

Building a Secure and Scalable Storage Foundations for Your Business

Sales Manager

Chih Hsi Hu

Recognized by Worldwide Enterprises

150k

Business Clients

50%+

Top Fortune 500
Enterprises Trust Synology

98%

Recommend Score
in Gartner Peer Insights

Used in Different Industries



Semiconductor



Automotive



Telecommunications



Retail



Banking



Media



FMCG



Healthcare

Key Elements for the Modern Storage Server



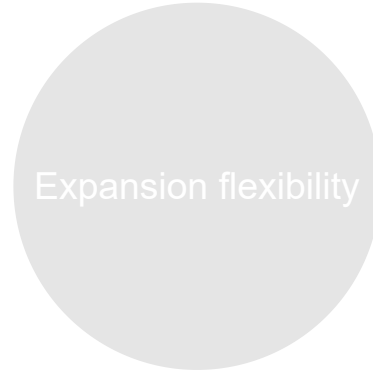
High Security

High-speed
performance

Expansion flexibility

Multi-site scenarios

Key Elements for the Modern Storage Server



Cyber Attack Trends

38% +

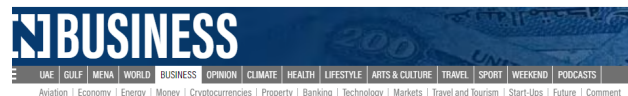
Global YoY increase

71M +

Cyber attacks attempts in UAE, 2023Q1-Q3

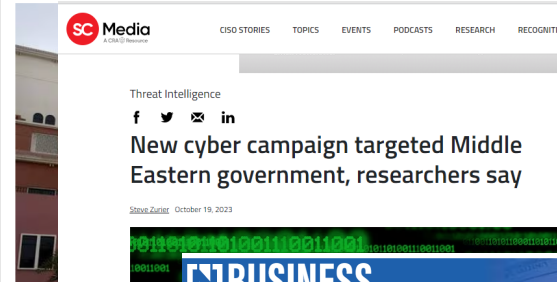
\$8 M +

Cost of data breaches in ME Region 2023



Moorfields Eye Hospital Dubai investigates cyber attack

► Cyber criminals have targeted some of the hospital's servers in a recent 'IT security incident'



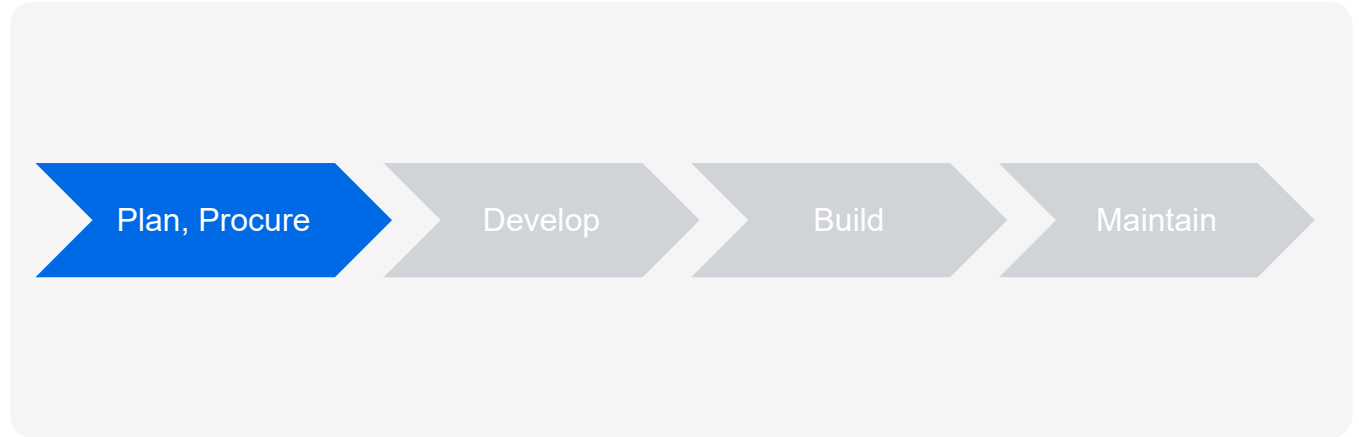
The background is a detailed, high-angle photograph of a server circuit board. The board is dark, with intricate gold-colored traces and components. Numerous small, bright blue lights are scattered across the surface, creating a bokeh effect in the background. In the center of the image, a transparent, glowing blue cube is superimposed. Inside the cube, a soft, white, ethereal cloud is visible. The overall lighting is dark and moody, with the blue lights providing a cool, technological glow.

Security, the Fundamental Element of the Storage Server

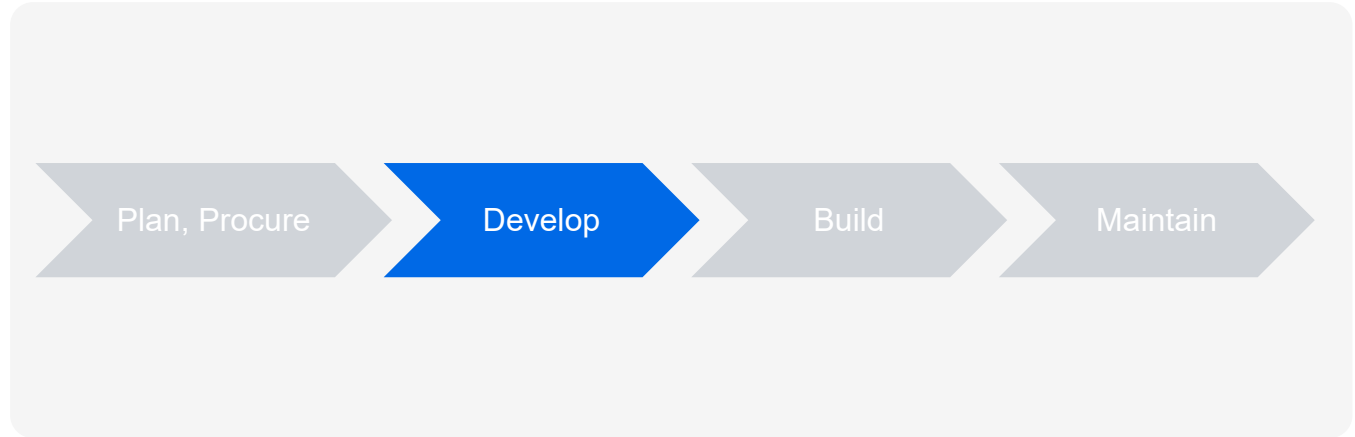
Internal - Comprehensive Security



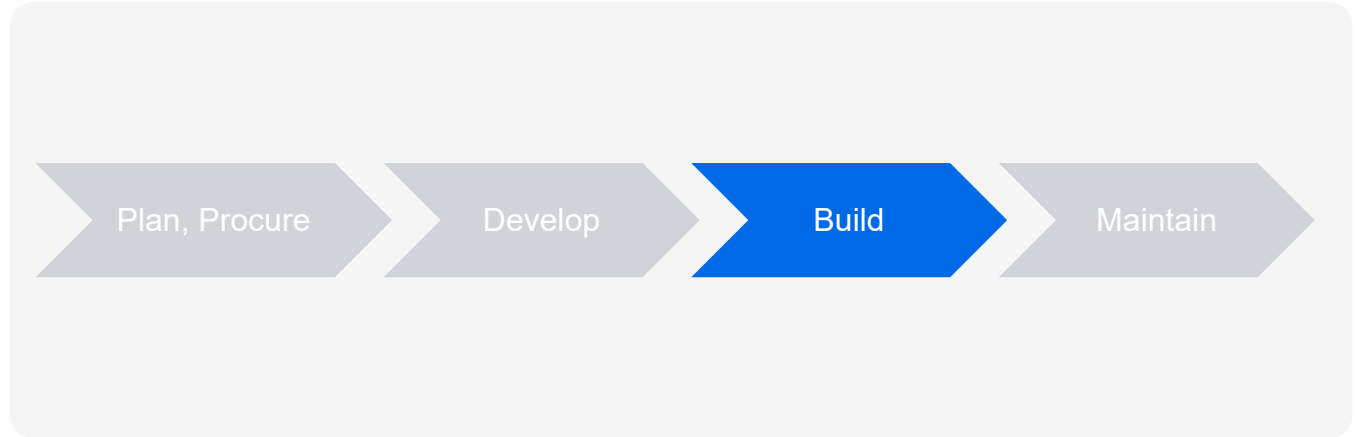
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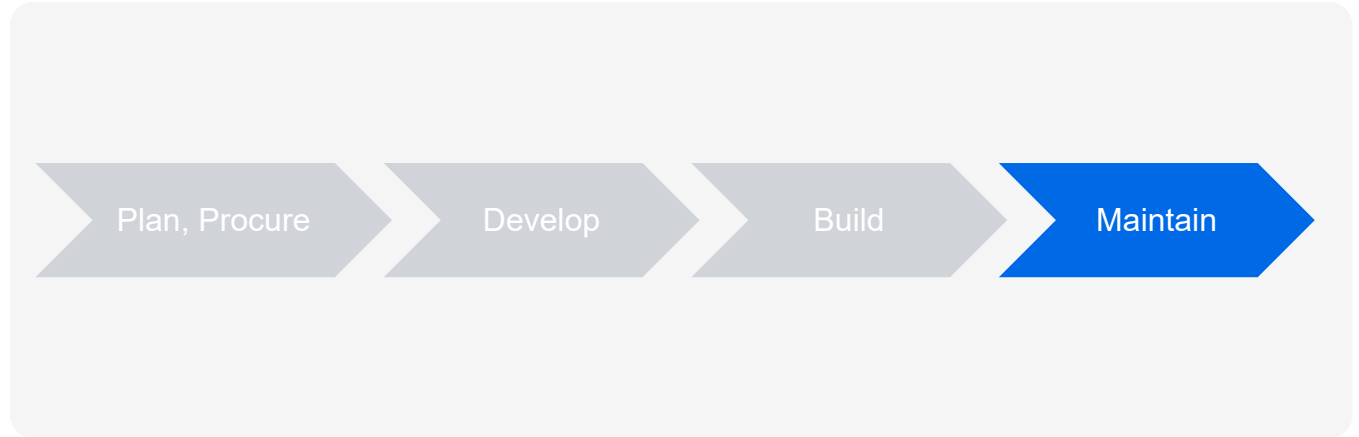
Internal - Comprehensive Security



