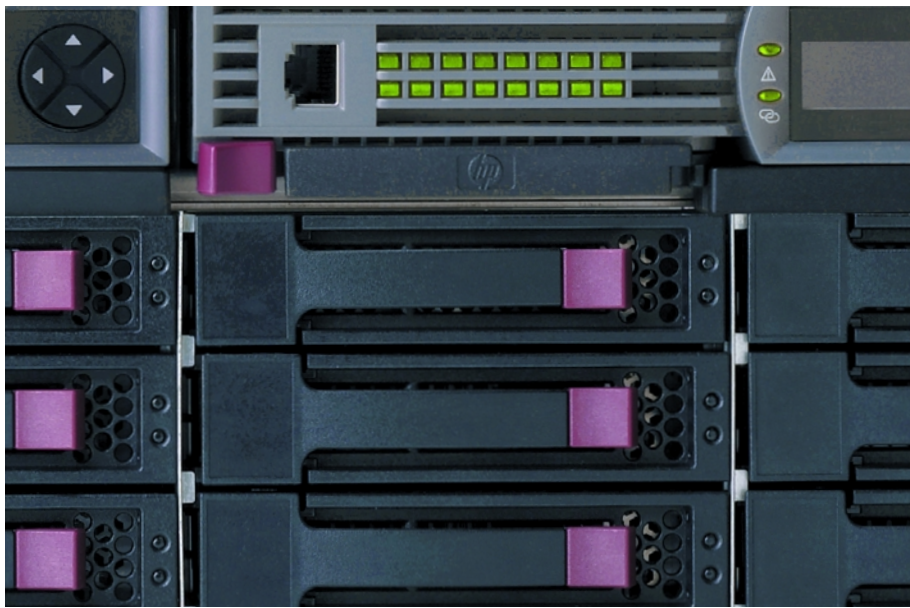# HP Medical Archiving solution

Cost-effective, scalable storage solutions for diagnostic images

HP provides economic, petabyte-scale, long-term archiving to imaging centers, hospitals, hospital networks and research affiliates for the secure and reliable storage, retrieval and transmission of medical images and documents. The HP approach integrates best-in-class technology based on industry-standard architectures to accelerate patient care, enable collaboration across medical facilities, promote knowledge-driven wellness solutions, and help your institution to comply with regulations.

Today's medical archiving challenges

Keep pace with growing storage requirements

Digital storage of diagnostic images makes critical patient data more accessible to medical staff and easier for administrators to manage and protect. Yet at the same time, the shift from film to digital storage has created a whole new set of challenges.

Hospitals and other healthcare organizations that have switched from film-based to digital imaging systems now deal with huge amounts of data generated by patient studies. Some of this data must be stored for decades.

The future promises to bring more of the same. Imaging modalities generate increasing numbers of image files per patient study, and individual file sizes are growing dramatically. As a result, medical archives can triple in size over two years.

If you are a systems administrator working in this environment, you can find yourself in a constant race to keep storage capacity a few steps ahead of storage requirements. And that's only part of the challenge. Chances are you also need to find more cost-effective ways to store and protect imaging data—while meeting the demanding access requirements of medical staff and complying with stringent regulatory guidelines.

Enter the HP Medical Archiving solution. It builds on proven archiving technology, industry-standard hardware and comprehensive services to provide reliable, cost-effective, scalable solutions to today's medical archiving challenges.

In short, the HP Medical Archiving solution is your key to meeting your digital archiving challenges—today and for years to come.

The HP Medical Archiving solution

Gain a highly scalable solution

The HP Medical Archiving solution allows your healthcare organization to easily store, manage and transmit diagnostic images and documents. It draws on the flexibility of a grid-based architecture to accommodate years of double-digit data growth with fault tolerance, resiliency and self-healing properties.

This highly scalable solution can meet the needs of a wide range of environments—from imaging centers to small hospitals to regional medical centers with multiple hospitals. It is designed to interface with existing implementations of Picture Archiving and Communication Systems (PACS) and Radiology Information Systems (RIS), and yet it can still support the imaging requirements of pre-PACS environments.

Use tiers of storage

The HP Medical Archiving solution enables your organization to store rapidly growing amounts of imaging data in a cost-effective manner. It simultaneously supports tiers of storage, including high-performance disk, lower-cost disk and cost-effective tape storage. It allows users to set policies on the devices and media to be used to store different types of data and different copies of the same data. In this manner, it brings the vision of information lifecycle management (ILM) to life.

In practice, you might store one copy of a study onsite on a high-speed disk system for fast retrieval by doctors and technicians. Multiple copies of studies can be kept in the grid, depending on your preference for redundancy. The studies remain accessible throughout the grid across multiple sites.

