Enterprise Archive 8

Product Data Sheet

Introduction

Enterprise Archive

- A multi-ology clinical content repository that supports DICOM, IHE-XDS and HL7 standards, to enable consistent clinical data consolidation across systems.
- Facilitates the storage, management and sharing of patient's images and documents, with a focus on image-enabling the electronic medical record (EMR).
- Delivers scalable and intelligent tools to help users manage a variety of implementations across departments, hospitals, and regions.
- Provides intelligent image lifecycle management capabilities to effectively manage physical space and storage cost.
- Allows DICOM studies to be deleted, moved, or compressed over the lifecycle, allowing sites to implement data retention policies. The image lifecycle management also allows non-DICOM images and documents to be deleted or moved.
- Native static and dynamic tag morphing capabilities can help CIOs overcome limitations and variances of multi-vendor PACS systems to help optimize image sharing and workflows.
- Supports the IHE IOCM (Image Object Change Management) profile to support common workflows for image rejection and image deletion from connected PACS of multiple vendors.
- Utilizes the IHE integration profile SWF.b (Scheduled Workflow.b) as Image Manager/Image Archive actor to help maintain the integrity of patient-level and study-level information between ordering systems, modalities, and the Enterprise Archive.
- Neutral to the underlying IT infrastructure, it can manage a large variety of storage systems: NAS (Network Attached Storage), SAN (Storage Area Network), CAS (Content Addressable Storage), and web service based storage or cloud storage. The solution has been designed to address and effectively use these devices as technology matures and more options become available.
- High availability features, ranging from redundant components to completely redundant solutions and cloud deployment options provide flexibility to support protection and continuity of access to critical information.

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Product data sheet is effective with Enterprise Archive V8

Features and Benefits

Enterprise Archive provides a storage solution that helps organizations lower information management costs, expand enterprise-wide image access, and enhance departmental productivity.

A single repository for DICOM and non-DICOM clinical data across enterprise:

- Enables standards-based archiving for images and other clinical content across radiology, cardiology, pathology, dermatology, surgery and other departments.
- DICOM image data is internally stored in the standards-based DICOM Part 10 format.
- Non-DICOM objects are supported, including, but not limited to, JPEG, PDF, and TIFF documents. All objects are stored in their native format.
- Manages other DICOM objects such as Structured Reports, Encapsulated PDF, Presentation States, Key Image Notes and Visible Light Images.
- Interfaces with an Enterprise Master Patient Index (EMPI) to consolidate patient data across multiple facilities or departments with different patient IDs.

Helps enable single point of access to a more robust patient jacket:

Enterprise Archive helps create a single patient jacket within the EMR for clinicians by consolidating patient data from their organization's departmental and facility IT systems. A DICOM and XDS-compliant viewer like Universal Viewer ZFP can be interfaced to provide location agnostic access[1] for the care providers.

Open architecture compliant with major standards for seamless interoperability:

- DICOM
- HL7
- IHE XDS[2]
- IHE XDS-I[2]
- DICOM Web Services: WADO-URL, WADO-RS, QIDO-RS, STOW-RS

The interfaces listed above are designed with security in mind and can be configured with TLS to enable encryption of bi-directional data with Enterprise Archive.

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Helps optimize storage requirements through efficient Image Lifecycle Management

Through a variety of rule-based policies such as delete, move and compress, the Enterprise Archive helps administrators to set retention policies, not only to respond to regulatory requirements, but also effectively manage the image data throughout the lifecycle.

- Configure rules for virtual archives, storage libraries, modalities, study description, etc.
- Select Lossless and Lossy Compression rates of data (JPEG, JPEG2000, RLE).
- Rules-driven workflow engine for creation, approval, and audit of rules.
- Rules-driven work list to view studies eligible for movement, compression, and deletion.
- Quarantine features to place selected studies and patients on hold.
- DICOM tags: Institution Name, Station Name, Department, Modality, Study Description, Study Age, and Patient Age for a total of 128 different rule combinations.
- ILM Delete capabilities at series level for DICOM content based on DICOM tags, Modality, Series Description, and Series age.
- ILM move and delete capabilities for non-DICOM content stored in the XDS Repository libraries of Enterprise Archive.

Helps support data transfer goals:

Enterprise Archive provides a user driven tool that allows administrators to move DICOM data from external archives to the central Enterprise Archive repository. This helps reduce the reliance on third party vendors for costly data transfers, thereby improving flexibility and planning efficiency

Helps enhance image sharing and workflows through tag morphing:

Enterprise Archive offers tag morphing capabilities to manipulate content of DICOM tags in a study during archiving or retrieve. This helps overcome the limitations, inconsistencies, and variances in the implementation of the DICOM standard across multi-vendor PACS systems to enhance standards-based sharing of images and workflows across the enterprise.

