

# High Density HD6500



**Brand:** Synology

**Product Code:** HD6500

**Availability:** 10

**Weight:** 37.90kg

**Dimensions:** 176.00mm x 482.00mm x  
1,020.00mm

**Call for Price:**

## Short Description

Synology High Density HD6500

## Description

### All the space you will ever need

With 60 bays in a 4U rackmount enclosure and support for up to 300 drives after expansion, the Synology High Density HD6500 is the ideal high-density storage solution for large-scale warm and cold storage applications such as full system backups, video post-production, and large surveillance deployments.



2 x 10-core Intel Xeon Silver



## **Throughput**

Over 6,688/6,662MB/s sequential read/write



## **Memory**

64 GB DDR4 ECC, expandable to 512 GB



## **Scalability**

Expand to 300 drives with four RX6022sas expansion units

## **Consistent performance at five times the size**

The HD6500 is designed to scale up to 5 times in capacity with four additional [RX6022sas](#) expansion units. SAS multipath-enabled connectivity provides up to double the typical performance together and increased redundancy.

## **Built for high reliability**

The HD6500 is built to keep mission-critical data and services accessible, so that businesses can continue to perform even when disaster strikes.

## **Out-of-band (OOB) management**

Simplify troubleshooting by managing powered-down devices remotely and accessing critical logs through a dedicated interface.

## **Dual power supply**

## High-reliability expansion architecture



Power control



System logs



System reset

## **Powerful networking options**

The HD6500 supports a large variety of networking interfaces, protocols, and configurations, whether you need fast sequential transfer, support for simultaneous connections, or high network redundancy.

### **Built-in fast connectivity**

Three Gigabit Ethernet and two 10GbE RJ-45 ports allow for rapid transfer speeds right

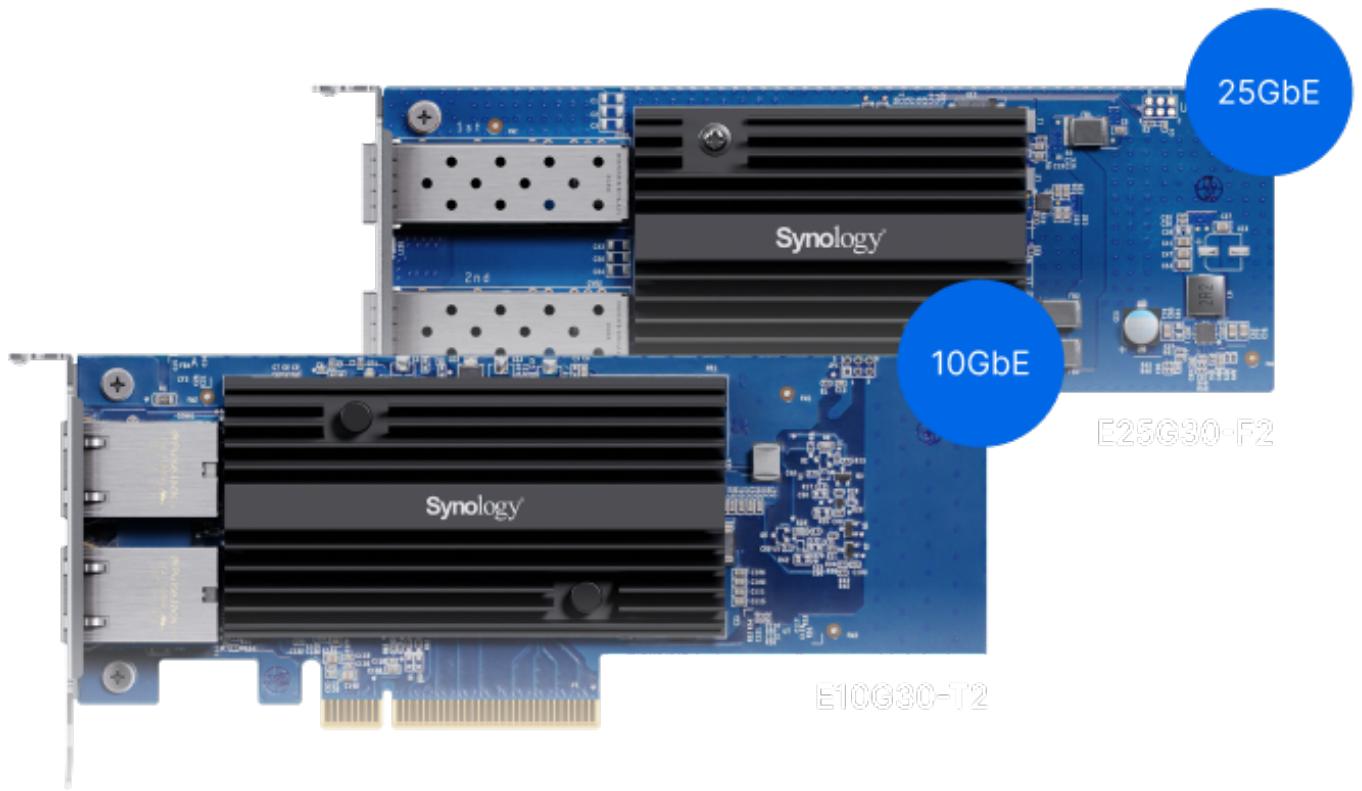
out of the box.

