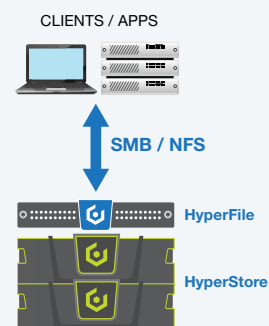# Cloudian HyperFile NAS Controller

Scale-out File Services from Cloudian HyperStore

Cloudian® HyperFile® overcomes the limitations of traditional NAS and supports your cloud initiatives with infinitely scalable file storage and multiple data management options. Maintain storage entirely on-prem, or span your on-premises and cloud storage environments. HyperFile enables innovative solutions to store, share, and leverage information.

Cloudian HyperFile is a scale-out NAS controller that delivers enterprise file services from Cloudian HyperStore® object storage systems. The HyperFile NAS Controller delivers limitlessly scalable, highly available on-premises file services with all the functionality you expect from enterprise NAS—and more.

Cloudian HyperFile NAS Controller
Scale-out file services from Cloudian HyperStore. Get SMB/NFS support, limitless scalability, plus enterprise NAS features such as snapshot, WORM, and global namespace.

The HyperFile NAS Controller delivers unified support for file and object storage plus the full range of enterprise NAS features—such as SMB/NFS support, POSIX-compliance, snapshots, and WORM—all in a fault-tolerant, highly available platform. With next-generation capabilities like multi-cloud integration and converged data access support, HyperFile is a solution that goes far beyond traditional NAS.

KEY BENEFITS

Full Suite of Enterprise File Services
Supports users and applications with SMB/NFS/FTP, plus Active Directory and LDAP integration. snapshot and WORM capabilities.

Limitlessly Scalable Infrastructure Consolidation
Unified storage for both files and objects with limitless capacity scalability and multi-controller support.

New Options for Cloud Integration
Three features combine to open new data management options: Multi-cloud support, converged data access, and data migration/replication.

Maximum Uptime
Multiple levels of redundancy, up to 14 nines data durability, and integrated DR options.

Superior Value
Scale capacity at cloud-like costs. Leverage the latest server and storage technology with pre-configured HA appliances or deploy on the industry-standard servers you choose.

USE CASES

- Media and Entertainment
- Home Directory
- Collaboration
- Video Surveillence
- Engineering
- Legal
- Healthcare
- Storage-as-a-Service

HyperFile Capabilities

Enterprise File Services Platform

POSIX-compliant file system provides multi-protocol access that is fully compatible with NFS and SMB (CIFS) clients. User authentication via Active Directory and LDAP.

Multi-Controller and High-Availability

Each HyperFile NAS Controller includes high-availability support, with dual nodes operating in an active-passive mode. Non-disruptive failover ensures uptime. Multiple NAS Controllers can access the same namespace.

Snapshot Support

Create file system snapshots for each namespace on a schedule you set. Generate point-in-time copies for data protection.

WORM for Data Immutability

Create non-rewritable, non-erasable data to prevent files from being altered or deleted until a predetermined or default retention date. Multi-tenancy lets you create WORM-enabled storage within a shared environment.

Converged Data Access

Directly access file data from object storage without traversing the HyperFile controller. S3-enabled applications can directly read and write file data to object storage—on-prem or in the cloud. Write file data with S3 and read with HyperFile, or the reverse.* Access S3-compatible storage via both file-based apps and S3-compatible apps.

Multi-Cloud Support

Integrated support for Amazon AWS, Microsoft Azure, and Google GCP. Store data on-prem, then replicate or migrate to the cloud platform of your choice.

Global Namespace

Employ a single namespace across multiple NAS controllers to enable shared access by multiple workgroups. Users and applications globally can read and write to a common data set.

Multi-Tenancy

When a single cluster is shared by multiple groups or clients, multi-tenancy lets you assign separate namespaces to each group for isolation and segregated management. QoS at the storage level lets you guarantee performance to each group.