Internal - Comprehensive Security



Internal - Comprehensive Security



External - Comprehensive Security

User sign in

Secure SignIn

2FA

Adaptive MFA

Data Security

Shared Folder
encryption

Volume
encryption

WORM storage

3-2-1 Backup

Snapshot
Replication

Hyper Backup

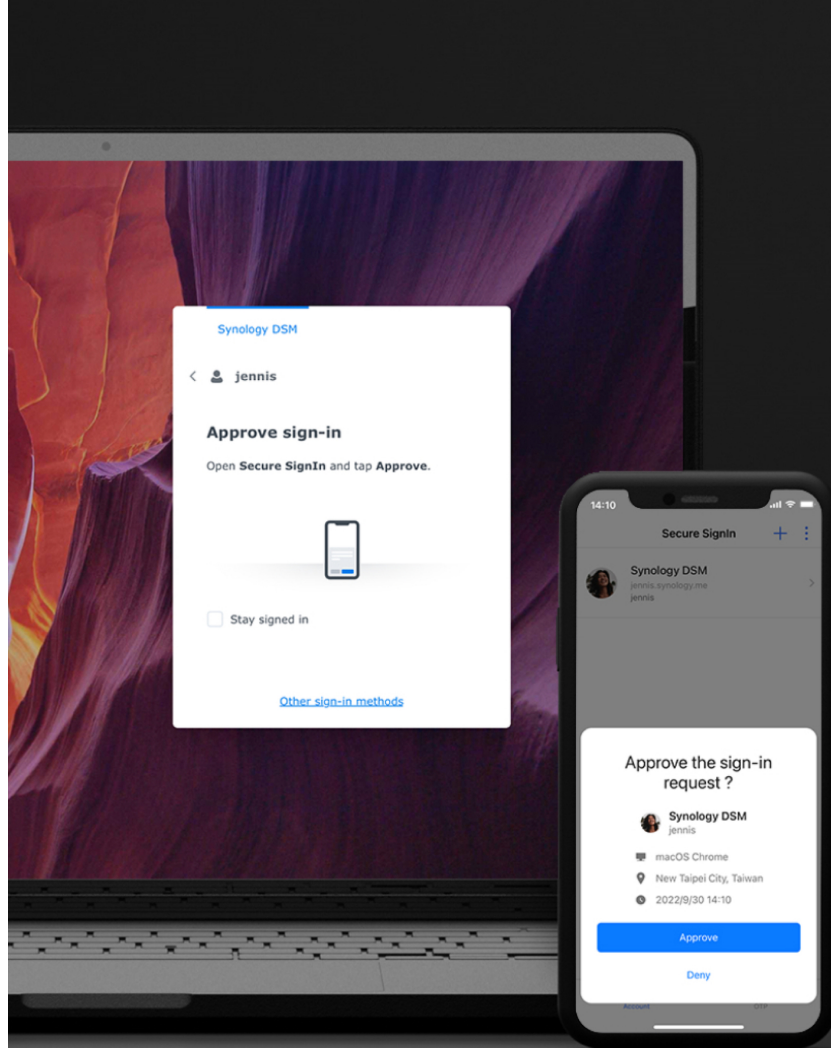
Immutable
Snapshot

New Features released in 2023

Adaptive MFA (AMFA)

Automatically triggered under following conditions

- Unknown device
- WAN connection
- Password sign in admins



Data Security



Volume encryption

- Shared folder, LUN, packages settings and data
- 48% of seq. write performance increase



WORM storage

- Protect folders for a defined period or disable changes forever
- Prevent data being deleted or modified
- Comply with specific industry regulations

Data Security



Volume encryption

- Shared folder, LUN, packages settings and data
- 48% of seq. write performance increase



WORM storage

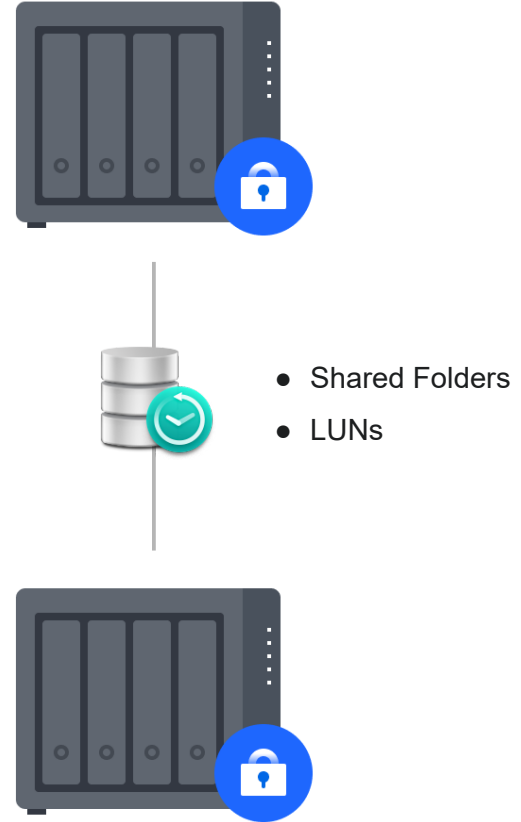
- Protect folders for a defined period or disable changes forever
- Prevent data being deleted or modified
- Comply with specific industry regulations



Immutable Backup

Snapshot Replication

- Shared folder, LUN
- No modifications or deletions
- Prevent from ransomware attacks



