NASUNI®

Solution Brief

Nasuni for Manufacturing

Highlights

Optimize design and production workflows with global file access & sharing across all locations

Support your product lifecycle environment with a global file sharing platform that connects all your teams

Enhance business continuity with access to files even if a site server goes down.

Strengthen data protection with secure file transfers.

Leverage a cloud first architecture to increase agility and resilience in your infrastructure.

Archive design and production files at low-cost but have them quickly accessible if needed

Reduce CAPEX and operate with more predictable costs

The Challenge: Manufacturing Design Workflows Now Exceed Traditional File System Capabilities

The days of stand-alone manufacturing plants are long gone. Today, design, simulation and testing often happen in one set of locations, while production and assembly happen a half a world away. Large and small manufacturers alike need to support complex workflows that require distributed teams to share and collaborate on projects across multiple sites.

At the same time, all phases of the product lifecycle are undergoing digital transformation. From product lifecycle applications (PLM) such as Siemens Teamcenter to CAD/CAE applications and 3D modeling applications such as SOLIDWORKS and Siemens NX, to IoT-connected machines on the factory floor, advanced technologies are generating large quantities of unstructured data that must be saved, accessed, shared and archived.

Traditional file storage architectures cannot support this new digital reality. Legacy file systems are not designed to handle huge quantities of unstructured data and multiple locations. Older, disk array-based architectures don't support the need for secure, long-distance collaboration on large files. And, on-site backup solutions are being taxed by explosive unstructured data growth.

The Solution: Nasuni and Cloud Object Storage for Scalable File Services and Multi-Site Collaboration

Manufacturers that need to share files across multiple sites are beginning to realize the cloud is the answer to improved design efficiency, greater productivity, and lower costs. And that Nasuni and object storage are the ideal cloud solution.

Case in point: A leading manufacturer that produces components for products as diverse as cars, medical devices, washing machines, and ATMs realized its facilities needed to be more flexible and technologically advanced. Storing, sharing, and protecting its most critical digital assets – its file data - is critical. This Fortune 500 company deployed Nasuni and Azure Blob storage across 26 global locations to facilitate the sharing of CAD files between its many global design centers and manufacturing sites and provide more reliable file backup and recovery. By embracing the cloud for scalable file services, this industry leader is driving the innovation, engineering excellence, and agility it needs to stay competitive across many markets.

Case in point: A Fortune 500 leader in water, hygiene, and energy realized its on-premises NAS infrastructure could not offer the scalability needed for its new projects and Internet-connected devices, which require that millions of IoT files be stored and accessed for analysis. Instead of buying more distributed NAS and related data protection, the company deployed Nasuni and IBM Cloud Object Storage. The combination provides limitless file capacity, eases administration for IT, enables global file collaboration without file conflict, and offers significantly improved recovery points and recovery times, all at much lower cost than traditional file storage infrastructure.

A Best of Both Worlds Approach

Nasuni® is the new enterprise file services platform designed for the modern cloud era. Its hybrid cloud architecture is Ideally suited for the digital design and production workflows required in modern manufacturing.

The Nasuni UniFS® global file system lives in public or private cloud storage (e.g. Azure, Amazon, IBM Cloud, Dell EMC ECS) but extends out to the edge using virtual or physical caching appliances that store only frequently used data. Any number of edge appliances can be deployed in any number of locations for limitless file sharing.

This unique "cloud-first" architecture offers the best of both worlds: the virtually infinite scalability of the cloud, and the flexibility, performance, and compatibility of on-premises file servers. Together, Nasuni and the cloud storage offer:

- Unified file storage, archival storage, data protection, and management across all design centers and remote sites.

- Unlimited capacity and secure file storage for unstructured data of all types and file sizes.

"We are at our most efficient when our manufacturing facilities are running. Any downtime costs us money. Nasuni has increased productivity across the company by dramatically improving file access across our many remote offices."

Sandy Bodell
Vice President of Information Technology, Cooley Group
(manufacturer of high performance industrial fabrics)

[Cooley Group case study](#)

"We've replaced our entire file storage infrastructure with Nasuni and cloud object storage for about the same cost as we were paying just for backup before."

James Green
Director of IT, SAS International
UK-based designer and manufacturer of high-end metalwork

[SAS case study](#)

- Global access to a single unified file system from any location, leveraging the cloud for cost-effective, efficient large file transfer.

- Scalable file infrastructure for PLM, CAD/CAM/CAE, and test apps that facilitates global collaboration and accelerates time-to-market.

- Global File Lock™ to minimize the threat of data loss due to version conflicts across different design centers.

- Continuous File Versioning™ to provide an infinite history of all files and file versions for easy self-service or IT-assisted recovery.

- Up to 60% cost savings compared to the cost of NAS, backup, DR, replication, WAN optimization, and other legacy tools traditionally needed for enterprise file services.

Capabilities Suited for Manufacturing

The Nasuni enterprise file services platform suits today's collaborative, digital manufacturing environments that span the globe. Capabilities include:

Unlimited primary file storage – Physical or virtual Nasuni Edge Appliances are deployed on-premises to provide fast, secure access to files. These appliances send all files immediately to the cloud (no tiering), where the authoritative copies are stored by the Nasuni UniFS® file system in object storage. Since the gold master copies of all files live on inexpensive, virtually unlimited cloud storage, the Edge Appliances only need enough local storage to cache the active data. Unlimited capacity supports demanding CAD/CAM/CAE and 3D modeling file storage requirements, regardless of file size and number.

