

# NAS SERVER FOR EDUCATIONAL INSTITUTIONS

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Drive Student Success With  
Synology Educational Solutions

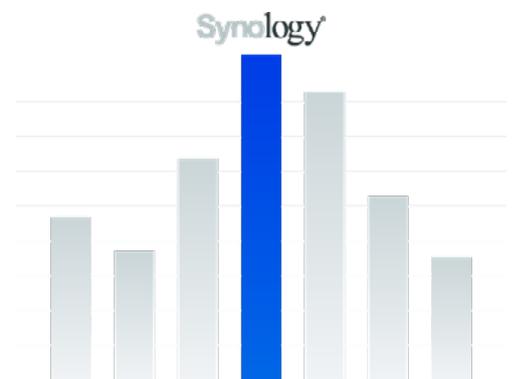


# About Synology

Data is the heart of every industry's transformation, and this is where Synology has a profoundly important role to play. At its very core, our mission is to manage and protect the world's data. Synology uniquely enables every organisation to manage, secure, and protect their data wherever access is needed from flash to disk to multiple cloud architectures – at the scale needed to accommodate the exponential data growth in the digital world.

## Industry Leadership

Trusted by some of the best and brightest minds in the IT industry with more than six million installations, Synology is committed to transforming the way businesses manage their data – elegantly simple, secure, and reliable. We proudly boast a wide array of solutions backed by cutting-edge innovation and field-proven reliability with a solid track record in meeting the ever-increasing expectations and demands.



UNIVERSITY OF  
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LONDON



Leica  
Geosystems

G K R O Y U S P



# The ideal centre of modern IT infrastructure in educational institutions

## Simplicity

While universities and colleges may have independent MIS or IT departments, resources for IT are limited in schools. The maintenance and administration are usually done by a computer science teacher or a voluntary teacher in limited part-time capacity.

Synology is widely recognised by millions of customers worldwide for ease of administration and handling of data. No IT expert is needed to deploy powerful solutions and applications. Our system can run virtually maintenance-free once put into operation, configured and the automated administration routines are set up.

## Compliance

Students are at the heart of all schools and their privacy is paramount. As a private cloud solution, Synology NAS provides the simplicity of public cloud combined with a secure and private IT environment. Moreover, it is also a smart solution to comply with the GDPR. One also can back up their on-premise data in Synology to C2, which means having a complete and secure backup of data in the cloud. The C2 cloud backup is easy to configure and once the initial backup is completed successfully, each backup after that is an incremental backup which takes less time to complete, what is even better as data can be encrypted before you upload.

## Future-proof

Costs are an important factor, especially for the desperately needed school IT. And if investment is made, the solution should be well prepared for the future. The use of Synology NAS creates a multitude of potential savings:

- a: Synology provides a variety of free applications via the Package Center making NAS servers the all-in-one solution to the key IT challenges, avoiding complex IT landscapes - one system for everything.
- b: Future-oriented expansion options make NAS systems flexibly scalable to meet growing needs. Years of free software updates are constantly adding functionality and long-term security updates keep the NAS protected for a long time, so schools invest in future viability.
- c: Time is the teachers' most important capital. Synology offers a solution to minimise maintenance and administration. It allows teachers to focus their limited time on the really important thing - teaching.

Schools need technology that integrates easily with existing resources like systems and accounts.

### Fit into Existing IT Infrastructure Seamlessly

With Windows AD and LDAP support, Synology NAS can join your existing domain environment easily, or even act as an AD or LDAP server itself – free of license cost.

### Virtualisation Ready

Synology NAS offers full virtualization support including VMware vSphere® 6.5, Windows Server® 2012 and 2016, Citrix XenServer® and OpenStack®. The support of LUN Snapshot, LUN clone, thin provisioning and SSD caching technologies benefit storage efficiency and throughput.