### **Mix and match network ports**

Add extra 10GbE SFP+/RJ-45, 25GbE SFP28, or Fibre Channel ports in varying configurations by leveraging the four expansion slots.

### **Failover and network balancing**

Bond multiple network interfaces with Link Aggregation to enable automatic network failover and load balancing.



## Consolidate your data storage

Back up your backup solutions, bring all your files together in one place, or bring distributed surveillance deployments under central control.



Massive file server





Central backup server



Main surveillance storage

## **Massive file server**

Host and retrieve massive files from extensive archives whenever needed. Provide user friendly access and set up powerful cross-site syncing.



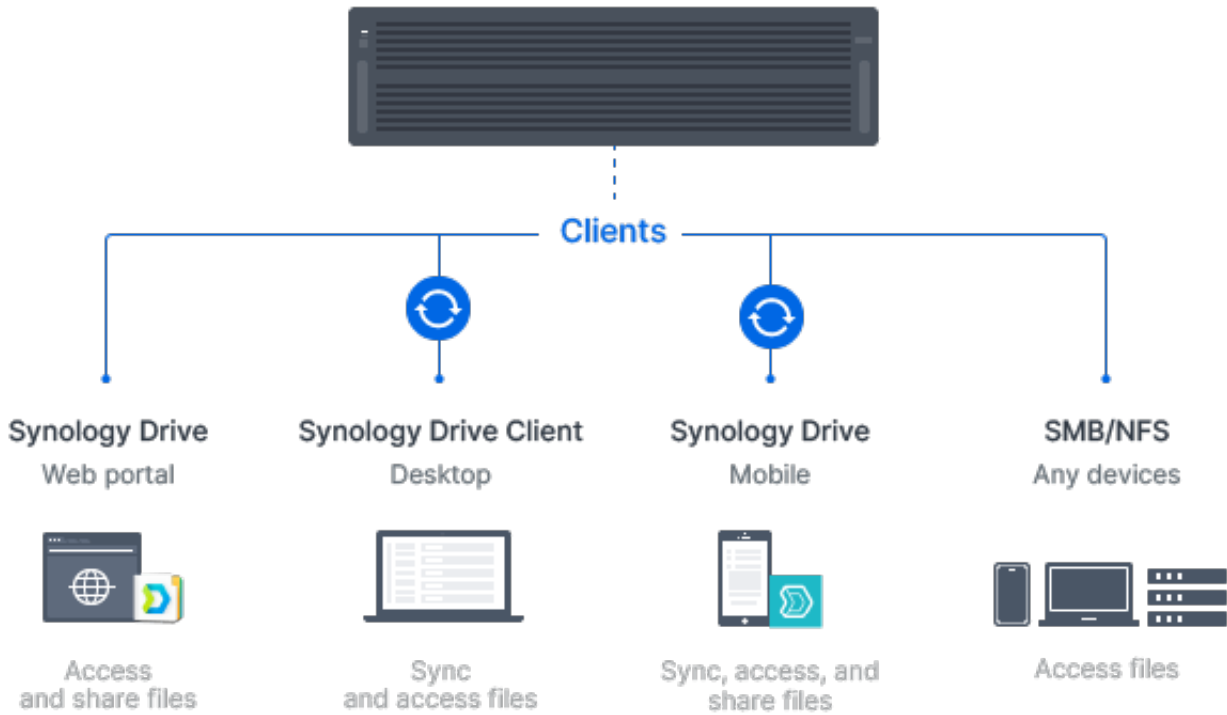
## **Private cloud**

### **A private cloud suite for file sharing**

Synology Drive is a private cloud management and access solution that enables remote data access, synchronization, on-demand file restoration, and backup via desktop and mobile applications. Sync data between different platforms and devices, and access your organization's files through mobile apps, desktop clients, and a browser-based interface. Set granular file and folder access and sharing permissions. Maintain a full overview of file activities and track file share settings changes with detailed records in the advanced Synology Drive Admin Console.

### **Cross-site syncing**

Leverage SMB or NFS shares to provide efficient access to company files over the local network or VPN. Manage data access privileges with access control lists (ACL) through Active Directory/LDAP integration and protect files against tampering or removal with built-in snapshot technology.