- Configure tag morphing rules and actions for inbound and outbound DICOM associations independently for each virtual archive of Enterprise Archive.
- Select from a list of static morph actions: add, prefix, postfix, replace, truncate, clear, and remove DICOM tags
- Create complex dynamic morphing rules with a powerful scripting engine.
- Revert morph actions if required.

Business Continuity

High-availability configurations:

Using its Shadowing feature, Enterprise Archive automatically replicates itself to a second, off-site archive. This provides full system redundancy for the database and images instead of only storage replication. An added benefit of this configuration is the ability to perform system upgrades independently and with minimal disruptions to system operations.

Load balancing configuration:

For sites producing a high volume of procedures, Enterprise Archive provides a load balanced configuration. The system can deploy additional application servers to handle loads for single, multi-site, regional, or nationwide configurations.

Optimize Return on Investments with Enterprise Options:

- Virtual Archives allow the creation of departmental archives or the sharing of the archive between multiple institutions or departments.
- The BroadView feature can aggregate the virtual archives into a single view. Patient level query and retrieve will get results from multiple virtual archives with one command. For enterprise operation, it works across multiple Enterprise Archive servers and 3rd party DICOM archives by aggregating the departmental archives into a single table that can be queried.
- Query Spanning and Move Forwarding make Enterprise Archive the single point of access to virtual and existing third-party DICOM archives to help optimize past investments.

IHE Profile Support

Enterprise Archive supports the following IHE profiles:

- Cross-Enterprise Document Sharing for Imaging (XDS-I)
- Cross-Enterprise Document Sharing (XDS)
- Audit Trail and Node Authentication (ATNA)
- Cardiology Evidence Documents (ED-CARD)
- Consistent Presentation of Images (CPI)
- Access to Radiology Information (ARI)
- Key Image Note (KIN)
- Simple Image and Numeric Report (SINR)
- Evidence Documents (ED)
- Nuclear Medicine Image (NM)
- Enterprise User Authentication (EUA)
- Consistent Time (CT)
- Patient Identifier Cross-reference (PIX)
- Cross-Community Access for Imaging (XCA-I)
- Image Object Change Management (IOCM)
- Multi-Patient Queries (MPQ)
- Digital Breast Tomosynthesis (DBT)
- XDS Metadata Update
- Scheduled Workflow.b (SWF.b)
- Web Image Capture (WIC)

Please see the GE Healthcare website www.ge.com/ihe for a complete IHE Integration Statement.

Management Console:

- Enterprise Archive includes a rich administrator console designed with HTML5 technology to configure and maintain the system.
- Administrator privileges can be managed at a variety of system levels, from enterprise to a virtual partition.
- Usage and performance reports are available on the console.
- The console can be run from the following browsers: Microsoft® Edge Chromium, Google Chrome or Mozilla Firefox.

Hardware Specifications:

Enterprise Archive Application Server is the engine that houses the long term storage management middleware.

Minimum Hardware Specifications (Enterprise Archive supports VM deployment):

- 1 x Intel 2.66GHz Quad-core or better
- 6 GB RAM
- 8 x 146 GB in RAID5 configuration
- Dual fans and power supply
- Microsoft® Windows® 2019 Standard Edition or Microsoft® Windows® 2019 Datacenter Edition
- Microsoft® SQL Server 2019 Standard or Enterprise Edition including support for Microsoft® SQL Server AlwaysOn Failover Cluster Instances and Availability Groups®
- VMware® ESXi 5.5 and higher

The Enterprise Archive application server can be deployed with external image cache for customers who plan to keep additional images online for fast access.

Storage:

Enterprise Archive server supports fiber channel and network attached storage solutions. Enterprise Archive uses CIFS (Common Internet File System), iSCSI (Internet Small Computer System Interface) protocols to connect to network attached storage. In addition, Enterprise Archive also supports web service based storage interfaces including the Amazon® Simple Storage Service (S3) and Microsoft® Azure® Blob Storage. Multiple storage systems can simultaneously be connected to one Enterprise Archive server.

Intended Use of Enterprise Archive

Enterprise Archive is a software product for receiving, archiving, and sending of medical data. Qualified system administrators install, monitor and maintain the system. DICOM devices (e.g. modalities, workstations) communicate with the archive using the DICOM protocol (published by ACR-NEMA). XDS-enabled systems communicate with the archive following the XDS and XDS-I integration profiles (published by IHE).

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More Information

Contact your GE Healthcare representative for more information about Enterprise Archive.

For additional information on IHE and DICOM visit these sites.

http://www.ge.com/dicom

http://www.ge.com/ihe

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[1] Anywhere there is an Internet connection available.

[2] Requires the implementation of an XDS Registry.

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