### Advanced VMware® Support

Synology NAS is officially certified for VMware vSphere™ 6.5 and VAAI support. Full VAAI support includes Hardware Assisted Locking (ATS), Block Zero, Full Copy, and Thin Provisioning while VAAI NAS enables Full Clone and Reserved Space.



<b>Hardware Assisted Locking</b>	Create multiple VMs 9 times faster with ATS enabled.
<b>Block Zeroing</b>	Create VMs with Write Same support nearly 140 times faster than on a non-VAAI LUN.
<b>Full Copy</b>	Copy VMs on a VAAI LUN 34 times faster than on a non-VAAI LUN.

### Fully Integrated with Public Cloud

Cloud Sync integrates the advantages of public cloud and private cloud, enabling you to effortlessly connect your Synology NAS to public cloud services, such as Amazon Drive, BackBlaze B2, Dropbox, Google Cloud Storage, Microsoft Azure, OpenStack Swift, and more.



## Active Backup for SaaS

Keep a local copy of your SaaS data on **Microsoft 365** and **Google Workspace** to guard against service interruption, accidental deletion, and malicious attacks. Manage your backup tasks in one place even without IT expertise:

- a: **Simplified backup management:** Simply log into your Microsoft 365/Google Workspace admin account and your data will stay protected in a continuous manner. New users will be automatically added to backup tasks.
- b: **Instant content search:** Use keywords to filter and retrieve emails, calendars, mail/calendar attachments, or contacts among backed up accounts.
- c: **Single instancing:** Only unique content will be transferred and stored, thereby reducing backup time and space to optimize storage efficiency.
- d: **Granular restore in seconds:** Join your Synology NAS to Microsoft Azure AD and Google Secure LDAP, and employees can log into the self-restore portal simply with their SaaS account.
- e: **Unlimited accounts and license-free.**



Back up and recover Exchange Online, OneDrive for Business, SharePoint Online, contacts, and calendars in Microsoft 365 across the entire organization.



Protect your Google Workspace My Drive, shared drives, Gmail, contacts, and calendars safely on-premises for better data ownership.

## Manage One, Manage All

Synology **CMS (Central Management System)** allows you to quickly and conveniently manage multiple Synology NAS servers. Once CMS is installed, you can designate your Synology NAS server as the CMS Host and designate other servers as managed servers. The CMS Host provides a single interface to monitor and maintain the managed servers, allowing you to accomplish the following:

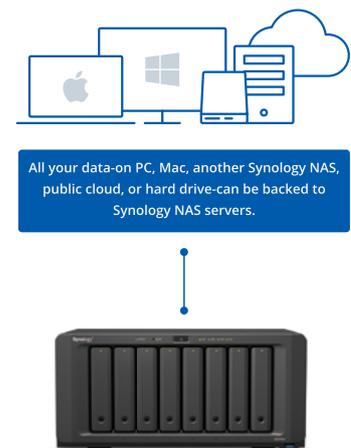
- a: Monitor the status of managed servers
- b: Create server groups and define policies in order to apply settings to entire server groups
- c: Keep each server in your fleet up-to-date and running smoothly by installing packages or performing software updates
- d: Delegate administrator permissions to specific users or groups, allowing each administrator to manage pre-defined settings of specific servers or server groups

Schools cannot afford server breakdowns, so storage and servers must include reliable backup, high availability, and security features.

## All-round data backup solutions

Backup is a basic, yet crucial method to ensure data remains available in the event of hardware failure. Synology provides robust and flexible backup solutions and recovery plans to make sure data, such as professors' research papers and students' assignments, is always available.

- a: **Minimize service downtime:** Service downtime hurts and may be detrimental to revenue and brand reputation. Active Backup for Business gives you the confidence to bring data, applications, and services back in a short time to achieve business continuity.
- b: **Maximize backup efficiency:** Full data protection and backup efficiency should not be a trade-off, but a given. Active Backup for Business enables you to greatly reduce backup time and enhance storage usage efficiency while achieving full data protection.
- c: **Painless deployment:** You don't need troublesome deployment processes anymore. A NAS and installation within a few clicks is all you need for Active Backup for Business to start working behind the scene.