Key Elements for the Modern Storage Server



High Security

High Performance

Expansion flexibility

Multi-site scenarios

**How Synology all-flash models satisfy
the needs for high-performance?**

Synology FlashStation

Flagship performance

FS6400

215K iSCSI 4K random
write IOPS



Mid-range performance

FS3600

173K iSCSI 4K random
write IOPS



Efficient and economic

FS3410

129K iSCSI 4K random
write IOPS



Entry level top choice

FS2500

83K iSCSI 4K random
write IOPS



Fit in Your Virtualization Environment

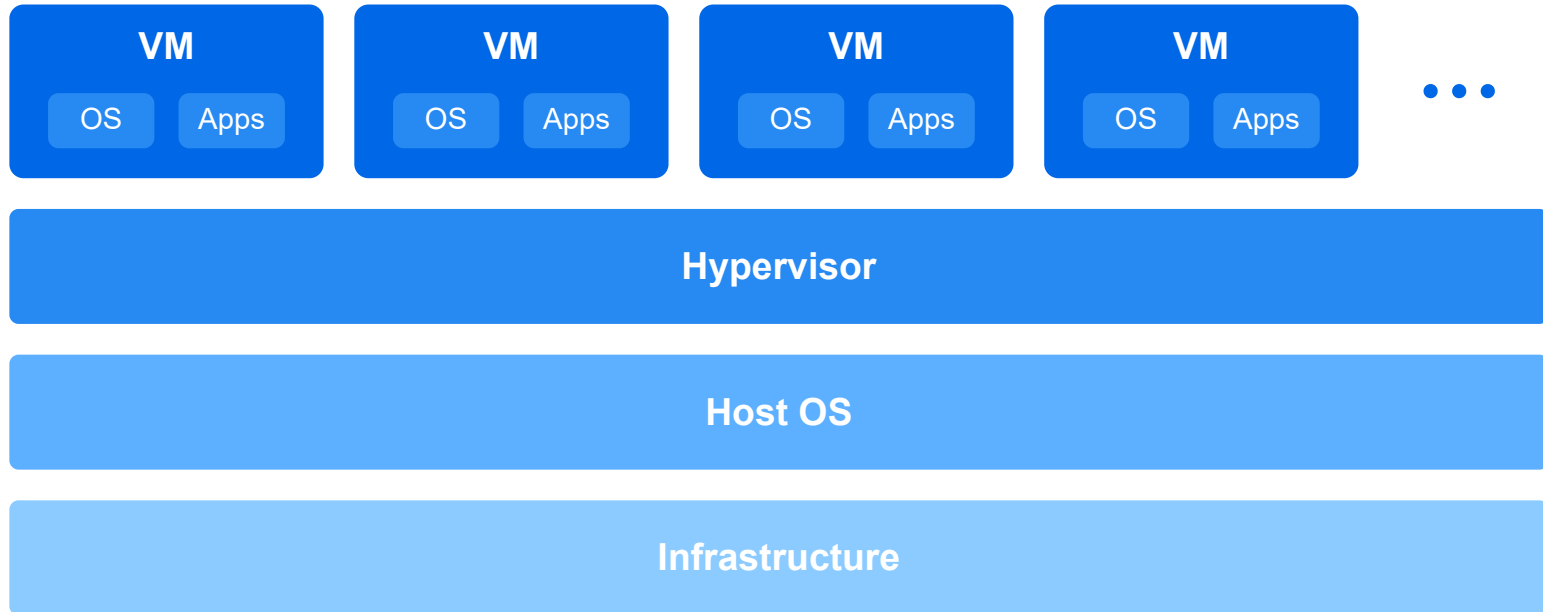
Cloud native storage integration



Complete virtualization solutions



Challenges in Virtualization Environment



Synology Deduplication Technology



4KB
segmentation

The diagram consists of three blue circles arranged horizontally. Each circle contains a text label. Below each circle is a descriptive sentence. The first circle is labeled '4KB segmentation' and describes it as having the 'Best deduplication ratio'. The second circle is labeled 'Zero block removal' and describes it as a way to 'Improve the deduplication efficiency'. The third circle is labeled 'Post processing' and describes it as a way to 'Reduce the performance impact'.

Best deduplication ratio

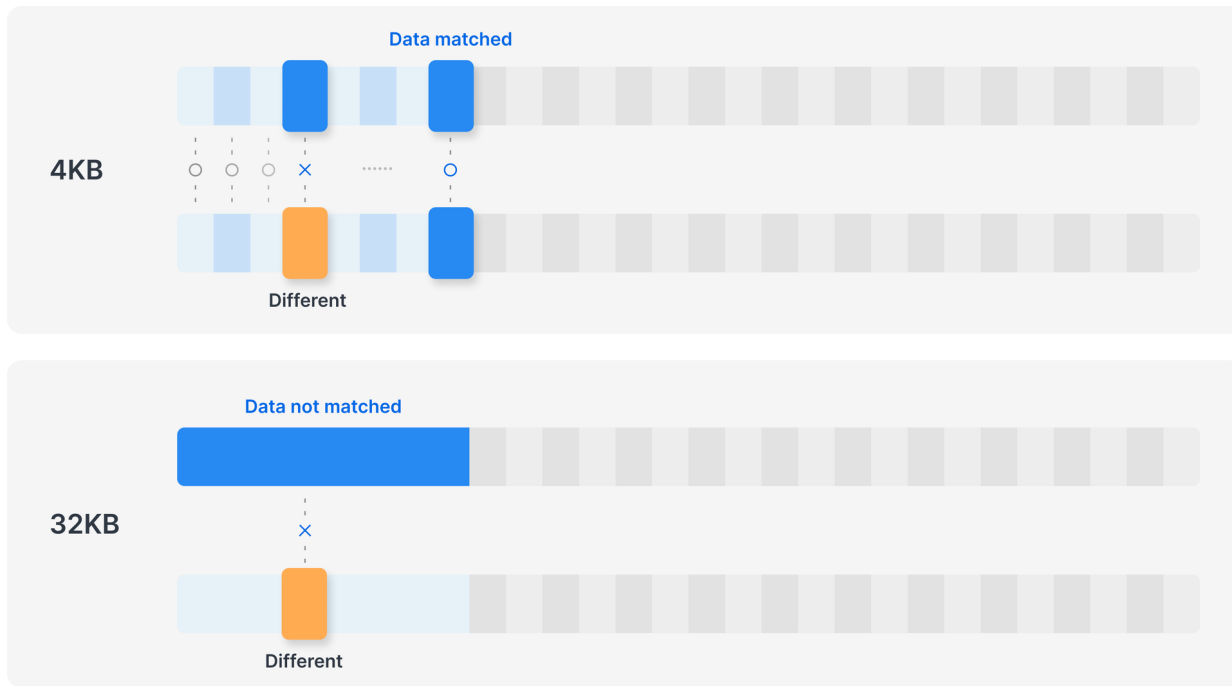
Zero block
removal

Improve the deduplication
efficiency

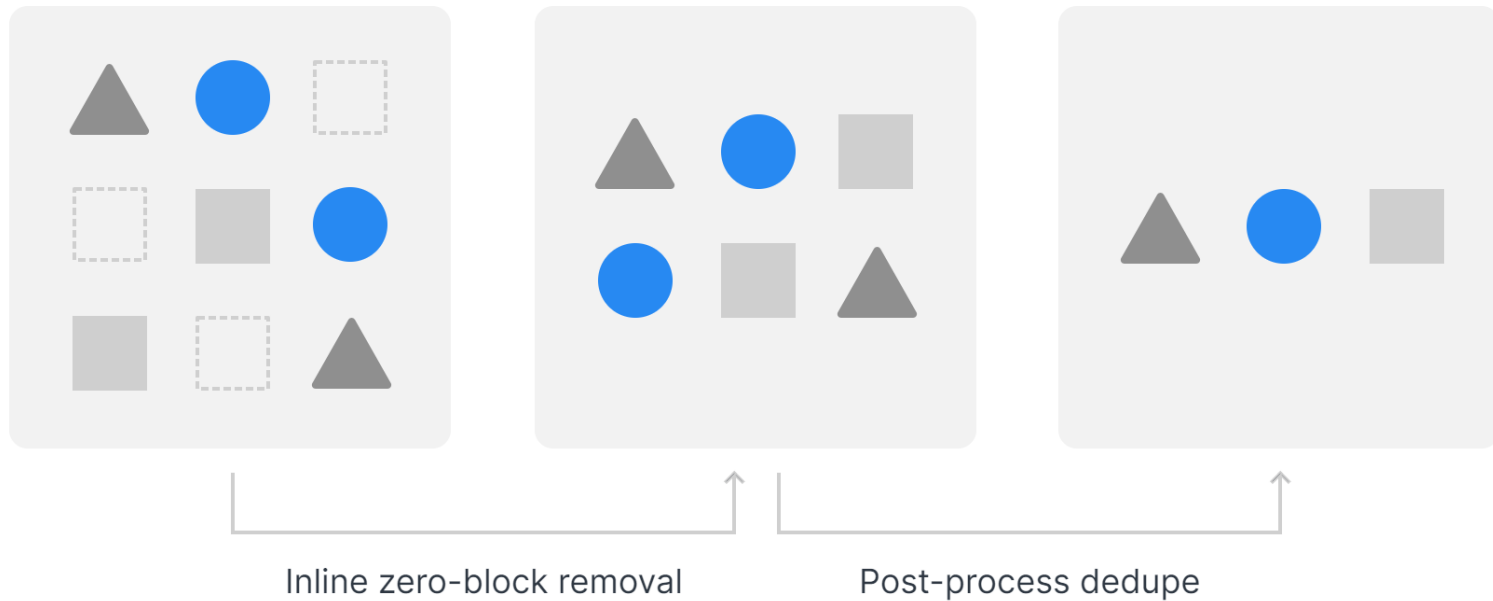
Post processing

Reduce the performance
impact

Why 4KB Segmentation Ensures Better Deduplication Ratio?



