



## RackStation **RS18016xs+**

Synology RackStation RS18016xs+ provides the reliable, superior-performance network attached storage solution for enterprises seeking uninterrupted service with comprehensive business applications. Scalable up to 1,440TB, Synology RackStation RS18016xs+ simplifies data management, optimizes virtualization environments, and rapidly expands storage capacity with minimal time investment in setup and maintenance. Synology RS18016xs+ is backed with Synology's 5-year limited warranty.

### Highlights

- Data protection by advanced snapshot technology & built-in data integrity check
- Scale up to 180 drives with 14 Synology RX1216sas
- Performance boost by SSD Cache Technology
- Blazing performance at over 3,900 MB/s throughput and 348,000 IOPS<sup>1</sup>
- Redundant data paths & power supplies ensure service uptime
- Optional 10GbE network capability<sup>3</sup>
- SAS & SATA III 6Gb/s interface support
- VMware®, Citrix®, and Microsoft® Hyper-V® certified
- Backed with Synology's 5-year limited warranty & Synology Replacement Service (SRS)<sup>4</sup>

### Blazing Performance

RS18016xs+ delivers blazing performance at over **3,900 MB/s throughput** and **348,000 IOPS** under RAID 5 configuration with VLAN<sup>1</sup>. Through advanced flash technology, the combination of hard drives and read/write-optimized SSD cache boosts throughput efficiently while minimizing cost per gigabyte. In addition, RS18016xs+ comes with **native SAS and SATA III 6Gb/s support** that unleashes the full potential of blazing fast SSDs, ensuring the optimum data process under heavy system loading.

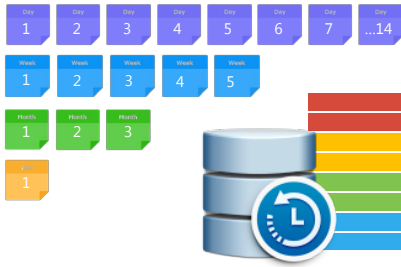
In addition to default 4 Gigabit ports, RS18016xs+ comes with **two PCIe 3.0 x8 slots**, allowing installation of two dual-port 10GbE Network Interface Cards (NIC)<sup>3</sup> for maximized bandwidth, bringing you the superior performance that data-intensive applications demand of your storage system.

Equipped with **8GB RAM** and up to **32GB ECC RAM** expansion support, RS18016xs+ ensures data accuracy as well as superior performance to provide a rigorous foundation for the mission-critical tasks of your business.

### Btrfs: Next Generation Storage Efficiency

RS18016xs+ introduces the **Btrfs file system**, bringing the most advanced storage technologies to meet the management needs of modern large scale businesses:

- **Built-in data integrity check** detects data and file system corruption with data and meta-data checksums and improve overall stability.
- **Flexible Shared Folder/User Quota System** provides comprehensive quota control on all user accounts and shared folders.
- **Advanced snapshot technology** with customizable backup schedule allows up to **256 copies** of shared folder backups without occupying huge storage capacity and system resources.
- **File or folder level data restoration** brings huge convenience and saves time for users who wish to restore only the specific single file or folder.
- **Cloud Station with file versioning** reduces down to half of storage consumption when compared with Ext4 file system.



The Btrfs file system brings storage management to the next level by providing more efficient storage utilization, scheduled shared folder snapshot, and file / folder-level data restoration.



Synology High Availability ensures seamless transition between clustered servers in the event of server failure with minimal impact to businesses.

## Virtualization Certified

RS18016xs+ provides seamless storage solutions for virtualization environments, including VMware, Citrix, and Hyper-V. With VMware vSphere 5 and VAAI integration certified, RS18016xs+ helps offload specific storage operations and optimizes computation power for unparalleled performance and efficiency in VMware environments. As the centralized storage of a virtual environment, RS18016xs+ enables virtual machine migration, allowing transition from server to server whilst eliminating service downtime and disruption to user. Windows Offloaded Data Transfer (ODX) and Synology Advanced LUN support extremely improves the efficiency on massive data transfer and migration.

