



Major Teaching Hospital Bridges Users, Builds Believers, and Broadens Image Accessibility

Consolidating enterprise-wide imaging enables 8,800 Centricity™ Universal Viewer Zero Footprint (ZFP) users, reviewing 120,000 exams per month

Background

One of the Northeast's major teaching hospitals is an international leader in virtually every area of medicine. It has been the site of pioneering breakthroughs that have improved lives and advanced healthcare around the world. This hospital includes more than 100 outpatient practices with more than 1,000 physicians serving patients from New England, across the United States, and from more than 100 countries around the world.

The teaching hospital's radiology practice is vast as well, providing more than 800,000 imaging exams each year. Their archive holds an additional 10 million exams dating back to 1998. With so many exams, there is a great need for physicians and clinicians across the enterprise to access images efficiently and to effectively expedite care.

The enterprise imaging team wanted to provide better interoperability and access to images via their EPIC EHR. They also needed to reduce the heavier IT infrastructure required by their current image viewer. Their goal was to deploy a single viewer that would provide access to both online and archived image exams to their myriad entities, and do so in real time with no delays. Additionally, they wanted a way to stream the data from any of the systems in their network, leaving the patient data in place, rather than moving the data to a central single archive. The reason for leaving the data in place was that moving it was known to cause delays and synchronization errors.

Providers needed a better method of viewing patient image data, and the enterprise needed a new image viewer. They chose GE Healthcare's Centricity™ Universal Viewer Zero Footprint (ZFP) as an enabling tool for images to be accessed directly from their EHR and throughout their enterprise. And because the viewer is 'zero footprint,' which means no code download, local installation or provisioning support is required, the teaching hospital has been able to provide access to a wider variety of users, currently totalling 8,800. ZFP facilitates better access to patients' image history for more clinical staff by enabling any clinician with proper privileges to open any archive. With this solution in place, individual provisioning—with its inherent inefficiencies, slow-downs and complications—becomes a thing of the past.



Challenge:

One of the Northeast's major teaching hospitals needed its 1000+ clinicians across the enterprise to access images efficiently. The goal was to deploy a single viewer to provide access to both online and archived image exams to their myriad entities in real time with no delays.

Solution:

The hospital chose GE Healthcare's Centricity™ Universal Viewer Zero Footprint (ZFP) to enable image access directly from the EHR and throughout the enterprise. Zero footprint means no code download, local installation or provisioning support is required, thus the hospital has been able to provide access to a wider variety of users, currently totalling 8,800.

Outcome:

Centricity ZFP has interfaced directly with all of the hospital's image repositories, delivering real-time access (<2 seconds) to live studies and near real-time access (<6 seconds) to archived studies.¹ There has also been a 90 percent reduction in time to access long-term storage priors¹. What's more is data shows that 82 percent more clinical users have image-enabled access since the ZFP was deployed.

Challenges

Like many other healthcare enterprises across the country, this teaching hospital was challenged with improving the quality of care while also meeting meaningful use goals of the healthcare system. When it comes to patient image data, this requires consistent, any-time consolidated image access across a multi-site health system. This access must be available from department, office or home to enable collaboration of care between referring physicians, radiologists and other members of a patient's care team.

In short, the enterprise needed to image-enable their EHR with a powerful, unified, feature-rich universal viewer that was easy to implement, easy to use and easy to manage. The viewing features had to be accessible by any registered user of their EHR, and not require IT involvement to provision their devices. The viewer then needed to quickly deliver current and prior patient images and information to caregivers' fingertips, helping ensure the right information was available to guide the right decision at the right time. The teaching hospital also needed to reduce total cost of ownership, simplify system consolidation and reduce integration burdens on IT staffers. They also sought to enable seamless scaling to support their expansion across the enterprise, since fostering growth and eliminating any unnecessary costs were also priorities.

The Solution

A decade ago, this prominent teaching hospital decided to move to one integrated healthcare system. This decision served as the motivation for the hospital to consolidate their series of independent legacy IT systems. These legacy systems had previously been replicated across multiple hospitals as a way to enable image access. However, issues with this solution existed. "Physicians did not want to look in multiple places for data," explained the vice chair in the department of radiology. He continued, "We needed to improve the effectiveness of care delivery by consolidating image access. This is our biggest issue in healthcare today."

Therefore, the hospital consolidated on a single PACS, GE Healthcare's Centricity platform. This offered a platform for growth, bringing images from other medical specialties into the system, including cardiology, vascular, intraoperative imaging and OB/GYN. However, as the enterprise grew, so did the volume of image data. Now, a viewing solution was needed that could work with a centralized archive while also being connected to remote archives. The goal of connecting the archives was to free the IT team from spending time on quality issues associated with the movement and synchronization of shared data.

