2024-25 **DCIG** TOP5
ENTERPRISE CLOUD-BASED NAS CONSOLIDATION
Panzura Solution Profile

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Enterprise Cloud-based NAS Consolidation–Panzura Solution Profile

SOLUTION

Panzura CloudFS

COMPANY

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DISTINGUISHING FEATURES OF PANZURA

- Intelligent caching and synchronization
- Highly available
- Ransomware resiliency
- Administration and compliance ease

DISTINGUISHING FEATURES OF TOP 5 SOLUTIONS

- Robust support
- Encryption support
- SMB and NFS support
- Capacity optimization techniques

SOLUTION FEATURES EVALUATED

- *Deployment Capabilities*
- *Data Protection Capabilities*
- *Product and Performance Management Features*
- *Technical Support*
- *Licensing and Pricing*

IT Challenges for Medium to Large Enterprises

The pace of data growth continues to accelerate. The latest numbers suggest world-wide annual growth rates of 23.71% from more devices and applications generating data, larger file sizes, and the use of media files such as images and video.[1] For enterprises, the storage requirements are growing at an even faster pace of 42.2% annually![2] Processing, protecting, and copying data for various uses add to the storage requirements and management challenges.

Data growth entails expenses for hardware, software, management, and maintenance. It impacts data management strategies for maintaining performance, security, backup, recovery, archiving, and governance of the growing data estate.

The Problem of Storage System Proliferation

For many organizations, this rapid data growth has resulted in a proliferation of storage systems. The organic growth of NAS devices and file servers an organization adds over time for new locations, users, and applications further complicates data management. Organizations end up with a plethora of data silos without global visibility into the file data of its multiple underlying systems.

The Problem of Location Proliferation

The data generated by distributed workforces and edge devices like video cameras further adds to the challenges. Industry studies suggest that by 2025, the edge will generate 75% of data outside the data center.[3] For distributed workforces, IT organizations must maintain capacity, availability, backup, and disaster recovery plans for hundreds or even thousands of locations, often with different technologies. The pandemic has only exacerbated data management challenges as organizations deal with work-from-home employees, contractors, and remote talent whose data must be stored and protected.

You Cannot Manage What You Cannot See

As a result of these dynamics, organizations are often faced with the reality of not knowing the what and where of their data across the organization. This gap in knowledge, in turn, complicates data governance, analysis, security, compliance, and planning, which in turn impacts costs. This gap impacts ransomware exposure, which certainly worries every CIO. Further, scattered and unknown file data undermines AI workloads, which require complete data for optimum success. At the end of the day, this lack of visibility into an organization's data undermines IT's mission of providing the technical resources the organization requires to achieve its goals.

Cloud-based NAS Consolidation Enables Global Data Visibility

Cloud-based NAS consolidation, based on enterprise-class software-defined storage, takes a different approach to handling the growing accumulation of unstructured data. Cloud-based NAS consolidation migrates file data from multiple file servers and NAS devices into a cloud-based storage platform. The best solutions provide fast, flexible, usable, managed access for all an organization's end users and applications while addressing the challenges of data growth across the enterprise. Because software-defined storage serves as a foundation for cloud-based NAS consolidation solutions, these solutions capitalize on the benefits of SDS, such as:

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For distributed enterprises, cloud-based NAS consolidation solutions allow an administrator to administer a broad set of file management services across cloud providers and hundreds or thousands of nodes, sites, and users from a single interface.

Scalability. Especially for solutions using public cloud providers as the data store, the public cloud represents unlimited storage that can scale on demand without requiring capital hardware purchases. If new capacity is needed, an administrator can quickly turn this up. Organizations only pay for what they use, scaling up or down their storage capacity as their needs require.

Flexibility. In contrast to disparate storage systems and devices dispersed across multiple locations, a cloud-based NAS presents a single unified storage pool. This means administrators can allocate storage capacity dynamically to users, groups, and applications as needed. Many cloud-based NAS solutions allow organizations to leverage multiple cloud providers as well as on-premises private cloud solutions. Thus, organizations can align the placement of data with cost, compliance, or workload priorities.