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## Cross-site syncing

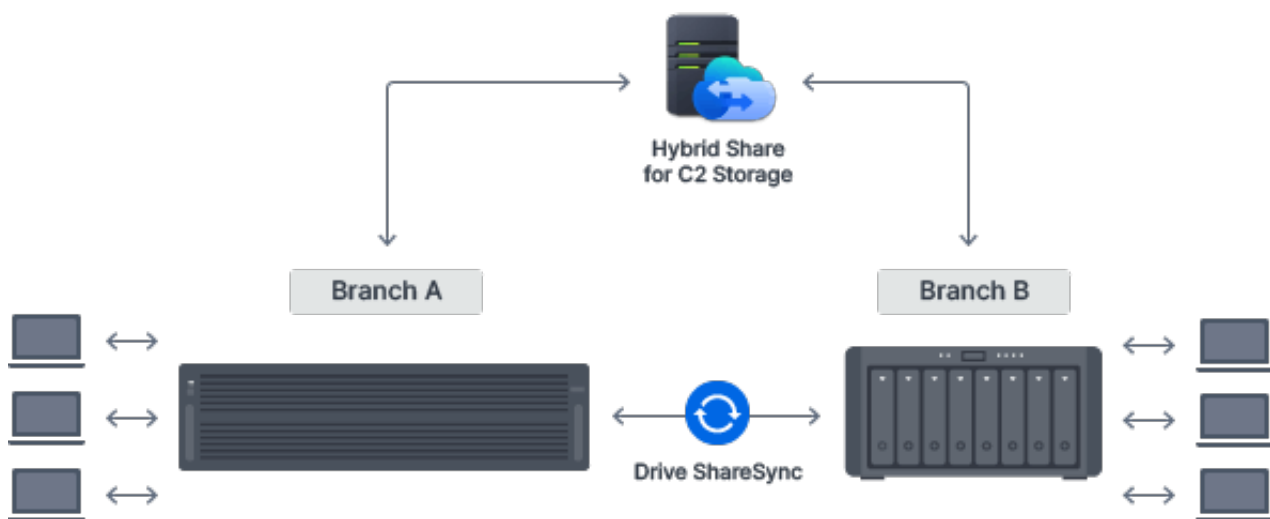
### Secure site-to site file and folder syncing

Make sure branches or teams always have up-to-date copies of crucial documents and data available locally by syncing folders one or two-way using Synology Drive ShareSync. Let your Synology systems update files across locations each time there is a

change to efficiently keep all stakeholders on the same page.

## Efficient cross-site syncing through the cloud

Securely synchronize files and data from the HD6500 to Synology systems across different sites or offices, and back, by leveraging hybrid cloud technology with Synology Hybrid Share. Synchronize large sets of data to the cloud, and leverage the powerful bandwidth of our data centers to stream requested files to local NAS deployed at branch offices, no matter their size. Frequently used files are kept stored on local NAS to provide users access at LAN speeds and can also be pinned manually to prevent them from being removed from the cache.



## **Central backup server**

Protect large numbers of PCs, servers, Synology systems, and hypervisors, or back up your backup servers with a central storage solution.

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## **Back up Synology storage systems**

### **Backup destination for shares and LUNs**

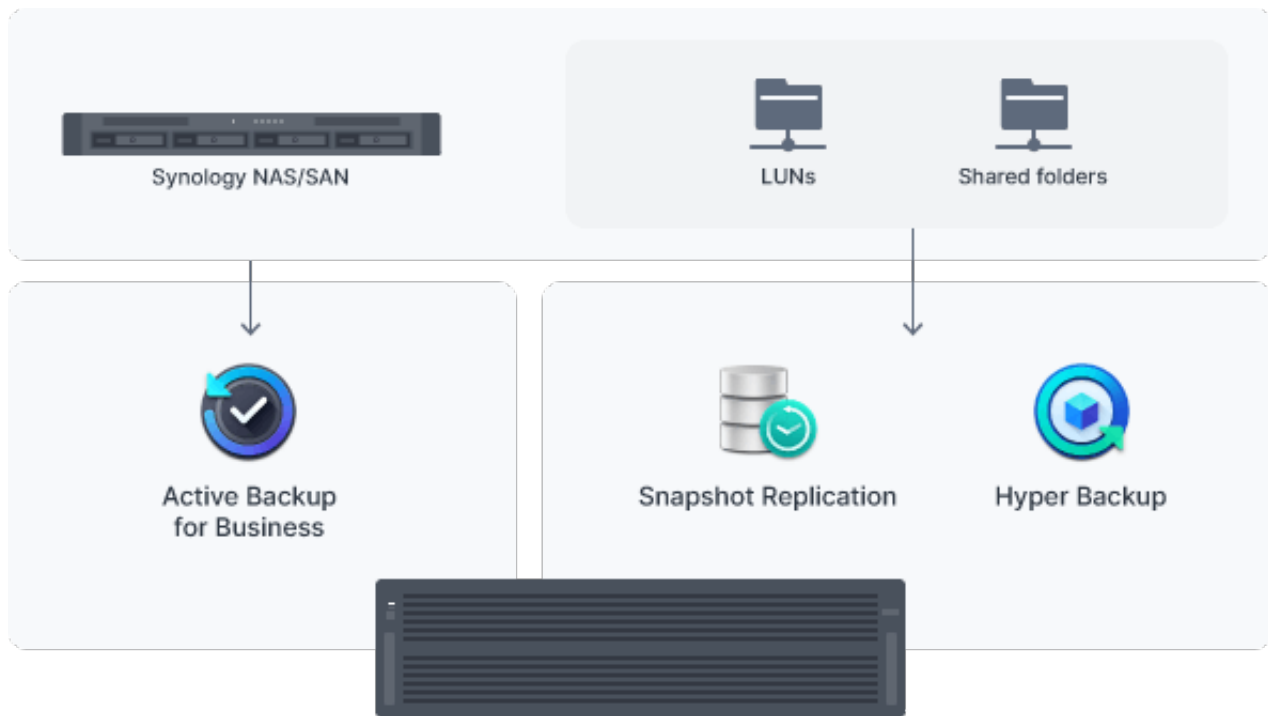
Use Hyper Backup to back up files, LUNs, installed applications, and system configurations from tens or hundreds of Synology servers to your HD6500. Set and forget backup tasks with regular schedules, enhance security with fine-grained user permissions

