Synology®

Datasheet

FlashStation

FS6400

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FlashStation

FS6400

Blazingly Fast All-Flash Server Aiming for I/O-Intensive Applications

FlashStation FS6400 is a highly reliable and ultra-high performance all-flash server for I/O-intensive and latency-sensitive applications, such as multimedia post-production, virtual machines, online transaction processing, or databases. FS6400 is backed by Synology's 5-year limited warranty.

- Synology all-flash server targeted at I/O-intensive and latency-sensitive applications
- Over 215,000 iSCSI 4K Random Write IOPS, ultra-high performance with low latency[1]
- Dual Intel® Xeon® Silver 8-core processors and 32GB DDR4 ECC RDIMM, expandable up to 512GB
- Onboard 10GBASE-T ports, capable of installing optional 10GbE/25GbE/40GbE NICs
- Complete virtualization solution for VMware® vSphere, Windows Server® Hyper-V™, Citrix® XenServer, and OpenStack® Cinder
- Advanced Btrfs file system offering 65,000 system-wide snapshots and 1,024 snapshots per shared folder
- Scale up to 72 drives with 2 x Synology expansion unit FX2421[2]

Uncompromising Performance

Synology FlashStation FS6400 is a 2U rackmount server designed for I/O-intensive and latency-sensitve tasks. Featuring two Intel® Xeon® Silver processors with Non-Uniform Memory Access (NUMA) I/O optimization, 24 drive bays supporting 2.5" SAS/SATA SSD, and 32GB DDR4 ECC RDIMM, FS6400 provides over 215,000 iSCSI 4K random write IOPS and is ideal for multimedia post-production, virtual machines, online transaction processing, or database applications.

FS6400 comes with two 10GBASE-T ports and supports optional network interface cards for high-speed data transmission. Storage capacity can be further scaled up with Synology expansion unit FX2421, providing up to 72 storage drives with elastic expandability. 5-year product warranty guarantees hardware replacement and technical support services, maximizing your return on investment (ROI).

Btrfs: Next Generation Storage Efficiency

FS6400 introduces the Btrfs file system, bringing the most advanced storage technologies to meet the management needs of modern businesses:

- **Advanced snapshot technology** provides schedulable, near-instantaneous data protection of shared folders and iSCSI LUNs.
- **File and folder level data restoration** brings huge conveniences and saves time for users who wish to restore only a specific file or folder.
- **Flexible shared folder and user quota system** provide comprehensive quota control on all user accounts and shared folders.
- **File self-healing**: Btrfs file system is able to auto-detect corrupted files with mirrored metadata and recover broken data using the supported RAID volumes, which include RAID1, 5, 6, 10, and Synology RAID F1.

Enterprise-Grade Applications

Powered by the innovative Synology DiskStation Manager (DSM), FS6400 comes fully-equipped with applications and features designed specifically for large-scale businesses:

- **Windows® AD** and **LDAP** support allows easy integration with existing business directory services.

- **Windows ACL** support provides fine-grained access control and efficient privilege settings, allowing FS6400 to fit seamlessly into existing infrastructure.
- Internet file access is simplified by the encrypted FTP server and the web-based file explorer **Synology File Station**. **HTTPS**, **firewall**, and **IP auto-block** support ensures file sharing over the Internet is protected with a high level of security.
- **Application privileges** control access to applications and packages based on each individual account, user group, or IP address.

Effortless Virtualization Deployment

Synology iSCSI storage fully supports most virtualization solutions to enhance work efficiency with a simple management interface. **VMware® vSphere 6.5** and **VAAI** integration helps offload storage operations and optimizes computation efficiency. **Windows Offloaded Data Transfer (ODX)** speeds up data transfer and migration rates, while **OpenStack® Cinder** support turns your Synology NAS into a block-based storage component.

Synology **Virtual Machine Manager** adds boundless capabilities to your NAS. Set up and run various virtual machines, including **Windows**, **Linux**, and **Virtual DSM**, so that you can test new software versions in a sandbox environment, isolate your customers' machines, and increase the flexibility of your FS6400 with reduced hardware deployment and maintenance costs.

Reliability, Availability & Disaster Recovery

System reliability is critical for businesses everywhere. FS6400 responds to these concerns with wide-ranging availability and redundancy features:

- **Synology High Availability** ensures seamless transitioning between clustered servers in the event of unexpected disasters and ensures that your services remain online.
- **Snapshot Replication** provides schedulable, near-instantaneous data protection, ensuring business documents in shared folders, virtual machines in iSCSI LUNs, or dockerized application data remain safe and available in the event of a disaster.
- **Redundant power supplies**, **system fans** and **network ports** with failover support ensure continual service uptime.
- High reliability system design, including **fan-less CPU heat-sink** and **passive cooling technology**, prevents single points of failure.
- **DDR4 ECC RDIMM** reduces power consumption and has error detection and correction capabilities during data transmission.

