

Cardiology PACS Solutions from EMC



Increasing clinical workflow efficiency from catheterization lab to surgical suite

Business Challenges

Nearly five million Americans are living with heart failure, with a half million new cases diagnosed each year. To provide quality cardiovascular care, healthcare organizations are investing in technologies and diagnostic tools to provide optimal treatment options for high blood pressure, heart failure, coronary artery disease, high cholesterol, and atrial fibrillation.

To diagnose possible heart disease, cardiologists and physicians use a portfolio of diagnostic tests and procedures to determine patient risk factors, history of heart problems, and current symptoms. Cardiology procedures and their resulting digital information continue to increase as physicians adopt non-invasive, nuclear imaging tests and other imaging procedures ranging from Cardiac Catheterization, Computer Imaging/Tomography, Coronary Angiography, and Exercise Stress Tests to determine patient condition.

As more healthcare organizations deploy cardiology diagnostic tools and services including PACS, the optimal management and integration of patient information is more critical than ever to streamline cardiology clinical workflow. The availability of prior images to a physician treating a patient for the first time will improve decision-making and decrease unnecessary duplicate testing.

Solution Description

EMC, in conjunction with its leading healthcare channel PACS partners, provides healthcare organizations with Cardiology PACS Solutions integrated with EMC® hardware, software, and services. EMC develops integrated solutions with these partners to automate, streamline, and improve workflow with instantaneous access to patient images, information, and other related documents.

The combination of Cardiology PACS, storage technologies, and information management tools streamlines the way hospitals store, view, and access critical patient data. These solutions allow for clearer visualization of cardiac images and better diagnoses. With proper storage of cardiac studies, redundant offsite data can be retrieved almost instantaneously for review. Cardiology PACS Solutions from EMC and partners also integrate with inventory and reporting functionalities, producing greater cost and operational efficiencies.

EMC Cardiology PACS Solutions with partners enable a healthcare organization's cardiology service to gain critical clinical viewing of complex high-resolution cardiac images from anywhere within the cardiology service and throughout the enterprise. Cardiologists are provided with a cost-effective, online solution for guaranteed, immediate access to all digital data sets captured recently or archived, from all potential phases of the cardiac assessment and diagnostic workflow, including the cath lab, echo lab, nuclear medicine, and the surgical suite.

Solution Components

An EMC information infrastructure helps healthcare organizations support both clinical and business applications while protecting, managing, sharing, and archiving rapidly growing amounts of health-care information. EMC Symmetrix®, CLARiiON®, Celerra®, EMC Disk Library, and EMC Centera® families of tiered, networked storage platforms allow your healthcare organization to choose the performance, functionality, and price to match your cardiology service need.

For the long-term archiving needs of your cardiology image management system, the EMC Centera content-addressed storage (CAS) solution offers a flexible, secure active archiving storage solution for cardiac catheterization lab, echocardiography, and other unchanging digital cardiac studies. The EMC Disk Library, an open systems virtual tape library, is an easy way to improve backup and restore and integrates seamlessly into your healthcare environment. The EMC Disk Library emulates leading tape solutions and supports more than three million backup configurations. Healthcare IT can control their entire tape pool through a single application interface.

EMC also offers business continuity solutions and services for high availability, data protection, and quick restore of clinical and business applications. These high-availability and disaster recovery solutions with reduced backup windows and restore times meet clinician information and regulatory requirements.

