

Synology®

# SOLUTION GUIDE 2023

Protecting the data that powers  
your business.



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**10 million+**

Synology systems shipped to date

**70+ Exabytes**

Data actively stored and protected

**670,000+**

Organizations protecting their endpoint and SaaS data with Synology

At Synology, we believe professional business solutions should be available to companies and teams of all sizes.

For more than two decades, we have helped our customers excel at what they do by creating innovative hardware and software solutions to overcome data management and security challenges.



Each Synology product is crafted for maximum simplicity, compatibility, flexibility, and reliability. Engineered to last and with a best-in-class operating system, it is easy to see why millions of users rely on Synology daily.

More than half of Fortune 500 companies rely on Synology solutions.



Audi



Effortless Shopping



Holiday Inn



C.P. GROUP



Unistrong Technology Co., Ltd.



PT Amerta Indah Otsuka



## Our solutions



### Data storage and management

Efficient storage solutions that fit into any environment, with support for all common storage protocols and powerful tools to protect data integrity, improve storage efficiency, and manage user access.



### Data and workload protection

Integrated data protection solutions that ensure business continuity through flexible backups and snapshots for Synology systems and endpoints, including PCs, servers, and VMs.



### Infrastructure management and integration

Powerful centralized management, domain and identity management, team collaboration, and email solutions that allow administrators to consolidate IT infrastructure of any size.



### Surveillance and physical security

Video monitoring, management, and recording, as well as a host of AI-driven analytics and physical security controls with transparent licensing and flexible expansion options.

# Data storage and management

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# Storage technologies


As business data grows exponentially, organizations need performant and dependable storage. Synology's hardware and software solutions help firms meet the strictest requirements of data integrity, performance, and scalability.

## Reliability first

Designed for maximum dependability, Synology systems come with features to ensure service continuity and protect digital assets against data corruption.


 **Btrfs file system**  
Safeguards data integrity through metadata mirroring and file self-healing.


 **Snapshots**  
Enables convenient point-in-time recovery of shared folders and LUNs.

 **High availability**  
Multiple built-in failover solutions help maximize service availability.

## Efficient solutions


Reduce the total cost of ownership of your storage solution with technologies that boost storage efficiency, so that you can store more data without having to expand your infrastructure.


 **Data compression**  
Cut shared folder size by up to 30% while extending drive lifespans with inline compression, reducing the size of data before it is written to storage.


 **Data deduplication**  
Remove redundant data across all-flash arrays with volume-wide deduplication and use up to 65% less storage for applications such as virtual desktop infrastructure and virtual machines.

## Simple maintenance

Smart drive replacement options enable system administrators to perform maintenance and repair operations without affecting performance and uptime.

 **Intelligent management of hot spares**  
Remotely add or remove hot spares from any array directly from Storage Manager in Synology DSM.

 **Auto replacement of failing drives**  
Set up automatic replacement of failing or defective drives to prevent data loss and or downtime while arrays are rebuilding.

 **RAID rebuild optimization**  
Quickly bring degraded storage arrays back to a healthy state by only repairing sectors actually in use.

## Flexible scalability

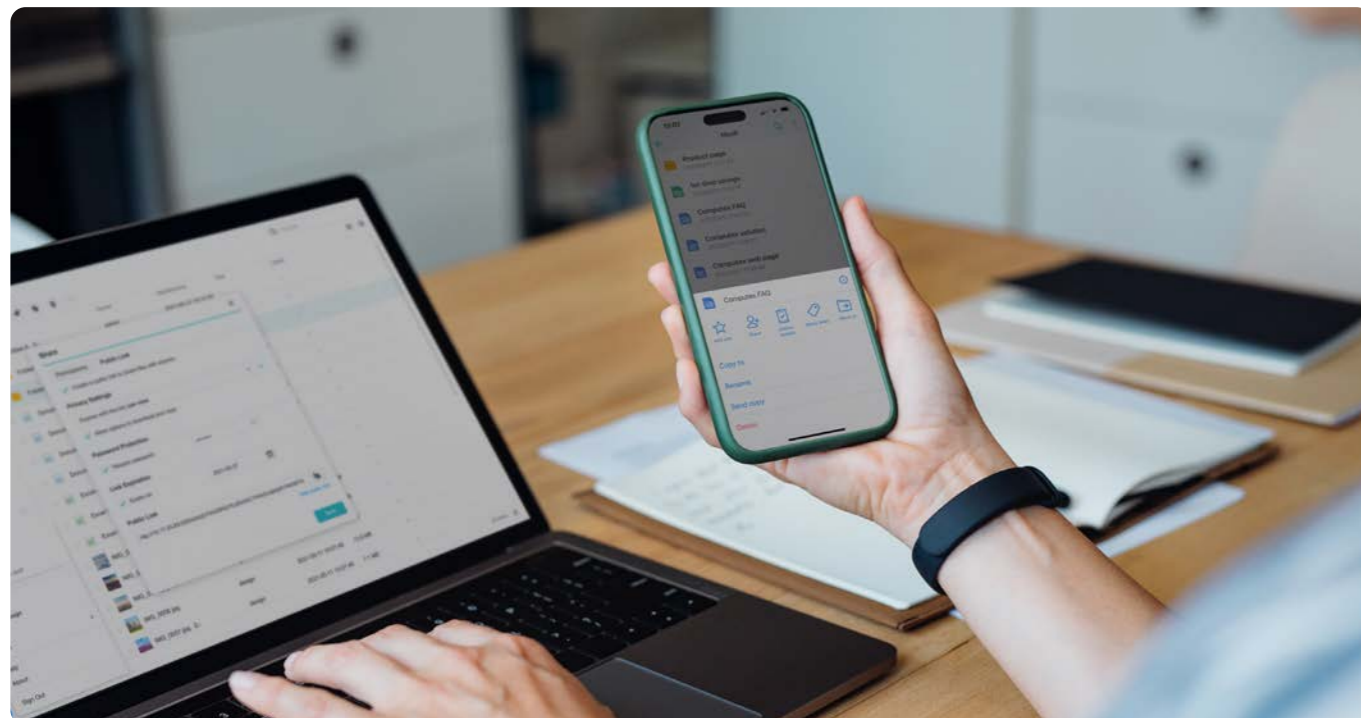
As storage requirements grow, new drives can be added to storage volumes without interrupting running services through a simple and intuitive process.

