

# DCIG Solution Profile

# Rising Vendor On-Premises NAS Consolidation Solutions

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## SOLUTION

**Nasuni®**

## COMPANY

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## DISTINGUISHING FEATURES OF NASUNI

- Data efficiency
- Data encryption and protection
- Fast ransomware recovery

## 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 rapidly expanding volumes of unstructured data throughout the organization. New data sets—and even individual files—surpass the capacity limits of some legacy filers. 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.

This unstructured data 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 designed for the terabyte era. Technology companies have been working on solutions for years. Some enhanced their existing solutions, riding waves of technology advances in processors and storage media.

### Remote office file data

Managing unstructured data at remote offices brings its own issues. Branch office locations typically lack IT staff; thus, remote offices must involve others to recover lost files. File data may fill available storage, and backup solutions may rob bandwidth during backup operations.

Consider that a one terabyte file directory can use multiple terabytes of storage for backup and offsite recovery. Further, inactive data grows as no one wants to delete files when unknowns exist.

### 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

On-premises 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.

## On-Premises SDS-based NAS Consolidation Benefits

**Scalability.** SDS solutions enable organizations to scale up or out depending on requirements. On-premises, organizations can add to their existing physical storage to expand the virtualized pool. For solutions utilizing public or private cloud storage, capacity is virtually unlimited. Many SDS solutions have no file size limitations, unlike some legacy NAS filers. Such scalability helps organizations flex to their growing data and application needs.

**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.

**Cost efficiencies.** SDS-based solutions bring savings and efficiencies compared with traditional NAS systems. For example, global views and storage management capabilities allow organizations to holistically manage their unstructured data. Organizations can tier cold, untouched files to low-cost storage, whether on-premises or in the cloud. As organizations understand their trends in data growth, they can better plan and budget. They also reduce their storage expenses through optimizing storage for cost and performance.

**Ransomware protection and recovery.** SDS NAS solutions mitigate ransomware attacks and speed recovery that typically targets unstructured file data. Global views of the enterprise file landscape allow administrators to purge unnecessary files and move old data to archive storage where it can be air-gapped or placed in immutable object storage. Administrators can focus backup storage and protection on active files. Such management allows enterprises to better guard data from bad actors, reduce its ransomware attack surface, and recover more quickly should an attack penetrate cybersecurity defenses.

## Distinguishing Features of DCIG TOP 5 Rising Vendor On-Premises NAS Consolidation Solutions

SDS solutions are offered by the best-known names in enterprise infrastructure and also by newer, smaller, lesser known entities. These rising vendors often offer solutions designed for the petabyte (and exabyte) era, and are frequently selected by enterprise organizations to replace legacy enterprise filers.

DCIG evaluated twelve such SDS solutions for an on-premises NAS consolidation use-case. Using feature-based analysis and comparisons of defensible data derived from publicly available sources, vendors, and DCIG's own experience, DCIG's TOP 5 Rising Vendor On-Premises NAS Consolidation Solutions evidence these characteristics in contrast with the other evaluated solutions.

**Robust support.** DCIG TOP 5 providers display robust support capabilities. All TOP 5 vendors provide 24x7x365 technical support. And they provided at least one-hour support response times compared to 71% of the other evaluated providers. Many of these vendors offer community support forums and knowledgebases 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.** DCIG TOP 5 solutions support multiple public cloud providers as both a deployment option and as a target for cloud storage. All DCIG TOP 5 solutions supported Amazon S3 as a target. Many provided support for Google, Microsoft, and other public or specialized cloud platforms. Wide public cloud support offers flexibility for both hybrid-cloud and multi-cloud solutions.

**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.

## Nasuni

DCIG researched twelve on-premises NAS consolidation solutions, and ranked Nasuni as a TOP 5 solution. Nasuni stores and synchronizes files across any number of locations at any scale. The heart of the Nasuni file services platform is its patented cloud-native global file system, UniFS®. It unifies enterprise NAS, backup, and disaster recovery infrastructure while consolidating all of an organization's files in cloud or on-premises object storage. The Nasuni solution deploys at the edge as a physical or virtual appliance, in the data center, or in the cloud. The Nasuni edge appliance caches frequently used files, giving office users a local file-sharing experience. Nasuni works with all major object store vendors, so organizations can choose which cloud backend to overlay with the Nasuni platform.

Three features that earned Nasuni recognition as a DCIG TOP 5 solution include:

- **Data efficiency.** With Nasuni, the 'golden copy' of the file resides in object storage in the cloud or on-premises. Nasuni's edge appliances cache frequently accessed files locally. New or updated blocks of data within any file are compressed, globally deduplicated, and encrypted before being sent to cloud object storage. This minimizes bandwidth requirements and egress fees while maximizing effective storage capacity.
- **Data encryption and protection.** Nasuni appliances use random AES-256 encryption keys to secure all file data and metadata. In addition, the customer controls the asymmetric master key. Nasuni appliances perform encryption before sending data to cloud storage so that data is encrypted both in transit and at rest. Data protection inherent within cloud storage can materially save enterprises the time, money, and effort associated with separate backups and disaster recovery infrastructures for their unstructured data.
- **Fast ransomware recovery.** Nasuni provides continuous file versioning to capture changes on every edge appliance as they occur. UniFS then stores file system deltas as a snapshot in object storage. Recovery points can be up to every few minutes, and recovery times just a few minutes more to restore a single file, a whole directory, or the entire file system.<sup>1</sup> If an enterprise experiences a ransomware attack, it can quickly revert the affected files to a point-in-time just before the attack. ■

1. See this brief Nasuni Rapid Ransomware Recovery demonstration where Nasuni recovers over a million files in less than a minute: <https://www.nasuni.com/video/nasuni-rapid-ransomware-recovery/>

### About DCIG

The Data Center Intelligence Group (DCIG) empowers the IT industry with actionable analysis. DCIG analysts provide informed third-party analysis of various cloud, data protection, and data storage technologies. DCIG independently develops licensed content in the form of TOP 5 Reports and Solution Profiles. More information is available at [www.dcig.com](http://www.dcig.com).