

DCIG Solution Profile

Enterprise Cloud-based NAS Consolidation Solutions

by DCIG Analyst, Todd Dorsey



SOLUTION

Panzura CloudFS

COMPANY

Panzura
6469 Almaden Expy Ste 80 #548
San Jose, CA 95120
(408)-457-8504
panzura.com

DISTINGUISHING FEATURES OF PANZURA CLOUDFS

- Ransomware mitigation
- Storage analytics
- Efficient global deduplication and compression
- Global file collaboration

DISTINGUISHING FEATURES OF TOP 5 SOLUTIONS

- Robust support
- Virtually unlimited capacity
- Public cloud support
- Global namespace

SOLUTION FEATURES EVALUATED

- Deployment capabilities
- Data protection
- Product and performance management
- Documentation
- Technical support
- Licensing and pricing

The Expanding Volumes of Unstructured Data

Many enterprises struggle with managing expanding volumes of unstructured data throughout the organization. Storing, protecting, and securing this data creates challenges around cost, complexity, and scalability. Addressing these issues take cycles away from other important IT projects bringing innovation and future profits. A new generation of software-defined storage (SDS) offers solutions to these challenges.

The Difficulties Created by Unstructured Data Growth

Unstructured data growth is filling the enterprise data center and its branch offices. This growth brings many difficulties.

Filled data centers. Data growth is creating demand for more storage capacity in the data center. However, floor space or power constraints may hinder expansion. Higher density storage systems may be available to these organizations, but the budget may not allow for the acquisition.

Terabytes have become petabytes. Many legacy storage systems were designed when 100 TB was a lot of data, but now many organizations need to manage multiple petabytes of data. At petabyte scale, storing, protecting, backing it up, and recovering it all is problematic using legacy solutions. Many IT departments struggle with finding or training staff with the experience to manage these environments. If staff leave, departments may be unable to replace these individuals, placing operations at risk.

Remote office file data. Managing unstructured data at remote offices brings its own issues. Technology at these locations often lags behind the data center, resulting in different technology throughout the business. Branch office locations typically lack IT staff; thus, remote offices must involve others to recover lost files. File data may use up storage, and backup solutions may rob bandwidth during copies. Consider that a one terabyte file directory can use two additional terabytes of storage for backup and offsite recovery. Further, inactive data grows as no one wants to delete files when unknowns exist. For team collaboration of files hosted at remote offices, latency can become unworkable.

Storage proliferation. Over time, a company grows and needs expanding storage. However, the current system has not reached end-of-life. So IT adds to it. Now there are two systems instead of one to manage. Two systems become three, four, five, and ten. This growth may take place because of capacity requirements or

because of protocol requirements. The effect is the same: An organization ends up with a proliferation of data silos without global visibility into the file estate of its multiple, underlying systems.

Total cost of ownership. These difficulties increase the total cost of ownership for unstructured data management. Enterprises must factor in the day-to-day expenses of ongoing maintenance and upkeep. In addition, there are the not-so-obvious costs associated with acquiring new storage infrastructure, including cycles for budgeting, researching, evaluating, procuring, installing, and migrating data among multiple storage systems.

The explosive growth of unstructured data creates costly, difficult-to-manage problems using legacy approaches to file data management.

SDS-based NAS Consolidation—Two Key Approaches

Cloud-based NAS consolidation, based on enterprise-class SDS, offers a solution for providing fast, flexible, usable access to all of an organization's file data for all of its end users.

There are two key approaches to NAS consolidation:

Replace. One approach replaces multiple filers with a single solution designed for multi-petabyte management. In some cases, that single solution uses object storage as the actual backing data store, whether on-premises or in the cloud.

Integrate. The other approach integrates the enterprise's existing filers under the domain of a global file system. This enables visibility and unifies management across the data landscape. In other words, aggregating, enhancing, and overlaying the management and visibility of the file data without necessarily replacing the existing storage system.

Many SDS NAS solutions address both approaches to NAS consolidation. In addition, these products bring benefits through the following capabilities.

SDS-based NAS Consolidation Benefits

Elastic, scalable storage capabilities. Especially for solutions using public cloud providers as the back-end object store, the public cloud represents unlimited storage that can scale on demand. If new capacity is needed, an administrator can quickly turn this up.

Offloading storage infrastructure management. For public cloud storage, much of the burden of storage infrastructure management moves from the customer organization to the cloud provider. Cost management, complexity and capacity planning shifts out of the

enterprise. By offloading these activities to the cloud provider, enterprises reduce IT costs for on-premise, file data management.