Global file management capabilities. Global views, including permissions management, capacity utilization, and analytics, enable new opportunities for ensuring optimal performance and cost for managing an organization's unstructured data. For distributed enterprises, cloud-based NAS consolidation solutions allow an administrator to administer a broad set of file management services across cloud providers and hundreds or thousands of nodes, sites, and users from a single interface. Administrators can apply data governance policies across their file estate. While the dynamics causing file growth still occur, these solutions give enterprises the tools to discover and manage files globally.

Multi-protocol file support. Cloud-based NAS consolidation solutions commonly support multiple file storage protocols. This flexibility allows organizations to select the best-fit protocol for each use case. Many cloud-based SDS solutions expand upon file sharing and collaboration features inherent within file storage protocols so that remote teams and users can collaborate on files from anywhere.

Cloud-based Storage Benefits

In addition to software-defined storage benefits, cloud-based storage systems bring additional benefits to organizations such as:

Cyber-resiliency. Cloud-based storage systems bring enhanced capabilities for ensuring data availability in the face of cyberattacks. These solutions leverage features like immutable storage, replication, snapshots, backups, and automated failover to both mitigate and recover quickly from a cyberattack or other unforeseen event.

Multicloud storage architectures. As an alternative to relying on one cloud provider for all storage requirements, cloud-based NAS consolidation solutions can often utilize multiple cloud providers for vendor diversity and flexibility. Infrastructure managers can place file data in the cloud provider best suited to business priorities or make data available to specialized services within a cloud ecosystem. Further, organizations may choose a particular cloud provider because of regulatory compliance or data sovereignty requirements.

Offloads 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 (space, power, labor), complexity (performance management, networking, administration), and capacity planning (monitoring, acquiring, implementing) shifts out of the enterprise. By offloading these activities to the cloud provider, enterprises reduce IT costs for on-premises file data management.

Reduces infrastructure hardware costs. By moving their unstructured data to centralized cloud storage, organizations can eliminate the expenses and procurement cycles

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Organizations can experience notable time and cost savings with cloud-based NAS consolidation, allowing IT staff to shift their attention to other activities that bring value to their organization.

for NAS devices and file servers across their locations. For the data center especially, less hardware translates into less physical space, which means a smaller footprint and reduced energy and cooling costs when compared to legacy solutions.

Reduces administrative costs. As noted above, cloud-based NAS consolidation enables administrators to centrally manage storage resources across the data landscape from a single interface. This model simplifies storage administration and reduces the need for multiple tool sets to manage different NAS devices and file servers. Cloud-based NAS solutions often include automation features for common data management tasks. Organizations can leverage APIs to integrate their cloud storage solution into third-party automated workflows.

Global file access. Cloud-based file storage enables access to file data from anywhere in the world with an internet connection. For remote locations, the ideal cloud-based NAS solutions cache copies of active files at the edge on a virtual or physical appliance, which are then synchronized to a master file stored in the cloud. Administrators can configure permissions for teams and groups to ensure data security.

These benefits and more provide organizations with a global, centralized file platform that addresses the needs of scalability, costs, governance, compliance, security, analysis, and decision-making in the context of an avalanche of accumulating data. Further, organizations can experience notable time and cost savings with cloud-based NAS consolidation, allowing IT staff to shift their attention to other activities that bring value to their organization. Finally, because cloud-based NAS solutions incorporate new cloud technologies as they become available, enterprises future-proof their storage infrastructure with cloud-based NAS solutions. Future-proofing that ensures the enterprise IT organization is adaptable and capable of meeting changing business needs in the years ahead.

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

DCIG identified 31 companies offering products meeting DCIG's definition of a SDS-based NAS consolidation solution. Using feature-based analysis and comparisons of data derived from publicly available sources, vendors, and DCIG's own experience, *DCIG's TOP 5 Enterprise Cloud-based NAS Consolidation Solutions* share these characteristics that distinguish them from the other vendors DCIG evaluated.

Robust support. DCIG TOP 5 providers display robust support capabilities compared to the other evaluated solutions. All DCIG TOP 5 vendors provide 24x7x365 availability for trouble resolution as compared to 60% of the other solutions being assessed. Each DCIG TOP 5 provider offers at least four-hour response times to reported troubles, with most offering one-hour response times or better for mission-critical issues. Enterprises can utilize a knowledge base for online self-support, and all winners provide the opportunity for an assigned account manager.