25% Speed Boost



Data Reduction Ratio

5 : 1

Taiwan Academic Medical Centers

Challenge

- In the past, each department set up their own NAS to store data, causing data management issues
- Use the less secure file protocol to access files



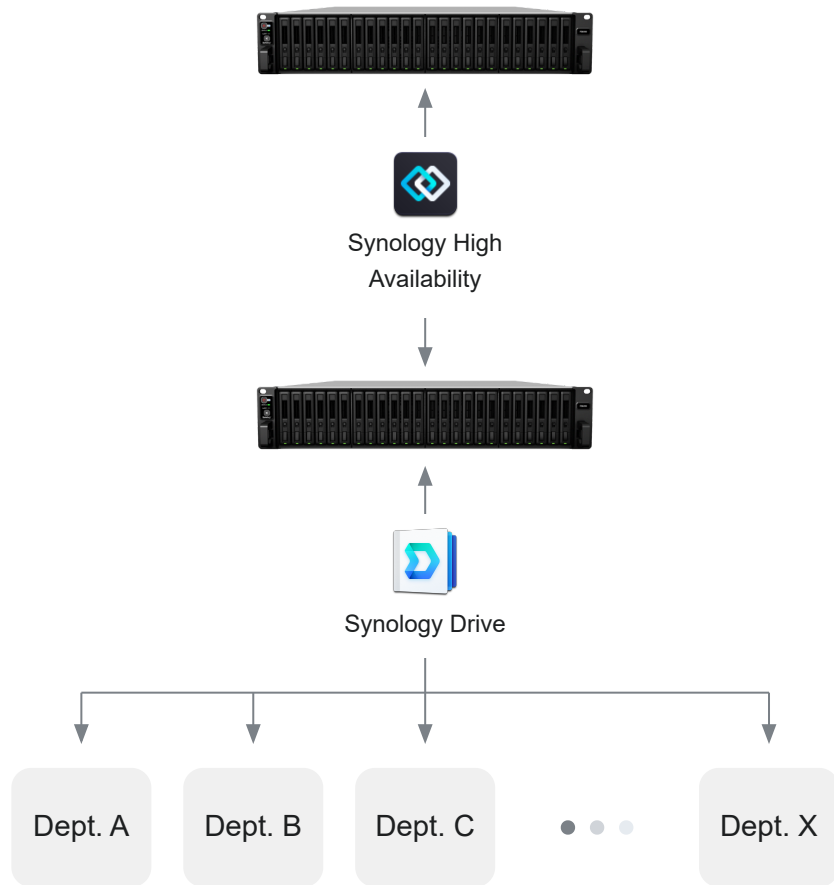
Taiwan Academic Medical Centers

Challenge

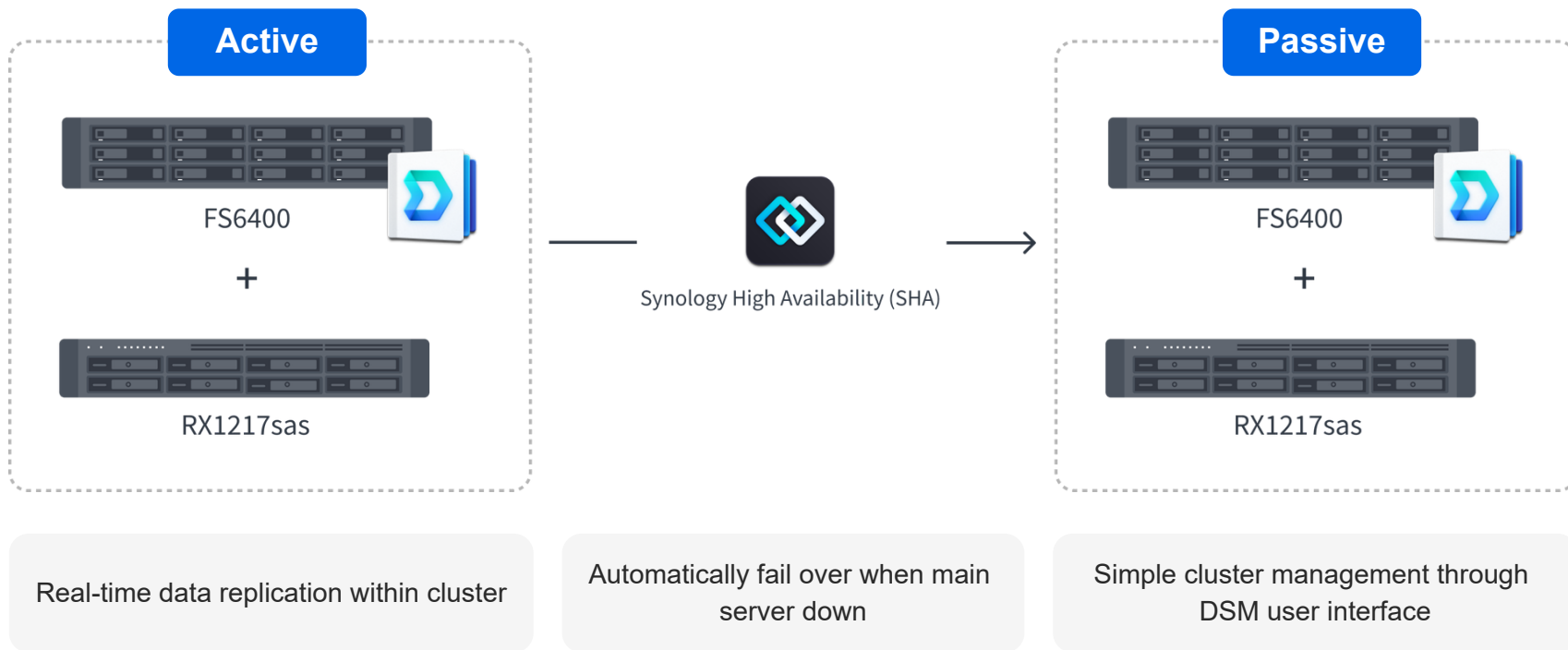
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Solution

- FS6400 as the primary file server
- Deployed an additional FS6400 to establish Synology High Availability, mitigating the risk of disruptive incidents
- Achieving enhanced file access with greater influence and heightened security through Synology Drive



Synology High Availability



**How Synology helps businesses avoid
single points of failure?**

Dual Controller Models

To ensure high-availability

- Interconnection cable
- IP failover
- iSCSI multi-path



High Availability Solutions

UC3400

2U Active-Active SAN storage

- Supports multiple file protocols, including iSCSI and FC
- Dedicated for virtualization storage
- 189K 4K Random Write IOPS



SA3400D

2U Active-Passive NAS

- Supports multiple file protocols, including iSCSI, FC, NFS, CIFS/SMB
- Full Synology Package Center
- 132K 4K Random Write IOP



Key Elements for the Modern Storage Server



High Security

High-speed
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Expansion flexibility

Multi-site scenarios

Exponential Data Growth is Not Something New

2 ZB

per year in 2010

120 ZB

per year in 2023

60x

Increase

Data Growth From

**Digital
transformation**

**Artificial
intelligence**

Industry 4.0

Petabyte Storage Solutions

HD6500

4U high-density storage server

- 2 x 10-core Intel Xeon Silver CPU
- 60 bays, expandable to 300 drives with four RX6022sas expansion units
- 2 x built-in 10GbE ports and support upgrade to 25GbE by installing network interface cards



SA6400

2U Highly scalable storage server

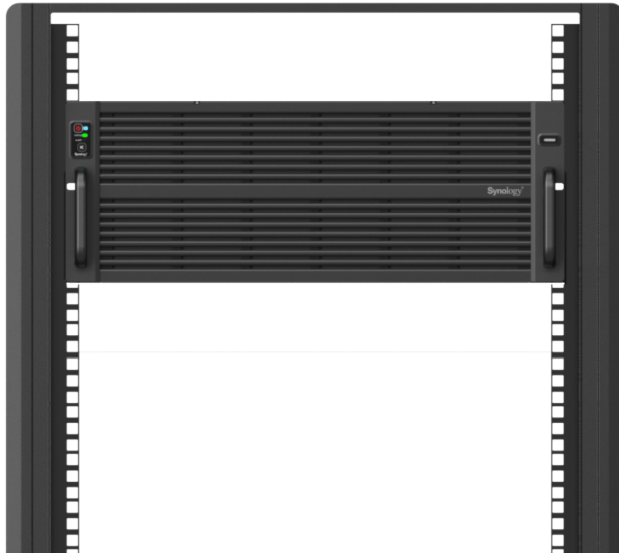
- AMD EPYC 7272 12-core CPU
- 12 bays, expandable to 108 drives with eight RX1223RP expansion units
- 2 x built-in 10GbE ports and support upgrade to 25GbE by installing network interface cards



How to Choose the Right Model for Your Storage Needs?

