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 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.

CPU

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](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.

25GbE

10GbE

E25G30-F2

E10G30-T2
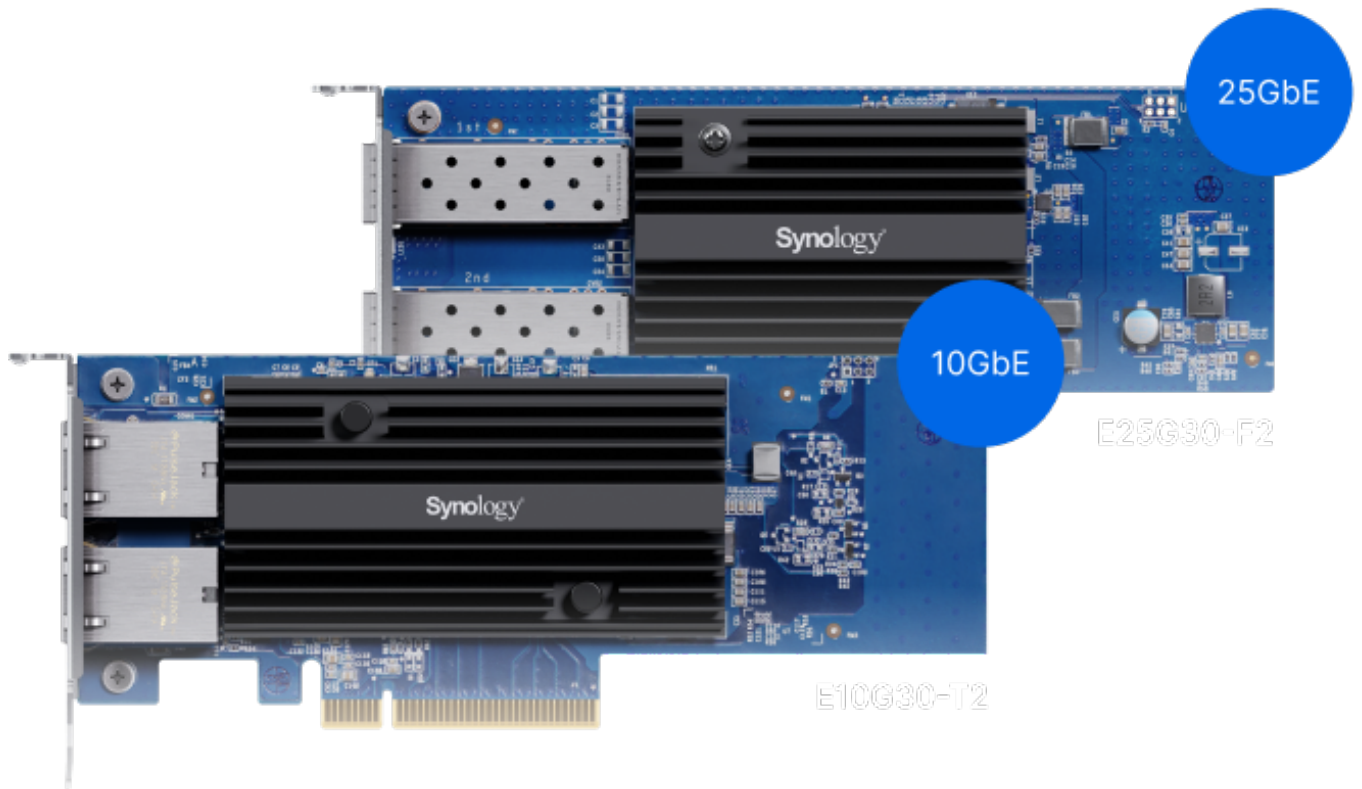
Consolidate your data storage

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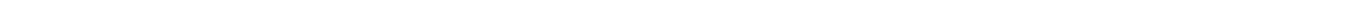
Massive file server

