

Product Specifications

SA6400



Hardware Specs

CPU	
CPU Model	AMD EPYC 7272
CPU Quantity	1
CPU Architecture	64-bit
CPU Frequency	12-core 2.9 (base) / 3.2 (turbo) GHz
Hardware Encryption Engine (AES-NI)	v
Memory	
System Memory	32 GB DDR4 ECC RDIMM
Memory Module Pre-installed	32 GB (32 GB x 1)
Total Memory Slots	16
Maximum Memory Capacity	1024 GB (64 GB x 16)
Notes	<ul style="list-style-type: none">• Synology reserves the right to replace memory modules with the same or higher frequency based on supplier's product life cycle status. Rest assured that the compatibility and stability have been strictly verified with the same benchmark to ensure identical performance.• Please select Synology memory modules for optimum compatibility and reliability. Synology will not provide complete product warranty or technical support if non-Synology memory modules are used for memory expansion.• Installing memory modules with differing capacities is not recommended. Check the Hardware Installation Guide of your Synology product for recommended memory configurations.
Storage	

Drive Bays	12
Maximum Drive Bays with Expansion Unit	108 (RX1223RP x 8)
Compatible Drive Type* (See all supported drives)	<ul style="list-style-type: none"> • 3.5" SATA HDD • 2.5" SATA SSD
Hot Swappable Drive*	v
Notes	<ul style="list-style-type: none"> • Synology only guarantees full functionality, reliability, and performance for Synology drives listed on the compatibility list. The use of non-validated components may limit certain functionality and result in data loss and system instability. • "Compatible drive type" indicates drives that have been tested to be compatible with Synology products. This term does not indicate the maximum connection speed of each drive bay.

External Ports

RJ-45 1GbE LAN Port	4 (with Link Aggregation / Failover support)
RJ-45 10GbE LAN Port	2 (with Link Aggregation / Failover support)
Management LAN Port	1
Max. number of LAN ports	15
USB 3.2 Gen 1 Port*	2
Expansion Port	8
Notes	The USB 3.0 standard was renamed to USB 3.2 Gen 1 by the USB Implementers Forum (USB-IF) in 2019.

PCIe

PCIe Expansion	2 x Gen3 x8 slots (x8 link)
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File System

Internal Drives	<ul style="list-style-type: none"> • Btrfs • EXT4
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External Drives

- Btrfs
- EXT4
- EXT3
- FAT
- NTFS
- HFS+
- exFAT

Appearance**Form Factor (RU)**

2U

Size (Height x Width x Depth)

88 mm x 482 mm x 724 mm

Weight

16.5 kg

Rack Installation Support*4-post 19" rack (Synology Rail Kit - [RKS-02](#))**Notes**

The rail kit is sold separately

Others**System Fan**

80 mm x 80 mm x 4 pcs

Fan Speed Mode

- Full-Speed Mode
- Cool Mode
- Quiet Mode

Easy Replacement System Fan

v

Power Recovery

v

Noise Level*

55.5 dB(A)

Scheduled Power On / Off

v

Wake on LAN / WAN

v

Power Supply Unit / Adapter

550 W

Redundant Power Supply

v

AC Input Power Voltage

100V to 240V AC

Power Frequency	50/60 Hz, Single Phase
Power Consumption	180.5 W (Access) 88.56 W (HDD Hibernation)
British Thermal Unit	615.89 BTU/hr (Access) 302.18 BTU/hr (HDD Hibernation)
Notes	<ul style="list-style-type: none"> • For more information on how power consumption is measured, refer to this article. • Noise testing was conducted with the Synology system fully installed with Synology SATA SSDs and in an idle state. Two G.R.A.S. type 40AE microphones were placed at a 1 m distance from the front and rear of the device. Background noise: 16.49-17.51 dB(A); Temperature: 24.25-25.75°C; Humidity: 58.2-61.8%.