and encryption, reduce backup sizes with built-in deduplication, and restore data flexibly with multi-versioning.

Snapshot Replication enables configurable point-in-time snapshots of shared folders and LUNs with an RPO as low as 5 minutes and recovery within seconds.

### **Bare-metal backup for Synology NAS**

Centrally manage bare-metal backups of all your Synology servers from a single centralized console on your HD6500. Leverage built-in deduplication technology to reduce backup sizes and multi-versioning to allow flexible restoration.



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## **Back up Windows and Linux endpoints**

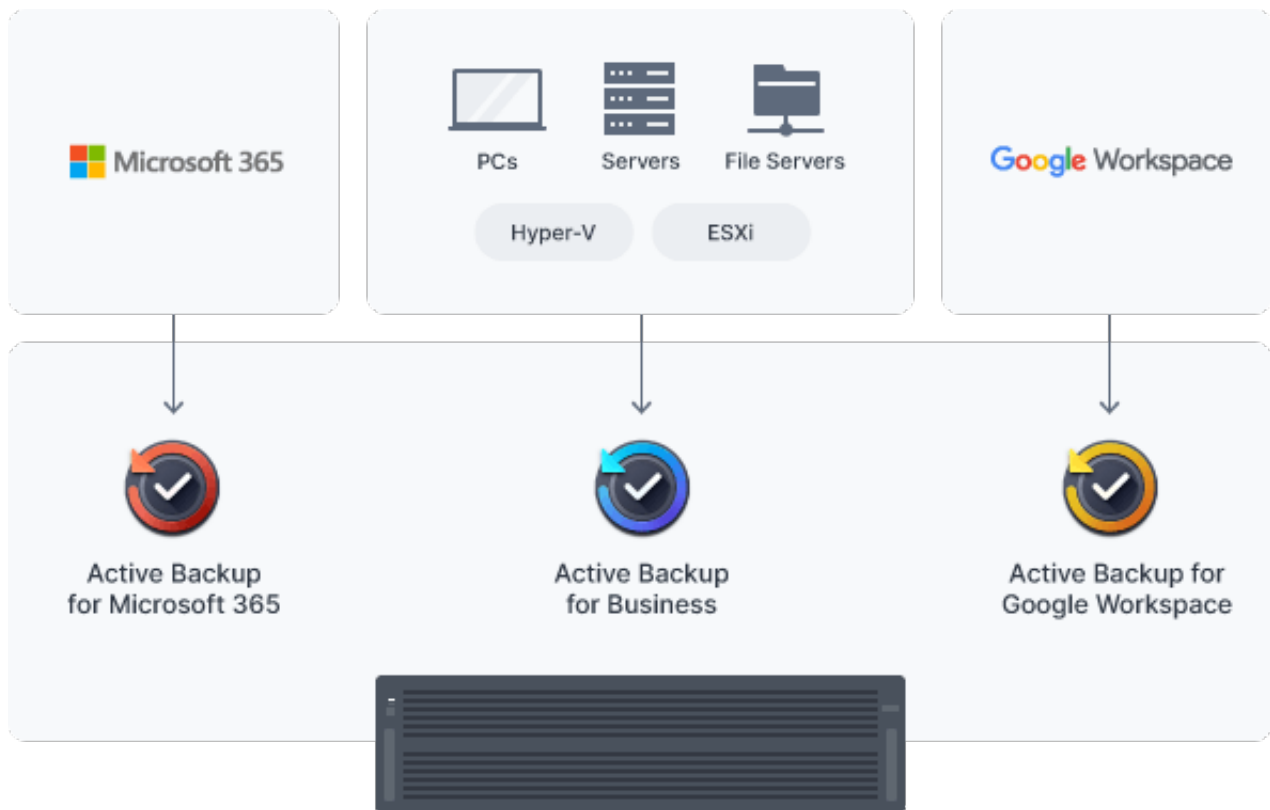
### **Bare-metal PC, server, and VM backup**

Securely back up Windows clients and servers, Linux endpoints, Synology servers, and VMware® and Hyper-V® virtual machines to the HD6500 with Active Backup for Business. Coordinate all data protection from the centralized management console and choose between bare-metal or file-level restoration, while leveraging built-in deduplication technology to reduce backup sizes.