## Comprehensive Business Applications

Powered by the innovative Synology DiskStation Manager (DSM), RS18016xs+ comes fully-equipped with applications and features designed specifically for large-scale business:

- Easy integration with existing business network environments through Windows® AD and LDAP directory services without recreating user accounts.
- Windows ACL support provides fine-grained access control and efficient privilege settings, allowing RS18016xs+ to fit seamlessly into current infrastructure.
- Built-in backup applications protect information assets by regularly backing up files and iSCSI LUNs locally and remotely.

## Robust Scalability

With 12 HDD trays and up to 1,440TB of total storage capacity<sup>2</sup>, RS18016xs+ is designed to grow with businesses.

RS18016xs+ supports up to 180 HDDs or SSDs for flexible capacity and balanced performance to meet the needs of varying applications and processes. When the storage capacity of RS18016xs+ nears its limit, expansion is easily accomplished with Synology RX1216sas via specially-designed connection cables to maximize data transmission throughput between main server and expansion units.

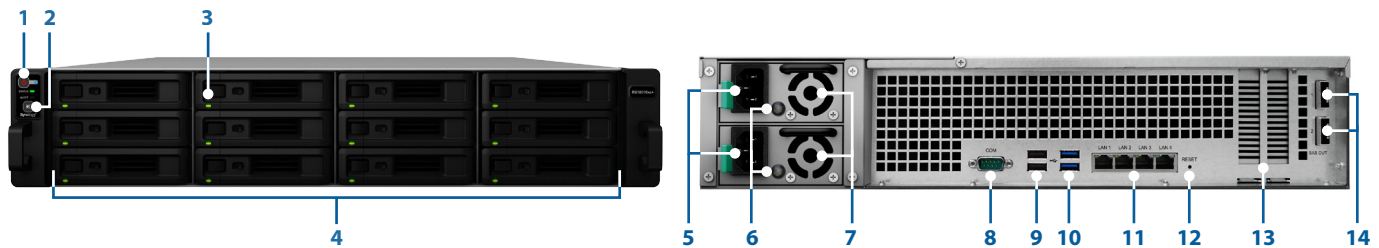
Management of the large storage space on RS18016xs+ is simple and flexible. Multiple Volumes on RAID allows users to create more than one volume on a RAID structure, providing a flexible and efficient way to manage the storage across all hard drives. When the need for more space arises, the volume could be easily expanded without any service disruption.

## Reliability, Availability & Disaster Recovery

System reliability is of paramount importance to businesses which depend upon their commercial servers every day. RS18016xs+ responds to these concerns with wide-ranging availability and redundancy features:

- Synology High Availability ensures seamless transition between clustered servers in the event of server failure with minimal impact to applications.
- Redundant data paths, 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 point of failure.
- ECC RAM modules detect and correct errors during data transmission.
- Tool-free system fan design allows hot swap and easy exchange of malfunctioned system fans. With the brand-new screwless rail kit sliding: Synology RKS1314 (optional), system installation and maintenance is fast and easy.

# Connections & Buttons



1	Power button and indicator	2	Beep off button	3	Drive status indicator	4	Drive tray
5	Power port	6	PSU indicator and beep off button	7	PSU fan	8	Console port
9	USB 2.0 port	10	USB 3.0 port	11	LAN port	12	RESET button
13	PCIe expansion slot	14	SAS OUT port				