Unlimited archive storage – By leveraging cooler tiers of cloud storage and the same edge caching architecture, Nasuni offers a secure, long-term, and cost-effective means of storing older manufacturing design files, without the lengthy retrieval times of traditional archive solutions. **Global file locking** – Scalable cloud-based global file locking protects project files from loss or corruption and maintains design workflows by preventing data from being simultaneously written in multiple locations. File locks are extended across the global enterprise and function as if users were accessing files from the same file server.

Global file access – Files are cached locally in each on-site Edge Appliance, giving users in all locations, even small remote offices, fast access to files. Since all changes and updates are constantly sent to the single master copy in the cloud, users in all locations are always working with the most current files.

Advanced data protection – Nasuni Continuous Versioning™ eliminates the need for traditional file backup, while providing advanced recovery points and recovery times. Every change to every file is continuously sent to cloud object storage, where it is versioned and stored by UniFS. Any version of any file can be recovered in minutes, minimizing the impact of data loss or accidental deletions. In the event of disaster, equipment failure, or local office outage, files can still be
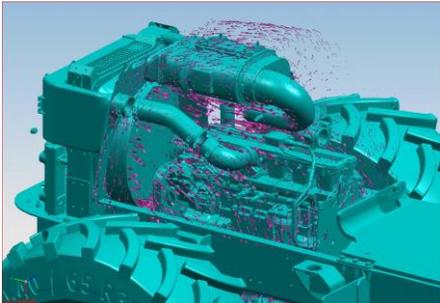
accessed by all users in the cloud. Even restoring local file access by takes only minutes, enabling any location to be a DR site.

Strong Security – Nasuni Edge Appliances join the organization's Active Directory or LDAP directory for full integration with existing user authentication and access control policies. Data is encrypted with strong AES-256 encryption before being sent to the cloud using a key generated and controlled by the customer. Data is never visible to the cloud provider or Nasuni.
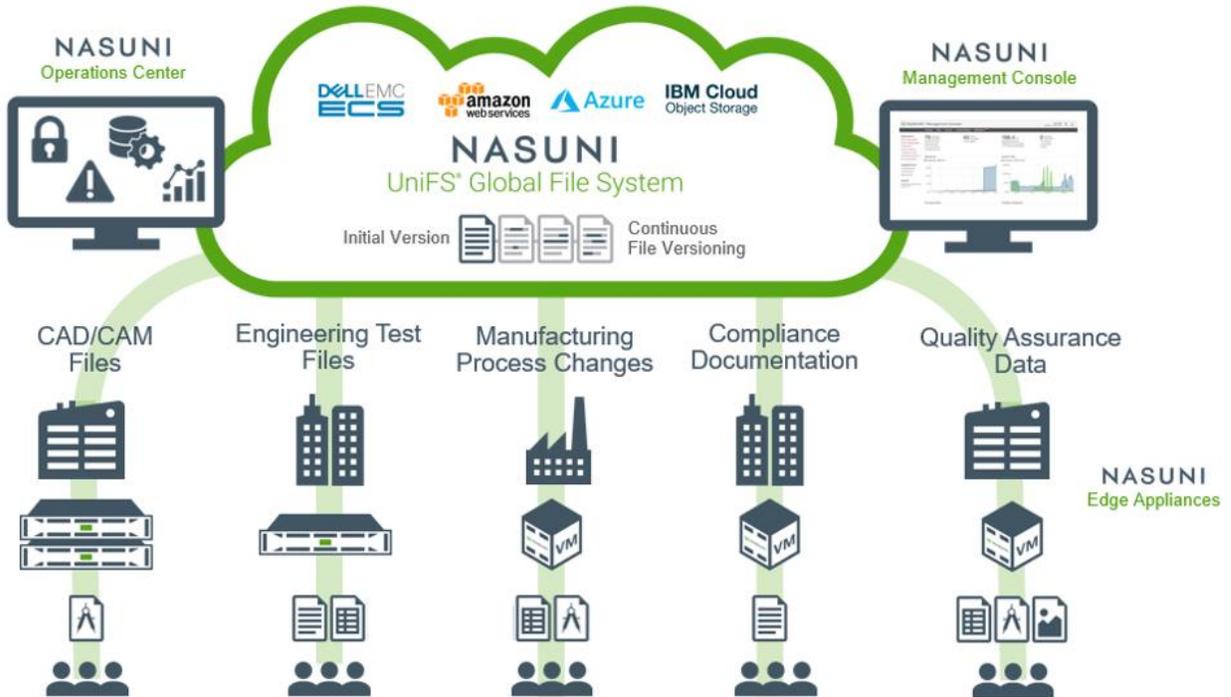
Nasuni stores all files in the cloud while caching frequently accessed files in on-premises Edge Appliances for fast, secure local access. The Nasuni UniFS file system leverages public and private cloud object stores to provide virtually unlimited file storage and global file sharing across the distributed enterprise.

About Nasuni

Nasuni ("NAS Unified") is transforming the way enterprises store, share, protect, and manage fast-growing file data. Powered by Nasuni UniFS®, the first global file system as scalable as the cloud itself, Nasuni's hybrid cloud file services platform combines the limitless capacity, geo-redundancy, and low cost of object storage with the security, performance, and flexibility of local file servers. By using Nasuni and a cloud provider for Network Attached Storage (NAS) consolidation, multi-site file collaboration, archiving, and data analytics, Nasuni customers are meeting global growth, workforce productivity, and "cloud-first" objectives, while also realizing massive IT cost savings. Nasuni is a privately held company based in Boston, Mass.