Temperature

Operating Temperature	0°C to 35°C (32°F to 95°F)
Storage Temperature	-20°C to 60°C (-5°F to 140°F)
Relative Humidity	5% to 95% RH

Certification

- FCC
- CE
- BSMI
- VCCI
- RCM
- UKCA
- EAC
- CCC
- KC
- UL

Warranty

5 Years

Notes

The warranty period starts from the purchase date as stated on your purchase receipt. ([Learn more](#))

Environment

RoHS Compliant

Packaging Content

- Main Unit X 1
- Accessory Pack X 1
- AC Power Cord X 2
- Quick Installation Guide X 1

Optional Accessories

- DDR4 ECC RDIMM: [D4ER01-32G/D4ER01-64G](#)
- Expansion Units: [RX1223RP](#)
- 3.5" SATA HDD: [HAT5300](#)
- 2.5" SATA SSD: [SAT5210](#)
- M.2 SSD & 10GbE Combo Adapter Card: [E10M20-T1](#)
- M.2 SSD Adapter Card: [M2D20](#)
- 25GbE Network Interface Card: [E25G21-F2](#)
- 10GbE Network Interface Card: [E10G21-F2/E10G18-T2/E10G18-T1](#)
- Rail Kit Sliding: [RKS-02](#)
- VisualStation: [VS360HD](#)
- Surveillance Device License Pack

Notes

All memory modules will operate at the maximum frequency specified by the CPU manufacturer.

Software Specs

DSM Specifications

Storage Management

Maximum Single Volume Size*	<ul style="list-style-type: none">• 1 PB (64 GB memory required, for RAID 6 groups only)• 200 TB
Maximum Internal Volume Number	256
SSD Read / Write Cache (White Paper)	v
SSD TRIM	v

RAID Group	v
Supported RAID Type	<ul style="list-style-type: none"> • RAID F1 • Basic • JBOD • RAID 0 • RAID 1 • RAID 5 • RAID 6 • RAID 10
RAID Migration	<ul style="list-style-type: none"> • Basic to RAID 1 • Basic to RAID 5 • RAID 1 to RAID 5 • RAID 5 to RAID 6
Volume Expansion with Larger HDDs	<ul style="list-style-type: none"> • RAID F1 • RAID 1 • RAID 5 • RAID 6 • RAID 10
Volume Expansion by Adding a HDD	<ul style="list-style-type: none"> • RAID F1 • JBOD • RAID 5 • RAID 6
Global Hot Spare Supported RAID Type	<ul style="list-style-type: none"> • RAID F1 • RAID 1 • RAID 5 • RAID 6 • RAID 10
Notes	<ul style="list-style-type: none"> • Usable capacity for each volume will be lower than the maximum volume size and is dependent on the filesystem and the amount of system metadata stored. • On Peta Volume enabled volumes, Snapshot Replication, SSD caching, shared folder encryption, and compression will not be available. Please refer to this article for more information on limitations. • Each internal volume (may consist of multiple drives) is expandable up to 108 TB (with memory less than 32 GB) or 200 TB (with memory equal to or greater than 32 GB).

File Protocol	SMB/AFP/NFS/FTP/WebDAV
Maximum Concurrent SMB/AFP/FTP Connections	8,000
Maximum Concurrent SMB/AFP/FTP Connections (with RAM expansion)	10,000
Windows Access Control List (ACL) Integration	v
NFS Kerberos Authentication	v
Notes	<ul style="list-style-type: none"> Regarding data concerning tests with RAM expansion, all memory slots are installed with the maximum capacity of supported RAM. During testing, the maximum number of SSDs supported by this model is installed in a RAID 5 configuration. 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 Accounts	16,000
Maximum Local Groups	512
Maximum Shared Folder	512
Maximum Shared Folder Sync Tasks	32

Hybrid Share

Maximum Hybrid Share Folders	30
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High Availability

Synology High Availability	v
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Log Center

Syslog Events per Second	3,000
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Virtualization