EMC Cardiology Solutions with partners address information needs for scheduled cardiac procedures and speed the flow of critically needed cardiac imaging and data for emergent situations such as heart attack and stroke emergencies where every second counts. Clinical departments are looking for ways to integrate PACS to provide multi-modality review of images from multiple departments at one workstation. With our cardiology application partners, Cardiology PACS Solutions from EMC enable you to review digital cath lab and echo exams, along with cardiac MRI, nuclear medicine, multi-slice CT images, and all radiology images throughout the enterprise from one workstation. Healthcare organizations can leverage the following applications from EMC Cardiology PACS partners:

Cardiac Catheterization Lab

With PACS technology typically implemented first in the cath lab, cardiologists require immediate access to all critical cath lab data, enabling them to follow a patient's progress throughout the procedure. Multi-site access is critical in a cardiology department, allowing physicians to view studies instantly on any workstation located in several cardiovascular departments. Sound cath lab management includes being able to monitor and log into all information representing the cath lab procedure for each patient, including medical supply items, medications, and the ability to monitor potential patient complications, hemodynamic calculations, and x-ray dose and examination times.

Echo Cardiology Lab

Manage your edge echo cardiology lab technology including multi-dimensional and 4D imaging, with realtime 4D volume acquisitions. New echo technology allows cardiologists to accurately assess cardiac anatomy and left ventricular function with realtime, full-volume imaging for artifact-free images of the entire heart. Echo procedure images can be linked directly to data files created by nursing documentation and, eventually, physician transcription. Reports then become instantly available for authorized users.

Nuclear Medicine

As nuclear medicine is typically managed by the radiology service, these images may not necessarily reside on the cardiology system as the cardiologist also requires access to look at these images as well as CT and MRI. Software solutions include the integration of nuclear medicine images with the hospital's information system, creating a single point of access. Partner applications enable high quality nuclear medicine performance, promoting speed for faster clinical decision-making. A well-defined storage infrastructure, combined with state-of-the-art nuclear medicine technology, facilitates the focus on clinical excellence and patient care, providing a faster, more accurate exam.

Operating Room Suite

Cardiology PACS Solutions from EMC, in conjunction with partners' applications, allow vascular surgeons, interventional cardiologists, diagnostic cardiologists, and non-invasive cardiologists immediate access to critical online images and information needed for decision-making. Surgeons can access cath, echo, and vascular digital images from one workstation. A robust digital storage and retrieval solution provides an integrated database for multi-modality images and patient data to support the cardiac surgeon's diagnoses. Physicians across the enterprise can are able to view cath, echo, and vascular digital images from one workstation.

Solution Value

To evaluate clinically relevant anatomic and functional information on a patient's heart, individual physician practices, hospitals labs, cardiology centers, and integrated delivery networks are deploying multi-modality imaging tools.

As cardiologists gain immediate access to "live" and archived data, patient care decisions are expedited, workflow productivity increased, and overall healthcare costs are reduced. Leveraging an EMC information infrastructure enables clinical workflow improvements that allow caregivers to expand caseloads, facilitate consultations, and improve timeliness of decision-making across the enterprise, leading to improved patient outcomes.

EMC Cardiology PACS Solutions with partners provide a seamless integration of clinical workflow enhancing patient safety and reducing operational costs. These solutions can be implemented to fit your current architecture, design, and environment. Our solutions portfolio allows cardiology services to efficiently manage their growing volumes of clinical and business information by allowing integration with medical images and the immediate retrieval of images, including multi-site image review from anywhere in the cardiac service or healthcare network.

- Increase access to critical cardiac patient information anytime, anywhere in the healthcare network by eliminating singular stove-piped systems and consolidating redundant equipment.
- Respond to the rapid adoption of cardiology PACS, and the growing volumes of electronic imaging data to accelerate the speed of patient care decision-making.
- Access and retrieve cardiac content faster by automating policies defined by the cardiology service for information creation, access, integrity, protection, retention, and disposition, to achieve regulatory compliance while minimizing resource requirements.
- Acquire built-in flexibility to adapt to any new requirements that may arise, moving clinical and business content and modifying policies to meet the latest state, federal, and country regulations.
- Reduce costs by consolidating clinical department storage and servers, allowing your organization to manage and protect information meeting the complex needs of patients and staff.
- Increase access of critical cardiac information to cardiology staff and other clinical decision makers who need results immediately.



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