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) though Active Directory/LDAP integration and protect files against tampering or removal with built-in snapshot technology.
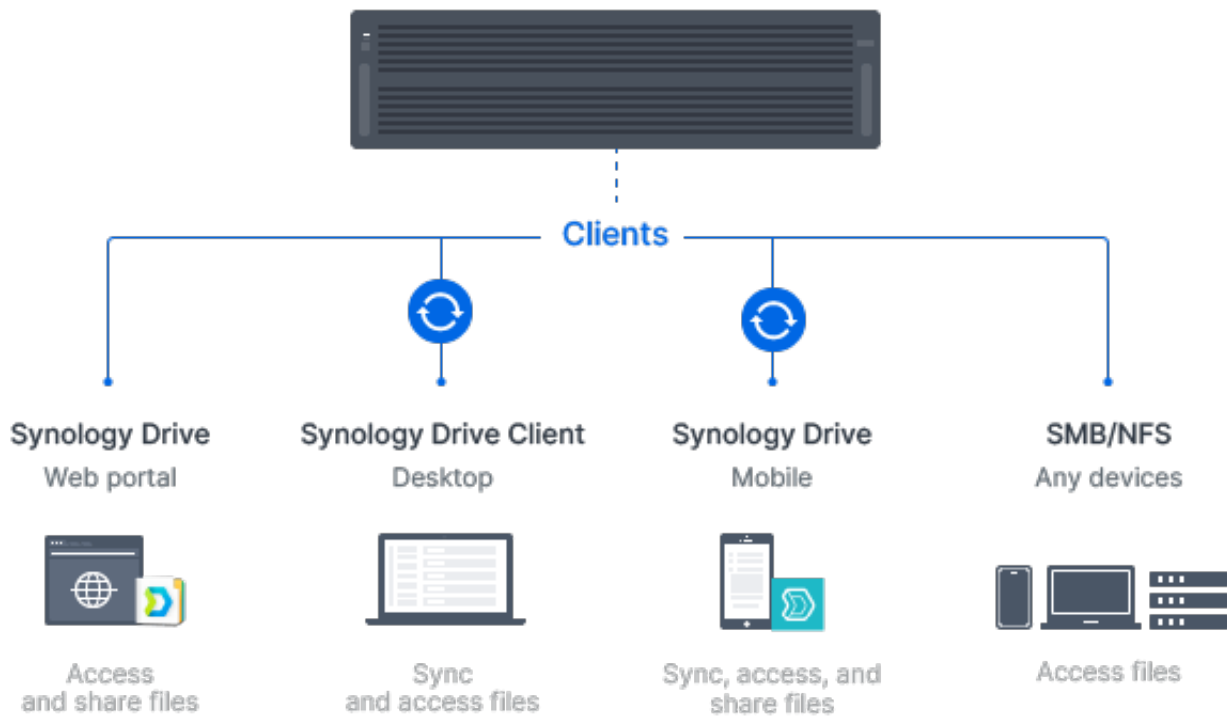
Cross-site syncing

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.

Hybrid Share
for C2 Storage

Branch A

Branch B

Drive ShareSync
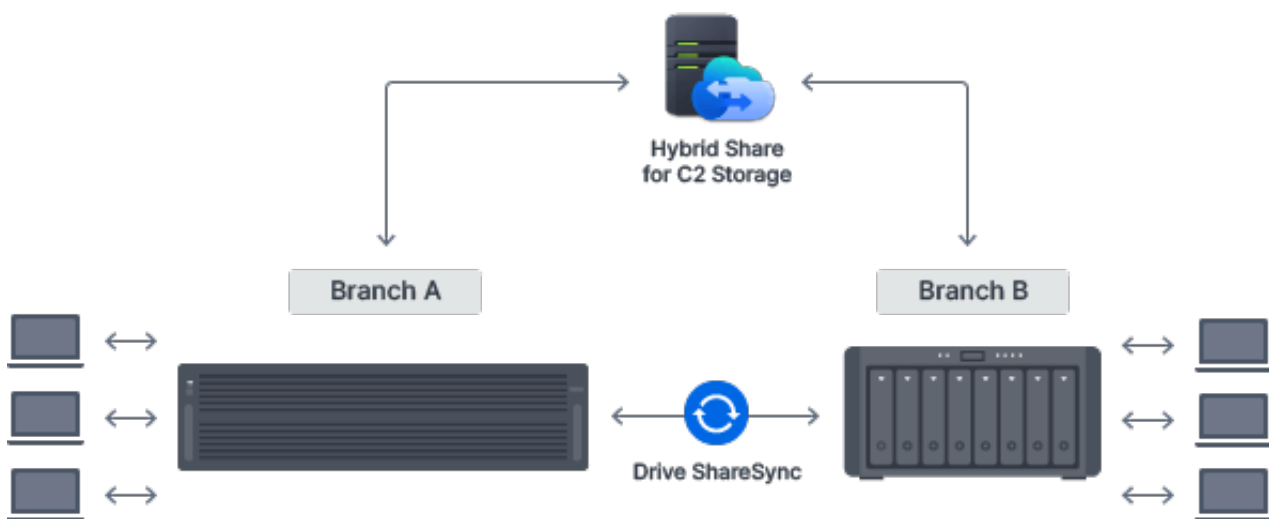
Central backup server

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

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.

