CASE STUDY

Cabrini Medical Center Relies on the ImageGrid™ 1000 AR to Manage and Archive High-volume 64-slice MDCT Studies

The Customer

Founded in 1892, the Cabrini Medical Center (CMC) is a non-profit community hospital dedicated to providing superior patient care in New York City. The historic hospital in Gramercy Park is a member of The Mount Sinai Health System, an affiliate of Mount Sinai School of Medicine and an associate member of the Catholic Healthcare Network. Offering the latest advances in diagnosis and treatment of cardiovascular disease through its Cardiovascular Medicine & Integrated Imaging Program (CM&II), CMC operates an array of traditional diagnostic technology, including advanced cardiac computed tomography (CT) and cardiac magnetic resonance (MR) imaging.

The Challenge

In 2005, CMC equipped its cardiology department with the advanced Siemens Somatom® 64-Slice multi-detector CT system outfitted with a Siemens LEONARDO workstation. The cardiac CT system was complimented by an AquariusNET™ server and Aquarius workstation from TeraRecon. The AquariusNET server with 2 terabytes (TB) of archive capacity was used as a temporary solution prior to the purchase and installation of a picture archiving and communication system (PACS).

With the Somatom 64 generating cardiac imaging studies measuring an average of 1 GB, and an average 5 studies per day, it didn't take long for CMC cardiologists and administrators to realize the need for a PACS solution that could handle both the department's high-volume workload and stringent budgetary requirements. It was also apparent that many of the traditional PACS solutions available on the market required significant financial commitment and system administration that would significantly increase the total cost of ownership.

"Managing our large 64-slice cardiac CT studies was rapidly becoming a challenge, and every PACS solution we considered was either too costly, too complex or didn't fit our needs," said Michael Poon, M.D., director of Cardiology at Cabrini Medical Center. "We found that most PACS vendors don't have adequate experience with data storage and tend to integrate third-party, general-purpose storage solutions. We were also unsure about the amount of data we could keep online versus the data that needed to be deep-archived in offline media. The ImageGrid offered the best value – a combination of price, customizable features and operating simplicity – for our present and future needs.. Plus, the ImageGrid is a DICOM-standard archiving solution, which means it's fully-compatible with our existing Siemens modalities and workstations."

CMC also has collaborative arrangements with other hospitals and healthcare facilities in the New York metropolitan area and needed a solution that would allow routing of images to and from these other facilities.

The Solution

CMC deployed the Candelis ImageGrid 1000AR solution as a "lite" PACS solution in conjunction with the hospital's TeraRecon Aquarius Workstations and AquariusNET server. The ImageGrid system provided CMC with 6 TB of raw

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"We considered a number of Cardiology PACS solutions and selected the ImageGrid for its distinct combination of affordability, high-end features and scalability."

Michael Poon, M.D, Chief of Cardiovascular Medicine and Integrated Imaging – Cabrini Medical Center

"With our 64-Slice cardiac CT, we are generating over four terabytes of data per year. The ImageGrid cost effectively archives and manages this volume and provides advanced tools for Information Lifecycle Management."

Jurij Stecko, M.D, Associate Director of Cardiology at CMC

Location

New York City

Services

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

Key Business Challenges

Reliable and cost-effective digital image archiving solution to accommodate a proliferation of large 64-slice cardiac CT studies Information Lifecycle Management capability for compliance with HIPAA disaster recovery requirements

