

CTERA for Healthcare

CTERA's Global File System contributes to improved patient outcomes and offers powerful protections against cybersecurity threats.



As a major player in global data generation, modern healthcare is a data-dense sector, accounting for nearly 30% of the world's data. This data is growing at an exponential rate, thus introducing a unique set of challenges. The healthcare industry must navigate:

- **Confidentiality and Privacy:** Healthcare organizations need to adhere to strict confidentiality and privacy requirements due to the sensitive nature of patient data.
- **Regulatory Compliance:** Compliance with privacy regulations like HIPAA is essential, necessitating robust safeguards for electronic Protected Health Information (ePHI).
- **Cyber Threats:** The sector faces an increasing prevalence of cyber threats, particularly ransomware. Healthcare institutions are attractive targets for cybercriminals due to their critical nature.


CTERA's Global File System offers solutions to these challenges:


- **Efficient Data Sharing:** Unlike traditional SAN/NAS systems, CTERA's Global File System enables efficient data sharing across entire healthcare organizations, not just within a single data center.
- **Security and Compliance:** With AI-based ransomware protection, air-gapped snapshots, instant disaster recovery, and WORM (Write-Once-Read-Many), CTERA offers robust protection for crucial medical data.


The capabilities of CTERA's Global File System contribute to improved patient outcomes and offer powerful protections against cybersecurity threats.


CTERA: A Comprehensive Solution for the Healthcare Industry

The CTERA Enterprise File Services Platform offers a wide range of features to address data management, collaboration, and storage requirements of medical and life science facilities. Key features of the CTERA platform include:

 **Streamline Compliance**
CTERA's platform significantly streamlines adherence to HIPAA and HITECH controls for availability, confidentiality, and integrity through its robust file encryption, offsite replication and secure data disposal. Moreover, the platform offers Write Once, Read Many (WORM) capabilities that safeguard patient data from being erased or modified based on a configurable retention policy.

 **Safeguard PHI Against Ransomware**
CTERA employs AI-based ransomware detection and robust instant rollback features. Air-gapped, immutable snapshots, provide dependable protection against natural disasters and cyber threats.

 **Access Files from Any Location**
CTERA provides secure, real-time access to medical data, regardless of location. It effectively eliminates the risks associated with sending files over email or FTP and supports the efficient transfer of large volumes of data across facilities or to external partners. A global file system facilitates timely medical decision-making, ultimately contributing to better patient outcomes.

 **Scale as Data Grows**
By leveraging object storage, CTERA reduces storage costs by up to 80% and provides immediate scalability as data requirements increase, minimizing the need for local IT personnel.

CASE STUDIES

Veteran Affairs



The U.S. Department of Veterans Affairs (VA), employing over four hundred thousand employees at 1,293 facilities to provide health services to more than 9 million veterans, faced significant challenges in managing its vast data infrastructure. The VA had to build a private cloud solution capable of storing and handling hundreds of petabytes, particularly considering the size of medical imaging files. Fast and reliable local data access is crucial to avoid potential slowdowns in cloud-based processing, while also adhering to the HIPAA privacy and security regulations.

To fulfill these requirements, the VA has chosen to deploy CTERA's Enterprise File Services Platform under the Infrastructure-as-a-Managed Service (IaaS) contract, facilitated by Peraton.

“By enabling the VA to embark on an edge-to-cloud file services strategy without compromising on highly stringent data security requirements, CTERA represents the ideal modern file storage component of the IaaS contract.”

- **Eric Watson**, Senior Program Manager, Peraton

Texas Department of State Health Services



The Texas Department of State Health Services (DSHS) faced significant challenges in managing legacy Windows file servers across over 100 locations while adhering to stringent data security regulations like HIPAA. DSHS aimed to transition towards an IT-as-a-Service model and required a solution offering on-site file server capabilities, automated off-site backup, and centralized management scalability. The solution also needed to ensure full compliance with federal and state data privacy regulations, including the complete isolation of sensitive data.