## SaaS protection with local backups

Protect full Microsoft 365 and Google Workspace accounts by maintaining complete offline copies of your crucial information and configurations with Active Backup for Microsoft 365 and Active Backup for Google Workspace.



**Main surveillance storage**

Manage distributed deployments of hundreds of local recording servers and thousands of IP cameras centrally.

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## **Centralized, secure, and scalable surveillance**

### **Flexible scaling and expansion**

Connect up to 650 IP cameras from a selection of over 8,300 validated models to the HD6500 itself, or connect hundreds more by adding recording servers at the edge. Easily add storage as deployments grow.

## **Central management and recording**

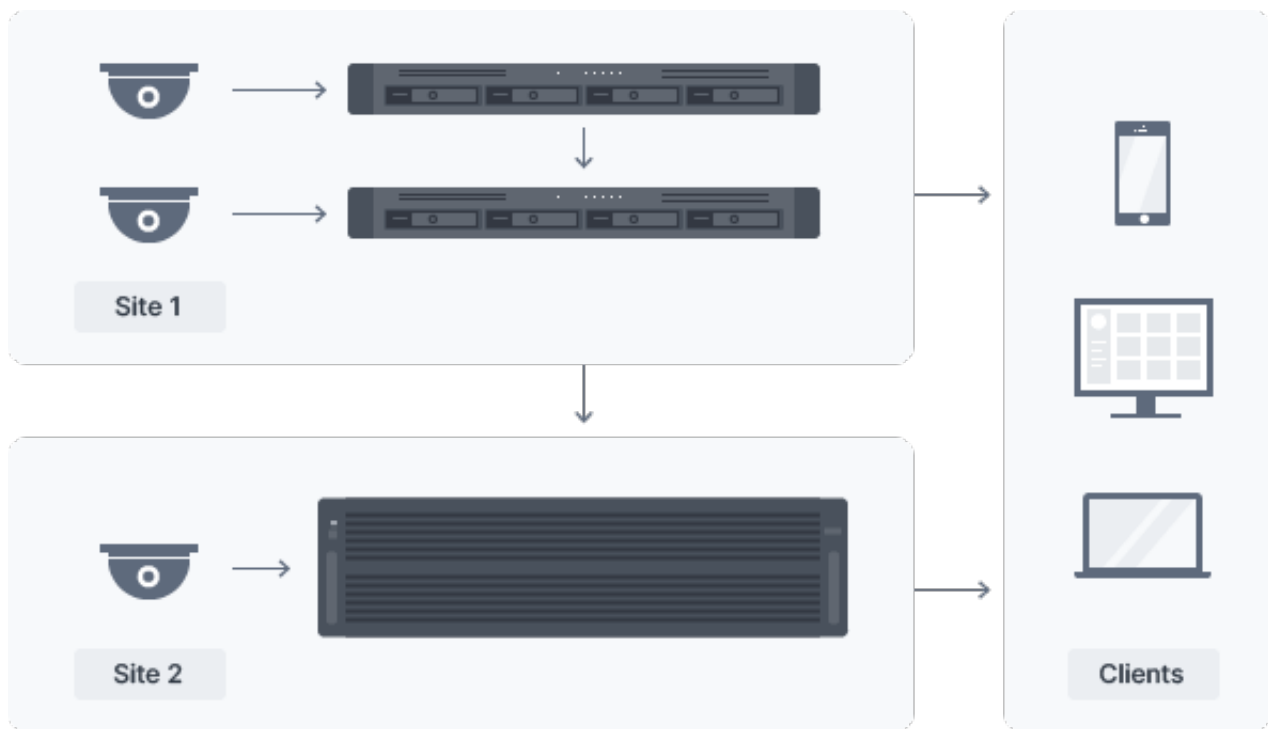
Manage up hundreds of Synology NAS or NVR recording servers from one host, store copies of all or some recordings centrally, and monitor all streams from one interface with Surveillance Station Centralized Management System.

## **Secure and private video storage**

Admins can set detailed rules for who can check live streams or review recordings and footage can be protected against unauthorized access with industry-standard AES-256 encryption.

## **Anywhere access with multiple clients**

Watch and analyze live streams or recordings from web browsers, desktop clients, or mobile apps.



