

QNAP

QTS-Linux Combo NAS

TS-x53A Series

4K2K UHD

Q vPC
Technology



Use your NAS as a PC



Quad-core N3150 processor



QTS & Linux dual-system NAS offering unlimited applications

Access QTS & Linux with a web browser

1



HD Station & Linux Station

2



Enjoy QNAP services with mobile devices

3



- Powered by quad-core Intel® Celeron® N3150 processor
- QTS & Linux Station, the perfection combination for IoT applications
- Two microphone inputs and one Line Out audio output
- Dual HDMI outputs for an extended display or mirrored mode
- AES-NI hardware acceleration engine for full NAS encryption



TS-253A



TS-453A



TS-653A



TS-853A

Overview

More than just reliable data storage, QNAP Network-attached Storage (NAS) provide applications and services to empower the user with a richer, smarter, more rewarding experience. QNAP NAS provide data retention and security while enhancing communication and seamless collaboration.

The emerging and dynamic world of IoT platforms is increasingly making IoT an integral part of the digital mesh and ambient user experience, preserving continuity across the boundaries of devices, time, and space.

With this in mind, QNAP is proud to announce the launch of the all-new Linux Station. Launching in conjunction with the TS-x53A series and based on the “Software-defined Everything” concept, Linux Station provides a seamless visual design to encourage easy discovery, exploration, operation, and learning.

Linux Station supports Raspberry Pi 2, Beaglebone Black, amongst the many other popular IoT development platforms, and is fully able to support the vast array of IoT applications.

QNAP NAS in combination with Linux Station is simply the best remote and data management center, fostering a complete IoT experience. Join us and embrace a smart lifestyle with the TS-x53A.



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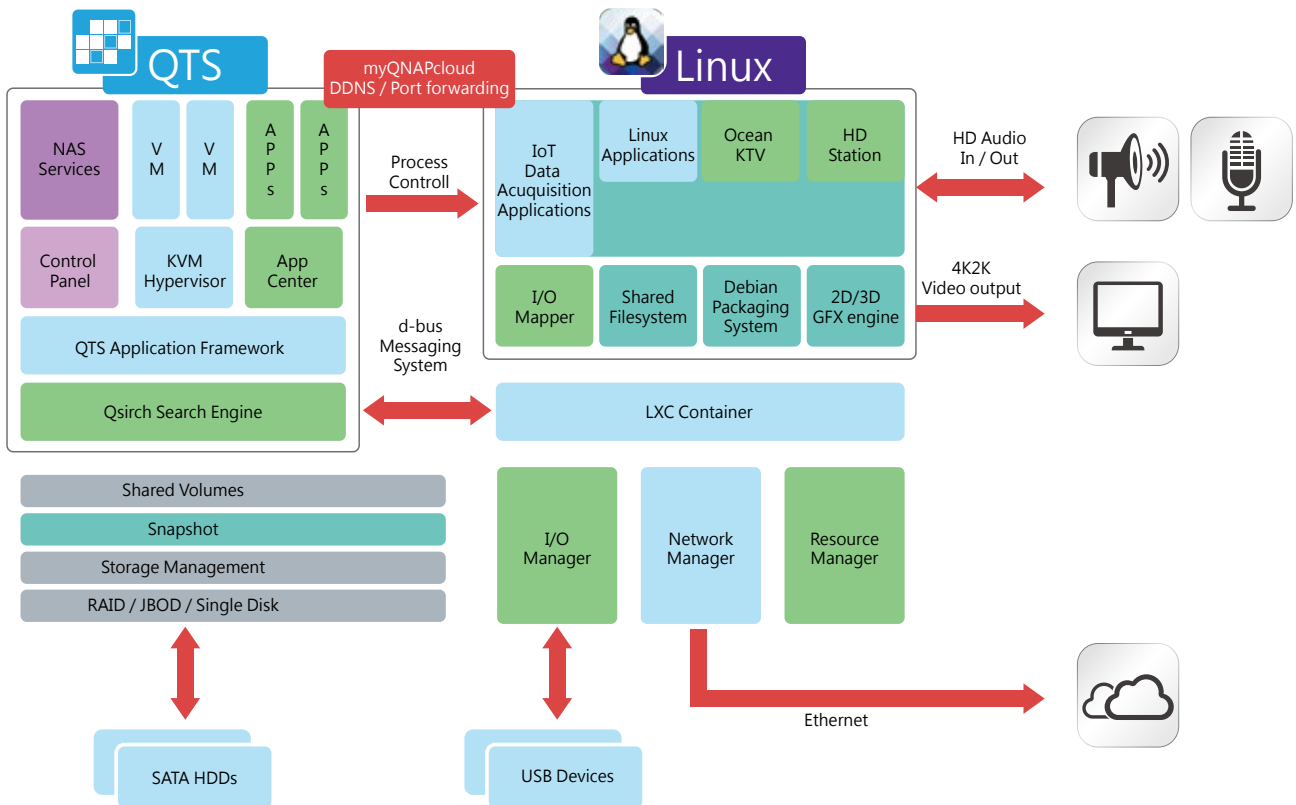




QTS with Integrated Linux

The perfect development platform

QNAP has employed advanced virtualization technologies to seamlessly integrate Linux with QTS, enabling you to use QTS while simultaneously using the Linux system on an HDMI display. Expand the functionalities of your NAS with the QTS App Center, and exploit the incredibly popular open source Linux Operating System to leverage your NAS as a complete development platform.



The all-new open source Linux Station – Keeps you ahead of IoT

The TS-x53A introduces the all-new Linux Station, enabling you to display the Linux desktop on an HDMI external monitor. Simply connect a keyboard and mouse to the TS-x53A and use your NAS as a PC. Use Linux Station to switch the output resolution freely or enable remote desktop connection to send the display to a web browser.



Please upgrade to version 4.2.1 to enjoy Linux Station.



Install Linux Station from the QTS App Center. Remote Desktop does not currently support audio output.

Seamlessly switch between HD Station and Linux

Select to output HD Station using either the simple or the advanced mode. Go to [Control Panel] > [Apps] > [HybridDesk Station] to set the current display mode and switch the output on your HDMI display.

HD Station simple mode

Enjoy the multitude of supported apps, such as Kodi®, HD Player, YouTube®, JRiver®, and many more via a simple and intuitive interface. Use your NAS as a multimedia player and use your smart phone, an infrared remote control, or connect a keyboard or mouse for completely convenient playback and control. HD Station V3 supports HDMI for a local display such as a TV. The local display ensures output of media files without the need for a network connection for a better and more stable viewing experience.

Linux Station advanced mode

Install various applications on the Linux Station, an open-source platform. Customize a 3D desktop with thousands of desktop themes to choose from. It operates just like a PC.

HD Station V3 - Use your QNAP NAS as a home theatre system

Simply plug in an HDMI monitor to your NAS, and you can start playing media files from the NAS. This avoids complicated settings of network media players and instability of network conditions, allowing you to have a better viewing experience with large-screen TVs.



Multilingual input and improved multitasking

HD Station V3 supports multi-lingual input, enabling you to search from a web browser in your native language. Additionally, HD Station V3 now supports multitasking with a desktop PC-like taskbar enabling you to switch between different applications.

Qremote easy to get started

Qremote is QNAP's exclusive remote control enabling you to control your HD Station from your mobile devices. Qremote offers four modes: application shortcuts, simple remote control, touch screen, or keyboard mode to enter text. Use your smart phone or other mobile device to download the Qremote App from the App Store or Google Play® Store.