Deployments can be further optimized for data-heavy applications, such as archiving and video management systems (VMS).

Up to  
**4 PB**  
on a single system\*

Up to  
**36 drives**  
in a desktop deployment\*

\*With host systems fully expanded through expansion units.



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra




The Swiss National Library needed a reliable system that could easily be scaled to multiple petabytes to store its digital collections. Synology helped the library meet strict data protection obligations and make files reliably accessible by all Apple and Windows users at the library over AFP and SMB.

# Data management

Synology offers powerful and intuitive data management with **Synology DiskStation Manager (DSM)** and its numerous packages, enabling businesses to efficiently store, access, manage, and share their growing data.

## File services

Synology storage is easily accessed over the local network through all popular file sharing protocols, making file serving and sharing quick and simple, no matter what platform or device you are using.

			
SMB2	●	●	●
SMB3	●	●	●
AFP	●	●	●
NFS	●	●	●
FTP	●	●	●
WebDAV	●	●	●

## Access management

Configure folder permissions, storage quotas, speed limits, and administrative privileges for Synology DSM services on a user or group basis.

## Cross-platform file management

Build a private cloud for easy file management and synchronization across platforms with **Synology Drive**, eliminating costly license fees and ensuring 100% data ownership.

- ✓ **Available for any platform**  
Leverage secure data access from any authorized device.
- ✓ **On-demand synchronization**  
Keep files up to date across devices and make collaboration more efficient.
- ✓ **Office productivity suite**  
Edit documents, spreadsheets, and slides together in real time.
- ✓ **Scheduled and real-time backups**  
Protect important data from malware attacks or accidental deletion.
- ✓ **Intelliversions technology**  
Save space by retaining only file versions with significant changes for a longer time.

## Integration with existing infrastructure

Simplify access to and management of corporate resources by leveraging Windows Active Directory (Windows AD) and other services.

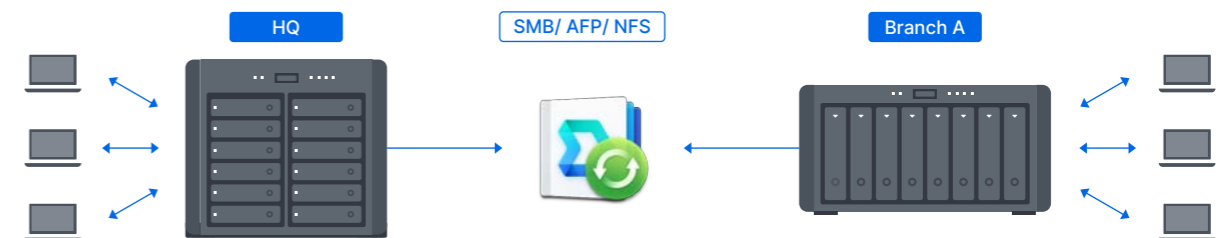


# Multi-site collaboration

High demand for shared digital resources across remote teams requires secure file syncing and sharing options to meet the unique requirements of different organizations.

## Synology Drive: cross-location file sharing and syncing

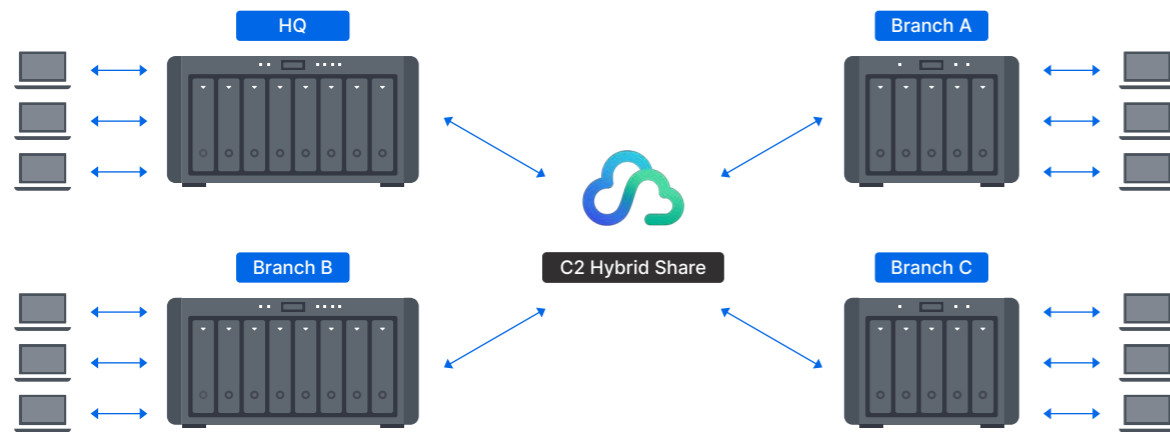
- Synology Drive ShareSync seamlessly synchronizes data across geographically distributed storage systems, enabling employees at different offices to access all the resources they need locally.
- Users can always access up-to-date files on their local Synology system via SMB, AFP, NFS, and other standard protocols, no matter what device or operating system they are using.
- Keep an eye on system status and prevent irregular activity or data breaches thanks to real-time insight into connected clients, connection times, device types, and bandwidth use per client.