DSHS has selected CTERA's Cloud Storage Services Platform, incorporating edge filers installed at medical centers and centralized, cloud-based management. This adoption significantly transformed DSHS's IT operations, enabling a cost-effective, centrally managed, and secure IT delivery model, thereby replacing traditional branch office and IT user data services.

“CTERA is our major enabler for data storage, data protection and collaboration agenda. Using CTERA's Platform allows DSHS to access data from AWS Virtual Private Cloud anytime, anywhere, from any device, while ensuring both security and privacy - all with a total cost savings of 75%.”

- **Mike Cardwell**, Director of Information Technology,
Texas Department of State Health Services

System Components



Global File System

CTERA's Global File System serves as a comprehensive data lake for unstructured medical data. It offers a single pane of glass management and visibility across distributed sites and cloud providers.



CTERA Edge Filers

CTERA Edge Filers replace outdated file servers and NAS devices with a centrally governed, cache-enabled cloud gateway. This enables more effective management of unstructured data growth while maintaining full compatibility with existing SMB and NFS protocol clients.



CTERA Drive

CTERA's applications for Windows, Mac, iOS, and Android offer secure and expedited file synchronization and sharing for users' devices, regardless of their location, enabling healthcare professionals to securely access and share protected medical files.



CTERA PORTAL

CTERA Portal enables centralized management of petabyte-scale global file services across numerous distributed sites and users. The portal supports deployment on public, private, or hybrid cloud infrastructures, enhancing cost efficiency while facilitating regulatory compliance. Its secure multi-tenant environment allows data segregation at the department level, safeguarding patient confidentiality.

CTERA's Comprehensive Solution for Healthcare

Infinite File Storage for Healthcare Facilities

CTERA's Global File System provides limitless storage for healthcare facilities by utilizing CTERA Edge Filers. Deployed as virtual machines, these caching devices replace traditional file servers, enabling IT teams to efficiently manage the growth of unstructured data and promote multi-site collaboration.

CTERA Edge Filers are particularly beneficial in managing extensive files prevalent in the healthcare industry, such as medical imaging data, radiology scans, and scanned patient records. With CTERA Edge Filers, healthcare institutions can leverage a virtually unlimited storage capacity and seamless collaboration across all their facilities, leading to enhanced efficiency, productivity, and improved patient care outcomes.

The CTERA Global File System serves as an active archive, supported by cost-effective cloud object storage, ensuring continuous replication of file changes to the institution's chosen cloud. This enables global file access and assures business continuity in the event of a data loss incident. The solution can be deployed entirely within the institution's firewall and employs end-to-end military-grade encryption to guarantee complete data privacy.

Enhanced Data Protection and Recovery

CTERA's Enterprise File Services Platform is engineered to provide superior data protection and recovery for healthcare institutions. By automating built-in snapshots, CTERA enables files, such as patient records or medical imaging data, to be instantly restored to virtually any point in time. This eliminates the need for traditional backup software, media servers, tapes, and archival storage, along with their associated costs.

With CTERA, Recovery Point Objectives (RPO) are reduced to minutes, and Recovery Time Objectives (RTO) are decreased to seconds. This ensures minimal interruption in critical healthcare services and data accessibility. The platform's resilience and ability to swiftly rehydrate CTERA Edge Filers ensure that IT can recover from equipment failures and natural disasters within minutes, further safeguarding medical data integrity and availability.

Unlocking Medical Research with CTERA Data Services

CTERA's extensive Python SDK, REST API, and Amazon S3-compatible interfaces allow seamless integration with popular data science tools like Jupyter Notebook, Microsoft Azure Notebooks, and RStudio, enabling researchers to efficiently process and analyze unstructured data from various sources. By using CTERA's fine-grained multi-tenancy capabilities to create isolated, virtual data rooms, medical organizations can further empower researchers to access protected patient data while complying with privacy regulations.