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## **Advanced deployment and analysis options**

### **Batch and automated camera deployment**

Automatically locate cameras within a set IP range or configure units in batch by importing spreadsheets and conveniently replicate settings to new cameras.

## **Instant event streaming on multi-location maps**

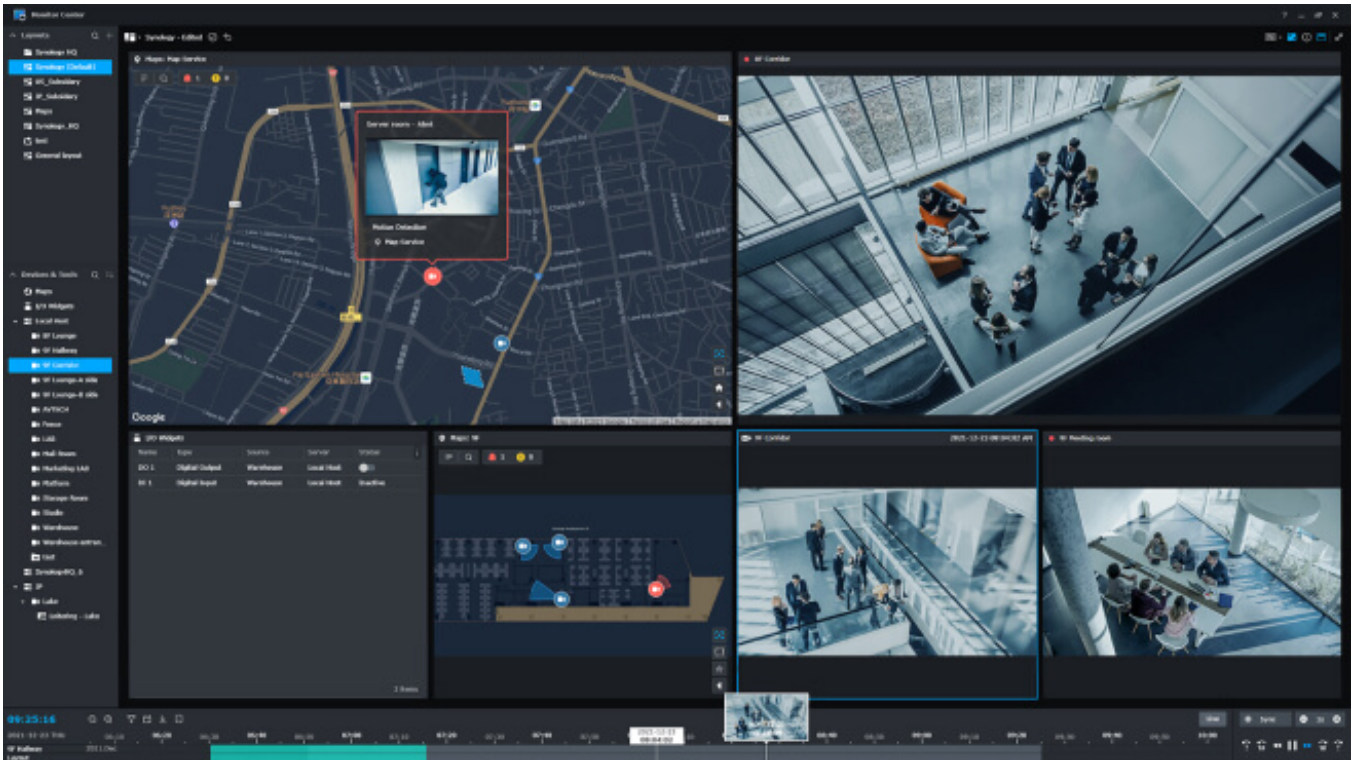
Preview footage directly on multi-floor, multi-location maps when events are detected to stay on top of your deployment, with Google Maps and OpenStreetMap integration to make geographically spread-out deployments easier to monitor.

## **Dual recording, locally and to the cloud**

Record each camera's footage to two Synology servers simultaneously for added redundancy and instant access — for instance, to a smaller device at the edge and a larger central management server. Stream feeds directly to the cloud with C2 Backup for Surveillance for fast access and convenient sharing whenever you need evidence.

## **Event detection and smart analytics options**

Add support for deep learning-powered algorithms and detection profiles such as intrusion detection, license plate recognition, congestion alerts, and face recognition by joining Deep Learning NVR servers to your deployment.



## Get more with DiskStation Manager

Take advantage of a host of native productivity, management, and security solutions available in the web-based Synology DSM operating system.

### Central Management System

Conveniently manage your fleet of Synology NAS from a centralized console.

## **Security**

Shield your Synology NAS from the most sophisticated threats with industry-leading security solutions.

## **Synology High Availability**

Seamless transition between clustered servers in the event of a server failure to minimize the impact on applications.