US-based Matchstick Productions, a top action sports media production house, streamlined workflows and made footage more searchable and accessible to remote editing and social media teams by strategically deploying Synology storage servers and Drive ShareSync.




### Hybrid Share: dynamic data storage for higher productivity

- Leverage the flexibility of the cloud. Stream files and folders to branch locations on request without storing the bulk of your data locally.
- Enjoy access at local LAN speeds. Work efficiently with frequently accessed data automatically cached to the local server.
- Grow without hardware constraints. Expand hybrid folders in the cloud as your needs change without replacing local systems.
- Avoid losing data. Recover older folder versions in case of accidental deletion or modification thanks to change tracking.





### File sharing and syncing for your organization


Choose the solution that best fits your organization's needs or combine Synology Drive and Hybrid Share to enable cross-platform access, file-level versioning, and intelligent bandwidth offloading.

Scenario	Suggested solution	Benefits
<b>Single office</b> Team members or multiple teams operating from a single location.	 Synology Drive Server + Synology Drive Client	<ul style="list-style-type: none"> <li>• Data consolidation on the office Synology system</li> <li>• Seamless file syncing across PCs with the Synology Drive Client</li> <li>• Cloud-like experience with 100% data ownership</li> </ul>
<b>Hub-spoke model</b> Headquarters collaborating with distributed branches or teams.	 Synology Drive ShareSync	<ul style="list-style-type: none"> <li>• Data synchronization across distant Synology systems</li> <li>• Access to latest file versions at all branches</li> <li>• Local access at LAN speeds</li> </ul>
<b>Fully remote</b> Organizations without central IT facilities or hub-and-spoke setup.	 Hybrid Share	<ul style="list-style-type: none"> <li>• Streaming of requested files from cloud to local NAS</li> <li>• Reduced local storage footprint</li> <li>• Local caching for improved access speed</li> </ul>

**Combine Synology Drive and Hybrid Share**  
to create the ultimate file syncing and sharing solution.

  
 Cross-platform access

  
 File-level versioning

  
 Bandwidth offloading

## VM and block storage

Synology systems provide versatile VM and container storage for all major hypervisors. Built-in snapshot and live recovery functionality maximize the availability of virtual environments.

### Certified storage

Certified compatibility and integration with VMware® vSphere™, Microsoft® Hyper-V®, Citrix® XenServer™, Kubernetes, and OpenStack streamlines provisioning for and management of VMs.



### Dependable data protection

Leverage built-in data protection solutions to keep virtualized services available.

#### Snapshot Replication

Creates and replicates application-consistent snapshots at regular intervals, shielding your business against disasters.

#### Synology High Availability

Lets you maintain active-passive high-availability clusters to prevent prolonged downtime and protect business continuity.

### Performance optimization

Achieve the perfect balance of high performance, reliability, and efficiency.

#### Performance-boosting integrations

Offload storage operations, achieve better transfer performance, and boost connection stability with VMware VAAI and Windows ODX.

#### Hybrid storage

Achieve the ideal balance between performance, cost, and storage capacity by combining SSD cache and HDD arrays.

#### All-flash arrays

Opt for the all-SSD FlashStation Series to support high I/O, low-latency applications such as databases, analytics, and financial transactions.

### Easy management

Streamline VM storage provisioning and management with packages and plugins for Windows, VMware, and Kubernetes integration.



### Synology Storage Console

Manage storage directly from Windows or VMware hypervisors, without separately signing in to Synology DSM.

### CSI Driver for Kubernetes

Perform volume operations directly from the K8s command-line interface (CLI), with changes mirrored seamlessly to Synology DSM.



Britain's Drakewell specializes in traffic data collection, analysis, and reporting. For their demanding virtual applications, they rely on efficient and reliable all-flash storage from Synology, leveraging Snapshot Replication to protect their highly critical workloads.

# Data and workload protection

## Data protection

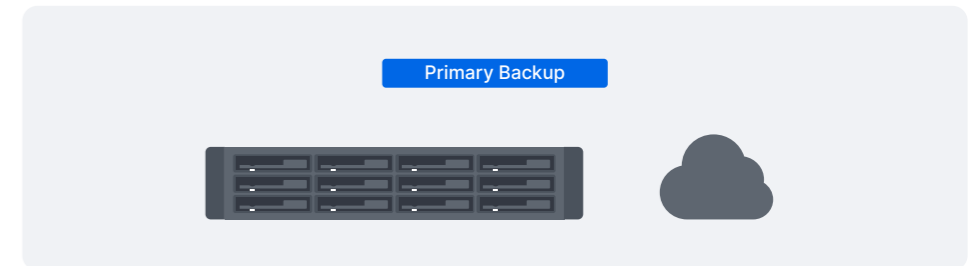
When businesses need a reliable backup strategy against data security threats, human error, or natural disasters, best practice is to design a 3-2-1 backup strategy. Synology solutions help businesses safeguard and protect their data by backing up endpoints, physical and virtual servers, SaaS accounts, and more onto on-premises storage and into the cloud.