## Snapshot Replication

Snapshot Replication provides schedulable, near-instantaneous data protection, ensuring business data in shared folders, and virtual machines in iSCSI LUNs, remain safe and available in the event of disaster.



### Support target

As frequently as 5 minutes for shared folders and 15 minutes for iSCSI LUNs.



### Instant recovery

Available for shared folders and iSCSI LUNs. Recover to a previous version in seconds.



### Extended replication

Flexible replication topology for different business structures.

## Synology High-availability plan for uninterrupted file storage and serving

Schools which cannot afford any downtime would benefit from the advanced Synology High Availability (SHA) technology. It ensures services remain online by combining an active and a passive server into one cluster, with the latter always mirrored to the former. If the active server malfunctions, the passive server automatically kicks in and takes over. Faculty can continue to access the files as well as DSM services from the backup server.



### Real-time protection

With the real-time data mirroring mechanisms, all the data that is successfully written to the hard disks of the active server is replicated to the passive server in real time. This data synchronization ensures that in the event of hardware failure, all replicated data can be accessible soon after.

### Automatic failover

The two servers communicate via a Heartbeat connection. When the active server becomes unavailable, the passive server automatically kicks in to ensure file services and applications can be recovered within minutes. The smooth transition maximizes service uptime to help businesses achieve service continuity.

### Intuitive troubleshooting

The time and effort required to resolve issues is critical. The Synology High Availability interface provides comprehensive visual information as well as easy-to-follow solutions to ensure an intuitive troubleshooting experience.

## Unified Controller UC3200

### Active-active IP SAN for mission-critical environment

Delivering reliable, highly available iSCSI services. Realizing high-availability architecture in just one single chassis, the two controllers in Synology UC3200 work simultaneously and can automatically fail over to each other in the event of disaster, delivering services without any interruptions.



## System and data safety

With Synology's comprehensive security measures, you can use Security Advisor to analyse NAS system settings, password strength, network preferences, and remove possible malware. Also, DSM scans the system automatically, and rectifies existing problems. In addition to protecting against external threats, Synology NAS offers flexible privilege settings, allowing you assign different levels of privileges to shared folders, sub-folders, files, and various applications.

An easy-to-manage video surveillance system that fits into the school's budget is required for campus safety.

### Foster campus security with Surveillance Station

With Synology Surveillance Station, you can set up cameras and deploy a surveillance plan across your campus effortlessly. Surveillance Station comes with a friendly user interface, letting you enjoy a modern IP camera infrastructure – and monitor campus remotely, easily.

