THE EMC VENDOR-NEUTRAL ARCHIVE SOLUTION

Enabled by Agfa IMPAX Data Center

ESSENTIALS

• Rapid access to patient data at the point-of-care across the healthcare enterprise
• Off-the-shelf integration with a particular EHR
• Intelligent data cleansing and migration services from your existing PACS sources
• Supports HL7, CDA, and XDS industry standards
• Improve the performance of the departmental imaging systems

INTRODUCTION

The concept of Vendor- or PACS-Neutral Archive represents a paradigm shift in how and where medical image data is managed. The responsibility for managing the patients’ image records is changed from individual departmental Picture Archiving and Communications Systems (PACS), which typically store the data in closely associated storage solutions, to an independent, “vendor-neutral,” enterprise-class archive system.

The EMC® Vendor-Neutral Archive (VNA) Solution is an enterprise-class data management system that consolidates primarily medical image data from multiple imaging departments into a Master Directory and associated storage solution. The VNA replaces the individual proprietary archives of the departmental PACS systems and their interoperability limitations. Furthermore, by virtue of having consolidated all of the enterprise image data in this independent archive, the VNA also becomes a unified image data repository for the electronic medical record (EMR) system. A VNA provides a single, enterprise-wide repository for patient-centric medical images.

CHALLENGES

Today healthcare providers must deal with independent silos of imaging data hidden behind proprietary data schema. This is the result of departmental PACS altering existing metadata associated with the ingested image data objects as well as creating new proprietary metadata to be associated with the images, creating a somewhat proprietary database. In this environment, challenges include:

• Painful and costly data migration processes from one application and storage platform to another
• Legacy archives lack the “intelligence” to create data relationships needed to improve patient care and research
• Implementing comprehensive archive retention and compliance across diverse applications environments policies is difficult and costly

The primary purpose of the VNA is to dynamically resolve these metadata idiosyncrasies between disparate PACS. Another important purpose of the VNA is to consolidate all of the different departmental PACS storage silos into a single enterprise storage solution, thereby achieving the economies of scale while simplifying support.
MANAGE MEDICAL IMAGES

The EMC Vendor-Neutral Archive Solution enabled by Agfa IMPAX Data Center (IDC) combines the strengths of three industry leaders: Agfa, EMC, and Cisco. Agfa IMPAX Data Center delivers the management of medical images and other healthcare data while EMC Documentum XDS Registry and Repository content management offerings allow healthcare providers to manage efficiently the rapid growth of medical images from a variety of PACS within a healthcare enterprise. In addition, it delivers a 360-degree view of a given patient’s health information to authorized caregivers to help them make quicker and more accurate patient care decisions.

FIGURE 1. EMC VNA-ENABLED BY AGFA IMPAX DATA CENTER

AGFA IMPAX DATA CENTER WITH XERO VIEWER

IMPAX Data Center provides an industry-leading Vendor-Neutral Archive proven in the largest deployments worldwide. IMPAX Data Center is a scalable and fault-tolerant enterprise or regional imaging management solution that can store imaging data from many departmental imaging systems, as well as from disparate hospital PACS. It has been developed for large, multi-site and multi-facility healthcare enterprises.

IMPAX Data Center aggregates clinical DICOM data objects, including DICOM encapsulated non-imaging objects such as waveforms, structured reports and PDFs, and non-DICOM data objects. IMPAX Data Center provides a single source of longitudinal patient imaging information. IHE XDS and XDS-I ready, IMPAX Data Center supports the following factors: Imaging Document Source, Imaging Document Consumer, and Document Repository.

The IMPAX Data Center viewer powered by XERO is an enterprise medical image viewer that allows clinicians to access imaging information securely from any authorized location, on a variety of web-enabled devices. It does not require any download and delivers value, even on the weakest and unreliable network infrastructures.

XERO Viewer helps meet the challenge of extending the electronic medical record (EMR) or electronic health record (EHR) to include support for all medical images and related information. The goal is to provide physicians with point-of-care access to the longitudinal patient record.
EMC HEALTHCARE IT INFRASTRUCTURE
The EMC components of this solution support the IHE Cross-Enterprise Document Sharing (XDS.b) standard to enable the exchange of clinical documents between healthcare organizations. This solution is IHE-certified for the XDS Registry and XDS Repository function.

- EMC Documentum® XDS Registry provides a central catalog for documents that may reside in a federated system or repositories, either heterogeneous or geographically distributed.
- EMC Documentum XDS Repository stores structured and unstructured healthcare information where all patient-centric documents, images, and media are available via the XDS-specification for applications to consume—even when the clinical, financial, and operational content was not created via an XDS specification.
- EMC Documentum XCA Gateway is an interface that enables multiple healthcare organizations to federate and share information based on the IHE’s Cross-Community-Access (XCA) specification. The XCA gateway facilitates the secure access of information by participants from various user domains, e.g., regions within a country.
- The EMC VNX™ Series of storage platforms provides a dedicated network server. Optimized for file and block storage access, the VNX delivers high-end features in a scalable, easy-to-use package that delivers a “single box” block and file solution with a central management point for distributed environments.

CISCO UNIFIED COMPUTING SYSTEM
The Cisco Unified Computing System is a next-generation data center platform that unites compute, network, storage access, and virtualization into a cohesive system designed to reduce total cost of ownership (TCO) and increase business agility. This system integrates a low latency, lossless 10 Gigabit Ethernet unified network fabric with enterprise-class x86-architecture servers.

The system is an integrated, scalable, multi-chassis platform in which all resources participate in a unified management domain.
BENEFITS

- Provide off-the-shelf integration with a particular electronic health record system and one that can leverage the existing storage fabric
- Provide intelligent data cleansing and migration services from your existing PACS sources
- Intelligent lifecycle management using DICOM header information to move data around a multi-tiered storage solution based on metadata that defines that image data
- Allow clinicians to access imaging information securely from any authorized location, on a variety of web-enabled devices
- Improve the performance of the departmental imaging systems, and facilitate PACS decommissioning and PACS-to-PACS migration projects

CONTACT US

To learn more about how EMC products, services, and solutions can help solve your business and IT challenges, contact your local EMC or Agfa representative—or visit us at www.EMC.com.