### 3-2-1 BACKUP RULE

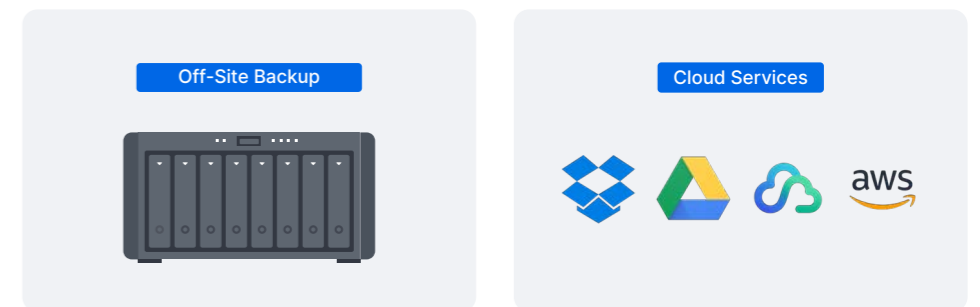
**1** Have at least 3 copies of your data



**2** Store these copies on 2 different mediums



**3** Keep at least 1 copy of your data off-site



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Japanese shipper Interasia Lines rely on Synology's professional data protection solutions to guard against data loss and malware attacks plaguing the industry. As part of a 3-2-1 backup strategy, data is replicated to two storage servers and C2 Storage in the cloud, ensuring access to critical data for 120 employees at HQ.



## Endpoint and SaaS protection



### Active Backup for Business

Protect PCs, servers, and VMs with file-level restoration and instant recovery on Synology Virtual Machine Manager or VMware environments. Reduce storage consumption thanks to advanced data deduplication.



### Active Backup for Microsoft 365

Consolidate all Microsoft 365 account protection and back up corporate data stored on OneDrive for Business, SharePoint Online, Exchange Online, and Teams. Benefit from scheduled backups and flexible file versioning and safeguard your data according to your preferences.



### Active Backup for Google Workspace

Back up all your Google Workspace data to protect company accounts against accidental data loss, service downtime, or to enforce data retention policies. Reduce storage use by using single instancing and block-level deduplication to back up identical content only once.

## Cloud backup



### C2 Backup

Safeguard Windows PCs, Mac devices, physical servers, and Microsoft 365 data with a comprehensive cloud backup service hosted on Synology C2.

Prevent unauthorized access with private key protection and client-side encryption, and avoid data corruption thanks to 99.999999999% data durability.



SHISEIDO Taiwan needed a data protection solution for over 500 staff PCs at HQ, and more than 50 virtual hosts and physical servers. Active Backup for Business dramatically cut down backup times while reducing storage use by more than 50% thanks to powerful global deduplication and Changed Block Tracking (CBT) technology.

## Synology storage systems backup



### Hyper Backup

Back up data, applications, and configurations from Synology systems to local folders, external drives, secondary servers, and the cloud, including Synology C2 Storage, with data deduplication and encryption.



### Snapshot Replication

Leverage the Btrfs file system to create fast point-in-time copies of shared folders and LUNs that can be replicated to other Synology systems and restored in case of data loss or accidental deletions.



### Active Backup for Business

Protect your entire Synology server, including data, settings, applications, and user preferences with full-system backups and bare-metal restoration.



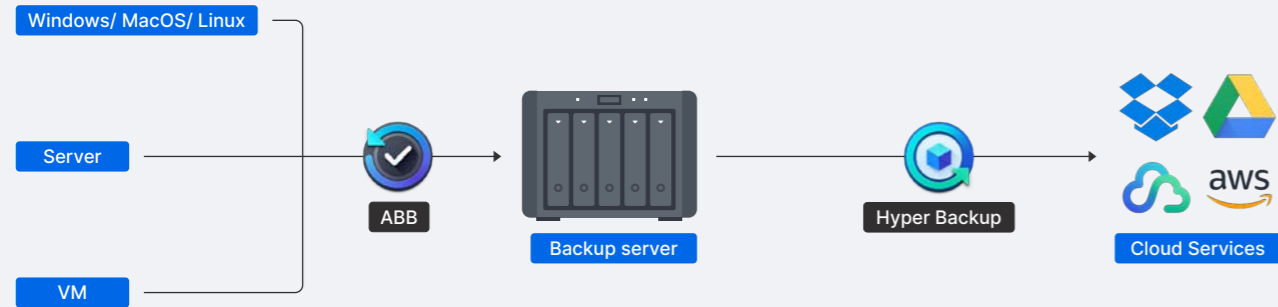
**AMGe**  
association  
des médecins  
du canton  
de Genève

The Geneva Doctors' Association represents the Swiss region's 3,000+ private medical practitioners. The organization built a robust, secure, and reliable email solution for members with MailPlus High Availability, leveraging Synology's Snapshot Replication to protect the all-flash main mail clusters with frequent local copies and Hyper Backup to back up the entire constellation to off-site OpenStack Swift storage.