## Synology has you covered

The HD6500 is backed by Synology's 5-year limited warranty, including technical support and hardware replacement services to maximize your return on investment and ensure continued high-quality performance.

### Software

DSM Specifications

[Storage Management](#)

Maximum Single Volume Size		<ul style="list-style-type: none"><li>• 1 PB (for RAID 6 groups only)</li><li>• 200 TB</li></ul>
Maximum Internal Volume Number	256	
SSD Read/Write Cache	<a href="#">(Determining cache size)</a>	
RAID Group Supported RAID Type		<ul style="list-style-type: none"><li>• Basic</li><li>• JBOD</li><li>• RAID 0</li></ul>



		<ul style="list-style-type: none"> <li>• RAID 1</li> <li>• RAID 5</li> <li>• RAID 6</li> <li>• RAID 10</li> </ul>
	RAID Migration	<ul style="list-style-type: none"> <li>• Basic to RAID 1</li> <li>• Basic to RAID 5</li> <li>• RAID 1 to RAID 5</li> <li>• RAID 5 to RAID 6</li> </ul>
	Volume Expansion with Larger HDDs	<ul style="list-style-type: none"> <li>• RAID 1</li> <li>• RAID 5</li> <li>• RAID 6</li> <li>• RAID 10</li> </ul>
	Volume Expansion by Adding a HDD	<ul style="list-style-type: none"> <li>• JBOD</li> <li>• RAID 5</li> <li>• RAID 6</li> </ul>
	Global Hot Spare Supported RAID Type	<ul style="list-style-type: none"> <li>• RAID 1</li> <li>• RAID 5</li> <li>• RAID 6</li> <li>• RAID 10</li> </ul>
	Notes	<ul style="list-style-type: none"> <li>• SSD cache support requires DSM 7.1.1-42962 Update 4 or later versions.</li> <li>• When Peta Volume is enabled, validated services and packages are required. Please refer to <a href="#">this article</a> for more information on limitations.</li> </ul>
<a href="#">File System</a>	Internal Drives	<ul style="list-style-type: none"> <li>• Btrfs</li> </ul>
	External Drives	<ul style="list-style-type: none"> <li>• Btrfs</li> <li>• ext4</li> <li>• ext3</li> <li>• FAT</li> <li>• NTFS</li> <li>• HFS+</li> <li>• exFAT</li> </ul>
	Notes	exFAT Access can be installed for free from Package Center in DSM 7.0. In DSM 6.2 or earlier

versions, exFAT Access needs to be purchased in Package Center.

[File Services](#)

File Protocol

- SMB
- AFP
- NFS
- FTP
- WebDAV
- Rsync

Maximum Concurrent SMB/AFP/FTP Connections 10,000

Maximum Concurrent SMB/AFP/FTP Connections (with RAM expansion) 10,000

Windows Access Control List (ACL) Integration

NFS Kerberos Authentication

Notes

- Regarding data concerning tests with RAM expansion, all memory slots are installed with the maximum capacity of supported RAM.
- The testing standard was based on the maximum number of concurrent connections supported by this model. During the testing, 25% of the connections were used to transfer files concurrently. The transfer process guaranteed that the connections were not interrupted; the minimum transfer speed was not guaranteed.

[Account & Shared Folder](#)

Maximum Local User

16,000

	Accounts	
	Maximum Local Groups	512
	Maximum Shared Folder	512
	Maximum Shared Folder	32
	Sync Tasks	
<a href="#">Hybrid Share</a>	Maximum Hybrid Share	30
	Folders	
<a href="#">Hyper Backup</a>	Folder and Package Backup	
	Entire System Backup	
	Notes	Full-system backup requires DSM 7.2 or later.
<a href="#">High Availability</a>	Synology High Availability	
<a href="#">Log Center</a>	Syslog Events per Second	6,000
Virtualization	VMware ESXi 7.0 and VAAI	
	Windows Server 2016	
	Windows Server 2019	
	Windows Server 2022	
	Citrix Ready	
	OpenStack	
<a href="#">General Specifications</a>	Supported Protocols	SMB1 (CIFS), SMB2, SMB3, NFSv3, NFSv4, NFSv4.1, NFS Kerberized sessions, iSCSI, Fibre Channel, HTTP, HTTPS, FTP, SNMP, LDAP, CalDAV
	Supported Browsers	<ul style="list-style-type: none"> <li>• Chrome</li> <li>• Firefox</li> <li>• Edge</li> <li>• Safari</li> </ul>
	Supported Language	English, Deutsch, Français, Italiano, Español, Dansk, Norsk, Svenska, Nederlands, ???????, Polski, Magyar, Português do Brasil, Português Europeu, Türkçe, ?eský, ???????, ???, ???, ????, ????
	Notes	For an updated list of supported browser versions, check the <a href="#">DSM Technical Specifications</a> .

