

UCI Cardiovascular Imaging Center Implements ImageGrid™ as a Dedicated PACS to Manage and Archive 64-slice Cardiac CT Studies

The Customer

In early 2006, a new cardiovascular imaging center opened at the University of California, Irvine (UCI) School of Medicine featuring an industry-leading 64-slice cardiac computed tomography (MDCT) system designed to provide researchers and students access to precise, three-dimensional images of suspected cardiovascular diseases..

The Cardiovascular Imaging Center for Education and Research - or CVICER, pronounced “quicker” - is a joint partnership of UCI’s Division of Cardiology and Toshiba America Medical Systems, which developed the cardiac CT scanner. UCI is one of the leading teaching institutions in the United States offering training in the use of advanced 64-slice cardiac CT. UCI’s educational program constitutes a weeklong training dedicated to cardiologists, radiologists and other physicians.

The Challenge

The Toshiba 64-slice cardiac CT at CVICER generates high -resolution images with typical study sizes ranging from 1 to 2 GB. In addition to the cardiac CT scanner, CVICER utilizes 15 Vital Images Vitrea® workstations, which are used during the training courses. With an average of 8 studies per day, as well as plans to add other cardiac imaging modalities, the imaging center required a reliable and cost-effective Picture Archiving and Communication System (PACS) solution to meet daily and future operational demands.

While the existing enterprise PACS implementation provided adequate support for current imaging modalities, it was clear that the imaging center would require a local and dedicated PACS that could also interface with the exiting enterprise system to meet its ever-growing image management requirements. Many of the PACS solutions considered by the CVICER required significant financial commitment in addition to mastering the inherent complexities of a traditional PACS system, including the high total cost of ownership (TCO) resulting from system implementation, development and maintenance.

“We were surprised by the sheer volume of data we were able to generate with the 64-slice CT and quickly realized the need for a cost-effective, reliable image management solution,” said Jagat Narula, M.D., chief of Cardiology at UCI Medical Center and associate dean of the School of Medicine. “From our initial discussion, it became apparent that Candelis offered significant experience in data storage - and, specifically, the ImageGrid would meet our image management needs. The key features of the ImageGrid provided us confidence to proceed with implementing the server appliance as our dedicated PACS for the cardiovascular imaging center. ImageGrid offered the best combination of price and PACS capabilities for high-volume cardiac image applications and offers the scalability to accommodate future new modalities and workstations.



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Jagat Narula, M.D, Chief of Cardiology at UCI Medical Center and Associate Dean of the UCI School of Medicine

“CVICER has rapidly emerged as a premier cardiovascular imaging center attracting patients and physicians seeking the best in national training. Thanks to Candelis, we no longer consider digital image management to be an obstacle for our future growth.”

Dr. Swaminatha Gurudevan, M.D, Associate Professor of Cardiology at UCI Medical Center

Location

Irvine, Calif.

Services

Cardiovascular Medicine & Integrated Imaging, 64-slice Cardiac CT, Cardiac MR

Key Business Challenges

Reliable, cost-effective and feature-rich local PACS to manage and archive memory-intensive 64-slice cardiac CT studies
Multi-modality and multi-workstation capability to handle future growth plans

ImageGrid 1000 Key Benefits

Scalable, cost-effective and feature-rich “lite” PACS ideal for multi-slice CT, MR and cardiac ultrasound applications
Compatibility with Vitrea workstation by Vital Images, Inc.
Automated rule-based remote replication for HIPAA-compliance

The Solution

CVICER at UCI initially deployed a six-terabyte (TB) ImageGrid 1000 solution as a “lite” PACS in conjunction with the Vitrea workstations. With CVICER generating close to 1 TB of data per month, the ImageGrid expansion units provide the necessary scalability to gradually provide more than 100 TB of cost-effective, always-online archiving and image management capabilities.

“CVICER has rapidly emerged as a premier cardiovascular imaging center attracting patients and physicians seeking the best in national training. Thanks to Candelis, we no longer consider digital image management to be an obstacle for our future growth,” said Swaminatha Gurudevan, M.D. Associate Professor of Cardiology at UCI Medical Center. “The ImageGrid provides a faster and more efficient solution for accessing and retrieving imaging studies.”

