HP Medical Archiving Solution

Distributed computing-powered, fixed-content storage for healthcare

The HP Medical Archiving Solution allows healthcare organizations to easily store, manage and retrieve diagnostic images and other fixed content data. It's based on the flexibility of a distributed computing architecture that is able to accommodate years of double-digit data growth—allowing configurations to grow to meet enterprise-scale fixed content requirements.

The solution is designed to interface with existing implementations of Picture Archiving and Communication Systems (PACS), but can also support the imaging requirements of pre-PACS environments. And because it uses standard industry interfaces, there is no need to develop any proprietary APIs.

The HP Medical Archiving Solution helps hospitals and other healthcare organizations comply with regulatory requirements for 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, as well as regulatory requirements in other countries.

Strengthen business continuity

- Fault tolerant, self-healing resilient architecture.
- Multi-site advanced distributed caching maximizes data accessibility and helps eliminate points of failure.
- Dual data protection via RAID-5 and mirroring configuration available for soft-error correction and hard-error protection for each storage subsystem.
- Policy driven data replication to distribute data across the distributed archive configuration to control geographic location and number of replicas for desired level of redundancy.
- Transparent storage and access re-routing to optimal resources helps eliminate failure downtime. The HP Medical Archiving Solution helps hospitals and other healthcare organizations comply with regulatory requirements for the storage, transmission and protection of patient data.
- Built-in business continuity overcomes reactive disaster recovery mechanisms with extended service disruptions.

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Hardware obsolescence protection strategy
- Replace, refresh and upgrade the underlying storage hardware without service interruptions.
- Automatic data migration without downtime and minimal performance reduction for archival operations
- Flexible scalability allows user "pay-as-you-go" upgrades to take advantage of decreasing storage costs and increasing processing power.
- Seamless upgrade of storage and server technology to help minimize physical storage requirements and ease maintenance.

Create single repository for unified storage
- By migrating images from existing PACS storage to a centralized, consolidated long-term storage solution— doctors within a hospital or across a group of hospitals can have easy access to patient information as well as share files when collaborating on a patient's treatment.

Align value of data with storage using ILM policies
- The HP Medical Archiving Solution allows customers to align storage costs based on the value of data. You can customize the level of resilience and determine the number and location of copies needed based on the value that you assign to the data—rather than merely relying on a time and date stamps. This way, you are able to decide what storage media is required, based on the retrieval time that might be required for medical exams that need to be retained for multiple years and for clinical, legal or research reasons.

Key features and benefits
- **Scalable**—Enables archiving to be unified regionally for multiple departments or facilities, such as regional hospitals or Integrated Delivery Networks; allows institutions to scale their archive seamlessly on demand as facilities are added and volumes grow.
- **Cost-effective**—Helps maximize the effectiveness of your staff with centralized management; protects against high-priced, proprietary components.
- **Secure**—Delivers disaster recovery inherent to a distributed computing based archive with built-in redundancy in the archive subsystems and self-healing functions to protect access to the data. Also includes audit and reporting features to confidently trace all access to the data and monitor the system through a web based UI. HP Medical Archiving Solution protects the integrity of the data through digital signatures and continuous data verification and offers an encryption option for additional security for the archived studies.
- **High performance**—Provides Write Once Read Many (WORM) for all tiers of storage and allows lossless compression of non-compressed data for efficient storage.
- **Efficient**—Satisfies the most demanding retrieval rates for radiology through low latency streaming transport and dynamic load balancing across storage/bandwidth/CPU to optimize performance and availability.

At one time the medical industry relied on "passing the yellow envelope" for patient information. But today's overburdened medical-imaging environment demands the reliable digital archiving, retrieval and real-time access solutions that HP can deliver.

Solutions for a healthy bottom line

The HP Medical Archiving Solution is available in three pre-packaged configurations of 5, 10 and 20 TB packages. This is designed to meet the initial needs of a broad a range of customer storage requirements. Annual growth is then accommodated by adding building blocks to meet additional storage needs.