A wealth of apps

In addition QNAP's native applications, we support a number of common multimedia players (Kodi, HD Player, Plex Home Theater®, DeaDBeeF, Clementine®, JRiver®), browser (Chrome, Firefox), and other multimedia streaming platforms (YouTube®, Spotify®, Tuneln Radio®) to provide you with home cinema entertainment.



JRiver® Media Center - Powerful media management and lossless audio playback in HD Station V3

JRiver Media Center is a jukebox style multimedia player capable of managing several large media libraries within the same domain. JRiver® Media Center supports a variety of multimedia streaming formats and multi-room streaming, and is capable of indexing album covers for a variety of metadata to provide efficient multimedia management. Additionally, JRiver® Media Center also supports a number of professional music processing features such as an equalizer, rhythm, pitch, and sampling rate to further meet the needs of video enthusiasts and significantly enhance your QNAP NAS multimedia streaming experience. For more information, please refer <http://www.jriver.com/>



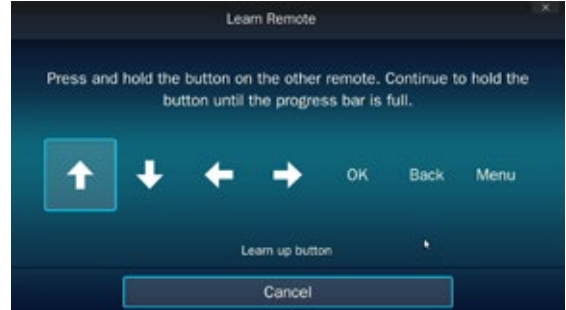
Custom Remote – Use your existing IR remote controls with HD Station

HD Station supports remote control learning enabling you to use your existing IR remote controls with HD Station. Matching your existing remote control with HD Station only requires two steps, and helps reduce clutter in your living room.

- 1 Enter “Settings”>“Preferences” in HD Station. Find “Custom Remote” and select a slot for the new remote control.



- 2 Follow the on-screen instructions and press and the button you want to match. Hold the button until the progress bar is complete.



System requirements

- HD Station 3.1.1 or later
- Supports TS-x53A series NAS
- Supports up to 3 simultaneous custom remote controls
- Some IR remote controls are not supported

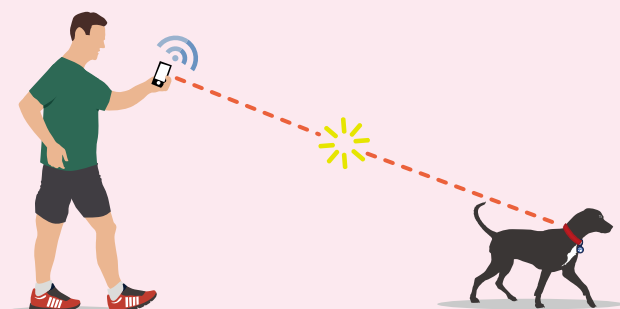
Limitless IoT possibilities - instantly start your open source projects

The explosive popularity of IoT related application means our lives and devices are increasingly linked across the Internet, creating potential privacy pitfalls. QNAP NAS provides the best private cloud solutions with an all-new AES encryption engine capable of encrypting a specific folder or an entire storage volume. QTS also supports AES encryption of external USB/eSATA drives to protect against unauthorized access.



Intelligent dog tag DOTT

Recognizing that there are more than 10 million pets lost each year, a development team from Los Angeles designed a smart dog tag. DOTT enables pet owners to better monitor and keep track of their pets. DOTT can provide valuable information via instant push notifications in the event a dog ventures too far away from home or gets lost in an unfamiliar environment.



Fitbit® fitness bracelet

Fitbit's fitness products help you to stay motivated and improve your health by tracking your activity, exercise, food, weight, and sleep with activity trackers or wireless-enabled wearable devices. View progress and analyze your trends with easy-to-read charts and graphs to empower and inspire you to live a healthier, more active life. Embrace the Fitbit community with your friends to share stats, and compete on the leaderboard.





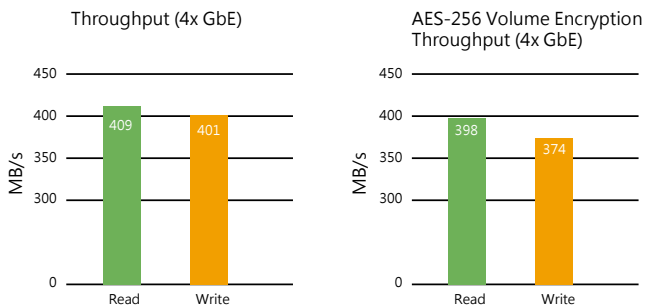
Intel® Celeron® N3150 Quad-Core Processor

High performance processor for demanding workloads

The TS-x53A is equipped with the 14-nm Intel® Celeron® N3150 1.6GHz processor with 4GB or 8GB RAM. With Intel® Burst Technology built in, the processor dynamically bursts to 2.08GHz, making it possible to handle spiky, demanding, high-performance workloads. Equipped with a SATA 6Gb/s interface and Gigabit LAN ports, the TS-x53A delivers up to 409 MB/s performance while still being incredibly energy efficient.

An all-new, built-in, AES encryption acceleration

The TS-x53A is equipped with an all-new AES encryption engine capable of encrypting a folder or an entire volume at up to 398 MB/s, providing data protection on the NAS while maintaining high performance for the entire system.

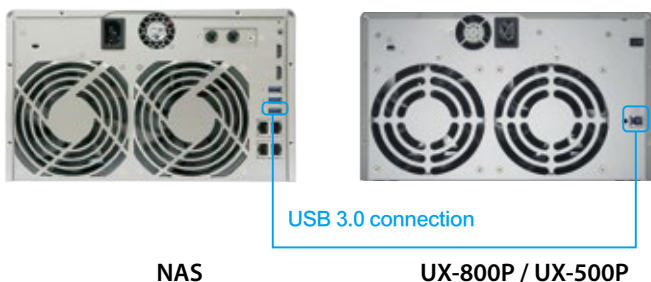


Results may vary depending on the environment.

RAID group: RAID 5; 4 x Seagate 1TB ST1000NM0033 HDDs. Directly connect PCs to the NAS Client PC.
Intel® Core™ i7-4770 340GHz CPU; DDR3L 1600Hz 16GB; WD 1TB WD10EZE;
Intel Gigabit CT (MTU 1500); Windows® 7 Professional 64bit SP1 & Windows 81 Pro 64-bit 10meter settings; Connect multiple PCs to the NAS via a switch to transfer a 32GB file for 3 mins. Block size: 64KB, SMB20

Capacity expansion with a 8-bay/5-bay expansion unit

The TS-x53A series is a powerful and scalable NAS solution fully capable of meeting rapidly growing data storage requirements. The TS-x53A offers hassle-free, cost-effective scalability with QNAP UX-800P/UX-500P expansion units. Connect via USB 3.0 and the TS-x53A will expand its capacity on the fly with minimal setup required. This is especially useful for large data applications, such as video surveillance, data archiving, and TV broadcast.