## Technical Specifications

### Hardware

CPU	Intel® Xeon E3 quad-core 3.3GHz
Hardware encryption engine	Yes (AES-NI)
Memory	8GB ECC RAM(expandable, up to 32GB)
Compatible drive type	3.5" or 2.5" SAS / SATA III / SATA II x 12 (hard drives not included)
Maximum internal raw capacity	96TB (12 x 8TB HDD) (The actual capacity will differ according to volume types)
External ports	USB 3.0 x 2, USB 2.0 x 2, SAS OUT x 2
Size (HxWxD)	88mm x 430mm x 692mm
Weight	14.5 Kg
LAN	Gigabit x 4
PCIe 3.0 x8 slot	Two running at x8 mode, supports two dual-port 10GbE network interface card
Wake on LAN/WAN	Yes
System fan	4 (80mm x 80mm x 32mm)
AC input power voltage	100V to 240V
Power frequency	50 to 60Hz, single phase
Operating temperature	5°C to 35°C (40°F to 95°F)
Storage temperature	-20°C to 60°C (-5°F to 140°F)
Relative humidity	5% to 95% RH

### General

Networking protocols	CIFS, AFP, NFS, FTP, WebDAV, CalDAV, iSCSI, Telnet, SSH, SNMP, VPN (PPTP, OpenVPN™, L2TP)
File system	Internal: Btrfs, ext4 External: Btrfs, ext4, ext3, FAT, NTFS, HFS+
Storage management	Maximum single volume size: 108TB/200TB (32GB RAM required, for RAID 5 or RAID 6 groups only); Maximum internal volume #: 1024; Maximum iSCSI Target #: 128; Maximum iSCSI LUN#: 512; RAID clone/ snapshot support; RAID Group support; Supported RAID type : Basic, JBOD, RAID 0, RAID 1, RAID 5, RAID 6, RAID 10
File sharing capability	Maximum user account: 16000; Maximum user group: 512; Maximum shared folder: 512; Maximum concurrent CIFS/AFP/FTP connections: 2048
Privilege	Windows Access Control List (ACL)
Virtualization	VMware vSphere® 5, Microsoft Hyper-V®, Citrix® certified
Directory service	Windows® AD integration: Domain users login via Samba (CIFS)/AFP/FTP/File Station, LDAP integration
Security	FTP over SSL/TLS, IP auto-block, firewall, encrypted network backup over Rsync, HTTPS connection
Utilities	Cloud Station, Evidence Integrity Authenticator, Photo Station Uploader, Snapshot Manager for VMware, Snapshot Manager for Windows, NFS Plug-in for VMware VAAI
Supported clients	Windows XP onward, Mac OS X® 10.5 onward, Ubuntu 9.04 onward
Supported browsers	Chrome®, Firefox®, Internet Explorer®: 8 or onward, Safari® 5 or onward, Safari (iOS 5 or later on iPad®), Chrome (Android™ 4.0 on tablets)
Language	English, Deutsch, Français, Italiano, Español, Dansk, Norsk, Svensk, Nederlands, Русский, Polski, Magyar, Português do Brasil, Português Europeu, Türkçe, Český, 日本語, 한국어, 繁體中文, 简体中文

## Applications

File Station	Virtual drive, remote folder, Windows ACL editor, compress/extract archived files, bandwidth control for specific users or groups, create sharing links, transfer logs
Backup solutions	Network backup; local backup; desktop backup; configuration backup; OS X Time Machine; backup data to Amazon Glacier; shared folder sync - maximum task number: 32
Mail Server	Supported Mail Server protocols: POP3, SMTP, IMAP, support LDAP/AD account
FTP Server	Bandwidth control for TCP connections, custom FTP passive port range, anonymous FTP, FTP SSL/TLS and SFTP protocols, boot over the network with TFTP and PXE support, transfer logs
Web Station	Virtual host (up to 30 websites), PHP/MariaDB*, 3rd-party applications support
High Availability Manager	Combines two RS18016xs+ into one high-availability cluster
Storage Analyzer	Volume and quota usage, total size of files, volume usage and trends based on past usage, size of shared folders, largest/most/least frequently modified files
Security Advisor	Malware detection/removal, user account/password, network, system-related security scan
Log Center	SSL connection, log rotation: 6 months, 1 year, 2 years, 3 years, email notification
iOS/Android™ applications	DS cloud, DS file, DS finder, DS cam, DS note, DS audio, DS download, DS photo, DS video
Windows Phone® applications	DS file, DS finder, DS audio, DS download, DS photo, DS video