## Reliable data protection for every organization

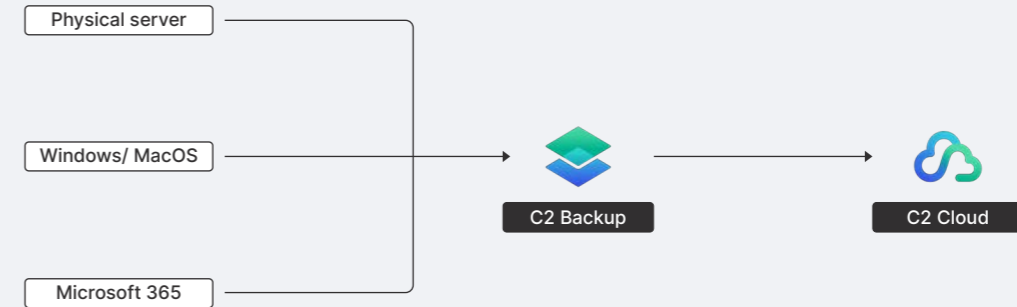
Create a multi-tiered data protection plan that fits your organization with versatile and flexible backup solutions.

### Single office



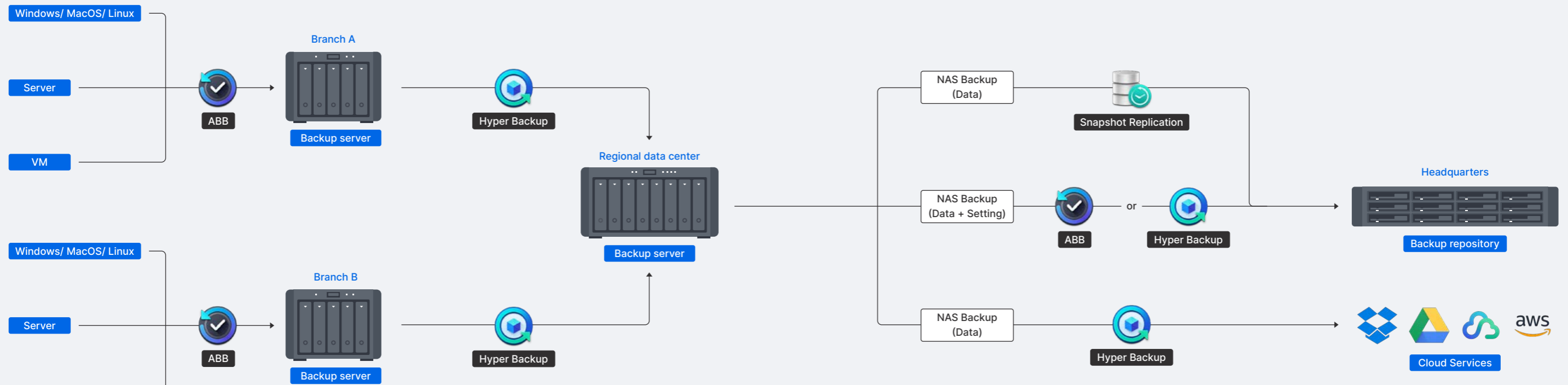
When team members or multiple teams operate from a single location, all endpoints can be backed up onto a central server with Active Backup Suite and then copied to the cloud for added redundancy using Hyper Backup.

### Fully remote



Teams and individuals working remotely can directly back up physical servers, PCs, Macs, and Microsoft 365 accounts to Synology C2 with C2 Backup.

### Hub-spoke model



Companies with branches can sync data from multiple servers onto a central server and continuously back up this data onto a secondary server.

# Infrastructure management and integration

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## System management

Deploy, manage, and monitor Synology servers across sites with locally hosted and cloud solutions.

### Large-scale and distributed management



#### Central Management System

Synology Central Management System (CMS) simplifies configuration and management of large or distributed storage deployments.



#### Group policies and tasks

Enforce policies and perform actions on all servers in a deployment, a selection, or specific devices.



#### System and package updates

Selectively or batch update **Synology DSM**, packages, or settings on any server under your management.



#### Granular user delegation

Give specific users the authority to carry out management tasks on one or several servers.

### Cloud-supported fleet monitoring



#### Active Insight

With real-time analytics, **Active Insight** simplifies monitoring server health and performance, no matter the size of the deployment.



#### Performance analytics

Monitor each server's system health, storage use, and network performance in real time from a single dashboard.



#### System protection

Keep systems up to date, check backup statuses, and receive alerts when suspicious login attempts are detected.



#### Actionable intelligence

Get notified when a server is likely experiencing anomalies and receive detailed troubleshooting advice.



BBC Media Action supports local media from 16 global offices. To improve both local video management and central control, they set up Synology storage servers at each of the offices with management from a Synology CMS host in London. Regular syncing of files to HQ with **Hyper Backup** allows UK staff to review daily footage while also protecting data.

# System management

Combine Synology CMS and Active Insight to create a comprehensive system management and monitoring solution for your Synology server fleet.



CMS



Active Insight

	CMS	Active Insight
<b>Security</b>	Potential anomaly detection	✓
	Backup status monitoring	✓
	Problem-solving advice	✓
	Reporting	✓
<b>Monitoring</b>	Storage and network performance analysis	✓
	Login activity monitoring	✓
	Activity notifications	✓
	Hardware health check	✓
	Mobile app	✓
<b>Management</b>	Group policy enforcement	✓
	Mass task execution	✓
	Batch server deployment	✓
	Selective or batch updates	✓
	Admin rights delegation	✓

# Identity and device management

Central user and device management throughout organizations supports productivity and reduces time spent configuring access to internal and external applications.

