS-to-VNA transition with no required hardware. “All we had to do was spin up one virtual machine to manage the VNA,” Kellen says. “The overall outlay and work effort was miniscule.”

A community better served

The future holds the possibility of the Sectra VNA eventually handling “every-ology” imaging, including from non-DICOM departments such as ophthalmology, dermatology and wound care, Kellen says.

When CoxHealth is ready, he and his team will find the Sectra VNA already capable of wrapping non-DICOM images in that standard or keeping them in their original format based on individual departments’ preferences. Plus it can handle multi-media loops, audio and non-imaging exam data.

For now, assessing the current state of the still-young VNAbled project, Kellen circles back to Turner’s comment about serving the community.

“We have a lot of electronic image transfers for radiology as we send and receive imaging exams,” he says. “Until now, cardiology couldn’t do that. With the VNAbled Sectra PACS we can electronically transfer all cardiology images the same way we do radiology images. That’s significant for patients, because it makes it possible to send their images to their doctors well in advance of their trip to the doctor’s office.” Meaning the doctor doesn’t have to wait for the patient to arrive with his or her medical images on a CD. “Our electronic image transfer has really been improved by the VNA, and the impact is significant.”

Watts seconds that. She notes that CoxHealth has a hospital in Branson, Missouri, which is about 35 miles from the main campus in Springfield. The Branson facility has a cardiac cath lab for diagnosticians and interventionalists, but all its cardiothoracic surgery patients are sent to Springfield for their surgery.

“We constantly had challenges trying to get physicians access to those patient films from Branson,” Watts says. “The VNA has made it so much easier to provide that access. It works with vascular ultrasound, and you frequently have cardiologists, vascular surgeons and radiologists who all operate in that space. To optimize patient care, and really to be more efficient—to give our physicians access to what they need to care for their patients—the Sectra VNA has just been a really good solution.”

Turner seconds the second. “The VNAbled PACS move is making patient information much more accessible,” he says. “This allows CoxHealth to make our quality of care more consistent across our health system. And it helps make the care we provide to the community more timely and more comprehensive.”