

# NASUNI PRIMARY

The modern, cloud-based solution offering primary file storage, backup, and disaster recovery for traditional NAS & file server workloads.

## Solution Overview

NASUNI PRIMARY is the modern, cloud-based solution that transforms primary NAS and file server storage, file backup, and disaster recovery. NASUNI PRIMARY is part of the Nasuni® Cloud File Services™ product family, a consolidated platform that enables enterprises to store, protect, synchronize, and collaborate on unstructured file data at scale, and that automatically reduces costs as files age so data never has to be migrated again.

Available stand-alone or bundled with other services, NASUNI PRIMARY gives IT a more scalable, cost-effective, resilient, and manageable file storage solution that meets cloud-first objectives and eliminates tedious data migrations and forklift upgrades. End users gain limitless capacity for group shares, project directories, and home drives; LAN-speed access to files in any edge location; and fast recovery of files to any point in time.

**NASUNI PRIMARY** is primary file storage, backup, and disaster recovery for traditional NAS and file server workloads.

**NASUNI ARCHIVE** is affordable long-term file retention and rapid retrieval for cool file workloads.

## What is NASUNI PRIMARY?

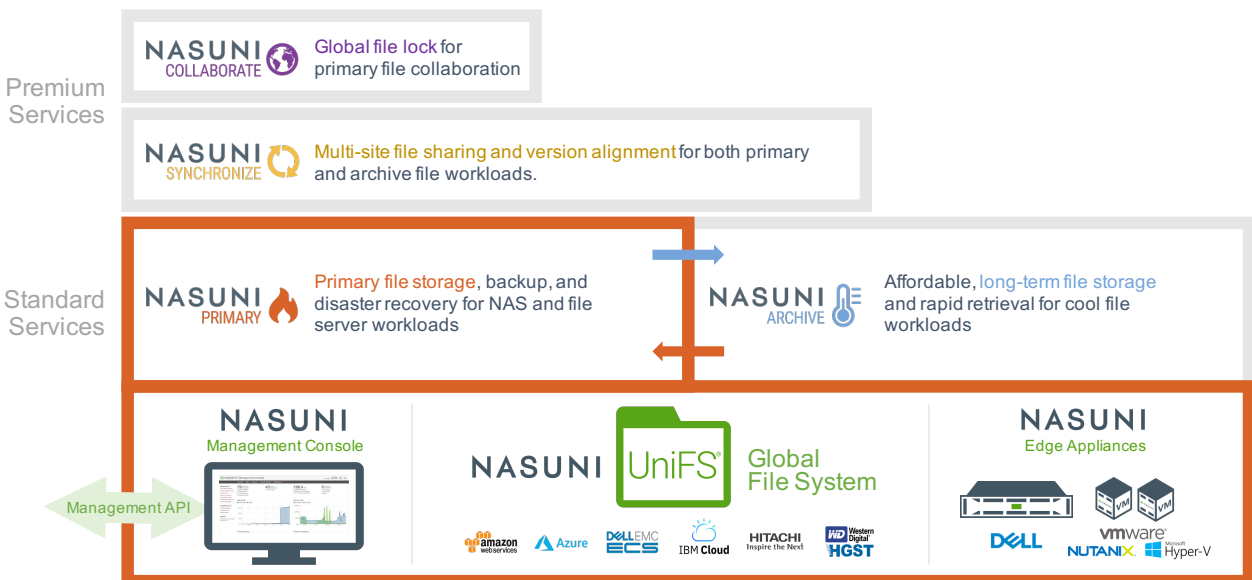
NASUNI PRIMARY is a software-defined solution that leverages the low cost, scalability, and durability of private (on-premises) or public cloud object storage and Nasuni's cloud-based UniFS® global file system to transform primary file storage.

Just like device-based file systems were needed to make disk storage usable for storing files, UniFS overcomes obstacles inherent in object storage related to latency, file retrieval, and organization to make object storage usable for storing files, with key features like:

- Fast access to files in any edge location.
- Legacy application support, without app rewrites.
- Familiar hierarchical folder structure for fast search.
- Unified platform for primary and archive file storage that automatically reduces costs as files age.