VMware vSphere with VAAI	v
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Windows Server 2016	v
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Windows Server 2019	v
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Citrix Ready	v
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OpenStack	v
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General Specifications

Networking Protocols	SMB1 (CIFS), SMB2, SMB3, NFSv3, NFSv4, NFSv4.1, NFS Kerberized sessions, iSCSI, Fibre Channel, HTTP, HTTPs, FTP, SNMP, LDAP, CalDAV
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Supported Browsers	<ul style="list-style-type: none">• Google Chrome• Firefox• Microsoft Edge• Safari
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Supported Language	English, Deutsch, Français, Italiano, Español, Dansk, Norsk, Svenska, Nederlands, Русский, Polski, Magyar, Português do Brasil, Português Europeu, Türkçe, Český, ไทยไทย, 日本語, 한국어, 繁體中文, 简体中文
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Notes	For an updated list of supported browser versions, check the DSM Technical Specifications .
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Add-on Packages [view the complete package list](#)

Antivirus by McAfee (Trial)

v

Central Management System

v

Synology Chat

Maximum Number of Concurrent Users

1,500

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.
- When applicable, systems are tested configured with maximum memory and set to allow the maximum number of connections.

Document Viewer

v

Download Station

Maximum Concurrent Download Tasks

80

SAN Manager

Maximum iSCSI Target Number

256

Maximum LUN

512

LUN Clone/Snapshot, Windows ODX

v

Synology MailPlus / MailPlus Server

Free Email Accounts

5 (Licenses required for additional accounts)

Maximum Number of Concurrent Users

2,200

Maximum Server Performance

5,721,000 emails per day, approx. 174 GB

Notes

- Models with more than 4 bays were installed with two SSDs for SSD cache.
- For tested models with expandable memory, the maximum amount of RAM was installed.
- 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).

Media Server

DLNA Compliance

v

Synology Photos

Facial Recognition

v

Snapshot Replication

Maximum Snapshots per Shared Folder

1,024

Maximum of System Snapshots

65,536

Surveillance Station

Maximum IP cam ([Licenses required](#))

128 (including 2 Free License) ([see all supported IP cameras](#))

Total FPS (H.264)

3840 FPS @ 720p (1280×720)
2800 FPS @ 1080p (1920×1080)
1230 FPS @ 3M (2048×1536)
800 FPS @ 5M (2591×1944)
600 FPS @ 4K (3840×2160)

Total FPS (H.265)

3840 FPS @ 720p (1280×720)
3840 FPS @ 1080p (1920×1080)
2700 FPS @ 3M (2048×1536)
1500 FPS @ 5M (2591×1944)
1120 FPS @ 4K (3840×2160)

Notes	<ul style="list-style-type: none"> • Maximum IP cameras and FPS figures are tested with the device fully populated with drives and under a continuous recording setup. • Actual system capabilities may differ depending on system configuration, drive performance, number of features enabled, and if additional workloads are present.
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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)
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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)
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Notes	<ul style="list-style-type: none"> • Exceeding the recommended numbers above will not block application operations, but may result in longer response time. • Utilizing SSD cache can significantly improve performance. • For tested models with expandable memory, the maximum amount of RAM was installed. • Btrfs file system and non-encrypted shared folders were used during the aforementioned testing.
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Synology Office

Maximum Users	3,400
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Notes	<ul style="list-style-type: none"> • Multiple files were opened for testing and each file was edited by 30 users simultaneously. • For tested models with expandable memory, the maximum amount of RAM was installed. • Client performance may affect maximum simultaneous editing users. Client PCs used for testing: Intel Core i3-3220 / 8GB RAM
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Video Station

v

Virtual Machine Manager

Recommended Virtual Machine Instances	24 (Learn more)
Recommended Virtual DSM Number (Licenses required)	24 (including 1 Free License)
Notes	The specifications vary depending on system configuration and memory size.
VPN Server	
Maximum Connections	60