## Run an on-premises directory server



### Synology Directory Server

Configure your Synology server as a central domain controller with Synology Directory Server. Easily set user permissions, modify group privileges, and deploy security updates or software. Migrate from Windows Active Directory with ease to streamline IT management.



Seamless user authentication



Bulk policy and update management



Detailed event logging

## Leverage the flexibility of the cloud



### C2 Identity

Centralize user and device management in the cloud with C2 Identity to streamline user onboarding, device deployment, and protection of sensitive data throughout the organization.



SAML SSO support for cloud applications



LDAP edge server for local authentication



Multi-site management



Enhanced security



SAT Knowledge, one of Taiwan's leading online course platforms, rolled out C2 Identity to centrally manage employee workstations. Identity management in the cloud helped them centrally manage employee laptops and other devices throughout the world, while simplifying the steps necessary for employee onboarding and offboarding.

# Identity and device management

Boost productivity and security with intuitive user account and device management throughout your business.



Synology Directory Server



C2 Identity

## Scenario

Scenario	Synology Directory Server	C2 Identity
<b>Single office</b> Team members or multiple teams operating from a single location.	✓	
<b>Hub-spoke model</b> Headquarters collaborating with distributed branches or teams.	✓	✓
<b>Fully remote</b> Organizations without central IT facilities or hub-and-spoke setup.		✓

## Benefits



Synology Directory Server

- Domain server for Windows Active Directory
- User authentication for Synology, Windows, Mac, and Linux platforms
- User and group permission settings
- Security and software update deployment
- Maximum service uptime with Synology High Availability, active-active DC clusters, and Hyper Backup
- Single sign-on (SSO) for Synology Productivity Suite applications



C2 Identity

- On-premises edge server node deployment using Synology NAS or a Docker container
- Offline local device and service authentication
- Integration with Microsoft 365 and Google Workspace
- Authentication via SSO for cloud applications with SAML 2.0 support (Dropbox, Amazon, and more)
- Cross-platform management of Windows and macOS devices from a central console
- Protection of credentials with Secure Remote Password (SRP) protocol and complex password requirements

# Business communication

Set up an on-premises email server to ensure team efficiency and data ownership with **MailPlus**, boost collaboration with the flexible and secure **Chat** messaging service, efficiently keep track of colleagues with **Contacts**, and integrate everything with a configurable **Calendar** designed for planning and task management.



## MailPlus

Set up an on-premises mail server to boost team efficiency while maintaining full data ownership with **MailPlus**.



## Chat

Streamline team collaboration with secure one-on-one chats and flexible channels via **Synology Chat**.



## Contacts

Easily find up-to-date contact data for colleagues and centrally organize client data with **Contacts**.



## Calendar

Stay in sync and never lose track of corporate events and meetings with a configurable **Calendar**.

# Secure and convenient file transfers

Go beyond the limitations of email clients and start transferring files up to 20 GB in size securely with **C2 Transfer**. Run up to 100 file transfer tasks simultaneously and add an extra layer of protection for sensitive documents with link expiry dates, download limits, and watermarks.



The 370 employees of the **NAGE rescue zone** provide firefighting and ambulance services for over 10 municipalities and 200,000 civilians out of four fire stations in Belgium's southeast. A complete IT solution from Synology powers the rescuers' backup and recovery, file sharing, and camera surveillance, while Synology MailPlus, Chat, and Calendar ensure the communications that keep the region safe.

# Surveillance

## Surveillance Station

Designed for enterprise environments, **Surveillance Station** scales up and out to support massive multi-site deployments while maintaining an intuitive interface for security personnel and IT staff.

With over 500,000 active deployments and more than 2.5 million connected cameras, **Surveillance Station** is an industry-proven solution.

### Deployment

- Vast camera and device support for easy and cost-effective integration
- Assisted camera deployment for quick configuration of cameras and devices
- Versatile recording modes for effective surveillance in any scenario
- Efficient automation capabilities to minimize the need for on-site personnel

### Monitoring

- Customizable monitoring dashboard with live alerts and online map support
- Greater control through I/O widgets and PTZ camera controls
- Machine learning-powered analytics for deeper automation\*
- Comprehensive archiving with smart search capabilities
- Multi-platform support with versatile notification options



\*DVA features are limited to certain models only.