**NASUNI SYNCHRONIZE** extends NASUNI PRIMARY and NASUNI ARCHIVE with seamless read and write access to files across any number of locations.

**NASUNI COLLABORATE** extends NASUNI PRIMARY and SYNCHRONIZE with the ability to globally lock files.



NASUNI PRIMARY is a standard offering of the Nasuni Cloud File Services platform that can be purchased stand-alone or bundled with other Nasuni standard or premium services.

## How Does NASUNI PRIMARY Work?

Nasuni’s patented **UniFS global file system** ingests files through virtual or physical Nasuni Edge Appliances using standard CIFS and NFS file sharing protocols. Files are encrypted, compressed, and de-duplicated, then stored as objects in object storage, while keeping them fully accessible as WORM files, with all original permissions and metadata intact.

Files can be recalled from object storage in seconds and accessed through edge appliances, which are sized to fit the active file workload in each location. Intelligent caching yields a 99% hit rate, minimizing public cloud egress fees and ensuring files are accessible to users and applications at local LAN speeds, even though the appliance hardware footprint is typically 20% that of a legacy NAS device or file server. Cached copies of files are automatically cleared from the appliance over time as they age, leaving only the permanent, immutable “gold” copies in object storage.

Capacity scales without limit because each edge appliance is merely a caching front end to cloud object storage. Yet, file access performance scales linearly without degradation because any number of appliances of any size can be deployed in any location.

Nasuni automatically tracks when primary files become inactive and classifies them as **NASUNI ARCHIVE**, greatly reducing costs and eliminating the need to migrate file data to other storage tiers.

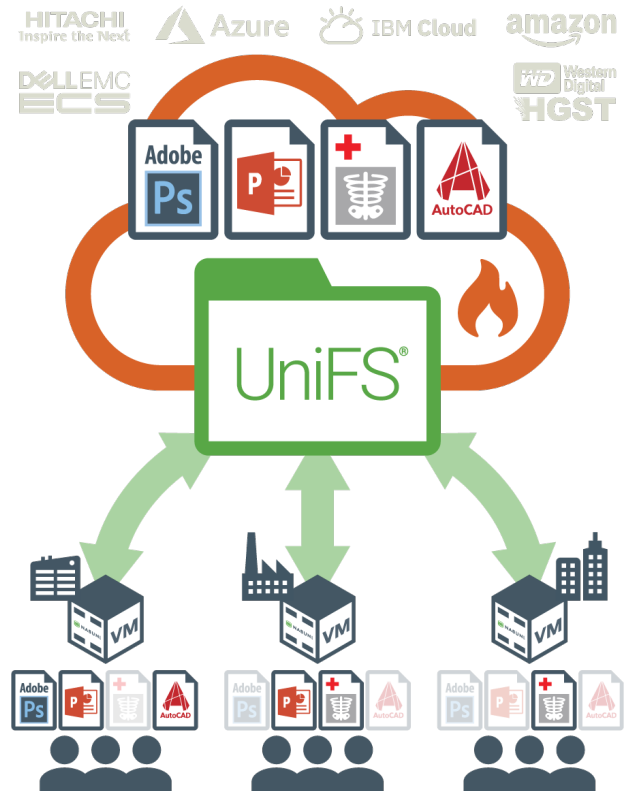
When combined with the optional **NASUNI SYNCHRONIZE** service, NASUNI PRIMARY provides the unique ability to seamlessly share primary file data across any number of sites.