A Powerful Collaboration Solution

Use the collaboration suites on your Synology NAS to build a private cloud to enhance team cooperation and boost productivity.

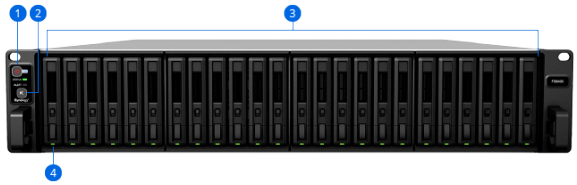
- **Synology Drive** allows you to access the data and files on Synology NAS through a unified portal and enable data synchronization across platforms. You can also install the online editor **Synology Office** and collaborate with others on **Documents**, **Spreadsheets**, and **Slides**.
- **Synology MailPlus** allows your business to set up a private and reliable mail server with the support of high-availability design and gives your employees an intuitive web-based client to manage emails and boost productivity.
- **Synology Calendar** enables you to manage team schedules and organize daily tasks effortlessly. Event information can also be synced to your CalDAV clients, allowing you to check schedules anywhere and anytime.
- **Synology Chat** is a web-based application that allows you to start conversations instantly and safely and optimizes companies' internal communications with its powerful information management and interaction features.

Notes:

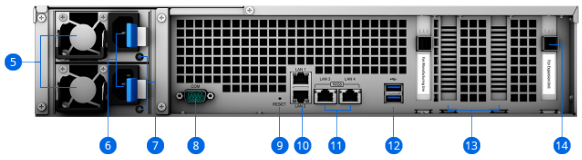
1. Performance figures may vary depending on environment, usage, and configuration.
2. FS6400 can scale up to 48 drives with 2 x RX1222sas, or 72 drives with 2 x FX2421, sold separately.

Hardware Overview

Front



Rear



No.	Name	No.	Name
1.	Power button and indicator	8.	Console port
2.	Beep off button	9.	Reset button
3.	Drive tray	10.	1GbE RJ-45 port
4.	Drive status indicator	11.	10GbE RJ-45 (10GBASE-T) port
5.	PSU fan	12.	USB 3.0 port
6.	Power port	13.	PCIe expansion slot
7.	PSU indicator	14.	Expansion port

Technical Specifications

Hardware

CPU	
CPU Model	Intel Xeon Silver 4110
CPU Quantity	2
CPU Core	8
CPU Architecture	64-bit
CPU Frequency	2.1 (base) / 3.0 (turbo) GHz
Hardware Encryption Engine	Yes

Memory	
System Memory	32 GB DDR4 ECC RDIMM
Memory Module Pre-installed	32 GB (16 GB x 2)
Total Memory Slots	16
Maximum Memory Capacity	512 GB (32 GB x 16)
Notes	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.

Storage	
Drive Bays	24
Maximum Drive Bays with Expansion Unit	72 (FX2421 × 2)
Drive Type	• 2.5" SAS HDD • 2.5" SAS SSD • 2.5" SATA SSD
Hot Swappable Drive	Yes

External Ports	
RJ-45 1GbE LAN Port	2
RJ-45 10GbE LAN Port	2
USB 3.2 Gen 1 Port	2
Expansion Port	1

PCIe	
PCIe Expansion	2 x Gen3 ×8 slots (x8 link)

Appearance	
Form Factor (RU)	2U
Size (Height x Width x Depth)	88 mm x 482 mm x 724 mm
Weight	17.26 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 32 mm x 4 pcs
AC Input Power Voltage	100V to 240V AC
Power Frequency	50/60 Hz, Single Phase

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)
Operating Humidity	8% to 80% RH
Storage Humidity	5% to 95% RH
Maximum Operating Altitude	5,000 m

General DSM Specifications

Storage Management	
Maximum Single Volume Size	• 1 PB (64 GB memory required, for RAID 6 groups only) • 200 TB • 108 TB
Maximum Internal Volume Number	256
SSD Read/Write Cache (Determining cache size)	Yes
Supported RAID Type	RAID F1,Basic,JBOD,RAID 0,RAID 1,RAID 5,RAID 6,RAID 10
Notes	• Actual maximum storage pool and volume sizes depend on drive sizes used, the number of drive bays available, and the RAID configuration. • 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. • 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,ext4
External Drives	Btrfs,ext4,ext3,FAT32,NTFS,HFS+,exFAT

File Services	
File Protocol	SMB,AFP,NFS,FTP,WebDAV,Rsync
Maximum Number of SMB Connections (FSCT-Based)	10,000
Windows Access Control List (ACL) Integration	Yes
NFS Kerberos Authentication	Yes