4K Ultra High-Definition video playback & transcoding

The TS-x53A is built around the latest 8th generation Intel® processor with HD Graphics cores that double the performance of the previous generation processors. The TS-x53A fully supports 4K UHD H.264 hardware transcoding and playback and Dolby® Surround 7.1 audio, for the ultimate in home theatre entertainment.



QJBOD Express to backup 50TB data to a remote site

The QJBOD Express enables quick backup or migration of large amounts of data to local or remote sites without using any network bandwidth. Connect expansion enclosures (UX-800P/UX-500P) to the QNAP NAS and create an independent RAID group for data backup in Storage Manager. Then safely remove the expansion unit when backup is done and transfer the archived data to other NAS devices by connecting the JBOD unit to them and scanning the drives.

San Francisco to Los Angeles: Initial transfer costs for 50TB data

Method	Time	Bandwidth cost
100Mbps network	About 45 days	50TB
QJBOD Express	In one day	0



Dual-HDMI output for an extended display or mirrored mode

The TS-x53A has two HDMI outputs enabling you to increase your productivity by multi-tasking across multiple monitors or to mirror content to a second screen. The TS-x53A also supports multi-room streaming to stream content to different devices in your home, enabling everyone to watch what they want.

Automatic background transcoding

Set a NAS folder as an auto-transcoding folder and your NAS will automatically convert your videos to universal formats that can be enjoyed on PCs, mobile devices, and smart TVs. Having multiple formats and resolutions available enables you to stream, share, and watch your videos using File Station, Video Station, or a mobile app on any device.

Resolution	240p	360p	480p	720p	1080p	4K2K
Network						
Ethernet						
Wi-Fi (802.11 ac)						
Wi-Fi (802.11 a/b/n)						
4G (LTE)						
3G						

Real time, adaptive, on-the-fly transcoding

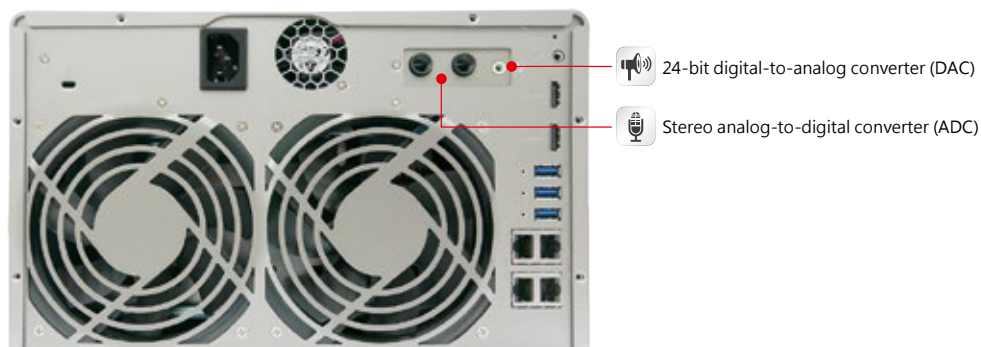
The outstanding TS-x53A is fully capable of transcoding 4K high-resolution videos on-the-fly. The TS-x53A will adapt the on-the-fly to meet your media player's requirements and bandwidth limits in real time for enabling playback for multiple simultaneous connections.

	The highest number of transcoding tasks supported		
Source video files	1080p	720p	360p
4K	2	4	4
1080p	-	8	16

Note: The performance varies depends
 Test parameters:
 4K (format: mpeg4, bitrate: 50 Mbps, video codec: H.264,
 High@L5.1, width: 3840, height: 2160, framerate: 30, bit depth: 8)
 1080p (format: mpeg4, bitrate: 9.7 Mbps, video codec: H264,
 Main@L4.1, width: 1920, height: 1080, framerate: 24, bit depth: 8)

Dual microphone input, and high-quality audio output

The TS-x53A has two 6.3mm high-quality, dynamic microphone input/line-out audio jacks for enhanced sound staging, and true signal clarity. The TS-x53A adopts a stereo analog-to-digital converter (ADC) for recordings that are extremely realistic from the listener's perspective. In addition, the TS-x53A adopts a 24-bit digital-to-analog converter (DAC) providing a truly lifelike listening experience.





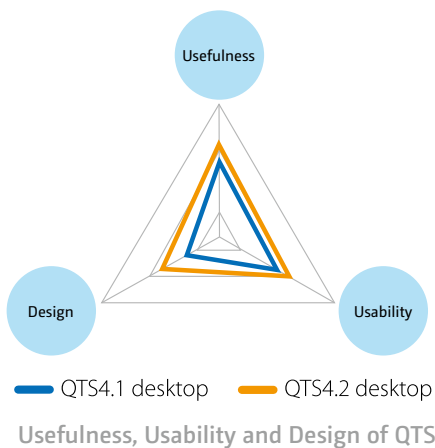
QTS 4.2 Operating System Simplifying your NAS experience

The QNAP operating system, QTS, has been optimized to perform elegantly and simplify the whole NAS experience. Equipped with a variety of applications, QTS is simply designed to meet all your needs for storage, management, backup, multimedia, and surveillance.



QTS Desktop - Intuitive and innovative

The completely redesigned QTS combines extensive user feedback, reviews of Human factors engineering, and cognitive ergonomics principles. QTS now looks beautiful, works seamlessly, and provides an elegant and enjoyable NAS user experience on computers and mobile devices.



Multitasking and customizable desktop

The new QTS operating system dramatically improves your efficiency with multitasking, multi-window, multi-desktop, and multi-display modes enabling you to begin new tasks without waiting for the previous one. Simply and easily minimize running apps onto the task bar and switch between them. For example, browse photos in Photo Station while listening to songs played in Music Station and download files to a local computer. The multi-desktop design of QTS enables drag-and-drop shortcut icons from the Control Panel or Main Menu to the desired desktop to suit your preferences. Additionally, drag and drop a desktop icon on top of another one to group them together to create a personalized desktop for greater efficiency.

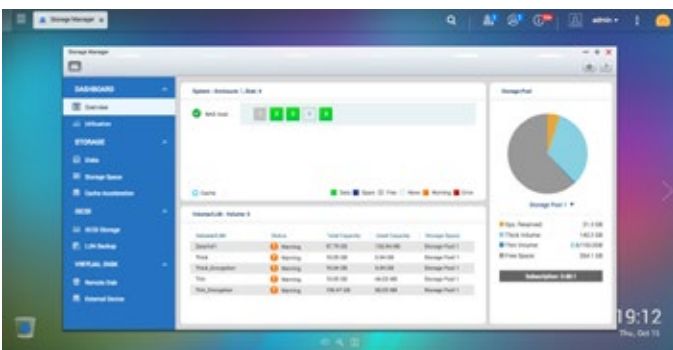


Smart dashboard

The system status displays immediately with a single click on the upper-right corner of the desktop. Open the smart dashboard to obtain a quick view of important information including system health, disk information and health, resource monitoring, storage space, scheduled tasks, device information, and firmware information. Drag and drop dashboard functions to the desktop to monitor them at any time. Moreover, in the event of a critical NAS system failure (hard disk corruption, etc.) the smart dashboard will flash and prompt a system administrator to take immediate action to recover data and to prevent the loss of important data.