Synology NAS/SAN

LUNs

Shared folders

Active Backup
for Business

Snapshot Replication
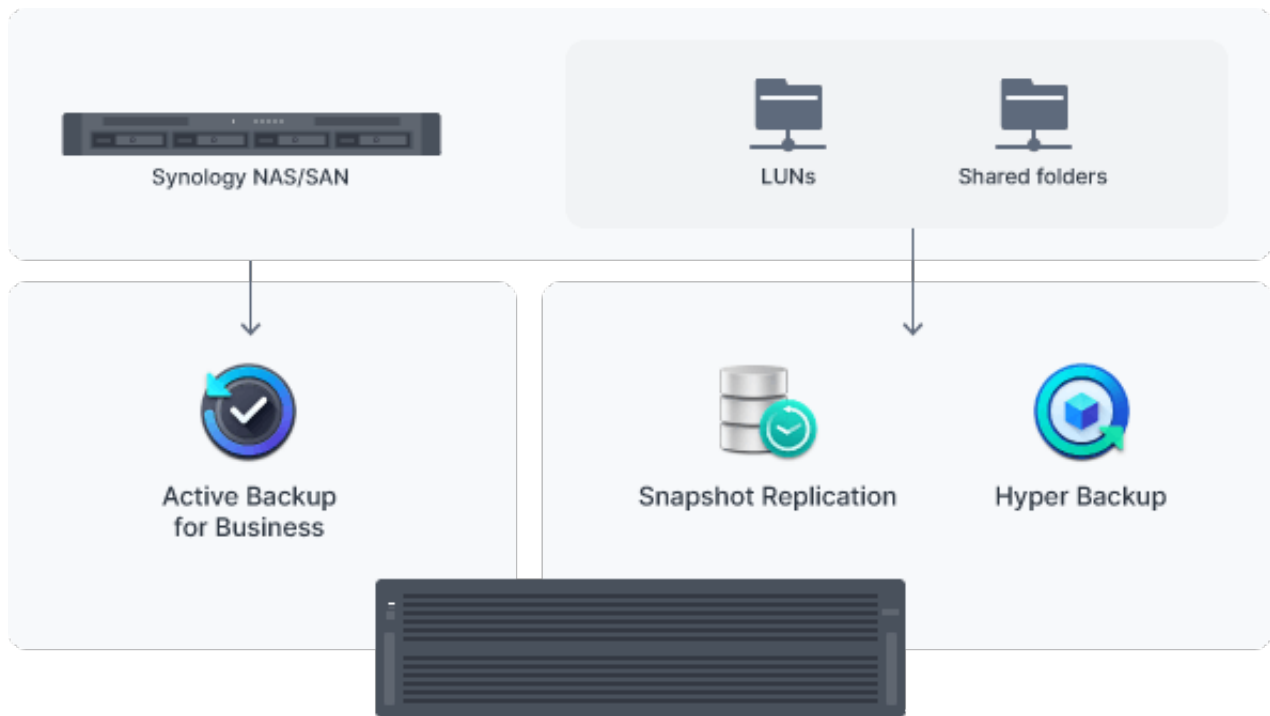
Hyper Backup

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.
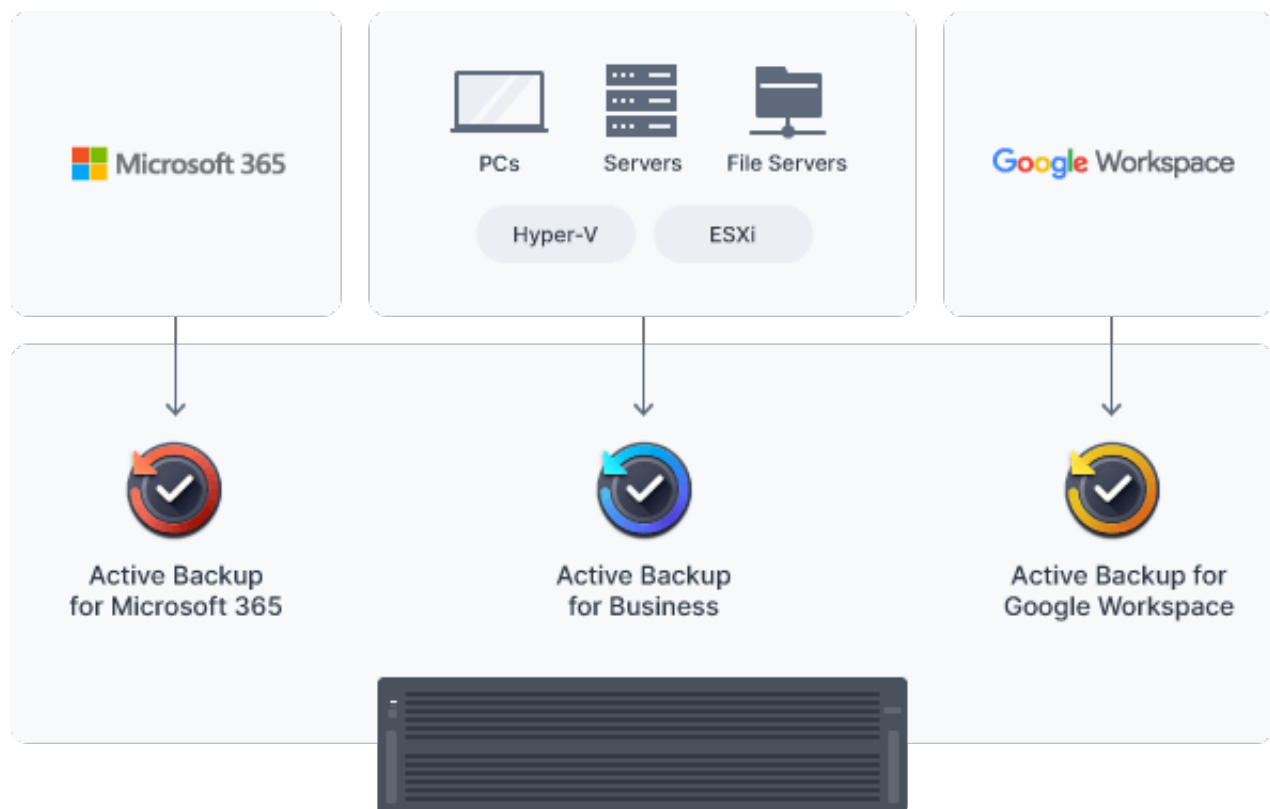
