SOLUTION OVERVIEW

# Dell EMC PowerScale for Medical Imaging

PowerScale delivers instant access to medical images to support physicians to diagnose and enhance patient care

## ESSENTIALS

- Leverage one unified storage system with dedicated storage pools for medical imaging.
- Reduce capital and operational expense with consolidated storage for medical imaging.
- Pave the way for the future of medical imaging with compliant, independent storage with Dell EMC PowerScale scale-out NAS.
- Unlock the potential within your unstructured data using a solution that provides a single file system, single volume namespace that scales to PBs of capacity.
- Support a wide range of data types and diverse workloads with built-in multi-protocol capabilities including NFS, SMB, HDFS, S3, HTTP, and FTP protocols. Store data anywhere –at the edge, in the data center, or in the cloud.
- Unlock the power of data with in-place analytics that seamlessly integrate with leading vendors like Pivotal, Cloudera, Hortonworks and Splunk to drive workloads in Artificial Intelligence, Machine Learning or Deep Learning.

## Introduction

Medical imaging is growing rapidly with the introduction of digital pathology and encounter-based imaging and the continued growth in radiology, cardiology, and mammography images. Most hospitals and healthcare providers use digital image management systems to store and manage this data during patient treatment. Typically, providers deploy multiple departmental solutions, siloing data, and making management difficult and inefficient. Healthcare organizations can reduce costs and improve operational efficiency by consolidating medical images from each department into a single, unified independent storage solution. The key features of Dell EMC PowerScale scale-out network-attached storage (NAS) make it an ideal storage solution that can be shared by the individual departmental PACS (Picture Archiving and Communication System) or Vendor Neutral Archive (VNA) without sacrificing performance.

## PowerScale, the new standard for unstructured data storage

The Dell EMC PowerScale OneFS operating system combines the three layers of traditional storage architectures—the file system, volume manager, and RAID—into one unified software layer, creating a single intelligent distributed file system that runs on a PowerScale storage cluster. OneFS intelligently stripes data and metadata across all nodes in a cluster to create a single shared pool of storage—a vast improvement over the traditional method of striping data across a subset of the total discs (RAID groups) within a single storage device or volume, this removes the risk of creating RAID hot spots.

OneFS provides the user with the ease and simplicity of managing a single NAS system with scalability into the PBs while maintaining performance, flexibility, and easy management. With the OneFS single pool of storage, healthcare organizations can eliminate the operation of multiple volumes or shares and manage their storage without the risks of downtime and inflexible volume-size limits.

## Medical solutions can use separate and secure storage pools

For healthcare organizations managing disparate healthcare systems, the PowerScale solution provides the capability to create and assign multiple storage pools and network connections within a single storage solution. A storage pool is a group of similar nodes defined by the user, based on functionality or workflow, and governed by modifiable default policies. These same nodes provide two additional network connections per node, providing flexibility to manage client connections to eliminate bandwidth congestion.

Because each medical solution can be assigned its own storage pool, the system is ideal for hospitals and healthcare providers. Each pool can be dedicated to different node storage hardware, such as SSD, SAS, and SATA, or dedicated within each storage type. Storage pool policies can be defined by any standard file metadata, and data can be migrated from pool to pool for optimal flexibility and cost savings. In addition, PowerScale supports Data Encryption at Rest (DARE) with self-encrypting drives (SEDs) and SMB 3 encryption in-flight to help customers meet their security requirements.

Vendor neutral archive (VNA) provide enterprise-class data management systems to consolidate medical images and other data from multiple imaging departments into a single data management system and its associated consolidated storage solution.

The consolidated VNA replaces the individual archives associated with departmental PACS. Compared to the practice of managing data in separate departmental PACS and information systems, VNAs DICOM and non-DICOM data in a single consolidated data repository reducing expenses and increases storage management efficiency.

PowerScale storage solutions support VNA functionality with features such as data duplication, automated tier-to-tier media migrations, security, metadata management, and encrypted replication, all within a system that is fully scalable and highly efficient.

## Manage healthcare—not storage with PowerScale

Dell EMC PowerScale can streamline your storage infrastructure by consolidating all your medical data thus eliminating silos of storage and improving operational efficiency. PowerScale is simple to manage, highly scalable, predictable, efficient, available, enterprise-ready storage, with advanced features that offer a wide range of connectivity options for all environments. One admin can now manage petabytes of data, which lowers costs and allows staff to focus on managing their data—not their storage. PowerScale enables organizations to store any unstructured data anywhere –at the edge, the data center, or the cloud. With multi-protocol data access, healthcare customers can run a variety of applications and workloads to flexibly meet the business needs. With PowerScale, customers can easily find and analyze data wherever it lives. PowerScale solutions enable customers to unlock the potential within the data and turn data into insights.

## Take the next step

Contact your Dell EMC sales representative or authorized reseller to learn more about how Dell EMC solutions for your unstructured data can benefit your organization.

Visit our website at https://www.delltechnologies.com/storageforhealthcare


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