

BUYER CASE STUDY

Roswell Park Cancer Institute Uses HP Medical Archive Solution to Ensure Availability and Integrity of Medical Images Used in Research and Clinical Diagnosis

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IDC OPINION

The medical image archiving market is on the verge of exponential growth. Hospitals and physicians' offices had been keeping medical images in printed form, but the demand for greater efficiency, sharing of information more seamlessly and in a timely manner, and the regulations associated with retention and access to the information, together with improved imaging technology, are driving storage growth. The imaging technologies have been improving resolution that helps clinicians make more accurate diagnosis but also results in each study consuming an ever-increasing amount of capacity. The drive to define the requirements around digital patient record and access to it is causing organizations to adopt processes and technologies that help with the management, storage, and retrieval of medical images. The requirements, though still evolving, dictate the following:

- The retention requirements for medical image data varies, but in general terms, it is often indefinite. Any archive system deployed must assure data integrity over an extended period of time.
- The availability of data is not only relevant in terms of time lines but also from an operational perspective. Data must be accessible by clinicians at all times to ensure timely treatment of patients or application of data to research.
- The information stored in medical images is very personal and private in many cases and requires stringent security. The archiving system must provide information regarding who is accessing what information and when, as well as protect the data from outside intrusion while enabling sharing of information where appropriate.

IN THIS BUYER CASE STUDY

This IDC Buyer Case Study examines how Roswell Park Cancer Research Institute uses HP Medical Archiving Solution (MAS) to deliver access to medical images over time. HP Medical Archiving Solution supports multiple tiers of storage, enabling organizations to deploy the appropriate storage tier for every type of data over its life cycle.

SITUATION OVERVIEW

Organization Overview

Roswell Park Cancer Institute is responsible for reviewing both in-house patients' studies and those brought in for second opinion as well as cancer research. The institute is classified as a public benefit corporation and receives its funds from clinical reimbursements, grants, and state and federal government funds. The center supports 5,000 people including volunteers, researchers, staff, and students. The campus spans 6–7 city blocks and has its own zip code in Buffalo, New York. The center is powered by two separate power plants approximately a quarter mile away. The institute works closely with the power suppliers to ensure all systems are continuously operational.

Challenges and Solution

Currently, the institute archives two types of medical images: diagnostic images for patients and genome and animal pathology slides. The diagnostic images for patients represent 22TB of HP MAS storage; animal pathology images are stored on a separate HP MAS and represent 15TB. In total, the institute archives about 10TB of image data each year, 60% of which is patient data and 40% is research data. In the coming years, the center is expected to start archiving clinical pathology images off slides, which could add 25–35TB of capacity to the archives.

Roswell Park acquired HP MAS two-and-a-half years ago to address the HIPAA regulations associated with patient records, provide consistent historical view of patient's diagnosis and treatment, and perform trend analysis on research data over time. The decision to purchase an archive was made after the acquisition of a PACs system, though at the time of the PACs acquisition the only archiving option was to a Windows network share or to tape. After a short period of time, the institute realized that using these archiving techniques didn't guarantee data consistency or persistence nor was it HIPAA compliant.

Thomas Vaughan, director of IT Infrastructure at Roswell Park, conducted some independent research into archiving systems and at the time came across few solutions that fulfilled all his requirements. He did learn about HP MAS, and once HP MAS was approved by the PACs vendor, he decided to acquire it for the institute. Vaughan especially liked that HP MAS was a fully integrated appliance, not an independent collection of components that his organization would have to integrate and support.

Results

Since installation, there have been no issues, no down time, and no data loss. Only about 5% of administrative time is consumed annually to maintain the system. The cost of medical image archiving represents 3% of the overall hardware budget. Vaughan did purchase extended warranty; all hardware add-ons have been seamless with no downtime. Roswell Park has deployed a mirrored set of HP MAS where the secondary site is about four blocks from the primary one. The mirroring of data provides an added level of availability and operational continuity.

The center currently doesn't perform backups of the HP MAS but is evaluating various options such as VTL and LTO4 tape with encryption. The sensitive nature of the data requires that if it is to travel outside of the center, it must be secure. Using encryption on LTO4 tapes would allow the backup of MAS to be sent offsite to a provider. HP MAS has built in software functionality that allows a backup to tape and restore.

Roswell Park Cancer Institute is confident in the availability, integrity, and persistence of its medical images over time. The HP MAS has delivered this confidence without significant impact to the organization's budget or operational resources.

ESSENTIAL GUIDANCE

Numerous organizations are struggling to ensure medical image consistency and persistence over time as more and more studies are stored in digital format. The requirements are still evolving, but so is the technology. This is the time to educate the market on both the challenges of storing content indefinitely as well as how current innovations can help begin to address the problem.

The following suggestions are set to increase awareness of the available solutions and how these solutions can cost-effectively help organizations retain medical image data for a long period of time:

- ☒ Leverage healthcare- and life sciences-focused resellers, VARs, and consulting organizations to deliver educational materials on the subject to the appropriate constituents.
- ☒ Develop and distribute marketing materials that explain the problem, how the technology addresses the problem, and what is the cost-to-benefit trade-offs. Money is tight and managers seek to understand how the implementation of a new solution will help them cut their operating or capital costs in a predefined period of time.
- ☒ Focus on support and maintenance services over time. These organizations are not necessarily looking to refresh hardware or software every three years or so. They are looking to make a long-term investment and the support and maintenance plans should reflect this.

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Related Research

- ☒ *Worldwide and U.S. Disk Storage 2008–2013 Forecast by Vertical Market and Company Size* (IDC #219171, July 2009)
- ☒ *Worldwide Healthcare IT Spending Guide, 2007–2012: 3Q08 Forecast* (IDC #HI217053, March 2009)
- ☒ *BridgeHead Software Simplifies Enterprise Data Management for Healthcare* (IDC #214285, September 2008)

☒ *US Payers Healthcare IT Spending: What Technologies Are They Investing in Next?* (IDC #HI206273, April 2007)

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