Add-on Packages [view the complete package list](#)

[Central Management System](#)

[Synology Chat](#)

Suggested Users

500

Notes

- Measured with simulated users, each with an average record of 20,000 messages, emojis, or stickers. The required server response time is below ten seconds.
- Models with expandable memory are tested with their maximum supported memory.

[SAN Manager](#)

Maximum iSCSI Target Number

256

Maximum LUN

512

LUN Clone/Snapshot, Windows ODX

[Synology MailPlus /](#)

[MailPlus Server](#)

Free Email Accounts

5 ([Additional accounts require purchase of licenses](#))

Suggested Users

20,000

Notes

- Suggested users is derived from testing in an environment with 20% heavy users (each with 20,000 pre-populated emails and receiving 240 emails per day) and 80% light users (each receiving an average of 20 emails per day). [Learn more](#)
- The performance of the mail system will slightly decrease in high-availability mode due to data synchronization

between the two servers.

- Functions that were enabled in all of the tests above: anti-spam, anti-virus, DNSBL, greylist, content scan, full-text search (English only).
- Models with expandable memory are tested with their maximum supported memory. To estimate the RAM requirement for your NAS, please [read this article](#)

### [Snapshot Replication](#)

Maximum Snapshots per Shared Folder 1,024

Maximum of System Snapshots 65,536

### [Surveillance Station](#)

Default Licenses 2 ([Additional cameras require purchase of licenses](#))

Suggested Maximum IP Cameras and Total FPS (H.264)

- 1080p: 500 channels, 5000 FPS
- 3M: 450 channels, 4500 FPS
- 5M: 300 channels, 3000 FPS
- 4K: 220 channels, 2200 FPS

Suggested Maximum IP Cameras and Total FPS (H.265)

- 1080p: 600 channels, 16200 FPS
- 3M: 500 channels, 5000 FPS
- 5M: 450 channels, 4500 FPS
- 4K: 300 channels, 3000 FPS

Notes

- Surveillance Station 9.1.3 or above is

required to support the maximum IP cameras and FPS figures listed.

- Use [NVR Selector](#) to quickly find a suitable model based on your requirements.
- The number of streams that can be viewed simultaneously is **twice** the suggested maximum number of cameras. For example, if the suggested maximum number of cameras for a model is 10 under H.264, 1080p, the model can support up to 20 streams of the same specification at the same time.
- Performance figures are obtained from testing conducted with the device fully populated with drives (5 volumes with 12 drives each volume) under a continuous recording setup. Actual system capabilities may vary based on configuration, drive performance, enabled features, and the presence of additional workloads.
- Tested using RAID 5

[Synology Drive](#)

Recommended Number of Concurrent Sync Clients	2,000 (the number of connections that can be maintained when the recommended number of hosted files was reached)
Recommended Number of Hosted Files	100,000,000 (applies to files indexed or hosted by <a href="#">Synology Drive</a> . For file access through other standard protocols, refer to the File Services section above)

Notes

- Exceeding the recommended numbers above will not block application operations, but may result in longer response time.
- Models with expandable memory are tested with their maximum supported memory.
- Btrfs file system and non-encrypted shared folders were used during the aforementioned testing.

[Synology Office](#)

Suggested Users	17,500
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Notes

- Suggested users is derived from testing in an environment with 60% idle users (each logging in and viewing documents) and 40% active users (each executing random actions at

intervals of 20 to 40 seconds) operating within documents, each document having 30 users. [Learn more](#)

- Models with expandable memory are tested with their maximum supported memory.
- Client performance may affect maximum simultaneous editing users. Client PCs used for testing: Intel Core i3-3220 / 8GB RAM

<a href="#">Virtual Machine Manager</a>	Recommended Virtual Machine Instances	40 ( <a href="#">Learn more</a> )
	Recommended Virtual DSM Number ( <a href="#">Licenses required</a> )	40 (including 1 Free License)
	Notes	The specifications vary depending on system configuration and memory size.
<a href="#">VPN Server</a>	Maximum Connections	60

## Specification

NAS	
RJ-45 10GbE LAN Port	2
CPU Architecture	64-bit
CPU Core	10
CPU Frequency	2.4 (base) / 3.2 (turbo) GHz
CPU Model	Intel Xeon Silver 4210R
CPU Quantity	2
Drive Bays	60
Expansion Port	2
Form Factor (RU)	4U
Hardware Encryption Engine	Yes
Hot Swappable Drive	Yes
Maximum Memory Capacity	512 GB (32 GB x 16)



Memory	64 GB DDR4 ECC RDIMM
PCIe Expansion	2 x Gen3 x16 slot (x16 link) 2 x Gen3 x8 slots (x8 link)
Power Supply Unit / Adapter	1600 watts
Redundant Power Supply	Yes
RJ-45 1GbE LAN Port	2
System Fan	80 mm x 80 mm x 4 pcs
Total Memory Slots	16
USB 3.2 Gen 1 Port	2

## **Product Gallery**