HD6500

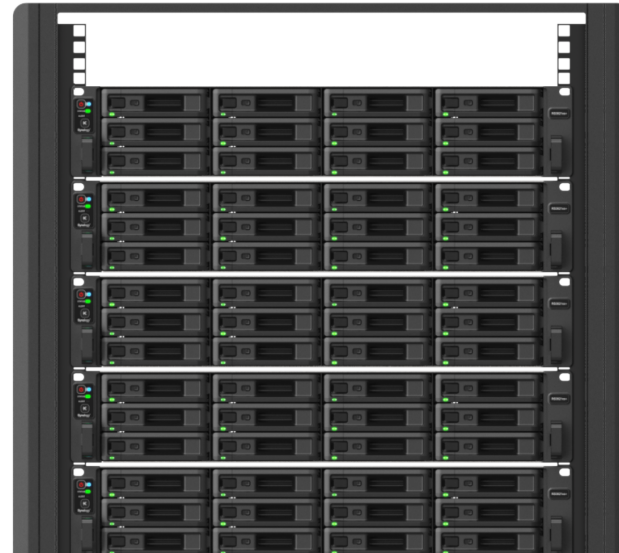
4U x 1 unit



vs

SA6400

2U x 5 units



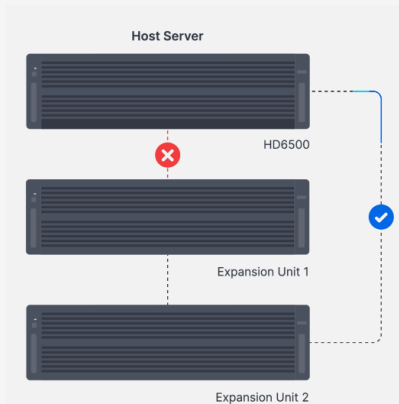
SAS Multi-Path Support

Single expansion port



- Performance drops as expansion unit increases
- Service downtime caused by the disconnected expansion cable

Bi-directional expansion port



- Performance 2x increase
- No service downtime because of an alternative physical path



Imperial War Museum

The World's Top Five Finest Military Museums

Imperial War Museum

Challenge

- Decades of file reels changed to 4k recording, require faster and large volume storage server
- With over 5 million visitors each year to their 5 sites around the UK, of whom may be film makers or students request to retrieve the footage, the time and effort to retrieve from the tape library is huge



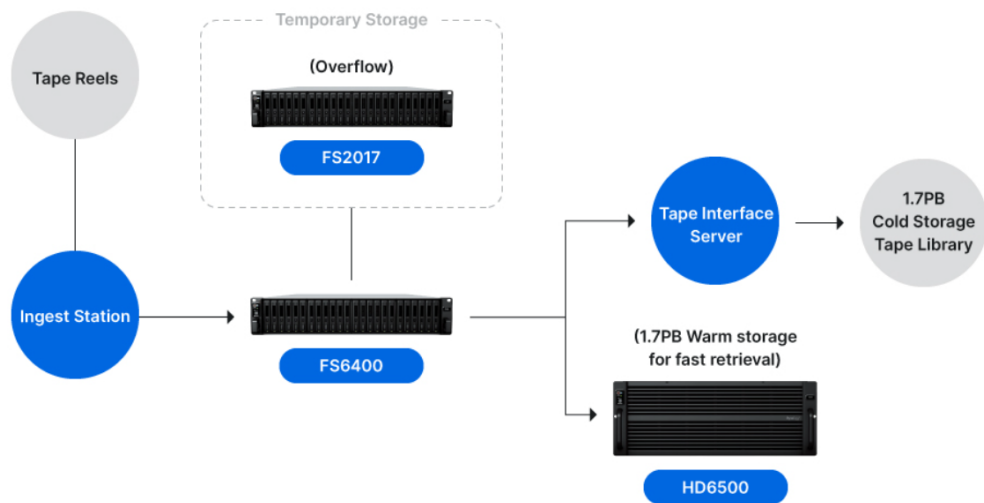
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Solution

- FS6400 for ultra-fast writes from their ingest station
- HD6500 to store the 4k recording and acted as the warm storage for fast retrieval



Imperial War Museum



For future data growth

Expanded up to 4.8PB*,
enough space until 2050



Fast access time

From days to near-instant
access

Cloud Object Storage Needs

Compliance

**Cloud-native
Applications**

**Cost
Transparency**

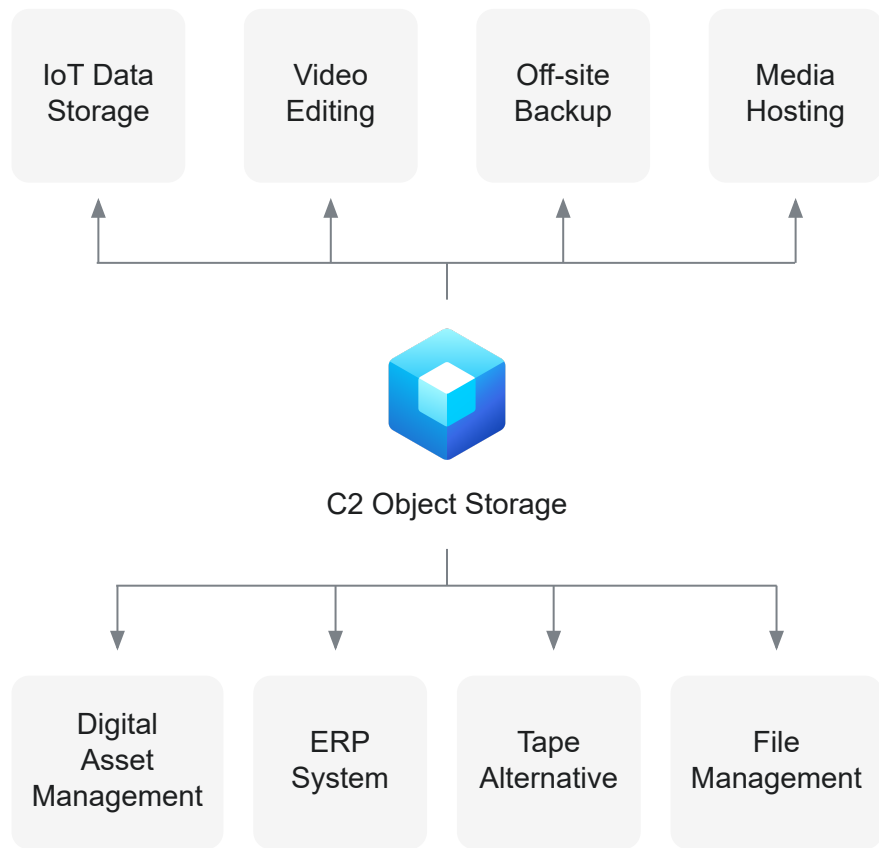


Synology C2 Object Storage



C2 Object Storage

- S3 APIs compatible, allowing users to continue using current tools and codes
- Wide range of use cases
 - Data archival
 - Tape alternative
 - Data analytics
 - Storage for images, documents, etc.





C2 Object Storage

- Compliance needs
 - versioning
 - object lock
- Immutability and data protection

All versions of C2_Storage_Data_Encryption_and_Durability_Strategy_enu.pdf



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7 items

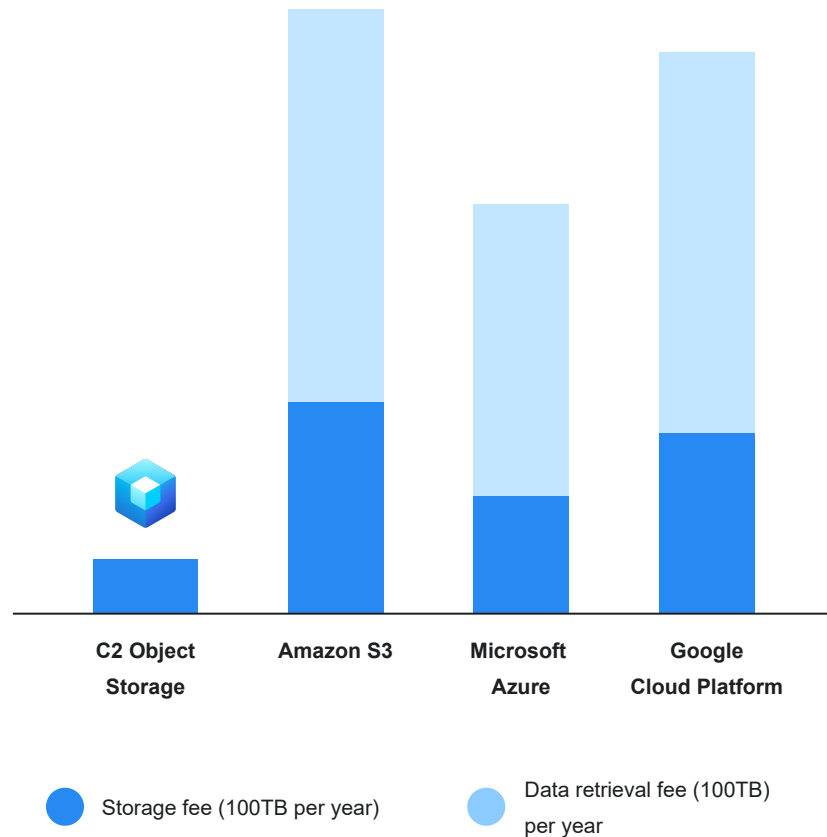


Close



C2 Object Storage

- Transparent cost, charged for storage only
- Free data retrieval quota
- No extra charges for API request, data deletion, etc.