* A manual scan and rebuild of database is required to discover new objects in HyperStore.
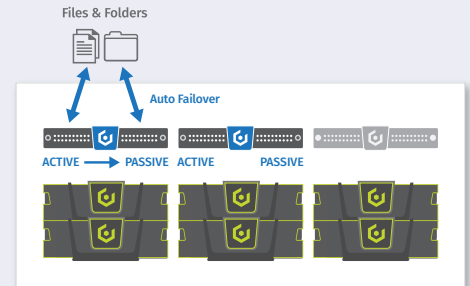
SCALE-OUT FILE SERVICES
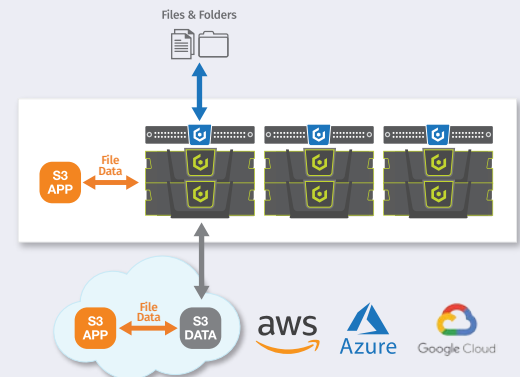Independently scale performance and capacity with multiple NAS Controllers.
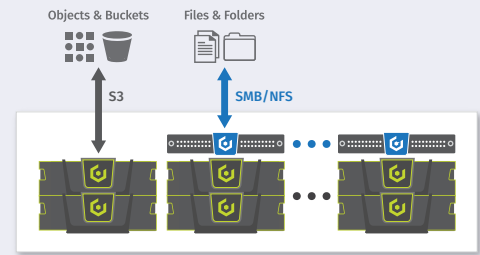
HIGH AVAILABILITY
Multiple levels of redundancy for continuous uptime. Active-passive failover, plus multi-controller capability.
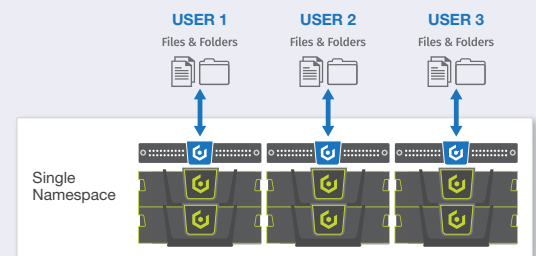
CONVERGED DATA ACCESS & MULTI-CLOUD SUPPORT
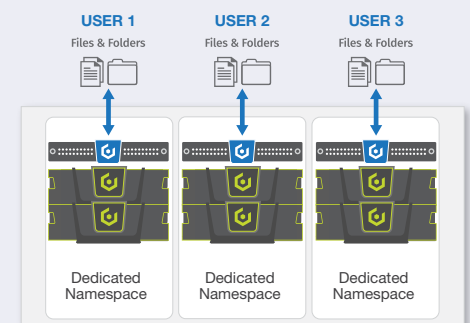Cloud-based and on-premises apps have direct access to file data.

GLOBAL NAMESPACE
Access a single namespace from multiple NAS Controllers to share information across multiple workgroups.

MULTI-TENANCY
A single cluster can include multiple namespaces for isolation. QoS ensures storage performance for each user group.

HyperFile Capabilities

Geo-Distribution

Replicate data to multiple locations for global content distribution. HyperFile can be deployed at remote sites, connected via WAN to a central HyperStore cluster.

Data Migration Engine for Non-Disruptive Implementation

Integrated data migration capabilities help you execute non-disruptive data migration from conventional NAS to Cloudian HyperFile. All migration occurs as a background task, allowing continuous file access during the process.

Local Caching

Each HyperFile NAS Controller includes local caching to accelerate read/write performance. You may select the appropriate cache size for your usage profile to optimise cost vs performance.

Appliance or Virtual Machine

Cloudian HyperFile is available either as a pre-configured, fully-supported appliance, or as a virtual machine.

