

Improve Performance and Scalability for Clinical Imaging Applications

NUTANIX CLINICAL IMAGING PARTNERS



THE CHALLENGE

The healthcare diagnostic imaging industry is undergoing a major digital transformation. The number of image-intensive studies is growing year by year and new advanced devices mean that modality storage requirements are making data management a challenge.

Picture Archiving and Communication System (PACS) and Vendor Neutral Archive (VNA) data is leveraged across the continuum of patient care by radiologists and clinicians who need quick, reliable access to patient image data. Easy access to this critical data requires IT infrastructure that is fast and flexible.

Increasing regulatory scrutiny demands a modern approach to patient data governance and security. Administrators need insight into the patient data hosted in their PACS system. Additionally, they must be able to protect patient data from misuse and unauthorized access.

Complex legacy infrastructure fails to meet the demanding requirements of this quickly evolving industry. Traditional silos of infrastructure make it difficult to secure and protect data resulting in higher administration costs and increased risk. Scaling legacy systems to meet these requirements often means disruptive changes such as software updates which can disrupt PACS availability. Without a managed approach to infrastructure maintenance and insight into your data, security and compliance requirements are difficult to meet.

THE SOLUTION

Nutanix provides a cloud-like platform you can use to host your mission-critical PACS applications including server-side rendering, database services, analytics, tier one image storage and image archive. Nutanix delivers a better way to manage your imaging workflow with scalable, simple to use, highly resilient, and intelligent compute, storage and networking infrastructure that replaces complex legacy systems. Our goal is to help you focus on the clinician experience and improve patient outcomes rather than managing IT complexity. Our customers love Nutanix because we reduce complexity, while providing a highly flexible, scalable, intelligent and resilient infrastructure. Nutanix complies with government mandates for disaster recovery, data security, and data retention.

PACS ON NUTANIX BENEFITS

Single-click deployment simplicity

Deploy application and storage resources with a single click in just minutes.

Scale capacity and performance with ease

Scale compute and storage performance and capacity to meet the needs of PACS environment.

Simplify management

Single-click operations for simplicity at scale.

Protect workloads

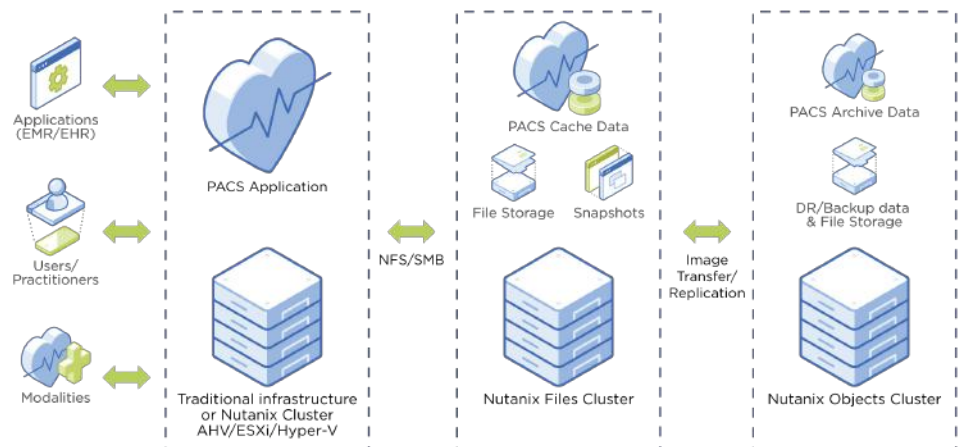
Self-healing and self-tuning infrastructure improves uptime while reducing maintenance cycles.

Resiliency and secure access

Snaps and replication in a single datacenter or across multiple datacenters with encryption at-rest and in-flight for greater resiliency and protection.

Comply with regulations

HIPAA, PIPEDA, GDPR, and national healthcare system requirement compliance.



Simplify image storage

Nutanix brings simplicity to medical image storage. There is no longer the need to deploy infrastructure for your PACS or VNA applications, another for tier one image storage and yet another for image archive. Nutanix one-click, one-platform simplicity speeds initial setup and deployment of any or all of these services. Nutanix Prism is a single interface to manage compute, network and storage infrastructure which eliminates tool fatigue and gives control directly to application owners. This unified experience means rapid one-click deployment of services including NAS and Object storage. It takes ~15 minutes from first click to usable SMB or NFS storage with Nutanix Files or object storage using Nutanix Objects. Nutanix Files intelligent monitoring and automatic remediation engine dramatically reduces time spent on maintenance activities while improving system-wide performance for your active data. Nutanix Objects long term retention capabilities keep patient data safe.

Easily adapt to current and future demands

As PACS demands change, the infrastructure must be able to adjust quickly to meet evolving requirements. Nutanix provides a pool of storage, network and compute resources that host your PACS application and image data. Performance and capacity scale linearly by adding nodes non-disruptively scaling-up CPU, memory and storage without disruption.

With integrated self-healing and self-tuning, Nutanix Files ensures maximum availability of active PACS data. Integrated file data analytics helps administrators monitor and audit data usage for anomalies and threats. Nutanix Objects S3 compatible storage with integrated immutability (WORM) ensures that archived PACS data is kept secure to meet data control and audit standards. Nutanix Files and Nutanix Objects can be deployed in just minutes using Nutanix Prism thereby simplifying the PACS administrator's management experience.

Secure and reliable access to PACS data

Nutanix can secure PACS data from misuse and protect PACS applications from planned and unplanned outages for reliable operations. Native encryption protects data at-rest and in-flight. Role-based access controls give administrators the power to determine who has access to patient data and who does not. Integrated data analytics provides audit trails and visibility into all data access activities. With this level of visibility, you can see who has accessed specific files or groups of files and who has tried and failed to access files. Anomaly detection lets administrators set rules and alerts to monitor for potentially malicious activity such as frequent access denials or malware activity. Integration with industry leading antivirus solutions protects your PACS data from infection or destruction.

Reliability is in the Nutanix DNA. Individual nodes with redundant components are grouped into highly reliable clusters that can withstand node failures without impacting operations. PACS data on Nutanix infrastructure is intelligently placed and replicated across the cluster so that if one node is lost, the remaining nodes can continue operations with a robust level of data protection. Erasure coding can be employed to ensure data is protected efficiently reducing storage costs.

Nutanix snapshot capability provides space efficient point-in-time copies of PACS data. Snapshots can be used to asynchronously replicate data to other Nutanix clusters on the same or at remote sites for disaster recovery (DR) data protection. Nutanix Files NearSynch leverages snapshots to replicate data on a minute-by-minute basis providing a recovery point objective (RPO) of as little as one minute.

Image data backup is a critical part of a comprehensive DR strategy. A large volume of PACS data can be a challenge for backup operations as millions of files and directories have to be scanned for changed data during the backup process. Nutanix Files changed file tracking (CFT) eliminates the need to scan millions of files by providing third-party backup software a list of files that were modified since the last backup. This feature dramatically reduces the time to backup PACS data on Nutanix Files.

GET STARTED WITH NUTANIX

Nutanix Enterprise Cloud is the smart infrastructure choice for your PACS deployment. To learn how Nutanix's scalable solutions for PACS can help you store and manage big medical/diagnostic imaging data, contact Nutanix at healthcare@nutanix.com, follow us on Twitter [@NutanixHealth](https://twitter.com/NutanixHealth), or send us a request at www.nutanix.com/demo to set up your own customized briefing. Visit nutanix.com/healthcare for more information.



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