

Nasuni File Data Platform

Overview

Nasuni's File Data Platform revolves around a global file system that uses object storage in public or private clouds as its repository. The Nasuni platform stores files, data and metadata in AWS, Microsoft Azure and Google Cloud. It keeps golden copies of data in public clouds while caching frequently accessed files on virtual and physical appliances for quick access.

The Nasuni File Data Platform is among a handful of global file systems that rely on cloud as back-end storage, a technology also been known as Cloud NAS, Cloud Native File System, Distributed Cloud File System and other labels.

Nasuni stores all directories and files, as well as metadata for data creation and modification, access control and other parameters in cloud-based object storage volumes. Mappings between the volume structure – files, directories, metadata, and objects – are also all stored in the cloud. Nasuni customers can access data from edge VMs at any on-premises or cloud location. Nasuni also provides multi-site file synchronization and global file locking, and keeps infinite versions of data for protection and recovery.

Nasuni is a primary storage company but also handles file backup and disaster recovery by enabling quick recovery of any version of a file from the cloud. Its caching reduces latency by serving up most files locally.

Nasuni UniFS enables collaboration by allowing organizations to share the same files across multiple locations or cloud regions. As users update file data on an edge appliance, only the changed data gets updated to the gold copy in the cloud. Once the gold copy is updated, the change is propagated to all other regions accessing the same file so every user can access the file without latency. A hosted AWS cloud service assures those subsequent users of the file are only served the most up-to-date version and also performs global file locking. Nasuni's file locking will alert a user upon opening a file that another user is editing that file. The second user can open the file as read-only or create a local copy.

Highlights

- Nasuni UniFS stores unstructured data as object storage in public clouds
- Supports NFS, SMB, FTP, SFTP, and HTTPS protocols, and macOS
- Nasuni Edge Appliances cache frequently accessed data, stores golden copy in AWS, Azure or Google Cloud
- Snapshots capture all changes of a file for a complete version history
- UniFS stores files as immutable, read-only objects ransomware attacks.

Usage and Deployment

The main use cases for Nasuni are NAS filer consolidation, VDI file storage, engineering applications, project collaboration, organizational file shares, and high-capacity archives.

The UniFS global file system is the heart of the Nasuni's platform. Nasuni supports standard file sharing protocols SMB (CIFS), NFS, FTP, SFTP, and HTTPS, as well as macOS file attributes and metadata to allow file sharing across Windows and Mac environments. Nasuni supports Amazon S3, Google Cloud Storage, and Microsoft Azure Blob object storage, as well as object storage from third-party vendors such as Cloudian, Dell EMC ECS, IBM Cloud Object Storage, NetApp StorageGrid and Scality.

The other key pieces of the Nasuni File Data Platform are Nasuni Edge Appliances, Management Console, Orchestration Center and Analytics Connector.

Nasuni Edge Appliances deliver access to frequently used files. These caching appliances can be deployed as virtual machines (VMs) in an on-premises data center or remote office to provide file access without cloud latency or data egress fees. They can also be deployed in the cloud for IT organizations looking to eliminate all on-prem file infrastructure or for cloud-native applications and workloads such as VDI. When a volume is instantiated on a local caching appliance, the corresponding volume structure is built on cloud object storage service. As files and directories are created, data is chunked, deduplicated, compressed and encrypted before they are stored as objects in the cloud. Cached copies of files in use are served to local applications via the caching appliances.

More than 80% of Nasuni Edge Appliances are virtual, running as on-premises hypervisors or as virtual machines which can run inside a public cloud data center, presenting file shares from the cloud. Nasuni reports its customers are also rapidly shifting appliances from on-premises into the cloud, running on AWS EC2, Azure Cloud Compute or Google Compute Engine – a trend driven partially by the need to accommodate remote workers and by the increasing number of cloud-native applications and use cases such as VDI.

The **Nasuni Management Console** provides centralized management of the edge appliances, as well as file volumes, shares and snapshots. An administrator can define and automate management processes for all file data through the console's GUI and REST API.