A black and white photograph of a server rack. The focus is on a single server unit in the foreground, which has multiple horizontal drive bays. The background shows other server units in the rack, slightly out of focus.

**On-premises
Storage**

A black and white illustration. A transparent wireframe cube floats above a detailed circuit board. Inside the cube, there are stylized clouds. The background is dark and blurry, suggesting a server environment.

**Cloud Object
Storage**

Key Elements for the Modern Storage Server



High Security

High-speed
performance

Expansion flexibility

Multi-site scenarios

Multi-site Challenges

**File
synchronization**

**Cross-site
collaboration**

IT management

Synology Gets You Covered



Synology Drive



Hybrid Share



Active Insight



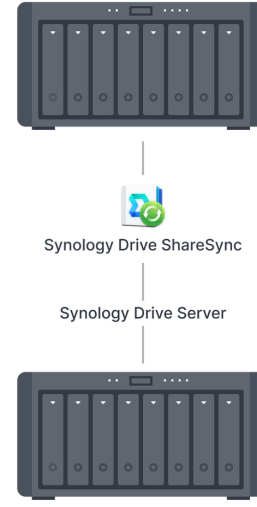
Synology Drive

Native Synology service and assist enterprises to build their own private file synchronization and collaboration service without extra license fee



Smooth Collaboration

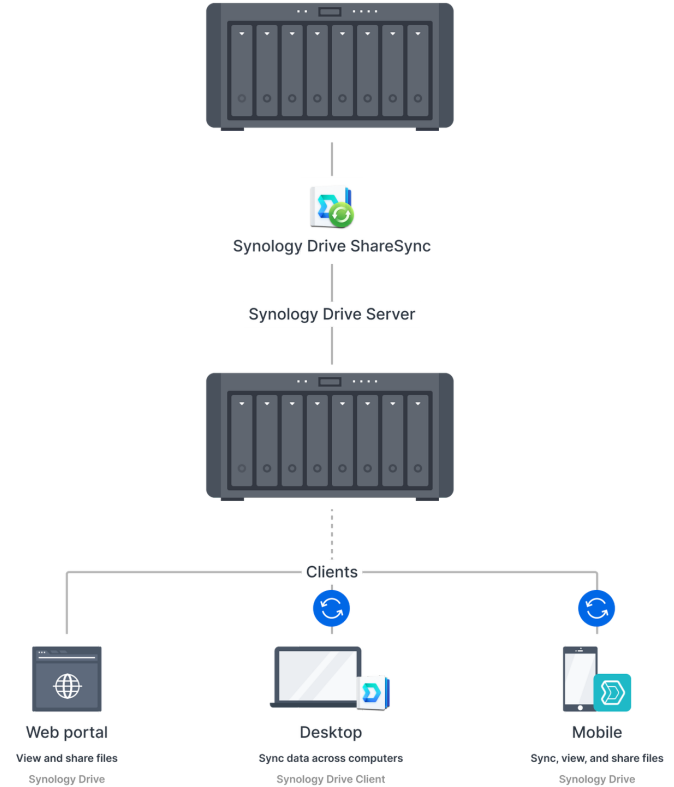
- Sync files on different sites through
Drive ShareSync





Smooth Collaboration

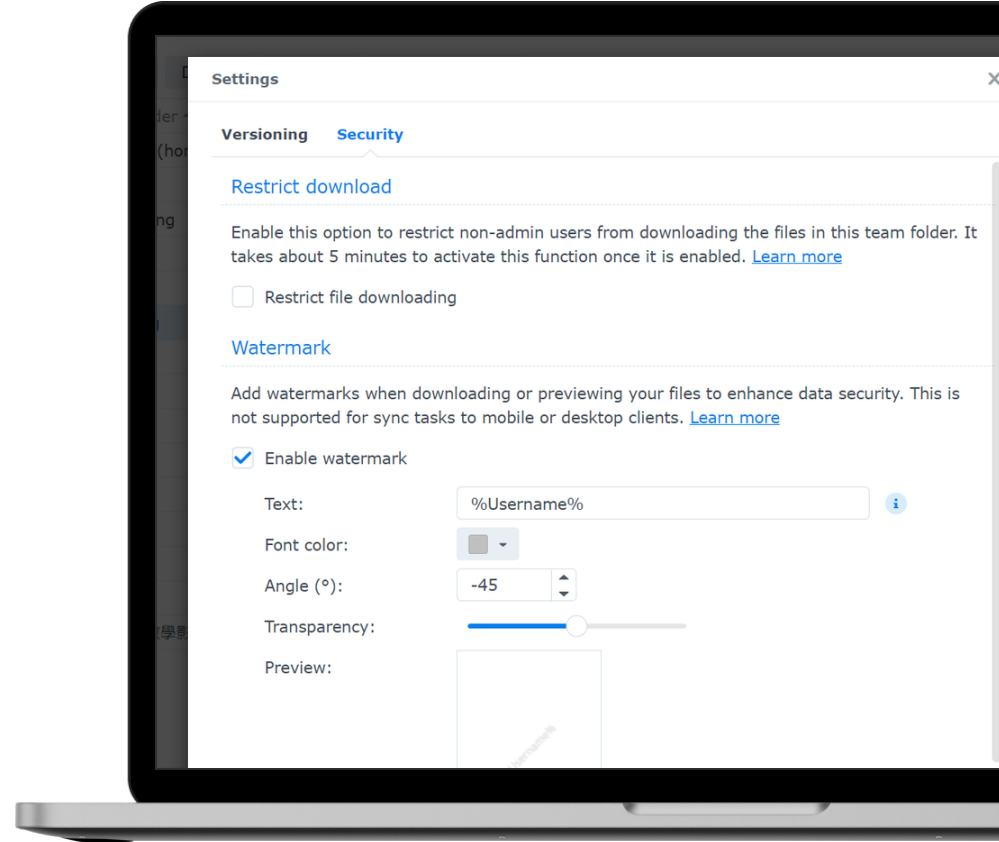
- Sync files on different sites through Drive ShareSync
- Support multiple clients data access
- Maximized Productivity via Synology office





Secure File Transfer and Management

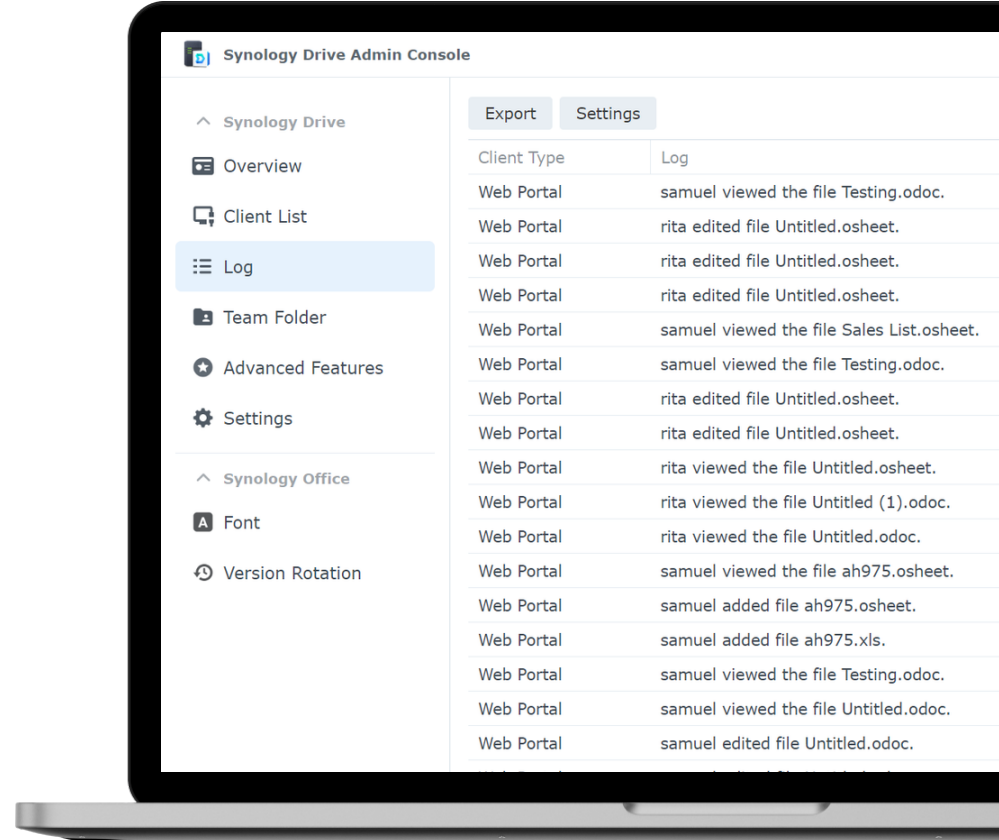
- All file transfer are encrypted with SSL/TLS
- Restrict download and file watermark