Fast, remote office file sharing. Without additional aids, end-users may experience latency issues when accessing and modifying files stored in the cloud. To nullify this, many of these TOP 5 solutions use local edge appliances to cache frequently accessed files, saving changes to the cloud where the master copy is stored. This gives enterprises LAN speed access to active files wherever the office may be located while preserving cloud benefits.

Global file system view. Rather than different data silos where IT administrators have disparate views of file storage, these solutions provide a single view of the entire file storage landscape. A single data repository replaces data silos. This global visibility also unlocks opportunities to derive new value from the data.

Global file management capabilities. Global views, including permissions management, capacity utilization, and analytics, enable new opportunities for ensuring optimal performance and cost of managing an organization's unstructured data. Recovering corrupted or deleted files becomes simple. If a location needs access to a particular file directory, it is as easy as configuring this group's permissions. While the dynamics causing file growth still occur, these solutions give enterprises the tools to discover and manage files globally.

Distinguishing Features of DCIG TOP 5 Enterprise Cloud-based NAS Consolidation Solutions

DCIG evaluated twenty-four SDS solutions for a cloud-based NAS consolidation use-case. Using feature-based analysis and comparisons of defensible data derived from publicly available sources, vendors, and DCIG's own experience, TOP 5 solutions evidence these characteristics.

Robust support. DCIG TOP 5 providers display robust support capabilities. All TOP 5 vendors provide 24x7x365 technical support and one-hour support response times compared to 75% of the other evaluated providers. Many of these vendors offer community support forums and knowledge-bases for self-service support. In short, they evidence a greater breadth of technical support options in comparison with the other solutions.

Virtually unlimited capacity. Another characteristic of TOP 5 NAS consolidation solutions is virtually unlimited capacity. While there are a few exceptions, these solutions provide near unlimited capacity for the maximum number or size of files, directories, and volumes. Unlimited capacity means organizations can dynamically adjust to changing business requirements.

Public cloud support. Cloud-based NAS consolidation provides the opportunity of centrally storing an organization's file data in the cloud for the benefits this architecture brings. DCIG TOP 5 solutions support multiple public cloud providers. Such broad support offers flexibility in matching a cloud provider's capabilities with the needs of the business.

Global namespace. A key feature of a global namespace is a single presentation of an organization's file system data. All DCIG TOP 5 solutions provide this feature. The resulting global visibility greatly simplifies the management of unstructured data.

Panzura CloudFS

Upon DCIG's completion of reviewing multiple, available cloud-based NAS consolidation solutions, DCIG ranked Panzura CloudFS as a TOP 5 solution. Panzura built Panzura Cloud File System (CloudFS™) to securely consolidate an enterprise's file storage as a single data source in the cloud. Organizations benefit from local file performance as CloudFS caches frequently used files on physical or virtual edge appliances. Panzura deploys on a physical Panzura Filer™, as a virtual machine in an ESXi environment, or as an in-cloud instance running as an Amazon AMI, Google VM or Azure VHD. Panzura also supports any public or private cloud object store, including AWS, Azure, Google Cloud, IBM iCOS, Cloudian and more.

Notable features that earn Panzura a DCIG TOP 5 award include:

- **Ransomware mitigation.** Panzura CloudFS never modifies cloud-stored data. Instead, CloudFS stores new or changed data as additional objects, further protected by read-only snapshots taken at configurable intervals. If ransomware should ever get past an organization's first line of defense, CloudFS can use snapshots to revert files to before the ransomware attack.
- **Storage analytics.** Panzura Data Services allow administrators to search, monitor, audit, and analyze their entire file network from one dashboard. Administrators can search for any file or file event and display results in moments. Metrics can be sliced and diced as needed to support Key Performance Indicators. The Panzura analytics dashboard provides historical, current, and forward-looking analysis for optimizing performance and forecasting capacity.
- **Efficient global deduplication and compression.** Panzura optimizes capacity by running inline block-level deduplication and compression on any stored data on the network to remove blocks common across different files. Panzura's deduplicates at the block level (128KB) instead of the chunk level (4MB) for greater efficiencies. Leveraging the cloud as a distribution point, Panzura embeds the deduplication reference table in metadata, which then shares this table among all Panzura appliances. These methods remove data redundancy globally across all controllers, rather than just a single controller. Panzura's deduplication features enable firms to reduce their total storage footprint and file transfer times.
- **Global file collaboration.** Panzura CloudFS helps companies with distributed workforces accomplish work faster through its Distributed File Locking system. For large, complex files, byte-range locking locks only the relevant elements of a file in use. This allows multiple individuals to edit a file at the same time. ■

About DCIG

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