The **Nasuni Orchestration Center (NOC)** is a cloud service that runs on AWS and serves as Nasuni's control plane. The NOC coordinates the global file synchronization and Nasuni's Global File Lock. The NOC enables file sharing across geographic regions, and avoids version conflict. The NOC synchronizes data across any number of cloud locations while providing a centralized portal for managing the entire file infrastructure. The NOC also allows file locks to be released if users are accessing the file from separate locations.

The **Nasuni Analytics Connector** makes file data under management by Nasuni available to AWS and Azure public cloud AI and analytics services. The Analytics Connector enables analytics use cases such as enterprise search, data privacy and compliance policies.

Data Protection and Security Features

Nasuni's global file system includes several built-in data protection and security features.

Backup and Recovery

Nasuni does not perform actual backups but can remove the need for a separate backup software and disk or tape backup systems by continuously storing all new files and updates as immutable golden copies in cloud object storage. Nasuni's snapshots capture all changes of a file for a complete version history, and enables any previous version to be restored through the Management Console. Nasuni's Global File Acceleration (GFA) service – part of its Premium tier – prioritizes synchronization of new files across Edge Appliances, storing them in the cloud faster and making them available for immediate recovery instead of waiting for a scheduled snapshot.

Disaster recovery

Nasuni supports DR by allowing customers to restore file shares from any location. If a site goes down, data can be recovered by spinning up a virtual machine in another location and recovering the master copy of data from cloud object storage.

Ransomware recovery

Nasuni stores files as immutable, read-only objects and keeps a complete version history of every file for quick restores, which helps speed recovery from ransomware attacks. Data, meta data and versioning information are all stored in the object layer. The file system stores every change to a file as a new object in the cloud to populate a full version history of the file. Having this full version history allows organizations to combat data corruption due to ransomware by rolling back the version of the file prior to the attack.

Encryption

Nasuni encrypts all data going to the cloud or between a company's locations using encryption keys owned and stored by each customer. For local access and authentication, each Nasuni Edge Appliance integrates with and joins on-premises Active Directory and LDAP infrastructures.

Pricing

Nasuni is a SaaS platform with subscription pricing based on usable capacity (customers also pay public cloud providers for object storage used by Nasuni). Nasuni offers three annual subscription tiers. Nasuni Essentials is a single-site license with the base primary file storage, backup, DR, ransomware mitigation and work from home access features. The Nasuni Advanced tier is for unlimited sites and adds file synchronization, centralized management and global namespace. Nasuni Premium is for multi-sites with version protection, including all Advanced features plus global file lock and Global File Acceleration.

Nasuni has co-seller agreements with AWS and Azure, and in 2021 added Nasuni Files for Google Cloud, a service that includes object storage and data migration. Nasuni Files for Google Cloud Pricing starts at \$450 per TB per year for 20 TB to place data in Google's Archive Storage tier. The most up-to-date pricing information can be found on [Nasuni's web site](#).

Evaluator Group Opinion

Nasuni is aimed squarely at unstructured data. It is not for block storage applications, such as database and other high-performance workloads. Nor is it a high performance computing play. It is designed particularly for customers who need to collaborate across locations or consolidate tens or even hundreds of file servers. Nasuni UniFS was developed specifically for cloud storage with no need to re-platform an on-premises file system. It also incorporates built-in data protection in the form of immutable infinite versioning, typically taking snapshots at five minutes interval.

An early player in the cloud-based global file system market, Nasuni was founded in 2008 and is well-funded with more than \$200 million in funding. Investors include Goldman Sachs and Dell Technologies Capital. Nasuni also has a large installed base and has built a robust business around its global file system, and is a good fit for highly collaborative companies and as a cloud VDI solution for remote file access.

Nasuni has yet to deliver a way to handle container-native storage and Kubernetes. This will be a necessary addition in the short term. The vendor's audit and analytics features also do not go as far as some of its competitors. It does support Varonis software for analytics and connects to public cloud analytics features but these are add-ons and not performed natively. Also, Nasuni has work to do in streamlining management and its connectivity to cloud analytics through its Analytics Connectors, particularly for customers with large numbers of Edge Appliances.

More detailed information is available at <http://evaluatorgroup.com>

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