## Add-on Packages

Surveillance Station	Maximum IP camera #: 90 (total of 2700 FPS at 720p, H.264) (Including two free camera licenses. Procurement of additional licenses is required.)
VPN Server	Maximum connections: 30; supported VPN protocols: PPTP, OpenVPN™, L2TP
Mail Station	Webmail interface for Mail Server; receiving mails from multiple POP3 mailboxes, customizable SMTP server
Antivirus Essential	Full system scan, scheduled scan, white list customization, virus definition auto update
Cloud Station	Maximum concurrent file transfers: 1024, retain historical and deleted file versions
Cloud Sync	Data sync with public cloud services: Dropbox, Google Drive, Baidu, Microsoft OneDrive, Box and hubiC
Note Station	Rich-text note organization with versioning, encryption, sharing, media embedding and attachments
Other packages	Photo Station, Audio Station, Download Station, iTunes® Server, 3rd-party packages

## Environment and Packaging

Environment	RoHS Compliant
Package content	RS18016xs+ main unit x 1, accessory pack x 1, AC power cord x 2, welcome note x 1
Optional accessories	Camera License Pack, 8GB (4GB x 2) / 16GB (8GB x 2) ECC RAM Module Kit, Synology RKS1314 - Rail Kit Sliding, Synology Ethernet Adapter E10G15-F1, Synology Expansion Unit (RX1216sas x 14)
Warranty	5 years

\*Model specifications are subject to change without notice. Please refer to [www.synology.com](http://www.synology.com) for the latest information.

1. Performance figures could vary on different environments.
2. RS18016xs+ supports up to 14 Synology RX1216sas, sold separately.
3. RS18016xs+ comes with two PCIe 3.0 x8 slots running at x8 mode, allowing installation of two dual-port 10GbE network interface cards (NICs). Please visit [www.synology.com](http://www.synology.com) for supported NIC models.
4. Available in selected countries only. For detailed terms and conditions, please visit the Synology Replacement Service (SRS) website at <https://srs.synology.com>.

## SYNOLOGY INC.

Synology is dedicated to taking full advantage of the latest technologies to bring businesses and home users reliable and affordable ways to centralize data storage, simplify data backup, share and sync files across different platforms, and access data on-the-go. Synology aims to deliver products with forward-thinking features and the best in class customer services.

Copyright © 2015, Synology Inc. All rights reserved. Synology, the Synology logo are trademarks or registered trademarks of Synology Inc. Other product and company names mentioned herein may be trademarks of their respective companies. Synology may make changes to specification and product descriptions at anytime, without notice. Printed in Taiwan.

RS18016xs+-2015-ENU-REV001

### Headquarters

Synology Inc. 3F-3, No. 106, Chang An W. Rd., Taipei, Taiwan Tel: +886 2 2552 1814 Fax: +886 2 2552 1824

### China

Synology Shanghai  
20070, Room 516, No. 638,  
Hengfeng Rd., Zhabei Dist.,  
Shanghai, China

### France

Synology France SARL  
39 rue Louis Blanc,  
92400 Courbevoie, France  
Tel: +33 147 176288

### North & South America

Synology America Corp.  
3535 Factoria Blvd SE #200,  
Bellevue, WA 98006, USA  
Tel: +1 425 818 1587

### United Kingdom

Synology UK Ltd.  
Unit C, Denbigh West Business Park,  
Third Avenue, Bletchley,  
Milton Keynes, MK1 1DH, UK  
Tel: +44 1908 366380

### Germany

Synology GmbH  
Grafenberger Allee 125  
40237 Düsseldorf  
Deutschland  
Tel: +49 211 9666 9666