Functionality provided by the standard configurations and building blocks:

- Admin Node Building Block
  – Provides centralized management and administrative interface
  – Provides access security
  – Collects real-time and historical data for alerts, reporting, troubleshooting and analysis

- Control Node Building Block
  – Provides object management
  – Indexes and manages object metadata
  – Replicates and synchronizes object metadata
  – Manages storage policies
  – "Brains" behind object replication
  – Manages Internal communications between HP Medical Archive components
  – Policing and authentication
  – Distributed database

- Gateway Node Building Block
  – Interfaces to PACS and customer imaging applications
  – Abstracts storage resources into a single unified view
  – Presents HP Medical Archive as limitless network mounted drive to the external applications
  – Fast file-cache for remote sites
  – Provides DICOM interface option

- Storage Node Building Blocks
  – Provides secure data storage and transmission
  – Replicates data across storage nodes Manages storage resources
  – Capacity is driven by customer requirements
  – Provide digital signatures for medical imaging objects to create a WORM environment
  – Continuous digital signature verification to automatically notify and correct any data alterations

Components

Solution contents	(1) HP ProCurve Networking Switch 2312
	(2) HP ProCurve Networking Switch 2724
	(1) HP TFT5600 rack-mount keyboard and monitor (all-in-one)
	(1) KVM server console switch (0 x 1 x 8 port)
	(2) HP StorageWorks MSA20 enclosures • (24) 250 GB, 7,200 RPM, 1.5 GB, 1-inch SATA Hard Drives
	(2) Combination control/storage nodes • HP ProLiant DL380 G4 server with 3.2 GHz Intel¨ Xeon™ processor, 2 MB L2 cache, 800MHz FSB, 1 GB SDRAM • Hot plug AC redundant power supply module (IEC cord) (Worldwide) • Smart Array 6i 128 MB battery backed write cache enabler option kit • Redundant fan option kit for the HP ProLiant DL380 G4 server • 72.8 GB, 10,000 RPM, 1-inch Ultra320 universal hard drives • 146 GB, 10,000 RPM, 1-inch Ultra320 universal hard drives • Smart Array 6402/128 controller • (1) 1.44 MB floppy drive option kit
	(2) Gateway and Admin server • HP ProLiant DL380 G4 server with 3.2 GHz Intel Xeon processor, 2 MB L2 cache, 800MHz FSB, 1 GB SDRAM • Hot plug AC redundant power supply module (IEC cord) (Worldwide) • Smart Array 6i 128 MB battery backed write cache enabler option kit • Redundant fan option kit for the HP ProLiant DL380 G4 server • (6) 146 GB, 10,000 RPM, 1-inch Ultra320 universal hard drives • NC7771 PCI-X 10/100/1000-T server adapters • 1.44 MB floppy drive option kit
	(4) 6-ft. CAT5e cables (8-pack)
	(1) 3-ft. CAT5e cables (4-pack)
	(1) HP 10642 (42U) rack cabinet – shock pallet
	(1) 600mm stabilizer option kit (graphite)
	(1) HP networking cable management kit
	(2) 42U side panels – graphite metallic
	(4) PS/2 interface adapters
	(2) Modular Power Distribution Units (mPDU), high volt model, 24A (200-240 VAC) (North America, Japan)
	(4) 1.4m (4.5-ft.) 10A, IEC C13 to IEC C14 PDU jumper cables
	(1) graphite (10000 Series) rack blanking panel kit (10 x 1U)
	(2) VHDCI to VHDCI 6-ft. external SCSI cables
	(1) HP Medical Archiving Solution Country kit
	(1) Warranty card
	(1) Installation poster

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Warranty and support	HP Medical Archive has a 1 year standard warranty that covers the following: • Hardware: Year 1, 9x5, 4-hour onsite response time for all hardware parts and labor. • Software: Year 1, 9x5, 2-hour response for software support plus one yearly software update installed by HP. HP Care Pack Services offer upgraded service levels to extend and expand your standard product warranty with easy-to-buy, easy-to-use support packages that help you make the most of your hardware and software investments. Service plans let you choose the support levels that meet your business requirements—from basic to mission-critical—and help you contain total cost of ownership. SupportPlus 24 Service is included for mission critical environments. For more information on HP warranty and support services, contact any of our world-class sales offices or resellers, or visit our worldwide websites listed below: • HP Care Pack Services: **www.hp.com/hps/carepack** • HP Software Support Services: **www.hp.com/hps/software** • HP Education and Training offerings: **www.hp.com/education/** • HP Services offerings, customers and resellers: **www.hp.com/hps** • Worldwide limited warranty and technical support: **http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html**
Financial services	HP Financial Services provides innovative financing and financial asset management programs to help you cost-effectively acquire, manage and ultimately retire your HP solutions. For more information on these services, please contact your HP sales representative, or visit: **www.hp.com/go/hpfinancialservices**
For more information	For more information on the HP Medical Archiving Solution, contact your HP representative or visit: **www.hp.com/go/MSA**

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