Secure File Transfer and Management

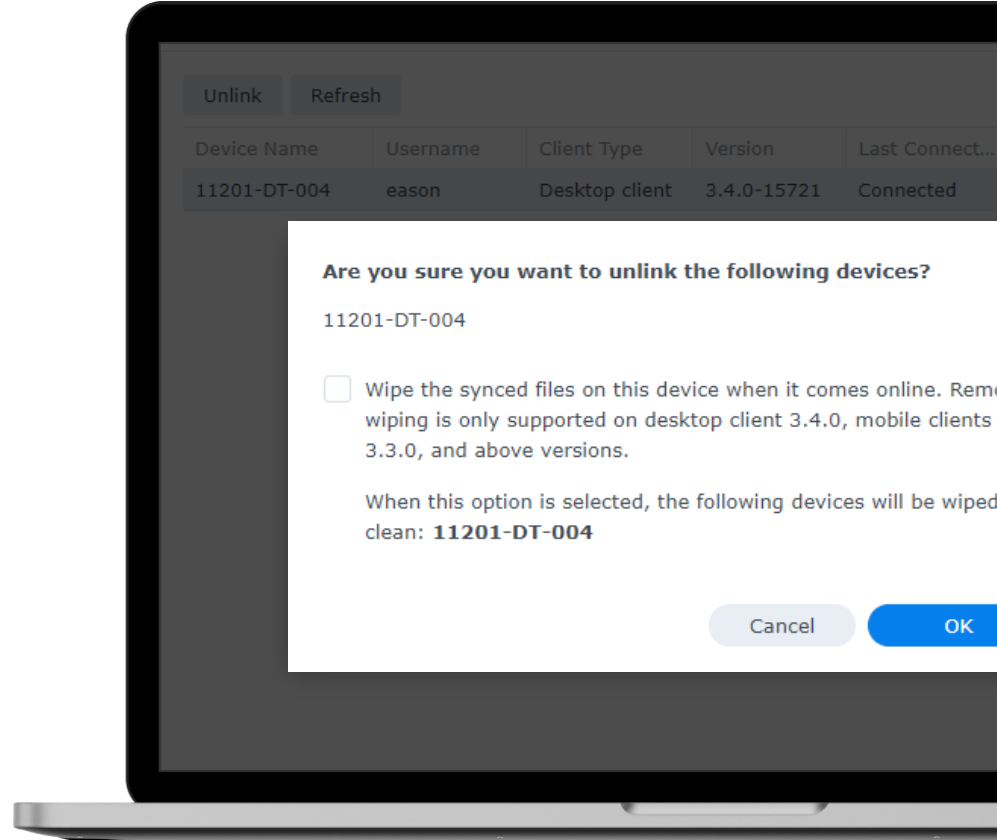
- All file transfer are encrypted with SSL/TLS
- Restrict download and file watermark
- System audit log





Secure File Transfer and Management

- All file transfer are encrypted with SSL/TLS
- Restrict download and file watermark
- System audit log
- Remotely wipe data on the illegal connected devices





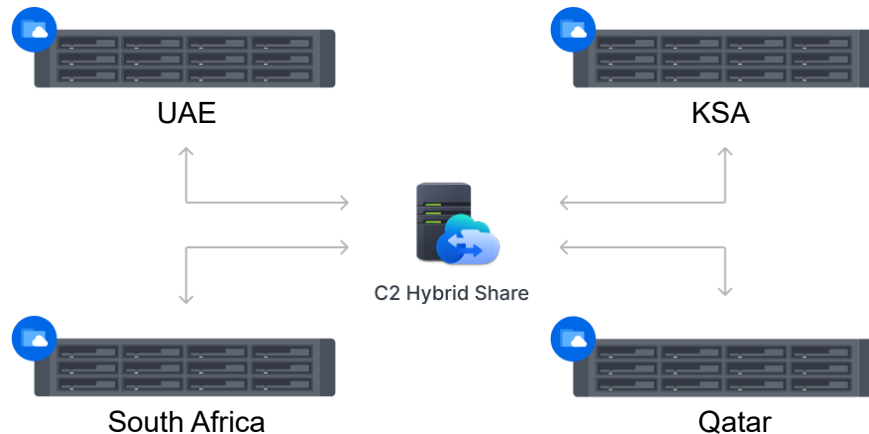
Hybrid Share

A global hybrid cloud file system empower seamless cross-site file collaboration with cloud scalability and local performance



Fast Cross-site Deployment

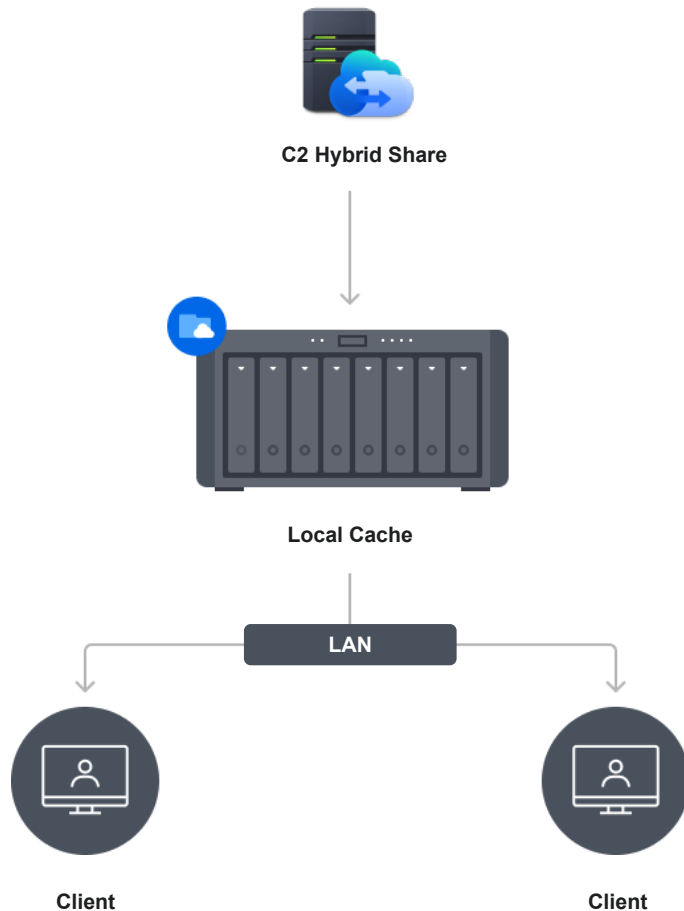
- Release main server bandwidth by leveraging C2 Storage
- New sites can join within minutes, files are immediately available





Smooth Collaboration Experience

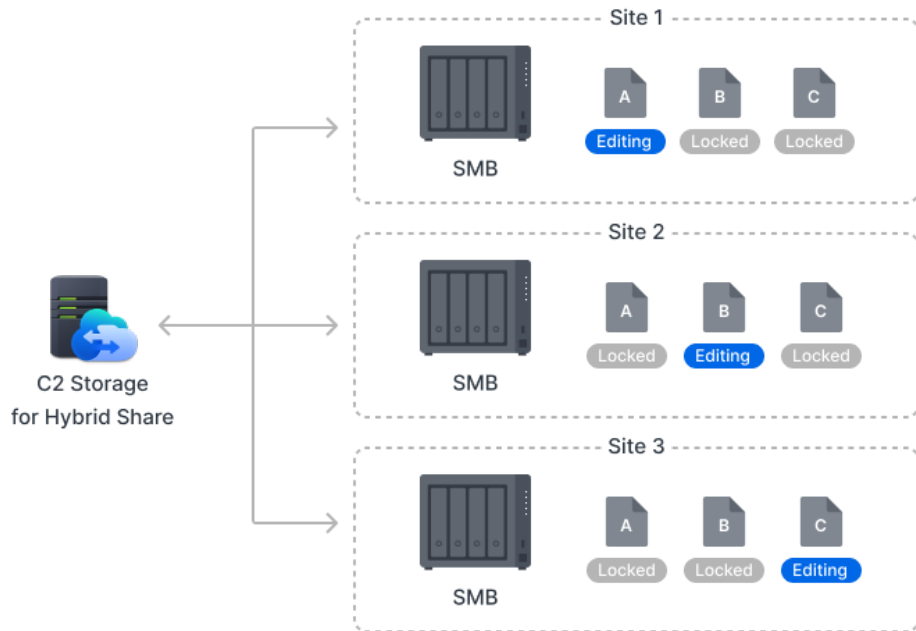
- Only frequently used data is stored in the local Synology NAS for fast, low-latency access