Account & Shared Folder	
Maximum Local User Accounts	15,360
Maximum Local Groups	512
Maximum Shared Folder	512
Maximum Shared Folder Sync Tasks	32

Virtualization	
VMware vSphere	ESXi 8.0 U2, ESXi 8.0 U1, ESXi 8.0, ESXi 7.0 U3, ESXi 7.0 U2, ESXi 7.0 U1, ESXi 7.0, ESXi 6.7 U3, ESXi 6.7 U2, ESXi 6.7 U1, ESXi 6.7, ESXi 6.5 U3, ESXi 6.5 U2, ESXi 6.5 U1, ESXi 6.5
Microsoft Hyper-V	Windows Server 2022, Windows Server 2019, Windows Server 2016
Citrix XenServer	XenServer 7
OpenStack	Cinder

Security
Firewall, encryption shared folder, SMB encryption, FTP over SSL/TLS, SFTP, rsync over SSH, login auto block, Let's Encrypt support, HTTPS (customizable cipher suite)

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, Русский, Polski, Magyar, Português do Brasil, Português Europeu, Türkçe, Český, ภาษาไทย, 日本語, 한국어, 繁體中文, 简体中文
Notes	For an updated list of supported browser versions, check the DSM Technical Specifications.

Packages and Applications

Synology AI Console	
Centralize AI management with flexible configurations for AI model integration, user access control, data privacy, usage policies, and resource allocation	
Third-Party AI Model Integration	v
Maximum De-Identification Rate	9,200 words per second
Notes	• De-identification performance measurement: Filters for Credit Card Numbers, IBAN, Individual Taxpayer Identification Number, SSN, and Names applied to a 4,355-word English text. • To enable de-identification, your device must have at least 8 GB of memory and Container Manager installed.

Synology Drive	
Synchronizes files across Windows®, macOS®, Linux®, Android™ and iOS. The built-in cross-platform portal allows access to data anytime and anywhere	
Maximum Number of Users	20,500
Maximum 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)

File Station

Provides virtual drives, remote folders, Windows® ACL editor, compression/extraction of archived files, bandwidth control for specific users/groups, creation of sharing links, and transfer logs

Hybrid Share

Synchronize data across multiple sites for fast and efficient multi-site teamwork. Powered by Synology C2 Storage, Hybrid Share requires purchase of a monthly or annual subscription

SAN Manager

Maximum iSCSI Target Number	256
Maximum LUN	512
LUN Clone/Snapshot, Windows ODX	Yes

Virtual Machine Manager

Recommended Virtual Machine Instances	32 (Learn more)
Recommended Virtual DSM Number (Licenses required)	32 (including 1 Free License)

Hyper Backup

Supports local backup, network backup, and data backup to other servers and public clouds, including C2 Storage

Snapshot Replication

Maximum Snapshots per Shared Folder	1,024
Maximum of System Snapshots	65,536

Synology High Availability

Reduces service downtime by combining two identical NAS into a high-availability cluster

Synology Chat	
Maximum Number of Users	1,500

Synology Office	
Maximum Number of Users	16,200

Synology MailPlus / MailPlus Server	
A secure, reliable, and private mail solution featuring high-availability, load balancing, security, and filtering options	
Free Email Accounts	5 (Additional accounts require purchase of licenses)
Maximum Number of Users	19,000

Surveillance Station	
Default Licenses	2 (Additional cameras require purchase of licenses)
Suggested Maximum IP Cameras and Total FPS (H.264)	• 1080p: 485 channels, 4850 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: 520 channels, 15600 FPS • 3M: 485 channels, 4850 FPS • 5M: 450 channels, 4500 FPS • 4K: 300 channels, 3000 FPS

Central Management System
Provides a single interface to manage and monitor multiple Synology NAS

VPN Server	
Maximum Connections	32

Other packages
Additional 3rd-party packages are available in the Package Center

Environment & Packaging

Environment safety
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: D4RD-2666-16G
- Expansion Units: FX2421*/RX1222sas
- Enterprise Series 2.5" SATA SSD: SAT5200 Series
- 25GbE Network Interface Card: E25G30-F2
- 10GbE Network Interface Card: E10G30-F2/E10G30-T2/E10G18-T1
- Rail Kit Sliding: RKS-02

Notes	
	• For multi-module memory configurations, all modules must be identical and share the same model number. Check the Product Manual of your Synology product for recommended memory configurations. • Expansion Unit FX2421 can only be used with identical expansion units.

Warranty	
5 Years	
Notes	The warranty period starts from the purchase date as stated on your purchase receipt. (Learn more)

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