## How Does NASUNI PRIMARY Improve Data Protection?

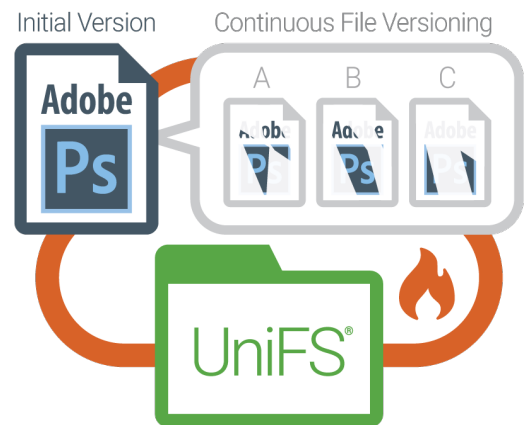
NASUNI PRIMARY includes next-generation snapshot technology called Nasuni Continuous File Versioning™ that eliminates the cost and complexity of traditional file backup. With this advanced technology, the small fragments of files that change are continuously collected, compressed, de-duplicated, and encrypted, then stored in object storage as their own unique versions.

Each version is stored as WORM (Write Once Read Many) to create an immutable, infinite history of every file. Any version can be recalled in minutes using the self-service Windows Explorer Previous Version feature, or remotely restored to any location by IT through the Nasuni Management Console.

Recovery Point Objectives (RPO) and Recovery Time Objectives (RTO) can be reduced to minutes, providing a much higher level of protection against Ransomware, user error, and infrastructure outages than traditional third party backup solutions.



*UniFS is the only file system based natively in cloud object storage that provides unlimited scalability, fast file access from any number of locations, industry-leading RPO/RTO, and rapid disaster recovery without dedicated DR sites.*



*Nasuni Continuous File Versioning breaks down the snapshot process into smaller sections of a volume using a technique called “data sharding” that is more efficient, less disruptive, and more scalable than taking a large single point in time snapshot of an entire volume, enabling faster recoveries and more frequent recovery points.*

Nasuni Primary also eliminates the cost and complexity of dedicated disaster recovery (DR) infrastructure. Nasuni Edge Appliances can be quickly instantiated in a public cloud or in any on-premises location with a connection to cloud object storage. With all metadata stored natively in object storage, the UniFS global file system can rehydrate edge appliances with metadata, followed by the actively used files, in less than 15 minutes after a DR event.

## How Does NASUNI PRIMARY Enable Multi-Site File Sharing?

When combined with the premium **NASUNI SYNCHRONIZE** service, NASUNI PRIMARY provides the unique ability to seamlessly share active file data across any number of sites and present a single global name space to all users.

**NASUNI SYNCHRONIZE** propagates file changes made on one edge appliance first to cloud object storage, then to any other edge appliances that have cached the file. Nasuni Global Volume Manager™ technology aligns file changes from multiple appliances based on date and time stamps, ensuring all files changes are properly sequenced in object storage.

The need for private WAN/MPLS, file transfer, Distributed File System Replication (DFS-R), and WAN acceleration solutions are minimized by Nasuni’s caching architecture. When deployed with public cloud object storage, Nasuni uses public internet links to offload file synchronization traffic from the WAN to reduce costs even further.

## How Does NASUNI PRIMARY Enable Multi-Site File Collaboration?

The **NASUNI COLLABORATE** premium service adds Nasuni Global File Lock™ technology on top of the **NASUNI SYNCHRONIZE** and NASUNI PRIMARY services to ensure only one user can modify a given file at a time. Designed as a scalable cloud service with redundant lock servers and lock server failover built-in, **NASUNI COLLABORATE** with Nasuni Global File Lock eliminates the data corruption – and productivity loss – that can be caused by file version conflict. Like all other Nasuni services, **NASUNI COLLABORATE** cannot “see” customer data. Rather, it leverages a one-way encrypted hash of the file being locked to ensure only one user can update a given file at a time.

