Information is the lifeline of an interconnected healthcare system, and it is critical to saving lives, preventing medical errors, and making patient care delivery more efficient.

Healthcare organizations are embracing digital technologies and emerging cloud models to leverage systems—including electronic health records (EHR), mobile health apps, connected devices, and IoT sensors. As healthcare organizations embrace these technologies, models, and systems, they are amassing vast quantities of data. The volume of health data being managed by healthcare providers has risen by 878% since 2016—a rate faster than manufacturing, financial services, or media—requiring artificial intelligence and machine learning to augment clinical decision-making. Generating clinical value ultimately comes from joining existing and new data together in novel ways to discover actionable insights, like those found in advanced medical imaging and genomics, all while protecting that data wherever it resides.

Delivering vital medical, clinical, and patient data at the fingertips of healthcare professionals at the point of care can be a daunting and difficult task, and it requires a modern IT infrastructure with the following:

1. **Clinical application optimization**: Healthcare providers need to modernize their service delivery capabilities, operations, and infrastructure to take advantage of multi-cloud environments, including private, public, and hybrid clouds. Adopting a future-ready, multi-cloud approach helps IT provision, monitor, manage, secure, and move business and clinical workloads back and forth across clouds and on-premises infrastructure as needed while focusing on innovation.

2. **Uninterrupted data access**: Downtime in healthcare is never an option as 24/7 accessibility to mission-critical applications is vital for in-patient care diagnosis and treatment. Maintaining constant access to workloads and patient data at the point of care (POC) and beyond requires a modernized infrastructure capable of supporting automated data storage, backup, recovery, and archiving.

3. **Integrated data management**: Very rarely is there a one-size-fits-all storage option to accommodate all workloads. That’s why healthcare organizations need the flexibility to turn traditional on-premises infrastructure into a private cloud and to operate across multi-cloud environments—to enable data aggregation and seamless data access across the healthcare system.

4. **End-to-end security**: Keeping healthcare data protected, especially sensitive patient information from interconnected IoT sensors and medical devices, is becoming more complex as attacks targeting patient information increase in frequency and complexity. Regulations like HIPAA and GDPR make it even more critical to protect patient data—healthcare organizations need to leverage solutions to ensure an integrated risk strategy.

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2. [https://bwnews.pr/2X8oFUC](https://bwnews.pr/2X8oFUC)
3. [https://on.mktw.net/2FDUnTP](https://on.mktw.net/2FDUnTP)
A scalable and complete approach to managing healthcare application workloads

Dell Technologies provides comprehensive storage and data protection solutions to accommodate a range of clinical, research, administrative, and financial workloads—from mission-critical clinical applications to image-based apps to user-specific software. Healthcare organizations are able to manage data from capture to clinical applications to image-based apps to user-specific software.

- **Mission-critical workloads**: Simplify your environment by consolidating multiple workloads and power your most critical workloads—including EHR platforms such as Epic, Cerner, and MEDITECH, supply chain management tools, and patient management systems—with Dell EMC high-end storage solutions. Dell EMC PowerMax NVMe Data Storage, the world’s fastest data storage array⁶, enables you to run data-intensive workloads and real-time machine learning with up to 10 million IOPS⁵. Dramatically improve IT operational efficiency, transform application workflows with copy data management, and reduce storage capacity requirements with inline data deduplication, all while delivering consistent high performance with Dell EMC XtremIO All-Flash Arrays.

- **Advanced and virtual workloads**: For virtualized applications and remote solutions such as smaller scale PACS and PACS cache, rely on the Dell EMC Unity XT All-Flash Unified Storage portfolio (simple, unified file, and block). Dell EMC SC Series All-Flash and Hybrid Storage solutions (efficient, best $/GB) are ideal whether you need simple, unified file and block storage or more efficient hybrid cloud storage. Dell EMC VxRail for VDI enables you to power desktops at the edge—with fast, secure access to all applications and data from anywhere—so that they can reduce the time needed to provide patient care and increase the quality of both the patient and the clinician experience.

- **Large, unstructured data workloads**: For large, unstructured healthcare data applications such as digital pathology, PACS, medical imaging, video/image/voice data, physician notes, and research applications as well as backend aggregation of IoT data, Dell EMC Isilon Storage, the industry’s number one family of scale-out network-attached storage systems,⁸ and Dell EMC ECS Object Storage provide all-flash, hybrid, and archive NAS platforms with efficiency and mass scalability to manage your current data and your workloads of the future.

  - **Comprehensive data protection**: Protect patient data across your entire healthcare system and beyond while helping to meet strict HIPAA, GDPR, and other data governance requirements with data loss prevention, cyber-incident recovery, backup, archive, and disaster recovery. Dell EMC Integrated Data Protection Appliance (IDPA) is a converged solution that offers backup, replication, recovery, deduplication, instant access, and restore—all in a single appliance. For EHR databases, rely on Dell EMC PowerProtect technology to accelerate backup and recovery, help meet application SLAs, and minimize backup impact on applications, all while reducing cost and complexity. Enable a new level of cyber-resilience to your data, leveraging a last line of data protection defense against cyber-incidents with Dell EMC Cyber Recovery Solution—easy-to-deploy management software designed to automate workflows end to end to isolate and protect critical data, help identify suspicious activity, and perform recovery when required.

Next-gen storage, data protection, and multi-cloud solutions to advance healthcare in today’s digital world

Dell Technologies’ cloud platforms provide healthcare organizations with the flexibility to tailor their infrastructures to specific workload needs. With jointly engineered integration between VMware Cloud Foundation (VCF) and Dell EMC VxRail along with Data Domain and Data Protection Suite (DPS), IT teams can reduce risk and increase IT efficiency, while simplifying, streamlining, and automating their operations into a single unified experience.

Increase the speed and efficiency of your clinical applications while cutting footprint, power, and management costs. Our automated, integrated approach to infrastructure inclusive of storage, backup, recovery, data protection, and archiving capabilities means that you can secure data, on-premises or in the cloud and better meet regulatory requirements while enabling data to be translated into meaningful insights faster to improve patient outcomes, further innovation, and position your organization for what’s to come.

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6. Based on Dell EMC internal analysis of published bandwidth of the PowerMax 8000 versus competitive mainstream arrays, March 2018.
7. Based on Dell EMC internal analysis of Max I/O/s Per Second (Within a single array) for the PowerMax 8000, March 2018
8. IDC WW Quarterly Enterprise Storage Systems Tracker, 2018 Q3, December 12, 2018 – Vendor Revenue