

# Comparing Panzura to CTERA













At Panzura, we're a solution for enterprise-scale organizations frustrated by lack of security, visibility, and control into data. We de-risk your data challenges by helping you know where your data is, how it's growing, who is accessing it, how secure it is and how it's being used.







In this comparison, we take a look at complete cloud data management capabilities, how they work with each solution, and how the differences affect the way you can expect to operate.



Feature	Panzura	CTERA	What it Means for You
<b>Cloud Data Management</b>			
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 smart provisioning. Deep search and environmental analytics drive admin productivity and simplify data management. CTERA offers data analytics, health monitoring, alerts, analysis, reports.
<b>Cloud Data Protection and Security</b>			
Active Global Disaster Recovery Architecture			Each Panzura node is a full active disaster recovery site, offering business continuity with sub-minute 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 Ransomware Resiliency			Panzura data writes are immutable, preventing data corruption and delivering ransomware resiliency with global sub-min RPO. Due to their data consistency constraints, CTERA has immutable snapshots to recover from ransomware but the RPO will be 5 minutes multiplied by the number of nodes that were serially synced.
Global Granular Read-only 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 given point in time. CTERA does provide unlimited read-only snapshots every 5 minutes, serially.

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Air-Gapped Solution Support			Panzura supports dark site architecture - no inbound or outbound connections to/from the domain. CTERA provides similar support for dark sites.
Military Grade Security			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 140-2 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 similar military grade security.
<b>Cloud Data Performance</b>			
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 Data Consistency			Panzura's simultaneous 60-second data syncs to the cloud object store, and full metadata catalog at each node facilitating global file locking with peer-to-peer real time exchanges of new and changed data, result in immediate global data consistency for all nodes. This significantly reduces data risk. CTERA only offers strict data consistency and file locking at a single site. 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. CTERA claims high scalability, but the more sites added, the longer the sync times, and the more chance there will be a performance hit and a significant increase in RPO. Stub files add more data risk and performance hindrance.

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Hyperconverged Persistent Block Storage			Panzura's Cloud Block Store is an infinitely scalable, high performance persistent volume for containers and read-cache for cloud native deployments. CTERA doesn't inherently offer a similar product, yet.
<b>Cloud Data Intelligence</b>			
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 and near real-time global file collaboration.
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 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.
<b>Multi-Cloud Functionality</b>			
Multi-Cloud Interoperability and Mirroring			Panzura is interoperable with many cloud object store providers, both on-premises and in the cloud. As organizations increasingly employ multiple clouds for storage, cloud mirroring helps by eliminating dependency on any one vendor. CTERA is interoperable with many cloud object storage providers but lacks the functionality to replicate the complete file system to another cloud region.

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<b>Cloud Data Accessibility and Efficiency</b>			
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. CTERA has a legacy based volume management approach and volumes are either local or shared. Independent global namespaces can be created by sharing volumes.

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 trust you’ll find it useful.