GEO DISTRIBUTION

For content distribution or collaboration, local HyperFile NAS Controllers plus local storage ensure fast access. Integrated data management tools provide data replication and migration options.
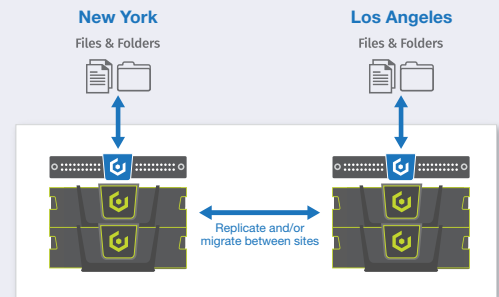
DATA MIGRATION ENGINE

Non-disruptive migration from existing NAS is managed as a background task. Selected files are migrated with uninterrupted user access.
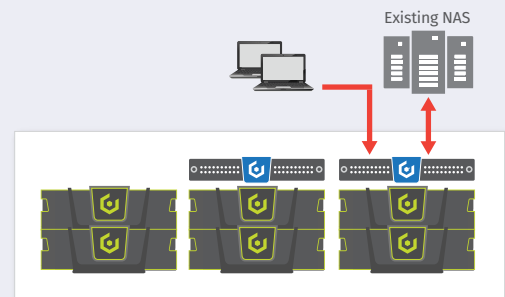
Features

HyperFile Basic NAS Controller

Multi-Protocol Access
- SMB/NFS/FTP
- POSIX compliant

High Availability
- Active/passive HA
- Non-disruptive failover
- Asynchronous mirroring for DR

User Authentication
- Active Directory and LDAP

Acceleration Caching
- Read and write file caching

Converged Data Access Support
- Access files directly to/from object storage
- Allows S3-enabled applications to directly read/write file data

Data Migration to S3 Object Storage
- Legacy NAS/file server to HyperFile

Scalability
- Up to 64 namespaces per controller

HyperFile Enterprise NAS Controller

All HyperFile Basic features, plus:

Snapshots
- Point-in-time copies of file systems
- For data protection of single files or entire file systems

Geo-Distribution
- Allows NAS Controllers to be located across multiple sites with access to a common namespace
- Global namespace
- Multi-controller access
- File versioning

Additional Features

WORM
- Provides secure data retention
- Data immutability for regulatory compliance

HyperFile 1000 Specifications

Storage Protocols	SMB v2.x, 3.0; NFS v3.x, 4.0
Form Factor	1 node in 1U rack mount chassis
OS Drives	2x 240GB SSD (populated in 3.5" drive slots
Metadata Drives	2x 960GB SSD
Data Drives	6 x 3.5" SAS HDD (7200RPM)
ZIL/SLOG Drives	2x 400GB SSD (25 DWPD)
Drive Sizes	8TB to 14TB
Storage Capacity Raw	24TB to 84TB
Redundancy	Hot swappable data drives 2x hot swappable power supplies
CPU	2x E5-2620 v4, 8 core
Memory	128GB
Network Interfaces	2x10GbE (10BaseT or SFP+); 25GbE option
Monitoring/Management	CLI, GUI, API, IPMI
Power Supply	700W Platinum PSU, 1+1 redundancy, 100-240V AC
Cooling	(6) 40×56 dual rotor fans
Dimensions	17.6" x 1.7" x 35" / 448.2mm x 43.2mm x 881mm
IO Ports	Front: (1) USB 2.0 port Rear: (2) USB 3.0 ports, (1) VGA port, (1) RS232 serial port (2) 1GbE RJ45 ports, (1) Gbe RJ45 management port
Operating Environment	Operating temperature: 5°C to 35°C (41°F to 95°F) Non-operating temperature: -40°C to 65°C (-40°F to 149°F) Operating relative humidity: 50% to 85%RH Non-operating relative humidity: 20% to 90%RH

- Single node 1U chassis
- Up to 6x hot-swappable 3.5" disk drives
- Up to 4x hot-swappable 2.5" SSDs
- 10GbE or 25GbE networking

CLOUDIAN®