



Comparing Panzura to CTERA

Panzura and CTERA both offer hybrid cloud storage and file services platforms that enable the modernization of legacy storage infrastructure. This allows organizations to consolidate file data, reduce storage volumes, move file data to the cloud, control cloud costs, and empower multi-site collaborative workflows with fast performance from edge to cloud. They also imbue data with ransomware resilience via immutable data, snapshots, and early detection to minimize disruption.

However, deeper exploration reveals differences in these two hybrid cloud file data approaches that profoundly affect the way they operate in the real world. These differences are especially apparent at scale and have profound implications for larger mid-market organizations as well as enterprises.

Ultimately, the solution that's right for your organization depends on your objectives. However, when it comes to controlling cloud storage costs, mitigating the potential for data loss across sites, and the impact of global file performance on productivity, Panzura's hybrid cloud architecture, unique data movement capabilities across distance, security, and approach to complete data management are proven to consistently enable superior outcomes and greater return on investment.

Feature	Panzura	CTERA	What it Means for You
Cloud Data Management			
Global Centralized Management			Panzura provides a centralized multi-cloud management view. CTERA uses a hub and spoke model for centralized cloud-based management. Multiple required tiers increase the data hops and data risk.
Global Data Services			Panzura Data Services is a complete cloud data monitoring and management platform. Holistic data governance provides actionable insights into every aspect of how data is being used, and includes ransomware monitoring and detection, and smart provisioning. Deep search and environmental analytics drive admin productivity and simplify data management. CTERA offers data analytics, health and ransomware monitoring, alerts, analysis, and reports.
Cloud Data Protection and Security			
Active Global Disaster Recovery Architecture			Each Panzura node is a full active disaster recovery site, offering business continuity with sub-60 second RPO. By contrast, if one CTERA appliance goes down, active data not yet synced to the cloud is lost—it cannot be accessed or recovered from another location.
Global and Local High Availability			Panzura provides dedicated global and local high availability options on virtual machines. Cloud mirroring will automatically failover to a redundant cloud storage provider in the case of a failure of the primary provider, without disrupting any front-end file services. CTERA does not provide native local or global HA, or cloud mirroring.
Global Data Resiliency			Panzura data writes and snapshots are immutable, preventing data corruption and delivering data resiliency with global sub-60 second RPO. Due to their data consistency constraints, CTERA has immutable snapshots to recover from file damage but the RPO will be 5 minutes multiplied by the number of nodes that were serially synced.
Granular, Immutable Global Snapshots			Panzura's unlimited global read-only snapshots can be configured hourly, daily, weekly, monthly and yearly. Each has an independent retention policy, so files, folders or the whole file system can quickly be restored to a precise point in time. CTERA provides unlimited read-only snapshots but these are taken every 5 minutes and they are taken serially. This means data can be lost.

Feature	Panzura	CTERA	What it Means for You
Ransomware Detection and Interdiction	✓	✓	Panzura detects ransomware in near real-time and interdicts by disconnecting users associated with suspected ransomware, then alerts admins of files and users affected. CTERA offers a similar capability with one important difference. Panzura can recover just the infected files, while CTERA recovers the entire volume. This means that any file changes to non-infected files will be overwritten at restore, complicating recovery and impacting productivity.
Dark Site Architecture	✓	✓	Panzura supports dark site architecture—no inbound or outbound connections to/from the domain. CTERA provides similar support for dark sites.
Security and Encryption	✓	✓	Panzura's military grade AES-256-CBC encryption for data at rest and TLS v1.2 for data in flight prevents third-party and malicious actors from accessing your data. The solution is FIPS 140-3 certified. Secure Erase makes it possible to delete a file or folder so that the contents cannot be restored, even using the most advanced technology available. CTERA offers a similar level of security.
Cloud Data Performance			
Global Performance Optimizations	✓	—	Panzura performance optimizations include separating the metadata from data, compression and deduplication, multi-level snapshots, parallel streaming to the cloud, (no need for additional WAN accelerators) and intelligent tiered read caching and prefetching (automatic data movement based on user behavior analytics). CTERA provides compression and deduplication but lacks the full metadata catalog at the edge that enables intelligent cache/prefetching for fast file access.
Accelerated Parallel Streaming	✓	✗	Panzura performs block level translation to object that accelerates parallel streams to the cloud, instead of a serial SMB/NFS stream. CTERA lacks the parallel streaming from each node to the cloud that would allow for real-time data updates.
Real-time Global File Consistency	✓	✗	With Panzura, every location simultaneously syncs new and changed data to the object store every 60 seconds, after deduplication. Each node has a full metadata catalog and facilitates global file locking with real-time peer-to-peer communication. This creates immediate global file consistency for all nodes, significantly reducing data risk. CTERA only offers single-site strict data consistency and file locking. Because CTERA syncs data serially every 5 minutes, eventual data consistency is offered across sites, with no file locking.
Global Scalability	✓	✓	Panzura scales globally without impacting immediate global data consistency for existing or future users at any site. Because CTERA syncs data serially, the number of sites affects the time it takes to sync data to the authoritative data source to achieve eventual consistency across sites.