Main surveillance storage

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

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.

Site 1

Site 2

Clients
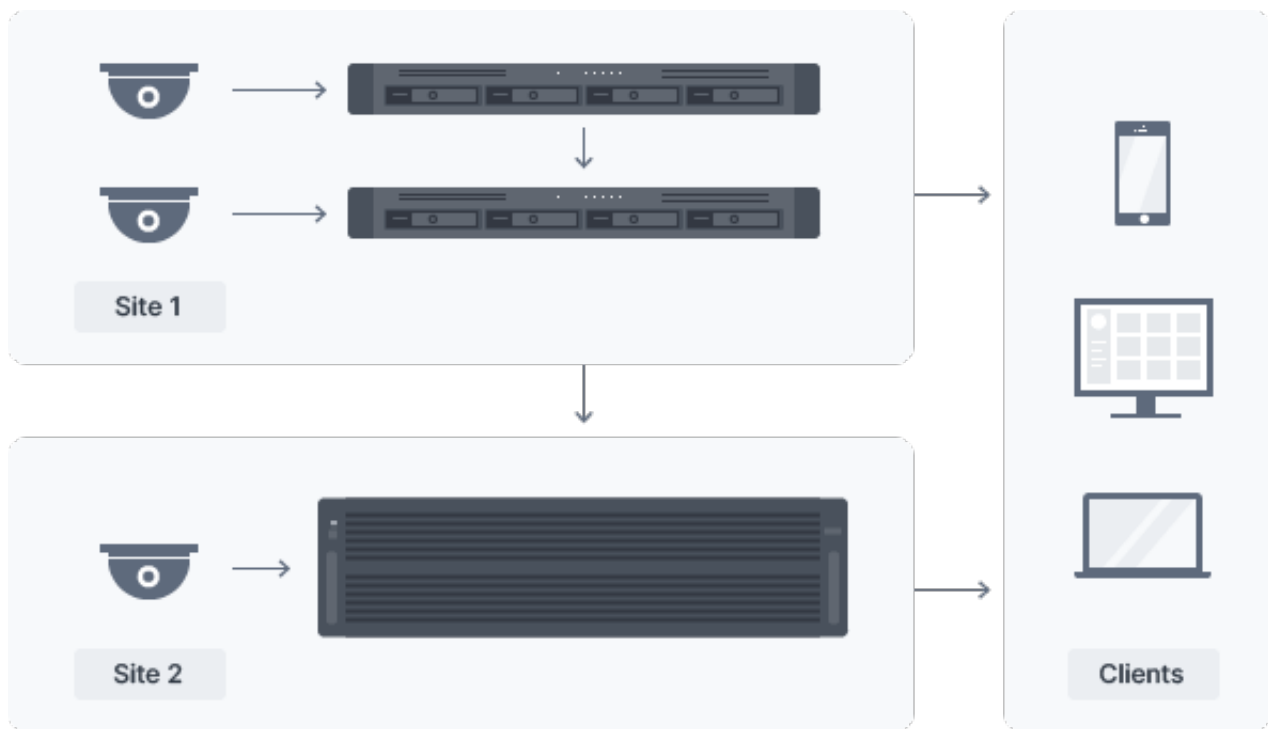
Advanced deployment and analysis options