### Alerts for Live View Analytics

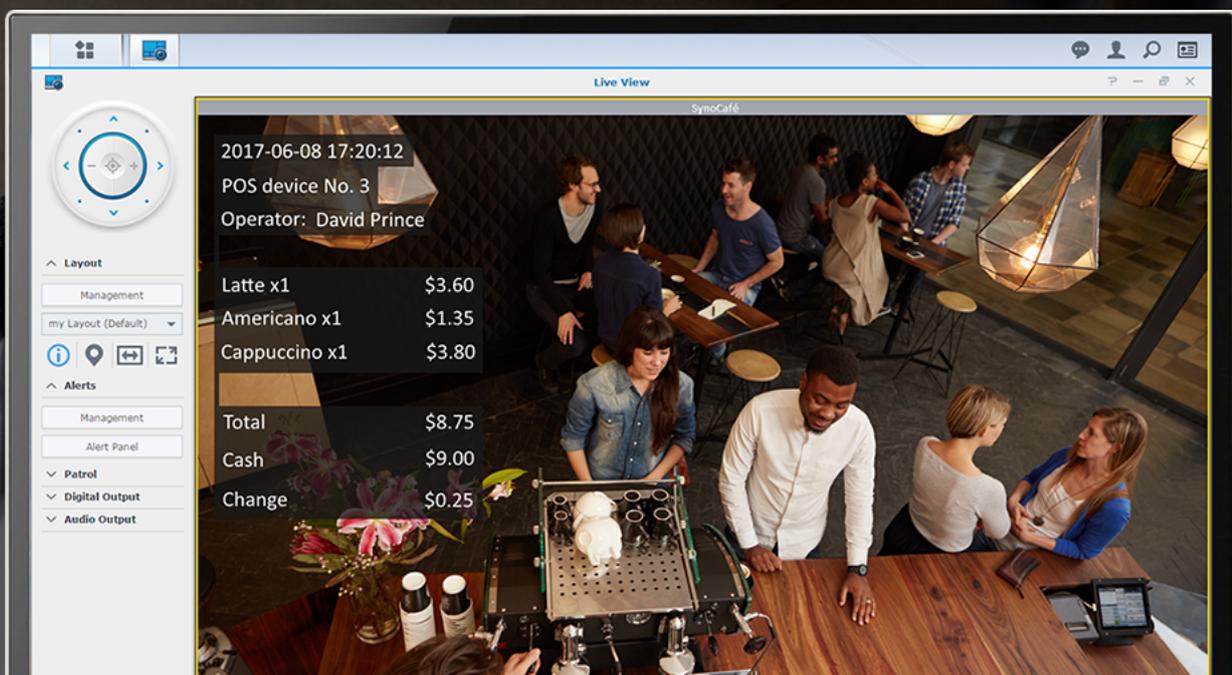
It's impossible to keep your eyes on the monitor all day. The Alert Panel displays recent events, allowing you easily review, play back, or save suspicious events — meaning you'll never miss a thing.

### Automation surveillance

Automation is good way to enhance efficiency and reduce human error. By creating "action rules", specific actions can be automatically performed when a pre-defined event occurs. For example, if one camera goes offline, another camera can start patrolling a specified area.

### Robust compatibility and features

Surveillance Station works with over 3,800 IP cameras from 90 brands. Watch up to 64 channels in HD, track any change during your IP camera's watch time with Smart Search, and navigate through recordings with the Calendar and Timeline.



# Digital technologies can enhance the student experience by providing a varied, flexible and supportive environment to enhance learning.

Digital education offers students great prospects. In addition to building competencies for modern technologies and media, digital education provides powerful, interactive learning design tools which increases students learning and motivation. Whether unlimited availability of multimedia content or digital transcripts that make the classic instruction book obsolete. The heavy school bag is in the past.

## Digital learning & increased teaching quality

With Synology Office, group work can be done optimally. For quick results, students can easily work on documents and presentations at the same time. Students can do their homework digitally with upload and sharing links from home and have the teacher deliver it live for review.

## Hosting digital learning platforms

In addition to Synology's own work tools, NAS servers can also host all educational software. Thus, the systems support the location-independent access for student end devices and thus form the central learning platform for your digital education strategy.

## Digital learning support



### Multimedia Server

Multimedia learning content available at any time



### Drive

Synchronize learning content with students' devices



### Calendar

Student calendar for timetables, AGs & other courses



### Chat Server

Secure messaging in public & private channels, encryption, etc.



### Synology Office

Efficient group work through simultaneous work on documents and presentations



### Note Station

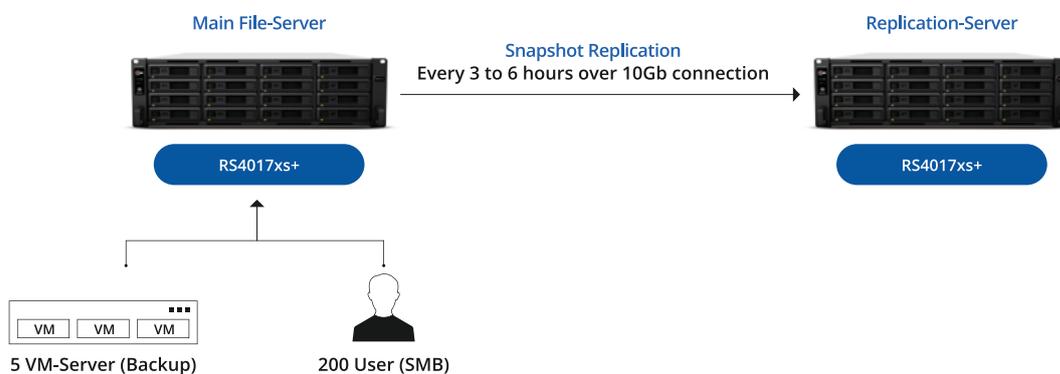
Digital, multimedia notes & notebooks for transcripts by subjects