Feature	Panzura	CTERA	What it Means for You
Cloud Data Intelligence			
Global Search and Audit	✓	✗	Panzura Data Services finds any file with a powerful and lightning-fast search portal that reaches across your entire cloud network and integrates seamlessly with CloudFS, as well as other file sources such as NetApp or Isilon. CTERA's Insight offers real-time monitoring and analytics. Alerts can be created but it lacks a powerful search and audit feature.
Global Intelligent Tiering and Prefetching	✓	—	Panzura's SmartCache intelligently tracks and tiers hot, warm, and cold file block structures for faster file access. Auto pre-population automatically prefetches and pre-caches files based on ownership changes between nodes in a CloudFS to provide the fastest global collaboration. CTERA uses stub files to manage cold data, and provides manually configured Quality of Service policies. CTERA lacks the full metadata catalog of the global infrastructure at the edge that enables intelligent cache/prefetching for fast file access.
Global Real-time Collaboration	✓	—	Panzura's global file and byte-range locking automatically locks and releases in real-time, allowing geographically distributed users to work collaboratively, without overwriting each other or creating multiple file versions. CTERA supports manual collaboration configuration of file shares and policies centrally in the cloud where all the file locks are kept. This creates additional administrative burdens; you need to identify the files which require collaboration and keep track of them. It also is a single point of failure.
Cloud-Native Microservices Enablement	✓	—	Panzura Data Services turns unintelligible data strings into an easy-to-follow audit history for every single file, inherently enabling cloud-native artificial intelligence, and machine learning services to extract unstructured data for analytics and reports. CTERA doesn't inherently provide this functionality.
Multi-Cloud Functionality			
Multi-Cloud Interoperability and Mirroring	✓	—	Panzura is interoperable with all leading object store providers, both on-premises and in the cloud. As organizations increasingly employ multiple clouds for storage, cloud mirroring provides redundancy for storage and file operations, maintaining an identical, immediately consistent dataset in two different object stores. CTERA is interoperable with many cloud object storage providers but lacks the functionality to replicate the complete file system to another object store or cloud region.

Feature	Panzura	CTERA	What it Means for You
Cloud Data Accessibility and Efficiency			
In-Line Compression	✓	✓	Panzura CloudFS uses a lossless compression algorithm to break each file into 128kb blocks – the most granular possible level. Each block is compressed in-line, in memory, as it's created. CTERA offers source-based in-line compression.
Global Deduplication	✓	—	Panzura's interconnected global file system stops block-level duplication before data gets synced to the object store. Since only unique blocks across all sites are preserved by the file system, data is deduplicated at the 128kb block level before it is ever stored. CTERA's source-based deduplication is deduplication at the client device and compares new blocks with stored blocks, removing redundant blocks before transmitting data to the target. Deduplication is manually configured per folder groups.
Global Namespace	✓	—	Panzura CloudFS is a true global filesystem, using a global namespace without the need to configure volumes, or restructure data to separate it into volumes. By contrast, CTERA uses legacy-based volume management. Volumes are either local or shared, and independent global namespaces can be created by sharing volumes.
Edge Capabilities			
Remote Access and File Sharing	✓	✓	Panzura empowers highly secure, performant remote access to CloudFS-managed files from any device as well as tightly controlled external file sharing. This keeps files protected by immutability, secured by immutable snapshots, and visible with a complete audit trail. Remote users have access via browser, desktop, and mobile apps. CTERA Mobile similarly extends file access to remote, mobile and external users.

This comparison has been compiled using the most up-to-date administration guide and architectural documentation available. Every effort has been made to ensure its accuracy, and it was last updated at the date shown below left.

This document is intended to provide a practical guide to key differences in approach, that affect the way that both solutions work in the real world, from making data available, to making it secure and easy to manage.

We hope you'll find it useful as you compare hybrid cloud storage and file services solutions, and look forward to discussing it further with you.