With tiering, business rules define file placement on specific storage media, such as low-cost disk or tape, and are dependent on the value of the data to the organization. The clinical value of the data can be described in granular terms, using the DICOM metadata. For example, the type of modality, patient information and more can be used to define the placement of diagnostic images, not just the age of the file.

Meet regulatory guidelines

The HP Medical Archiving solution helps hospitals and other healthcare organizations comply with regulatory requirements guiding the storage, transmission and protection of patient data. It uses a security model that is compliant with the U.S. Health Insurance Portability and Accountability Act (HIPAA), which regulates the handling of patient information.

Ultimately, the HP Medical Archiving solution can help your organization deliver better patient care. It gives medical personnel quick access to patient information, even files that are several years old. All the while, the HP solution makes it easier for doctors in different locations to collaborate on the care of a patient—both can view the same images and information at the same time.

Strengthen business continuity

The HP Medical Archiving solution is designed for fault tolerance and high availability. It has no single point of failure. A failure in one storage node won't cut off access to critical patient data. The request will simply be rerouted to another area of the grid. Business continuity is further strengthened by automated backup and disaster recovery capabilities.

Solution components

A grid-powered system

The HP Medical Archiving solution is based on a grid-powered storage system. The storage grid presents itself as a large, virtual file system to the PACS on the front end. The grid works in tandem with HP servers and HP storage devices, including disk and tape systems. It supports all HP StorageWorks hardware—from storage arrays to low-cost spinning disk and to tape libraries.

The solution uses the HP ProLiant DL380 server, which provides enterprise-class uptime and manageability, proven two-way Intel® Xeon™ performance, and 2U density for a variety of rack deployments and applications.

The HP Medical Archiving solution incorporates the HP StorageWorks Modular Smart Array 20 Enclosure, which is a SATA 1.5 gigabit-per-second disk drive storage enclosure with Ultra320 SCSI host connectivity. This enclosure delivers industry-leading availability, storage density and upgradeability to meet your demanding and growing storage needs. It provides an ideal mix of low-cost and high-capacity storage for fixed-content workload.

Intelligent management

Storage for the grid resides in storage nodes connected by a local area network within a single site or by a wide area network that links multiple healthcare facilities. The grid functions as an intelligent management system. It tracks the storage capacity, bandwidth and processing power of each node. It uses this information to determine how to gain maximum performance and availability from the storage system.

DICOM integration

As an optional feature, the HP Medical Archiving solution can make use of metadata associated with DICOM files, such as the modality used to capture a diagnostic image, the body part of the patient under study, and other distinguishing characteristics of the patient, as opposed to merely the age of the file. The use of rules-based DICOM metadata enables data to be stored according to its clinical value, resulting in a more cost-effective approach to storage. Even without the DICOM option, which allows input to the grid directly from a modality, the data can be stored according to its clinical value, using the business rules available as part of the product.

Capacity on demand

The HP Medical Archiving solution for compressed and protected data is available in 5-terabyte, 10-terabyte and 20-terabyte configurations. The capacity and the footprint of the solution can be increased without downtime or disruption to user systems. System upgrades are transparent to the end user. When a storage node is added, the solution automatically registers the new resource and begins to use its capabilities.

By enabling on-demand capacity growth, the HP Medical Archiving solution allows your healthcare organization to add capacity and take advantage of ongoing advancements in storage and retrieval technology.

Why HP?

A single, integrated repository

HP gives you the ability to create a single repository for multiple PACS applications and multiple medical sites, for increased data integrity, enhanced security and 24x7 availability.

A fully supported solution

HP Services can deliver an end-to-end solution that is tailored to your specific needs and circumstances. HP Financial Services can help you find the most cost-effective way to pay for your solution. Looking ahead, HP can support your solution on an ongoing basis, including assistance with capacity and technology upgrades.

Open, standards-based technology

The HP Medical Archiving solution is designed to leverage open systems and standards-based technology. The use of industry-standard technology positions your organization to take advantage of new server, storage and networking components as they become available.

Support for tiers of storage

The HP Medical Archiving solution enables you to use high-performance disk, lower-cost disk and cost-effective tape storage. The use of storage tiers allows you to choose the most cost-effective storage approaches based on policies you set.

Investment protection

A digital medical archive is a long-term investment, so it's important to work with a solution provider who will be there for the long term. HP is a well-established, financially solid company that will be there for you in the years ahead.

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For further information on the HP Medical Archiving solution, contact your HP sales representative or visit:
www.hp.com/go/healthcare

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