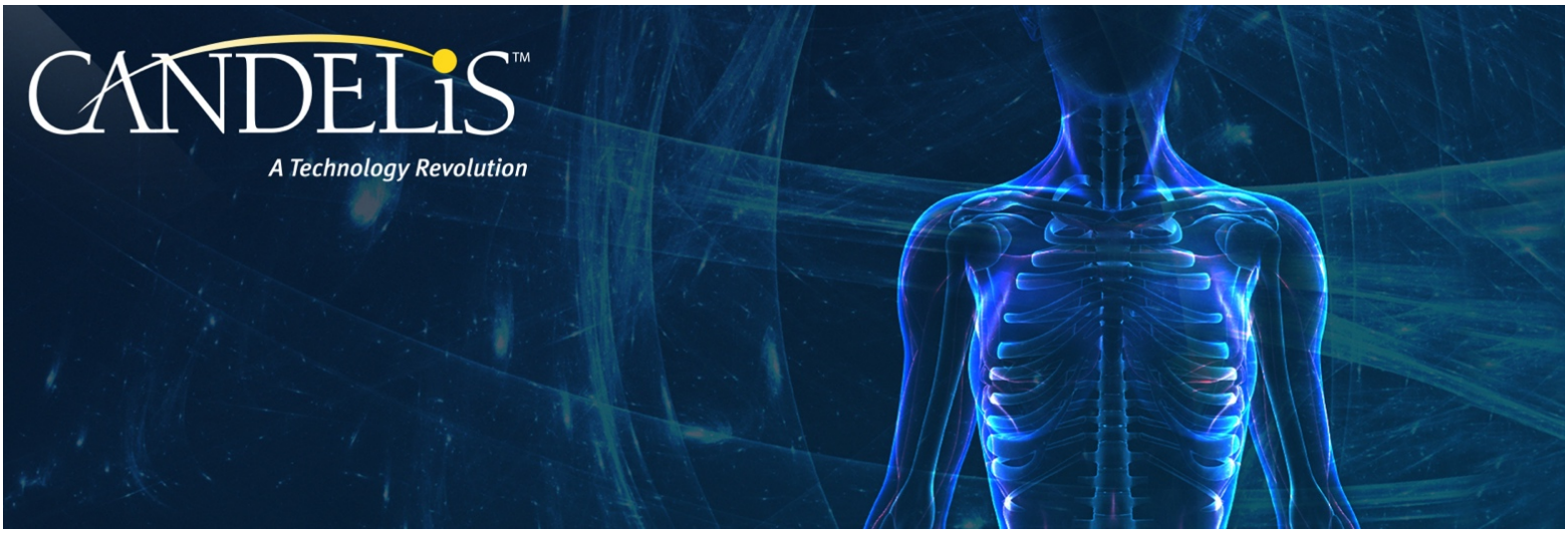

Candelis Case Study

Munson Healthcare Turned to Candelis's IT Expertise to Optimize Dynamic Tag Morphing/Pre-Fetching

July 2018

"Thanks to Candelis, our workflow efficiency has significantly improved. While it used to take hours for our staff to reconcile and find prior images, it is now done almost instantaneously."

- Doreen Cousins, PACS Administrator

Location
Northern Michigan

The Situation

Munson Healthcare is a regional, nonprofit health care system serving 24 counties throughout northern Michigan. They maintain that their independent hospitals maintain their individuality, but share one clear vision - giving northern Michigan top quality care.

Munson employs 510 physicians out of 3,700 employees. The main facility is a 439-bed nonprofit hospital serving as northern Michigan's regional referral center. It is the largest of the nine Munson Healthcare system hospitals located throughout northern Michigan.

Munson's radiology department includes an all-encompassing mammography division with services for screening and diagnostic procedures.

In 2016, Munson needed a solution to reconcile medical records from all of their different and often, acquired, facilities, so that workflow could be efficient and quick.

The Challenge and Opportunity

Munson's workflow mandated a mammography imaging study performed at one of their facilities could be ready at any of the other facilities. This would dynamically balance the workload for their on-site radiologists.

Over time, Munson acquired and continues to acquire facilities in northern Michigan complicating their mammography workflow by integrating patient data and conflicting medical record numbers.

July 2018

Services

- Workflow/Visualization/Image and Object Management
- Fast routing capabilities
- Seamless integration of software application and image management system
- Timely and secure sharing of medical study objects
- Seamless integration of software application and image management system
- Cost-effective, and efficient solution for sharing data with radiologists, surgeons, physicians, nurses, and technologists
- Easy access for the hospital physicians to read radiology reports and images on a single platform
- Scalable Image and Object Management Archive

Key Business Challenges

- Scalable and Seamless Tag Morphing
- Vendor Neutrality
- Super Routing

"ImageGrid's prefetch engine relieved administrative and clinical staff from the burden of cumbersome, manual image routing and reconciliation allowing them to focus on our primary goal - quality patient care."

- Doreen Cousins, PACS Administrator

The Challenge and Opportunity (Continued)

While prior studies from the facilities are stored on a single archive, GE Cerner, the primary patient ID on the studies was inconsistent as patients do not necessarily visit the same site for continuing care.

While Munson utilizes a universal "corporate ID" uniquely identifying patients, each Munson facility utilizes a varying primary medical record number scheme. Thus prior mammo studies would not necessarily match the current based on its patient ID Dicom tag. If prior studies were sent to the GE radiology workstation as-is, the current study would not match its priors because the GE workstation determines a matching prior based on the patient ID dicom tag.

This created a significant burden on Munson's radiology staff as intense manual retrieving and reconciliation of prior studies was necessary before a possibly time-sensitive diagnosis.

Also, Munson wanted a solution to read images with access to priors from any of their facilities for the same patient.

The Solution

Candelis implemented the robust prior prefetch and tag-morphing engine to accommodate and mitigate various challenges.

Candelis ImageGrid servers were installed at each of their seven mammography service locations including a large, 7 TB prefetch system at their main facility adjacent to their existing PACS. The 7 TB system was configured to receive mammography orders as they are created from the EMR/RIS via HL7.

The prefetch engine queries and retrieves priors from PACS, based on the corporate ID received in the HL7 message for prior identification. ImageGrid then morphs inconsistent patient ID Dicom tags to its appropriate, site-specific patient ID utilized at the patient's current imaging facility to the local ImageGrid systems. It can then cache and forward the studies to their local GE workstations. Thus a current study matches its priors appropriately on the workstations because the patient ID number Dicom tags are consistent.

Candelis's proprietary technology was able to automatically resolve and address reconciliation problems that often arise, such as MRN mismatches, conflicts, or redundancies.

"Thanks to Candelis, our workflow efficiency has significantly improved. While it used to take hours for our staff to reconcile and find prior images, it is now done almost instantaneously. ImageGrid's prefetch engine relieved administrative and clinical staff from the burden of cumbersome, manual image routing and reconciliation allowing them to focus on our primary goal - quality patient care," said Doreen Cousins, PACS Administrator.