## Specifications

<b>Cloud object storage</b>	<b>Public Cloud:</b> Amazon S3; Azure Blob; Dell EMC Virtustream; Google Cloud Storage <b>Private Cloud (On-Premises):</b> Dell EMC ECS; Hitachi Object Storage; IBM Cloud Object Storage; Western Digital ActiveScale
<b>Primary capacity</b>	Limitless – capacity of cloud storage
<b>Maximum # files</b>	Limitless
<b>Maximum file size</b>	Limitless
<b>Nasuni Edge Appliances</b>	<b>Virtual:</b> Amazon EC2; Azure VMs; Microsoft Hyper-V; Nutanix AHV; VMware ESXi <b>Physical:</b> Nasuni Dell OEM appliances in various configurations - see Nasuni Edge Appliance data sheet
<b>Access/migration</b>	CIFS, NFS, and HTTPS protocol support to support any app; automated migration to cloud storage
<b>Retention period</b>	Customizable
<b>Versioning frequency</b>	As often as once a minute
<b>Storage reduction</b>	Average 40% through deduplication and compression
<b>Security</b>	Files encrypted using AES 256 with customer-owned keys; stored in WORM format (never overwritten)
<b>Authentication</b>	Active Directory and LDAP integration for file authentication and access
<b>Disaster recovery</b>	Local warm standby to mitigate device failure and remote (cloud) warm standby to mitigate site failure
<b>Number of locations</b>	Read and write access from any number of locations with NASUNI SYNCHRONIZE premium service
<b>Retrieval time</b>	Seconds from cloud storage; milliseconds from Nasuni Edge Appliance cache
<b>Logging</b>	Built-in and API for integration with Syslog and other third-party tools
<b>File Auditing</b>	Integration with Varonis Data Security Platform for threat detection and Chain of Custody monitoring
<b>Programmability</b>	REST API with Etag support and Active Directory-based authentication
<b>Licensing</b>	Priced per TB; annual subscription; cloud object storage purchased separately

## How Does NASUNI PRIMARY Align Business and IT Objectives?

NASUNI PRIMARY enables business users to:

- Store files without ever running out of space or having to waste time cleaning up directories.
- Get on-site performance with the infinite scalability of the cloud.
- Recover any version of any file to almost any point in time.
- Access file data from anywhere to boost productivity (requires **NASUNI SYNCHRONIZE** premium service).
- Collaborate on files without version conflict to minimize data loss (requires **NASUNI COLLABORATE** premium service).

NASUNI PRIMARY enables IT professionals to:

- Achieve cloud-first objectives by moving traditional NAS and file server workloads to cloud object storage.
- Consolidate primary file storage and archive file storage in a single unified platform.
- Reduce the cost of storing primary file data as it ages with automated reclassification to the lower cost archive.
- Eliminate having to do bulk data migrations or forklift upgrades ever again.
- Reduce on-premises primary storage and associated floor space, power and cooling up to 80%.
- Eliminate the cost and complexity of traditional file backup and dedicated DR infrastructure.
- Scale primary file storage capacity instantly, without purchasing and deploying more hardware.
- Minimize the need to manage WAN acceleration, replication, remote access, and file transfer tools for multi-site file sharing (requires **NASUNI SYNCHRONIZE** premium service).
- Ensure long-term data integrity, security, and no vendor access to files with end-to-end encryption, WORM storage, and the advanced security capabilities of leading cloud storage solutions.



*Nasuni UniFS enables object storage to be used for file storage by providing critical file system features like broad app compatibility, high performance file access from any location, advanced data protection, and a familiar folder structure.*

## About Nasuni

Nasuni provides the first multi-cloud platform that enables enterprises to store, protect, synchronize, and collaborate on unstructured file data as it transitions from actively used to inactive. Powered by Nasuni’s patented UniFS® global file system, Nasuni Cloud File Services™ stores all files in private or public cloud object storage, caches active files wherever fast access is needed, and automatically correlates what customers pay with how they use their data. By eliminating the need for NAS, file server, backup, archiving, disaster recovery, and file synchronization solutions, Nasuni’s consolidated platform improves workforce productivity, simplifies IT operations, and reduces IT costs. The world’s largest companies in 12 industry sectors rely on Nasuni to maximize the business value of their file data and ensure business continuity. Nasuni operates globally from its worldwide headquarters in Boston and European office in London.

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### Contact Us

[www.Nasuni.com](http://www.Nasuni.com) | [Sales@Nasuni.com](mailto:Sales@Nasuni.com) | +1.857.444.8500