

Unlock the Value of your Pathology Data with Dell PowerScale



Digital Pathology

- The need for highly performant and scalable pathology solutions is becoming more critical due to longer average life spans and increasing cancer rates.
- There is a global shortage of pathologists to provide diagnoses and an increase in diagnostic studies.
- Digital pathology offers pathologists and clinicians tools to improve productivity and enhance patient care.

Why PowerScale?

- PowerScale is a highly-scalable platform, that offers security, reliability, and performance.
- PowerScale supports a wide range of clinical and research use cases with its available all-flash, hybrid, and archive nodes.
- PowerScale allows for multicloud connectivity to easily share pathology and medical data anywhere in the world.

Artificial Intelligence (AI) & Digital Pathology

- The digitization of pathology slides enables the use of AI and machine learning tools that may help improve diagnostic confidence.
- Data-intensive analytics require high performance infrastructure.
- Advance precision medicine initiatives by unlocking the full potential of clinical data.

THE CHALLENGES IN PATHOLOGY

As the global population continues to age and an increased prevalence of cancer and other diagnostic-intensive diseases continues to rise, the need for effective, accurate, and scalable pathology solutions has become more critical. However, there is a global shortage of pathologists and laboratory services to provide the necessary diagnoses. By pairing digital pathology, AI, and other cutting-edge technologies, healthcare and life sciences organizations can help bridge this gap. With digital pathology, pathologists and other clinicians can digitalize tissue samples to easily view, analyze, manage, and share these images for faster diagnoses.

With the accelerating growth in diagnostic information, health IT departments are being tasked with providing increasingly sophisticated infrastructure to digitize and store tissue sample slides. Turning the slides into digital files enables pathologists, researchers, and healthcare systems to ingest and analyze data in real time; requiring a robust technology infrastructure solution — including flexible scale out storage options.

WHY DELL POWERSCALE?

With whole slide images (WSI) averaging 3-5GB per slide or up to 20GB per case, healthcare providers need scalable storage that can grow with their needs and high performance computing that can keep up with analysis workloads. As with any technology managing patient data, security and data protection are a must. This is why Dell solutions offers performance for your digital pathology needs with high- throughput storage for real-time indexing, and secure, protected access to the digital slide repository.

PowerScale enables you to drive digital pathology initiatives forward with confidence by delivering reliable, performant, and cost-effective storage at nearly any scale. PowerScale can easily grow with your needs - in fact, storage nodes can be added to an existing cluster in about 60 seconds with zero downtime.

PowerScale allows you to consolidate all your medical imaging archives onto a single storage cluster, supporting PACS, Vendor Neutral Archives, and of course, digital pathology systems.

With Dell PowerScale's SmartPools, automated tiering, your most important and/or demanding workloads can leverage all-flash nodes while older or archived images can live on archive nodes. This data movement is done without any manual processes.

With its legendary OneFS operating system, PowerScale is incredibly easy to manage. OneFS intelligently creates a single shared pool of storage, eliminating multiple volumes or silos, allowing administrators to save time and money. OneFS doesn't just make data management easy, it also keeps data safe and secure. With data at rest encryption (D@RE) and self-encrypting drives, medical data remains protected. PowerScale even offers Dell PowerScale SyncIQ® which allows for automated replication to another cluster.

Dell Technologies Cloud Storage Services enables multicloud connectivity while offering multiple consumption models with Dell APEX. This can be in the form of an on-premise or off-premise archive, colocation, or utilization of public cloud storage from hyperscalers such as Amazon AWS, Microsoft Azure, and Google Cloud Platform. By utilizing the cloud, pathology and related medical data can be easily shared anywhere in the world, used for research or education purposes. PowerScale's rules-driven cloud capabilities and archiving abilities allows institutions to retain images in accordance with hospital and government mandates.

Technology Partners

Dell has established long and trusted relationships with some of the best healthcare technology partners in the world. Our partnerships include leaders in the digital pathology field, such as Fujifilm, Huron, Hamamatsu, Inspirata, Leica BioSystems, Phillips, Proscia, Sectra, and others. These partnerships help make digital pathology real for our customers through integration with their WSI scanners, image management and viewing software, and other specialized capabilities.

AI & Digital Pathology

Dell's comprehensive High-Performance Computing (HPC) Solutions, including NVIDIA GPU- and Intel FPGA- accelerated servers, deliver specialized processors and accelerators for data-intensive precision medicine workloads such as AI-enabled image analysis of digital pathology slides. The diagnostic pathology process is long and complicated, and AI can support diagnostic accuracy and help automate many of the manual time-intensive steps, such as sample identification, disease pattern recognition and clinical pathology classification.

Bettering Patient Care

Dell Technologies is helping healthcare organizations bring digital pathology to life. With our unstructured data solutions, HPC offerings, and our technology partners, we can offer end-to-end IT solutions for your digital pathology environment. With this solution in place, pathology labs can increase their productivity by scanning more samples, analyzing more slides, and automating many steps in the diagnostic process. This supports organizational goals of improved patient care