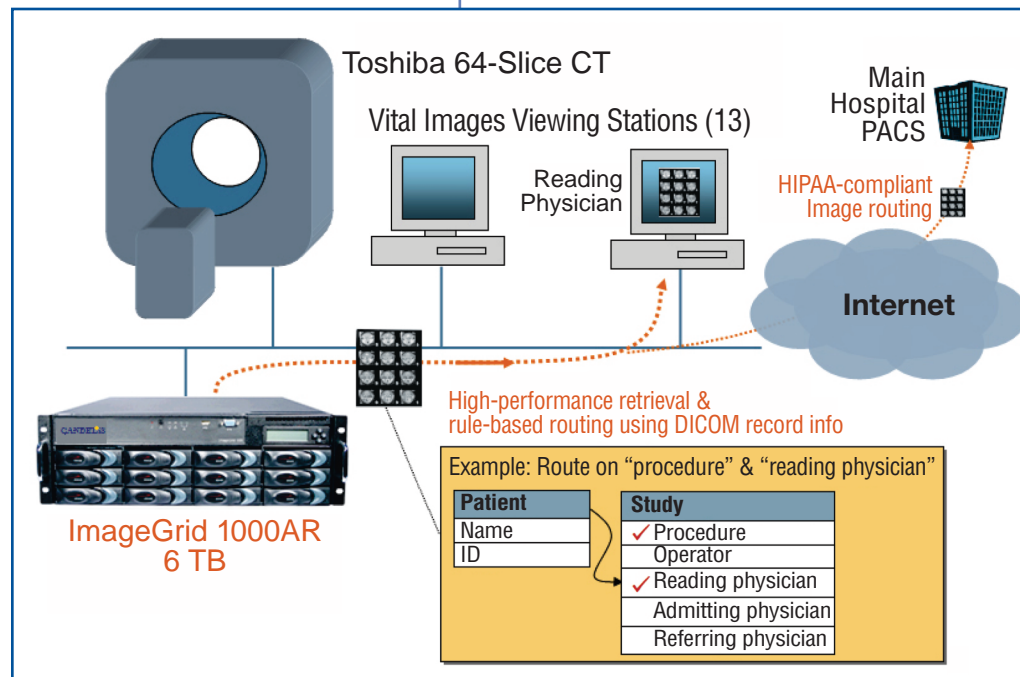
The ImageGrid has been optimized for simultaneous management of large volumes of images and studies from data-intensive modalities such as multi-detector CT, MR and cardiac ultrasound. For the CVICER, the ImageGrid can add modalities and/or workstations without licensing fees or intervention by Candelis. In addition, the ImageGrid can be deployed at an offsite location for disaster recovery utilizing automated rule-based image routing for secure and HIPAA-compliant storage and back up.

The Results

In a short amount of time, the ImageGrid has not only improved the productivity of CVICER researchers and physicians by providing immediate, always-online access to all imaging studies, but also lowered image management costs by eliminating the labor-intensive, manual handling of images. Additionally, the ImageGrid’s full compatibility with the Toshiba 64-slice cardiac CT and the Vitrea workstations allows for installation in a matter of hours, as opposed to the days it can take with traditional PACS solutions.

“Always-online access to our studies and images as an indispensable tool. It improves our ability to realize the clinical value of our advanced modalities, and consequently, enhances patient care and our ability to train physicians,” added Dr. Narula. “Based on our average 64-slice cardiac CT study size, we estimate this always-online access to cost less than \$5 per study. The ImageGrid’s PACS capabilities also have improved our workflow, which has, in turn, helped us to continue providing high-quality, timely patient care.”

With the ImageGrid, CVICER also has avoided in the cost of implementing and maintaining a complex PACS - and has been able to take advantage of the system’s proactive self-monitoring capability that not only reduces its IT administrative costs, but also maximizes uptime with minimal administrative interaction.



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