# Customer Stories

Millions of Synology servers are up and running today, helping various industries to tackle market challenges. See what solution we provided.

## Medical University of Vienna

*Recommended Features: File server / Backup target for virtual machines / Snapshot Replication*



The center for physiology and pharmacology (CPP) was looking for a high-performance, easy-to-maintain and cost-efficient storage solution to manage the incoming data volume from four institutes. As a result, Synology suggested two models of RS4017xs+ with Seagate Iron HDDs. They are used as a central file server for 400 clients and backup targets for 5 Virtualization Servers to replace the original 12 virtual File Servers. The expensive maintenance costs are completely dispensed. The seamless integration in the existing research institutes helps centralise precious data and enable staff and clients to explore and access files from anywhere.

With Snapshot Replication, the main NAS generates local snapshots every 3 to 6 hours and synchronises them through integrated 10GbE LAN ports to the second NAS. This way the snapshot versions created by the main NAS can be duplicated to a remote NAS. If a disaster happens, staff can access the data in read-only-mode on the remote backup NAS. With the intuitive File Station or Windows File Explorer, staff can perform self-service recovery without the intervention of IT administrators. Users can still access their data in Read-Only-Mode on the Replication-Server.

## German School of Madrid

*Recommended Features: Active Backup for Business / Surveillance Station*

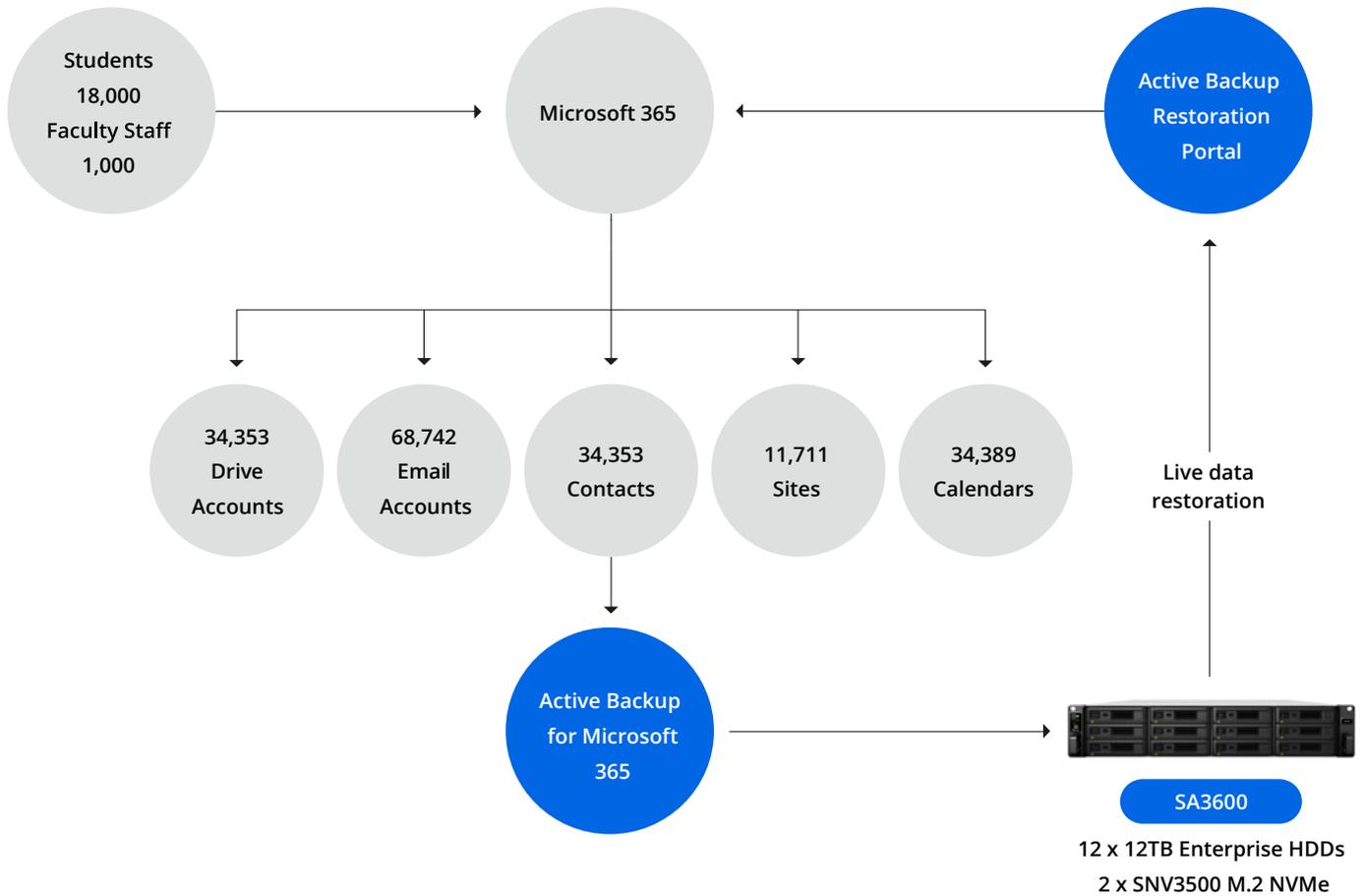
The school was searching for an easy-to-use solution to protect data in their Windows PCs while being compatible with Mac OS to support Time Machine backup. Moreover, they wanted to replace their old video surveillance system with a more intuitive system that provides extensive camera choices. With this, Synology recommended Active Backup for Business, what allows the school to have centralised backup of multiple computers to one DS218+ without worrying about license-fee, providing bare-metal backup and restoration for the entire environment including data, settings, and operating system on PCs.