The imaging team chose GE Healthcare's Centricity ZFP to allow images from all departments to be viewed directly from the EHR by physicians and referrers throughout the teaching hospital. Because the viewer was zero footprint and required no local installation, it provided access to a wider variety of clinical users, facilitating enhanced visibility to a more complete patient image history.

The ZFP solution achieved very rapid adoption and use, now with 8,800 users and growing, as it is tightly integrated within the EHR. The viewer, designed to work with Centricity and other third-party PACS, provides a powerful and unified workspace for radiologists and clinicians. It brings together intelligent tools, enhanced usability, 3D visualization and breast imaging. All of these features help optimize productivity with better workflow and simplified access to current images and priors. Now, within a few mouse clicks, a referrer can access patient exams, and also make measurements that can be saved back into the record to ease review, decision-making and collaboration.

At this large teaching hospital, flexibility and access from anywhere were a must. "We deliver data through the same enterprise viewing capability across the system, to everyone and everywhere," the radiology department leader noted. "All of our images are visible to the entire enterprise community through the ZFP solution integrated within our EHR. Not having workstations saves the headache of tasks like installing new generations of software."

Since ZFP utilizes server side rendering, it delivers image data quickly without relying upon image movement between systems. Other time savings result from not requiring provisioning or downloading of any application to the end user's device. And since it is secure and HIPAA-compliant (no data is downloaded or left behind on the user's PC or device), it allows mobile tablets and phones to be utilized as well. Flexible access means viewing with a variety of devices such as PC, Mac®, iPad®, iPhone® and some Android™ devices. Viewing is also enabled with a variety of browsers, always optimizing view and user interfaces, based on screen size. Thus ZFP provides an excellent user experience as well as the capability for any clinician with privileges to utilize image data to educate patients and collaborate with colleagues.

"It is tremendous," the radiology department leader said when asked about ZFP. "Our strategy also has been to deliver the images lossless to the enterprise viewers because the same image quality we deliver to the radiology department we deliver online to our referring providers and physicians. Since the new solution has no dependency on the browser or the operating systems, we can run the viewer on Mac or PC or on a tablet using any browser."

Outcomes

The outcomes related to Centricity ZFP adoption at the teaching hospital are notable. To date, the enterprise has archived about 10 million exams going back to 1998, generating more than 800,000 exams a year. ZFP interfaces directly with all image repositories, delivering real-time access (<2 seconds) to live studies and near-real time access (<6 seconds) to archived studies.¹ The enterprise has seen a 90 percent reduction in time to access long-term storage priors¹ with Centricity ZFP. And because the Centricity ZFP requires no local installation, data shows that 82 percent more clinical users have image-enabled access since the ZFP was deployed in the EPIC EHR. All of this helps the clinical team with better access to more complete patient image histories.

Operational Benefits

In addition to the speed and access advantages delivered by Centricity Zero Footprint Viewer, the teaching hospital's enterprise team sees clear advantages to the IT and systems consolidation and the standardization the solution offers. Reductions in cost are real. "From an enterprise perspective, the more we can consolidate, the more effective it is for clinicians and the more effective we are from a cost perspective," stated the enterprise team leader. "From a system maintenance cost in terms of hardware and server costs and staffing, particularly in an environment like ours where we have a zero-downtime expectation, consolidating systems makes sense for the enterprise. In radiology, we have consolidated multiple radiology practices in the same healthcare delivery network, which starts with having one PACS, one VNA, and one universal viewer. Supporting many systems is an inefficiency of the past."

Reductions in infrastructure costs are beneficial ultimately to patients because they reduce the cost of delivering clinical services. The outcomes, physician and caregiver feedback and increase in users show that the ZFP solution has enabled this large enterprise to provide better image-enabled interoperability and access to images for their care team via their EPIC EHR. Access, too, is scaled to grow with this flourishing enterprise. Physicians appreciate the feature-rich universal viewer as do referrers. The teaching hospital also has been able to reduce their IT infrastructure needs and costs. Installing software and the inefficiencies it brings and time it warrants are memories in the rearview mirror. Ultimately, the facility is offering better access to more users at the point of care and point of decision-making — a win-win for patient care and enterprise image management.

The hospital's team leader noted that the simpler and more integrated a solution is the better, and he added that 'simple' described GE Healthcare's Centricity Zero Footprint Viewer. Similarly, he said that for both large and small health systems struggling with image and information sharing, the fewer systems the better when it comes to availability, security, regulations, staffing and resources. "Efficiency dictates that we apply our efforts to a smaller number of systems," he said. "We must choose systems carefully and expect systems to perform at a very high level. Centricity ZFP is doing just that."



The enterprise has seen a 90 percent reduction in time to access long-term storage priors¹ with Centricity Universal Viewer with Zero Footprint.

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Radiology Department Leader

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Hospital's Team Leader

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Imagination at work

¹As compared with 200 slice CT exam prior via Centricity Web.

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