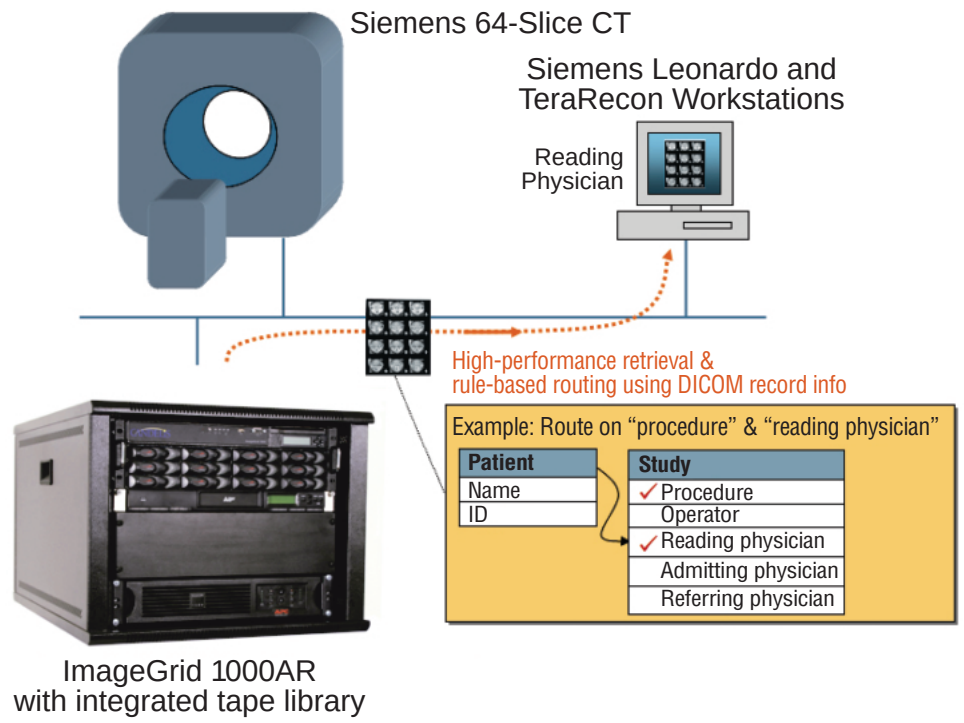
ImageGrid™ 1000AR Key Benefits

Scalable, cost-effective and feature-rich "lite" PACS ideal for multi-slice CT applications

Compatibility with Siemens LEONARDO, TeraRecon Aquarius Workstations

Automated rule-based remote replication for HIPAA compliance

capacity for always-online access to images. As CMC's needs grow, expansion units for the ImageGrid can scale accordingly and provide up to 100 TB of incremental archiving capacity. An integrated tape library enables CMC to transfer older images to tape for long-term archiving. The combination of disk-based and tape archiving provided by the ImageGrid results in a reliable, easily-to-implement Information Lifecycle Management (ILM) solution to help streamline the image management workflow. Images are transferred to the tape library based on predetermined guidelines while the "storage retention" feature allows for the deletion of studies that have been migrated to tape from the ImageGrid.



"We no longer consider digital image management to be an obstacle for future growth," said Jurij Stecko, M.D., associate director of Cardiology at Cabrini Medical Center. "The ImageGrid provides us with a faster, more efficient solution for accessing and retrieving studies. With our 64-Slice cardiac CT, we are generating 4 terabytes of data per year. The ImageGrid cost effectively archives and manages this volume and provides advanced tools for Information Lifecycle Management."

According to CMC administrators, one of the best features of the ImageGrid is its ability to grow with CMC's needs. The system is optimized specifically to manage large volumes of image data from modalities such as cardiac CT and MR. Additional modalities and workstations can be incorporated without incremental licensing fees or Candelis consultation to provide secure routing of images between facilities within stringent HIPAA guidelines for healthcare information management and storage."

The Results

In just one year, CMC has significantly improved the productivity of its physicians by providing them with immediate, always-online access to imaging studies and allowing them to route images to offsite facilities and referring physicians. The ImageGrid's compatibility with all CMC DICOM-standard modalities has lowered the total image-management costs by eliminating costly, labor-intensive printing and archiving..

"Always-online access to studies and images has significantly enhanced the clinical value of our advanced modalities and consequently, improved patient care," added Dr. Poon. "We estimate the total cost of managing our 64-slice cardiac studies to be as low as $4 per study. Most important, the ImageGrid's PACS features have improved communication between physicians, which has helped them deliver superior and timely care for the patients of Cabrini Medical Center."

By selecting ImageGrid, CMC avoided the cost of a traditional PACS server and hardware. Beyond these cost savings however, the design of the ImageGrid allowed CMC IT personnel to link the system to its network – with Candelis providing technical support, remote configuration and data-migration assistance.. In the end, the system's proactive self-monitoring capability allowed CMC to reduce its IT administrative costs and improve uptime with minimal administrative support.

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