## Management and scalability

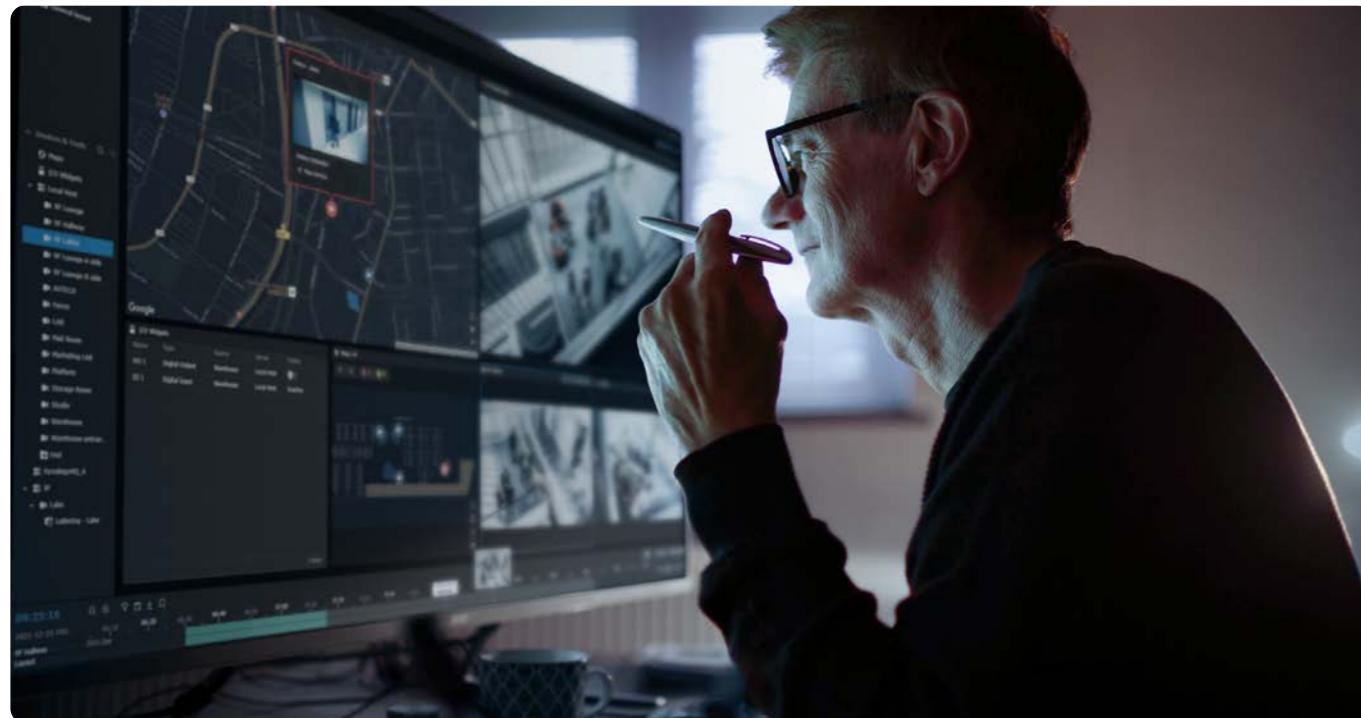
- Streamlined deployment supported through intuitive wizards
- Unified and customizable monitoring dashboard
- Centralized management portal for multi-server configuration
- Reliable failover options to maximize uptime

## Security and privacy

- Fine-grained user management features
- Encryption support to secure video at all stages
- Additional tools to help protect against privacy infringement and data leaks

## Backup and protection

- Built-in backup to secondary NAS to ensure high-quality emergency copies
- Hyper Backup for Surveillance Station configuration backup
- Dual recording for simultaneous on-premises and cloud recording
- N+M failover for automatic or manual transfer of recording duties



For more information about surveillance solutions from Synology, please visit our website: <https://www.synology.com/surveillance>

# Regulatory compliance

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# Privacy at Synology

Synology holds itself to high standards in handling and processing personal information and complies with laws on data protection and privacy including the European Union's General Data Protection Regulation (GDPR) and California Consumer Privacy Act (CCPA).



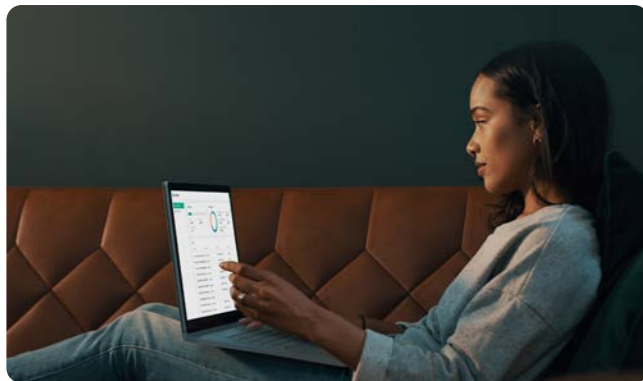
## Data collection, usage, and sharing

Personal data, including names, email addresses, phone numbers, and payment methods are collected, used, and shared with strategic partners only after obtaining users' consent and only for the purposes communicated to users in order to provide products or services.



## Data security and storage period

Synology employs various data protection methods to minimize the risks of misuse, unauthorized access and disclosure, and loss of access. These safeguards include the use of pseudonymization, data encryption, data hashing, and other technologies and permission control methods.



## User rights

Synology's services are generally provided on an opt-in basis, with required and collected information differing per service. In addition, users can subscribe to receive certain product and service-specific or general communications.



## Children's data

Synology does not typically collect age or birthday data, as this information is not used by Synology. If Synology is notified or discovers that data collected is from a child under 13 years old, we will take steps to delete such information as soon as possible.

# HIPAA compliance

The Health Insurance Portability and Accountability Act (HIPAA) was passed by US Congress in 1996 to set regulatory standards for the lawful use and disclosure of protected health information (PHI).



Synology's flexible management tools enable system administrators to design a HIPAA-compliant infrastructure that ensures the security, confidentiality, and integrity of patient records.



### Login protection

Synology DSM is designed from the ground up to shield data from unauthorized access.



### Data encryption

Leverage industry-standard AES-256 encryption to design and manage an effective encryption strategy for health data storage.



### Access control

Ensure that only authorized personnel can view and operate health data, and limit circulation of sensitive documents based on flexible criteria.



### Data integrity and availability

Features of the Btrfs file system, Synology High Availability, and multiple backup solutions help preserve the integrity of patient records and ensure that PHI are always available.



### Auditing

Access detailed logs to keep track of how PHI is accessed and operated, ensuring proper use and compliance with HIPAA regulations concerning data breach notifications.