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	• 1 PB (for RAID 6 groups only) • 200 TB
	Maximum Internal Volume Number	256
	SSD Read/Write Cache (Determining cache size)	
	RAID Group	
	Supported RAID Type	• Basic • JBOD • RAID 0

		• RAID 1
		• RAID 5
		• RAID 6
		• RAID 10
	RAID Migration	• Basic to RAID 1
		• Basic to RAID 5
		• RAID 1 to RAID 5
		• RAID 5 to RAID 6
	Volume Expansion with Larger HDDs	• RAID 1
		• RAID 5
		• RAID 6
		• RAID 10
	Volume Expansion by Adding a HDD	• JBOD
		• RAID 5
		• RAID 6
	Global Hot Spare Supported RAID Type	• RAID 1
		• RAID 5
		• RAID 6
		• RAID 10
	Notes	• SSD cache support requires DSM 7.1.1-42962 Update 4 or later versions.
		• When Peta Volume is enabled, validated services and packages are required. Please refer to [this article](#) for more information on limitations.
[File System](#)	Internal Drives	• Btrfs
	External Drives	• Btrfs
		• ext4
		• ext3
		• FAT
		• NTFS
		• HFS+
		• exFAT
	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 Sync Tasks	32
[Hybrid Share](#)	Maximum Hybrid Share Folders	30
[Hyper Backup](#)	Folder and Package Backup	
	Entire System Backup	
	Notes	Full-system backup requires DSM 7.2 or later.
[High Availability](#)	Synology High Availability	
[Log Center](#)	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	
[General Specifications](#)	Supported Protocols	SMB1 (CIFS), SMB2, SMB3, NFSv3, NFSv4, NFSv4.1, NFS Kerberized sessions, iSCSI, Fibre Channel, HTTP, HTTPs, FTP, SNMP, LDAP, CalDAV
	Supported Browsers	- Chrome - Firefox - Edge - Safari
	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 [DSM Technical Specifications](#).

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 LUN Clone/Snapshot, Windows ODX	512	
[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

		configuration with the maximum number of supported SAS drives.
[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 [Synology Drive](#). 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
	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
[Virtual Machine Manager](#)	Recommended Virtual Machine Instances	40 [(Learn more)](#)
	Recommended Virtual DSM Number [(Licenses required)](#)	40 (including 1 Free License)
	Notes	The specifications vary depending on system configuration and memory size.
[VPN Server](#)	Maximum Connections	60

Specification

NAS	
CPU Model	Intel Xeon Silver 4210R
CPU Quantity	2
CPU Core	10
CPU Architecture	64-bit
CPU Frequency	2.4 (base) / 3.2 (turbo) GHz
Hardware Encryption Engine	Yes
Memory	64 GB DDR4 ECC RDIMM
Drive Bays	60
Hot Swappable Drive	Yes
RJ-45 1GbE LAN Port	2
USB 3.2 Gen 1 Port	2
System Fan	80 mm x 80 mm x 4 pcs
Power Supply Unit /	1600 watts

Adapter	
Total Memory Slots	16
Maximum Memory Capacity	512 GB (32 GB x 16)
Expansion Port	2
PCIe Expansion	2 x Gen3 x16 slot (x16 link) 2 x Gen3 x8 slots (x8 link)
Form Factor (RU)	4U
Redundant Power Supply	Yes
RJ-45 10GbE LAN Port	2

Product Gallery