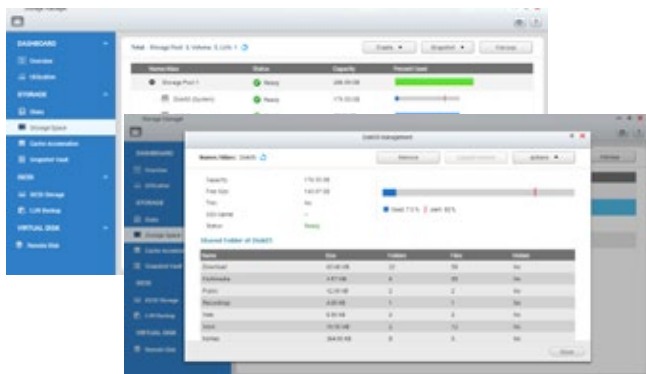
Intelligent Storage Manager—Unified storage management



The QTS Storage Manager neatly presents tools and options for managing system storage with an intuitive graphical interface. The Storage Manager is the centralized place for you to view the system storage allocation, manage volumes, Storage Pools, disks and iSCSI storage, and expand the size of LUN or volume without interrupting the system.

Thin provisioning

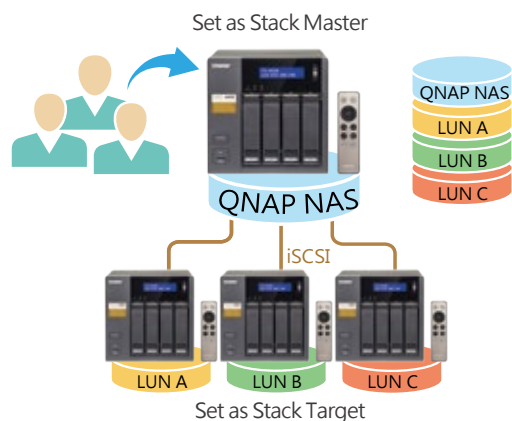
Over-allocation enables a server to view more storage capacity than has been allocated in a storage pool. Further, the physical storage capacity is used only when files are written by the application, improving utilization rates.



Virtual Disk Drives increase storage expansion flexibility

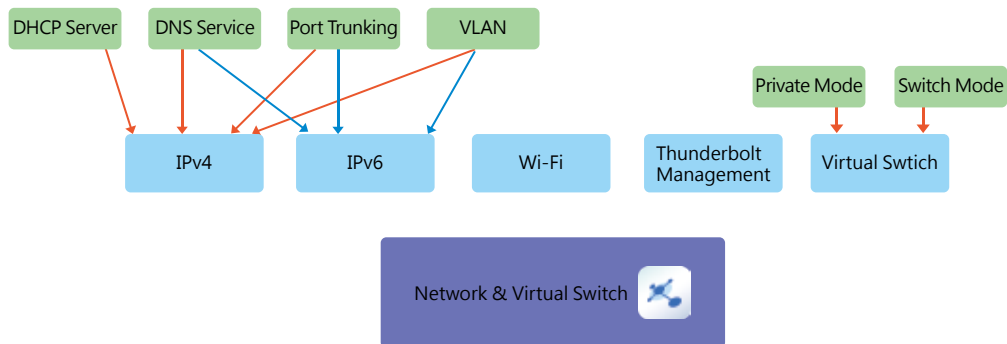
Virtual disks provide a flexible way for IT administrators to expand storage. By using the built-in iSCSI initiator to connect an iSCSI target of the QNAP NAS, you can create a virtual disk on the local server. The QNAP NAS can act as a stack master to connect up to 8 virtual disks or stack targets, aggregating storage space from multiple NAS systems. NAS users then only need to connect to a single target to access the space from all of the network storage devices.

Every virtual disk on the local server will be seen as a single drive of arrayed disks.



Network and Virtual Switch- A complete overview of your network configuration

The all-new Network & Virtual Switch integrates the powerful QTS network management functionality, i.e., TCP/IP, Wi-Fi, IPv6, and Thunderbolt management into an overview page incorporating software-designed virtual switch technology. This logically centralized control provides complete visibility across your network enabling you to responsively provision and intelligently steer traffic to achieve the optimized network configuration.



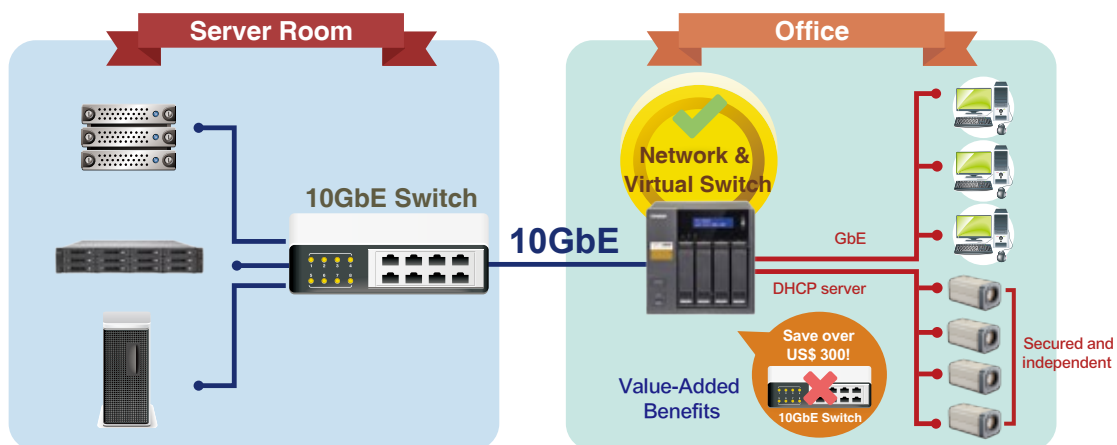
The all-new Network Manager Overview page makes complicated networking easier

The powerful overview visualization provides you with the most current connection status regardless of the complexity of your network infrastructure. Use the all-new QTS Network & Virtual Switch Overview page to quickly and easily analyse your entire network for rapid troubleshooting. View realtime traffic flows and identify bottlenecks to ensure your mission critical applications have the bandwidth they require. This level of oversight helps reduce both capital expenditure (CapEx) for adapters, switches and cables, and operational expenditure (OpEx) for IT administration.



Decouple hardware and software networking for lower capex, opex, and increased ROI

Virtual Switches enable greater flexibility and agility in deployment configurations with enhanced centralized management control. Deploy Virtual Switches to easily bridge Gigabit and 10 Gigabit networks removing the need for expenditure on 1/10Gbps Ethernet switches. Simply connect 10GbE network devices and your NAS will seamlessly bridge your 1GbE and 10GbE networks to unleash super-low latency bandwidth across your infrastructure. Use a virtual switch to build an isolated LAN environment with the built-in DHCP server for accessing IP camera surveillance footage with better data security.

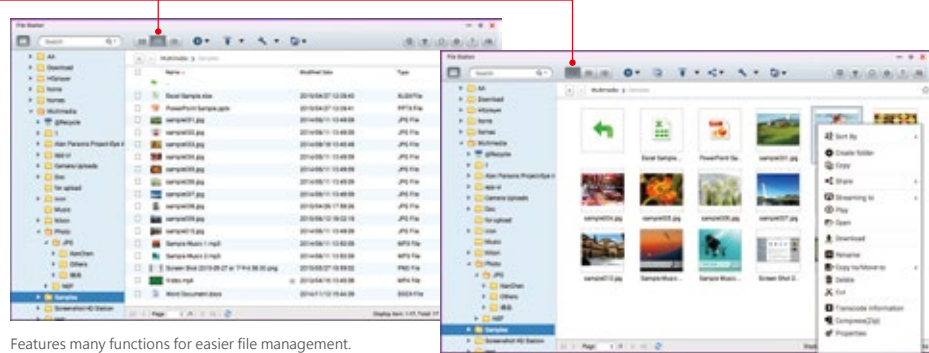


This function is available for TS-x53A and TDS-16489U with QTS 4.2.1 and later.