Smooth Collaboration Experience

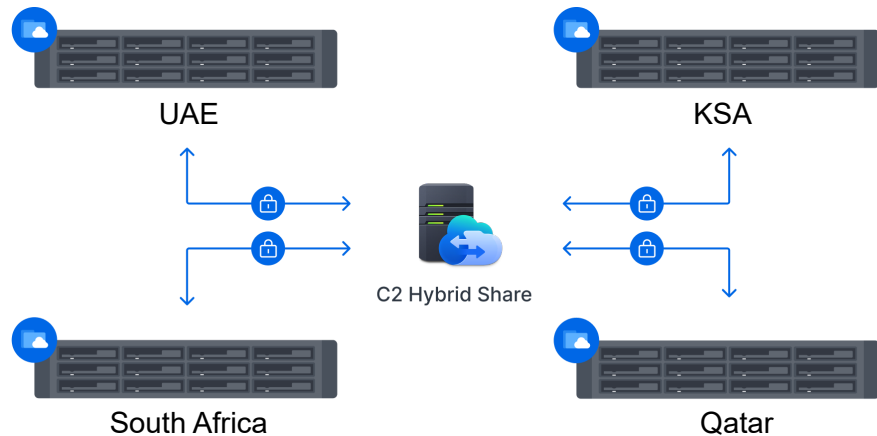
- Only frequently used data is stored in the local Synology NAS for fast, low-latency access
- Global file lock prevents simultaneous file modifications, eliminating version conflicts





Keep Your Data Secure

- All data is encrypted in transit and at rest





Andresen Digital

Collaborating with globally renowned companies like Netflix,
Amazon, etc.



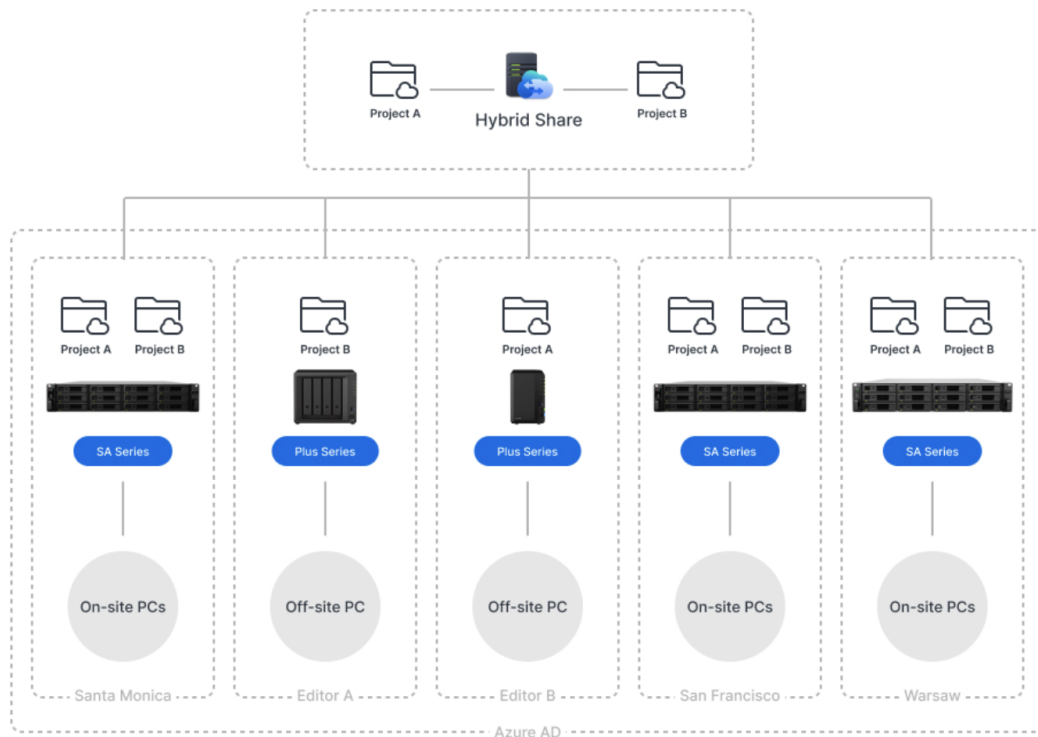
Andresen Digital

Challenge

- Including rapid deployment of new sites, high-speed cross-site transfer of large image files, and smooth file collaboration between sites.

Solution

- Efficient cross-site file syncing through C2 Storage
- File locking during editing through global file system
- Permissions management through Azure AD integration





“Thanks to Hybrid Share, I’m not limited to local talent, but can stand out and look for talent globally. That solves a lot of problems.”

- Jeff Grant, Global Head of Production and Technology, Andresen Digital

Used in Different Industries

1,000+

enterprise users

3,300+

deployments sites worldwide






Active Insight

Cloud-based central monitor portal with the power against cyberthreats
increase IT operational efficiency as business scale

Active Insight



Centralized
Monitor
and Management

24/7 System
Assistance

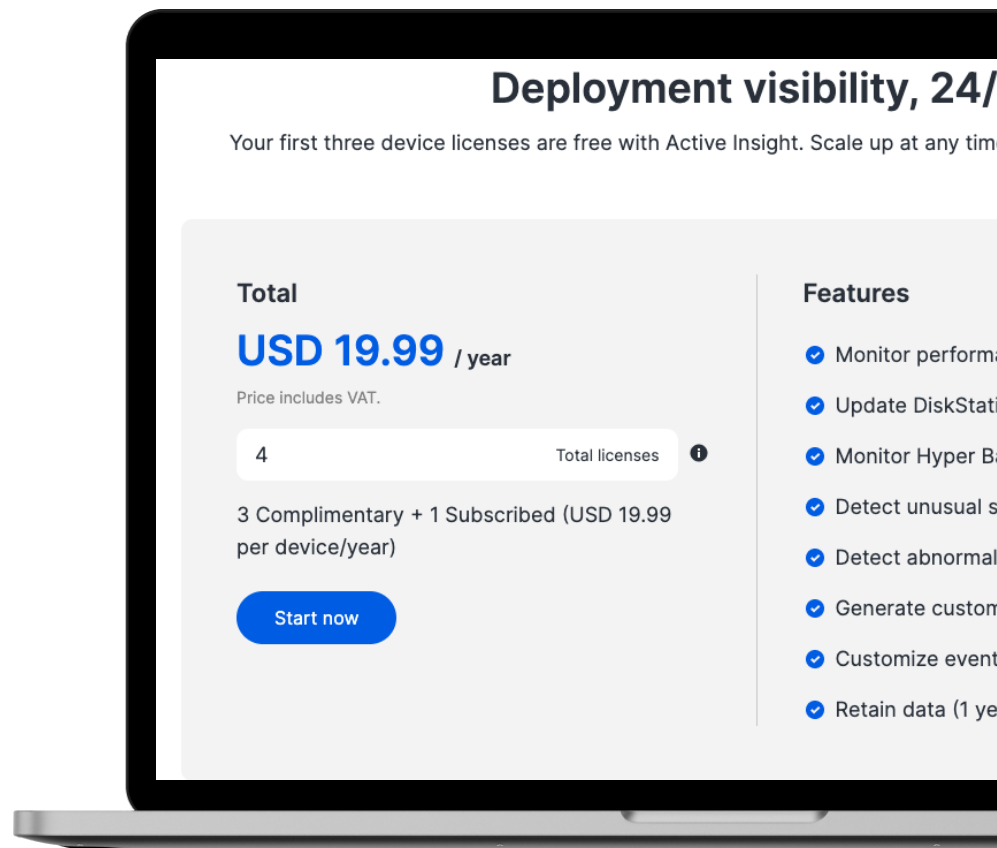
Proactive
Cyberthreats
Resistance

1.9M

Synology Servers
protected by Active Insight



Unrestricted Features Free for Three



High Security



High Performance



Expansion Flexibility



Multi-site Scenarios





**Designed to meet not only today's
challenges but also future needs**

Building a Secure and Scalable Storage Foundations for Your Business

Sales Manager

Chih Hsi Hu