# Product and solution lineup

## Products at a glance

Whether you need one terabyte or one thousand, Synology offers a wide selection of products for your specific needs.

### Tower servers

#### Advanced data management

Compact and energy-efficient servers ideal for building a robust private cloud, data protection, or surveillance solution without a dedicated data rack or server room.

Max. storage capacity: Up to 648 TB



### Rackmount servers

#### General purpose storage

High-performance, scalable, and reliable systems for large-scale enterprises tackling specialized applications.

Max. storage capacity: Up to 720 TB



#### All-flash arrays

All-flash storage engineered for high-performance workloads, business applications, and virtualization environments.

Max. storage capacity: Up to 504 TB



#### High scalability solutions

Scalable high-density storage for multi-petabyte applications.

Max. storage capacity: Up to 4.8 PB



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## Products at a glance

A host of solutions supported by the secure Synology C2 platform for data and password management, file sharing, backup, and more.

### Cloud services



#### C2 Backup

Protect personal and business workloads with an intuitive and centralized solution that keeps data safe.



#### C2 Identity

Manage users and devices centrally to streamline maintenance and enable easy access to resources.



#### C2 Object Storage

An S3-compatible object storage service available worldwide.



#### C2 Password

Save and organize login details and personal information for quick access, and transfer files without risk of interception.



#### C2 Transfer

Send files on a trustworthy platform that utilizes end-to-end encryption and secure user authentication.

### Hybrid cloud for NAS



#### Active Insight

Streamline device troubleshooting and monitor device health from anywhere using a central cloud-hosted dashboard.



#### C2 Storage for Hyper Backup and Hybrid Share

Protect your Synology NAS with storage-efficient backups, and sync data across multiple branches for improved productivity.



#### C2 Surveillance

Leverage the flexibility of the C2 cloud to add an extra layer of protection to your security recordings.

## Synology Test & Buy Program

Test Synology enterprise products in your IT environment with Synology's free trial offer for select products. See how our solutions handle I/O-intensive and latency-sensitive applications with transparent TCO, no complex license renewals, and easy scaling.

### FS6400

FS Series for high-performance and all-flash requirements



### SA3200D

SA Series for high storage scalability requirements



### UC3200

Dual controllers for maximum uptime and high redundancy



# Glossary

## Btrfs

A file system developed by multiple parties designed to address obstacles often encountered in enterprise storage systems.

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## Client-side encryption

An encryption method that is applied to data on the sender's side before it is transmitted from a user device to a server.

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## Data deduplication

A data optimization process that eliminates duplicate data to maximize storage utilization and enable more efficient backups.

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## Data durability

The ability of a storage medium or system to keep data consistent and intact by preventing drive failures, bit rot, and other forms of data corruption. Used to indirectly estimate the likelihood of data loss.

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## Failover

The transfer of client connections and workload from an unresponsive server to a standby one within a high-availability cluster, with the objective of keeping hosted data and applications available.

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## File self-healing

Btrfs-supported technology that provides checksums for data and metadata, generates two copies of metadata, and then verifies the checksums during each read process. Once a mismatch is discovered, the Btrfs file system is able to auto-detect corrupted files with mirrored metadata and recover corrupted data using the RAID volume's parity data.

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## File sharing protocols

Standard file transfer protocols used for the transmission of data between servers and clients on a computer network.

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## Inline compression

A backup storage optimization technology that helps reducing backup storage requirements by removing redundancies before data is written to the backup destination.

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## Instant recovery

A feature available in Active Backup for Business that quickly restarts virtual machines directly from a compressed and deduplicated backup file to minimize downtime. Intelliversioning technology.

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## Intelliversioning technology

A file version rotation algorithm that determines which version is of the lowest priority and discards it when the maximum number of versions is reached.

## LUN

Logical Unit Number, a portion of a set of hard drives that is mounted as a volume within the operating system.

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## Metadata mirroring

Btrfs-supported technology that stores two copies of file metadata on a volume, enabling data recovery if the hard drive is damaged or suffers from bad sectors.

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## Multi-Factor Authentication (MFA)

An authentication system that requires more than one distinct authentication step for successful authentication.

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## On-demand synchronization (Synology Drive)

A configuration option in Synology Drive ShareSync and Synology Drive Client. When enabled, files are downloaded to the local client only when opened, modified, or pinned (available for Windows 10, macOS 12.3 and newer).

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## RAID

Redundant Array of Independent Disks, a data storage technology that allows multiple drives to be combined into a single storage space for the purposes of data redundancy and performance improvement.

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## Single sign-on (SSO)

A user authentication method that allows users to sign in to several services with a single set of credentials.

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## Snapshot technology

A data protection technology that creates point-in-time copies of shared folders or LUNs to record their status at a given time. Used in conjunction with the replication mechanism for the purpose of data restoration.

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## Storage pool

A collection of a number of physical storage resources (e.g., hard drives) grouped together as a single storage unit.

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## Synology DSM

The operating system powering every Synology storage system, designed for data storage, management, and protection.

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## Time-based One-time Password (TOTP)

A temporary password generated by an algorithm that uses the current time of day as one of the authentication factors.

# Do you want to know more?

Our website [www.synology.com](http://www.synology.com) features a comprehensive knowledge base and all the latest information related to Synology and its products, including more details about system requirements and feature limitations.



## Knowledge Center

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## RAID Calculator

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## Community

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