File Station—Manage all files from a single management window

Just like a file explorer on your PC, File Station lets you easily carry out common tasks operations such as rename, copy, move, delete and compress/uncompress. Move files from a local PC/Mac to File Station by drag-and-drop to upload the files to the NAS easily. Moreover, enable mutual sharing on a shared folder by allowing file upload to the folder.


- Three browsing modes are available: icon, list, and detailed list.
- Folders in tree structure: Presents the locations of data in an easy-to-read format.
- Remote connection: View remote connections here.

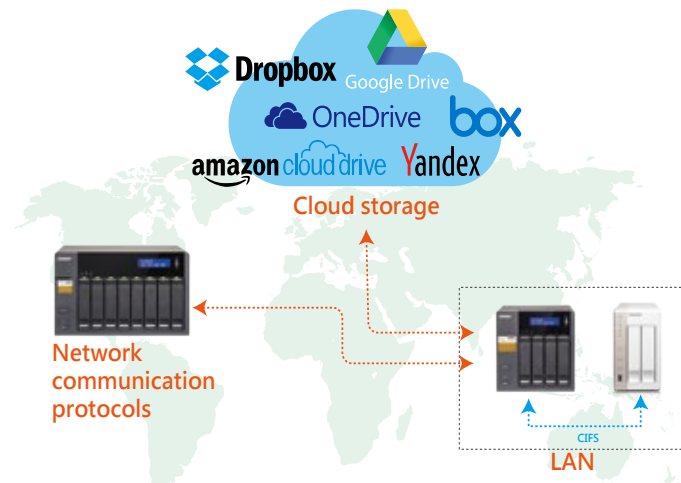


Features many functions for easier file management.

Remote device connection and cloud storage


File Station supports SMB/CIFS and WebDAV remote networking protocols, so you can carry out file management tasks from remote to local devices and vice versa from a single management window. In addition, it supports connection to six cloud services: Google Drive™, Dropbox™, Microsoft OneDrive®, Box, Amazon Cloud Drive™, and Yandex Disk™.

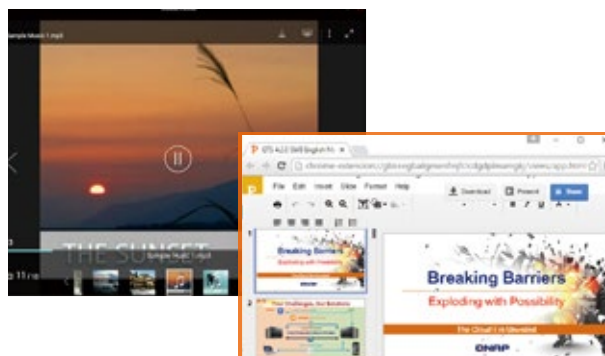
 Please install Connect to Cloud Drive from the App Center before connecting to cloud services.



Direct preview and media playback

File Station supports photo browsing and music playing in addition to play back with VLC™ player for online video streaming. Furthermore, background transcoding enables you to convert video into different resolutions and formats suitable for multiple devices and multiple networks. Use a Chrome™ browser extension to view or edit Microsoft® Word, Excel, and PowerPoint documents.

 Preview Microsoft Office files with a Chrome browser extension (Chrome browser only and with the Office Editing for Docs, Sheets & Slides Chrome extension installed from Chrome Web Store) in the File Station. Also supports the preview of Microsoft Office files with Office Online and Google Docs in the File Station.



Featured
application

VPN + Proxy Server

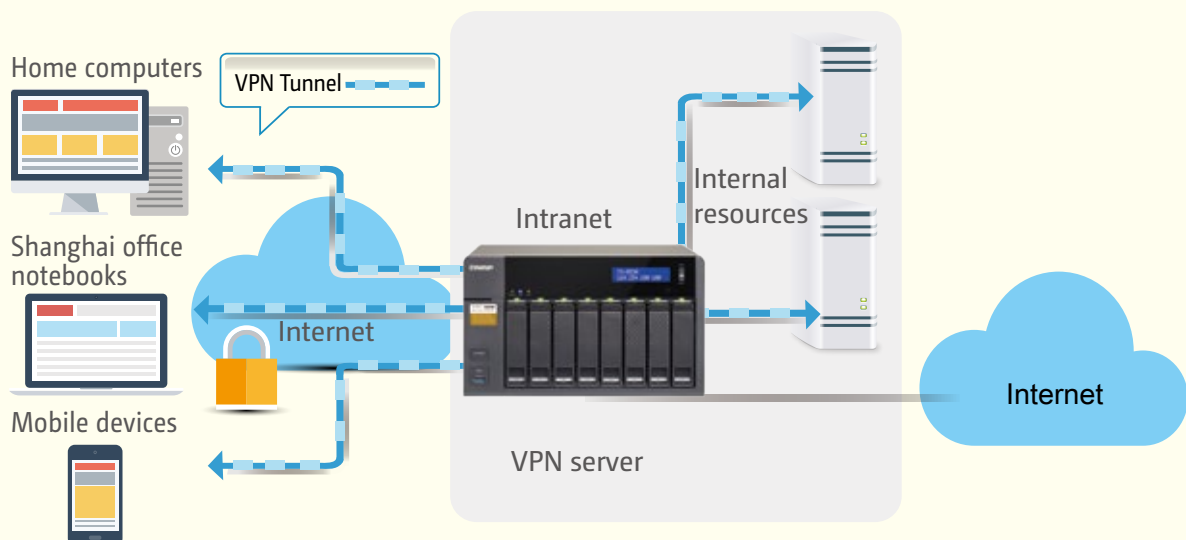
The best solution for secure communication

Virtual private network (VPN)

VPN Server

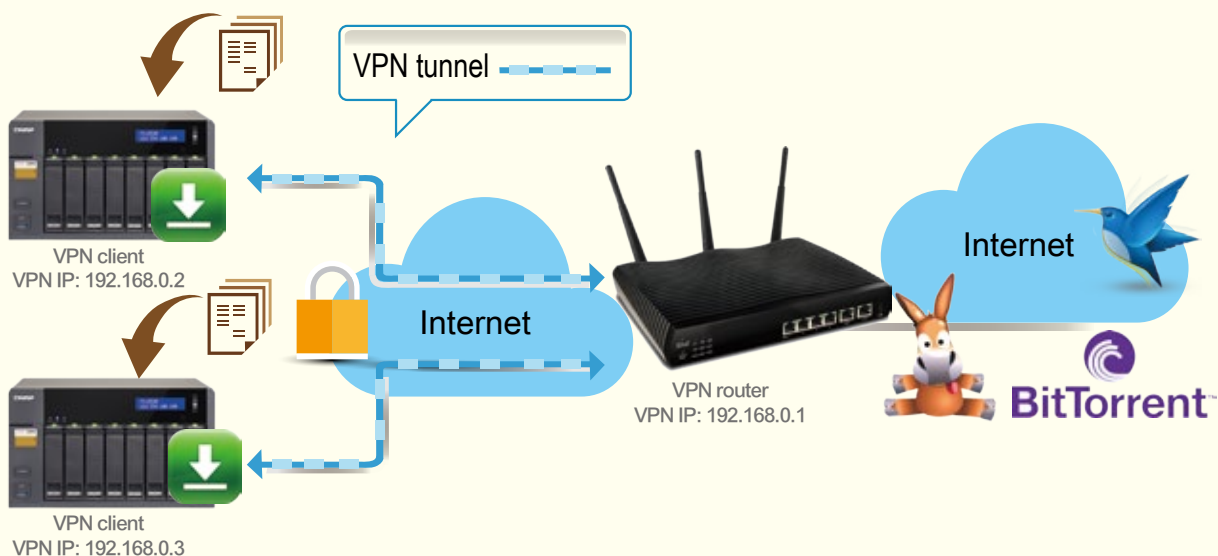
A Virtual private network (VPN) enables secure connections to access network resources and services across a public network. A VPN offers a convenient solution for NAS users to build end-to-end encrypted tunnels to your QNAP NAS. Whether you are an individual user or an IT administrator, you can use the built-in VPN server (L2TP/IPsec, PPTP, or OpenVPN) or VPN client (PPTP or OpenVPN) on the NAS for such purposes.