It centralises all the backup tasks with single management. It is easy to set up and manage, allowing end users to have self-service file or folder recovery instantly without bothering IT admins. With Global deduplication technology, storage consumption was also significantly reduced. For virtual server backups, the school used one DS116 as the backup destination in the first tier and clone the data to another DS116 with Hyper Backup.

The School also changed its video surveillance system to Synology Surveillance Station. This way, they can configure and view the live recording of the cameras from the control panel and archive the previous recordings in the DS218+.

## Tampere Vocational College Tredu

Recommended Features: Active Backup for Microsoft 365 / Global Deduplication / SSD Caching



Arttu Miettunen, Systems Analyst at Tampere, began his search and benchmarked various solutions from major backup providers. Eventually it was clear Synology could not only resolve the issues of data storage, but also offered backup for Microsoft services with no license costs. Having the storage hardware and backup as an integrated solution brings further reassurance to the team managing this task.

An SA3600 unit was deployed with 12 x 12TB Enterprise HDDs, along with the added benefit of 2 x SNV3500 400G, Synology's M.2 NVMe SSDs to create a cache. The current backup occupies 15TBs of storage, however, as Tampere's data needed to grow, the team was acutely aware that the solution also had to offer scalability. This was an obstacle that the SA3600 can readily handle, with 12 existing bays in the base unit and the facility to scale up to 180 drives with use of Synology expansion units. In addition, Active Backup for Microsoft 365 comes with de-duplication in place, which cuts down the backup by 7 terabytes in the first run, achieving 46% saving on storage media.