Encryption support. DCIG TOP 5 winners evidence notable support for strong encryption technologies. All winners offer both in-flight and at-rest encryption, compared to 61% and 73% of the other evaluated solutions, respectively. Each of the DCIG TOP 5 winners provides AES-256 at rest encryption for the strongest level of encryption security.

SMB and NFS support. All DCIG TOP 5 solutions show strong support for the latest versions of SMB and NFS when compared to the other evaluated solutions. These are the protocols used by most enterprise applications to address file-based storage. The

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most recent versions bring benefits of performance, new features, security enhancements, and storage management improvements over previous versions. Most DCIG TOP 5 solutions support cross-protocol access to the same data store.

Capacity optimization techniques. Capacity optimization techniques such as compression and deduplication help organizations save money on their growing storage costs by reducing the amount of physical storage needed to store unstructured data. Each of the DCIG TOP 5 solutions uses these capacity techniques on its data stores, which helps organizations efficiently store data on the cloud platform.

Panzura CloudFS

Upon DCIG's completion of reviewing multiple, available providers of SDS products, DCIG ranked Panzura as a DCIG TOP 5 provider. Panzura CloudFS simplifies the management of unstructured data and files for complex enterprises. Panzura does this through patented (37+ patents and counting) cloud-native technology that supports both on-premises and hybrid cloud use. With CloudFS, enterprises leverage a single, authoritative data set held in a private or public cloud and organized into a global file system. A global namespace provides a unified view of these file resources for locations and users around the globe. The result is a centralized file services platform well-suited for cloud-based NAS consolidation, global file collaboration, active archiving, and disaster recovery across unlimited locations.

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

Intelligent caching and synchronization. Local Panzura nodes deliver fast file access through intelligently cached data. Each node supplies local caching and access for the unique users and workloads, providing the flexibility of a multi-location organization without the standalone storage silos. Enterprises deploy Panzura nodes as virtual machines on the hypervisor of choice with the ability to scale up to and beyond 100 nodes. To reduce the total storage footprint and file transfer times, Panzura deduplicates and compresses stored data and only transmits deltas for cloud storage, even as data is being synchronized across the enterprise. The low latent synchronization means that at every 60-second interval, CloudFS synchronizes globally, across all Panzura nodes, new and changed data and metadata. CloudFS also integrates with the Panzura Edge Access app, where users can access files directly from their smart device or web browser with or without a VPN.

Highly available. For local availability, enterprises can deploy a Panzura node for automatic failover should the active Panzura node fail. Global availability is also achieved by deploying a Panzura node in a private or public cloud for redirected access for ANY node failure. For a site outage, CloudFS reroutes traffic to this cloud-based VM as an initiated failover. IT departments can eliminate the risk of a cloud provider outage through cloud mirroring. With cloud mirroring, failover occurs to a secondary cloud during a primary cloud outage. These options deliver continuous availability for users and applications. Cloud mirroring also ensures the mirroring of the snapshot data retention policy to another S3 object provider, further enhancing Panzura's resilient architecture.

Ransomware resiliency. Panzura CloudFS encrypts data both in transit and at rest with AES-256 bit encryption. Further, CloudFS applies immutability to cloud-stored data. With immutability, ransomware cannot change stored data. CloudFS writes file changes as new, immutable stored data blocks and takes frequent (typically once every 60 seconds) immutable snapshots reflecting all changes. Should a ransomware attack occur,

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administrators can leverage the most recent snapshot to quickly recover files, folders, or even entire file systems. This enables Panzura's customers to regain access to corporate data and resume normal business operations (supporting enterprise-class RTOs and RPOs) without engaging with those asking for ransom.

Administration and compliance ease. Panzura Data Services (PDS) provides a single, unified view of the global file network. With PDS, administrators can search, audit, analyze, monitor, and report on all their unstructured data. PDS storage metrics help enterprises understand consumption, active users, and frequently accessed files. Organizations can also monitor health metrics such as CPU usage, data movement, and cloud connectivity. This global visibility helps organizations effectively and efficiently manage their growing data while achieving and demonstrating regulatory compliance, especially in highly regulated industries such as healthcare or financial services. ◼

Sources referenced October 2023

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3. https://www.gartner.com/smarterwithgartner/what-edge-computing-means-for-infrastructure-and-operations-leaders

About DCIG

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