The VPN server also comes with user and connection management to help you manage VPN services. Furthermore, a VPN can help gain access to resources that may otherwise be restricted by your network environment.

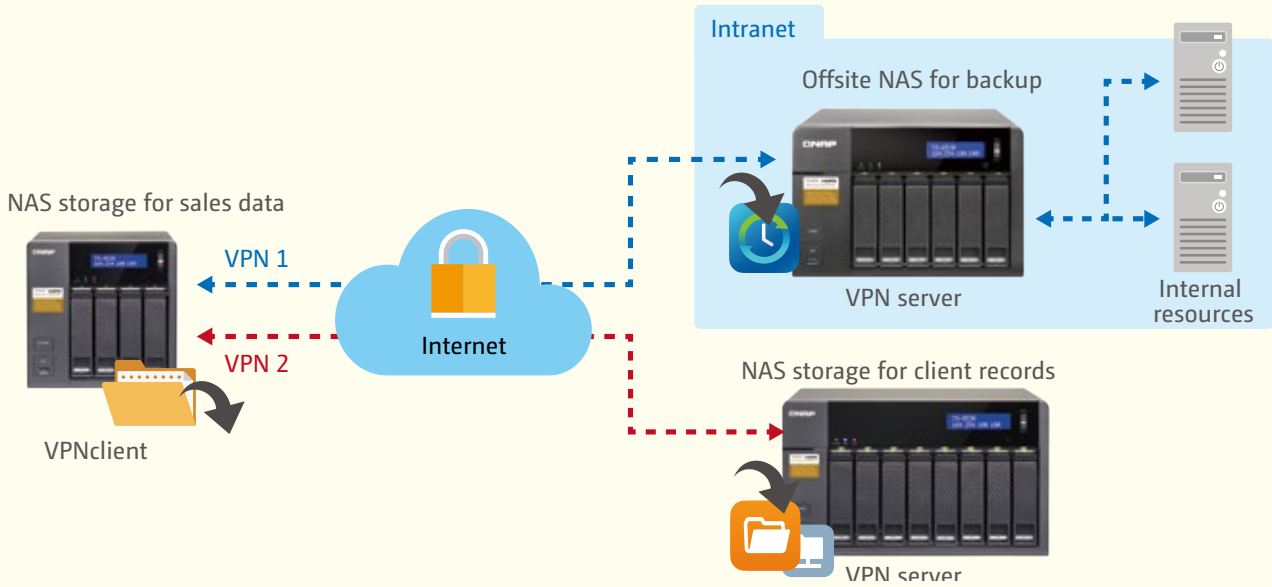


VPN Client

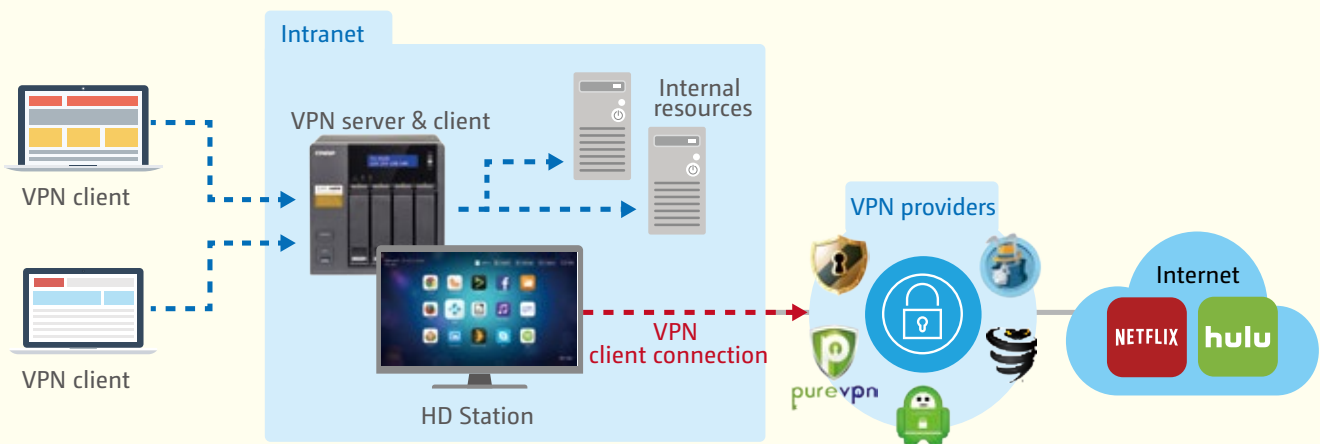
When the QNAP NAS acts as a VPN client, VPN can better protect your data when you use services like BitTorrent and eMule. By using this type of configuration, you can set up remote site backup with secure data transmission.



QTS 4.2.1 introduces full support for multi-connection VPN Clients. A single VPN Client now supports multiple VPN connections to different VPN servers. For example, a NAS can simultaneously tunnel to a VPN server on both an enterprise and a client site. This enables simplified backup administration jobs in Backup Station or remote connections using Samba in File Station while ensuring secure data transmission.



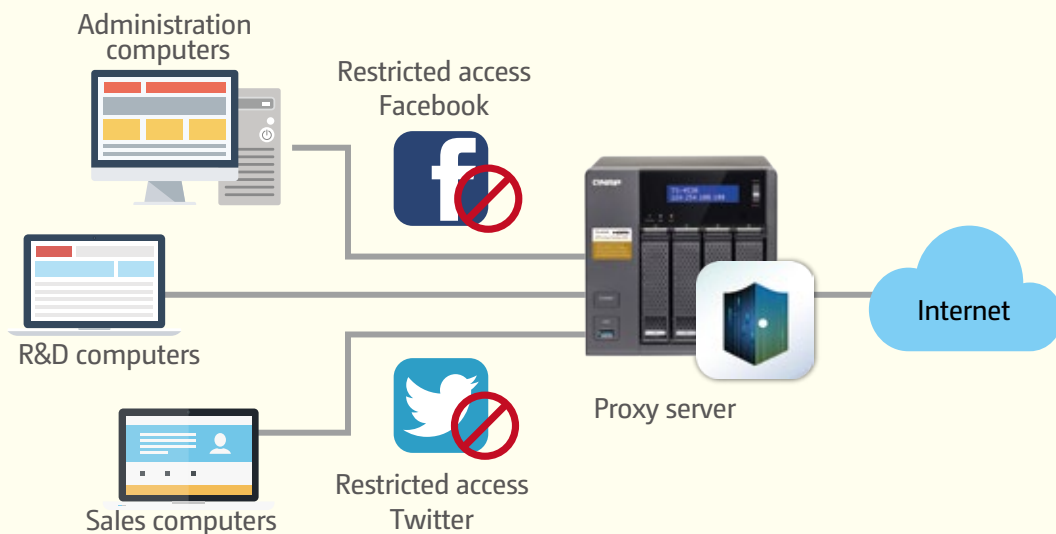
QTS 4.2.1 (and later) fully support simultaneous VPN server and VPN client roles. For example, the VPN server can facilitate other devices not on the local LAN to connect to it, while also enabling the VPN client to connect to other VPN servers.



Proxy Server

The Proxy Server application provides an intuitive interface to simplify proxy server settings on your NAS, enabling you to operate your own proxy server in just a few clicks. The proxy server provides cache and connection controls for Internet services. For companies that need a boost to web response time and security, this application can be leveraged to make your NAS a web proxy server to protect other devices in your local network from Internet attacks. The following are the highlighted features:

- **Caching:** Improves response times and saves bandwidth required for web access by caching visited web content and other web resources.
- **Access Control:** blocks access to certain websites or restricts access for Internet connections.
- **Logging:** logs visits to web sites for generating statistics to aid in network management.
- **Advanced Settings:** In addition to the settings available via the graphic user interface, advanced settings are available to fine tune and customize your proxy server including cache settings, and enabling access without an SSH tool.
- **Anti-virus:** QNAP NAS integrate SquidClamav, an anti-virus designed exclusively for proxy servers. SquidClamav performs packet inspection on traffic from the proxy server to ensure non-malicious traffic. SquidClamav also supports white listing of both file types and account names enabling users to configure allowed content types and trusted connections.



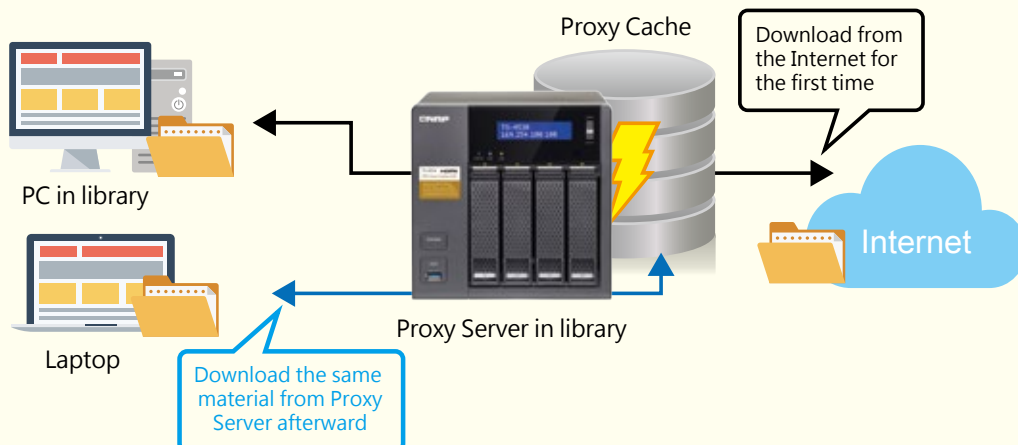
QNAP NAS offers the best Proxy Server implementation

Caching proxies keep local copies of frequently requested resources, enabling large organizations to save upstream bandwidth, increasing efficiency. A proxy server is a server that acts as an intermediary by retaining copies of popular documents, web pages, or other resources for requests from its clients.

This is an ideal role for a NAS server since NAS have a tremendous amount of storage space in conjunction with the option of allocating memory to dedicated cache functions. Moreover, caching proxies can further benefit from typical RAID and/or SSD in a RAID configuration for very significant performance improvements.

Proxy Caching - bandwidth savings and application acceleration

In a library, a client computer often requests downloads of large-sized published journals and research papers. This consumes a lot of available bandwidth while taking a lot of time to complete the download. The Proxy Server on a QNAP NAS can solve this problem with its dedicated cache storage, saving Internet bandwidth while increasing the speed of the download.





Qsirch

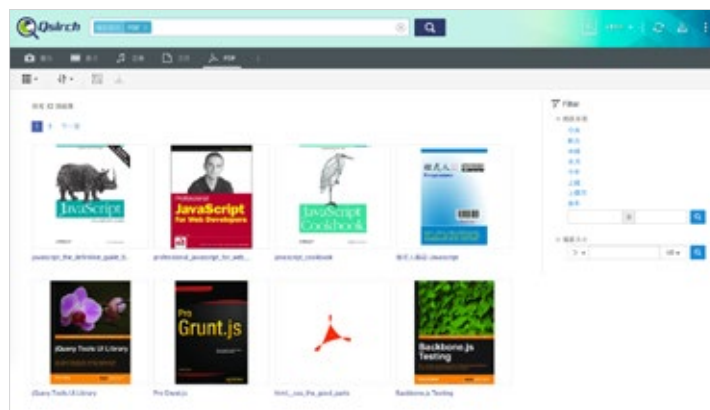
Search for everything on your QNAP NAS

A QNAP NAS is a converged storage solution required to store huge volumes of data and provide users with the tools and utilities to make use of that data. The first utility users need is the ability to find their data. Qsirch is designed to simplify and accelerate searching for files on a QNAP NAS. Finding your files couldn't be easier.



QNAP exclusive, smarter search engine

Qsirch uses fine-grained indexing conditions in combination with its full-text search capabilities to support searching over 6,000 file types. Powered by TF-IDF algorithm and a near real-time search engine, the Qsirch enables users to search while typing and sort through files faster and more precisely



Qsirch browser add-on for Google Chrome

Install the Qsirch add-on to enable Qsirch from your web browser. Simply click on the Qsirch icon on the right of the address bar to search Google and your QNAP NAS simultaneously. Your Qsirch and Google search results will appear side-by-side for quick and convenient comparison.



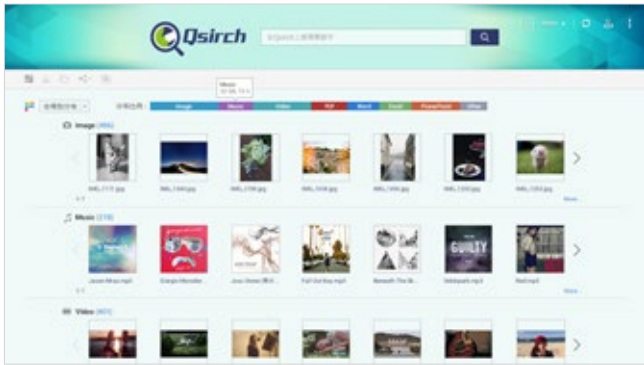
• Chrome add-on Qsirch Helper



• Simultaneous search on Google®


Organization of results by type, and other attributes

Your search results can be filtered and organized by various types including photos, music, videos, and documents. This organization enables you to locate your desired results faster. Results can also be organized based on criteria such as date modified, file size, and many other standard file descriptors.



Content Preview

Thumbnail previews for photo, videos, and PDFs makes searching and browsing through voluminous data a lot faster, while the highlighted keywords found within documents further helps you to quickly find what you're looking for. Moreover, the Gmail® preview function enables you to preview emails and your Gmail backup files easily and quickly.

 Supports .eml file previewing.



File Indexing Status

File indexing runs as a background task, enabling you to oversee the indexing progress and status. If you'd like to exclude specific folders, simply go to settings and select which folders to exclude from indexing.



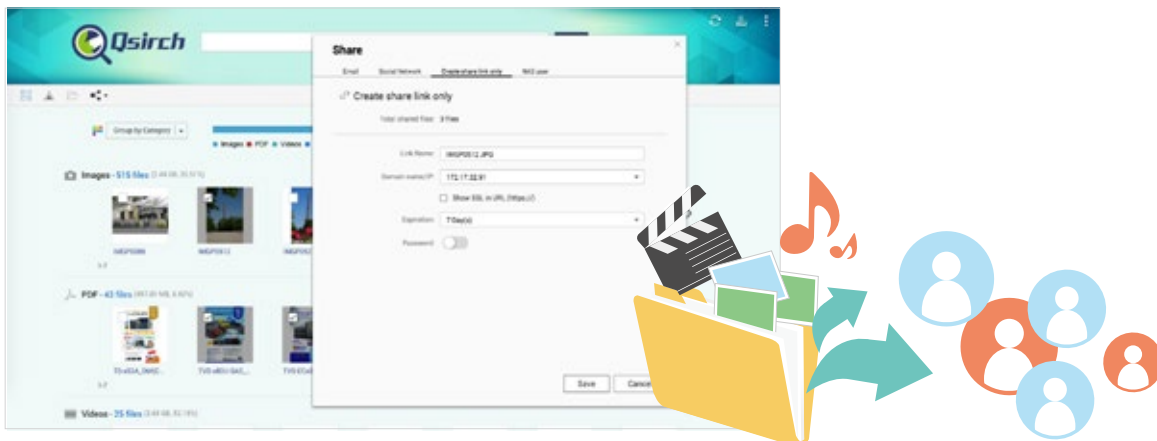
Saved searches for records


Save your searches and browse through them later to assist your search. Frequently-used search criteria is saved automatically to improve the auto-complete giving you more accurate suggestions for your search terms every time.



Share directly from your search results

Qsirch 2.1 displays previews of your search results. Save time and share the content of your search results, directly from the previews. It could not be easier!



 QTS 4.2.0 or later versions is required for Qsirch 2.1 and the sharing function of Qsirch is only available on QTS 4.2.1.



Comprehensive Backup/Synchronization

Hybrid cloud for a consolidated backup solution

Increasingly businesses are warehousing huge volumes of data across disparate storage infrastructure at disparate locations and across disparate devices. QNAP offer a comprehensive backup and recovery solution to back up all devices from within the LAN and from remote-site NAS and servers. QNAP NAS solutions consist of applications and utilities that enable data from PCs, public clouds, virtual machines, and external drives to be backed up and seamlessly synchronized to the NAS. Additionally, QNAP NAS solutions provide disaster recovery to back up data from the NAS to external devices or remote servers.

PC to NAS:

- NetBak Replicator
- Time Machine
- 3rd-party backup software

PC to NAS

Remote backup and synchronization on the NAS:

- RTRR
- Rsync
- FTP
- CIFS/SMB

NAS to NAS

NAS cloud backup:

- Support for a variety of enterprise-class cloud storage

NAS to cloud

Backup from computer to NAS

Windows users can install the free QNAP NetBak Replicator utility to back up files from Windows PC - entire disk drives, documents, pictures, music, videos, fonts, emails, and more – to one or multiple QNAP units. With simple clicks, you can set up real-time backup, scheduled backup and auto-backup. Mac users can use Time Machine to back up files in Mac.

3rd party backup software

QTS is compatible with various renowned backup software such as Acronis® True Image and Symantec® Backup Exec. Users that have adopted such backup software can immediately back up data from other sources to the QNAP NAS.

Local Backup

Use the One Touch Copy button on the front panel of the NAS to quickly backup data to or from external USB devices or disks.

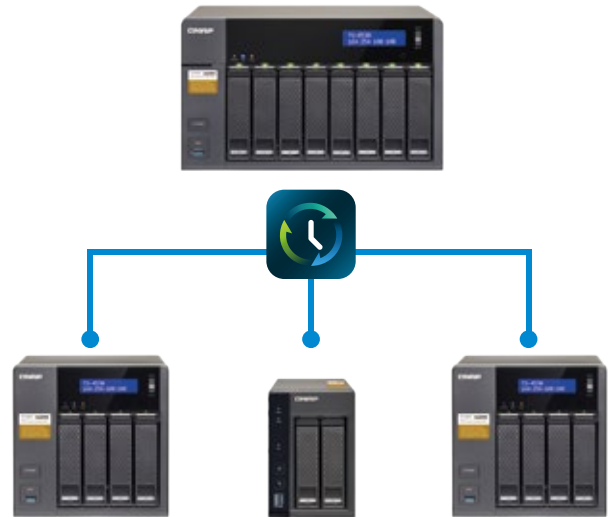


Remote-site backup

Using the Real-Time Remote Replication (RTRR) service on your QNAP NAS to back up data to your NAS is a simple and easy process. Your computer or your NAS can be the source, destination, or relay server during the backup process. It also gives you the option of (CIFS/SMB) or FTP service when setting up RTRR remote replication.

RTRR with version control

RTRR enables saving backup files to time based versions. In case of an incident, files can be restored to earlier backed-up versions specified by time and date. Smart versioning enables you to create backup versions hourly, daily, weekly, or monthly. Alternatively, simple versioning keeps a fixed number of versions for a given period and automatically rotates stored versions.












Remote backup monitoring

System administrators can now monitor backup jobs from remote servers with QTS 4.2 Backup Station. The Incoming List displays the status of backup jobs from other NAS servers that use the current NAS as a target destination for their backup.

Two-way shared folder synchronization

Use the RTRR service to set up real-time or scheduled synchronization of shared folders between two NAS units. With two-way synchronization, file backup consistency is improved and is especially helpful in synchronization and collaboration across departments and branch offices.

Local jobs	Remote jobs	Cloud jobs
<p>Back up data to a local directory or external device</p>  <p>Restore data from a local directory or external device</p>  <p>One-way syn to a local directory or external device</p> 	<p>Back up data to a remote-site NAS</p>  <p>Restore data from a remote NAS</p>  <p>use Rsync, RTRR, FTP or CIFS/SMB for one-way or two-way synchronization</p> 	<p>Back up data to cloud storage</p>  <p>Restore data from cloud storage</p>  <p>Support one-way or two-way sync to OneDrive, Dropbox™, Amazon® Cloud Drive and Google® Drive</p> 

Cloud sync solutions

HybridCloud Sync supports four leading cloud storage services and synchronization with designated folders. The HybridCloud Sync supports Amazon® Cloud Drive, Google™ Drive, Dropbox™, and Microsoft® OneDrive® for continuous synchronization between your NAS and cloud storage.



Microsoft® OneDrive for Business

Microsoft® OneDrive synchronizes personal files to their free online storage space while its commercial counterpart provides online storage space for enterprise users and use of Office Online.



Amazon Cloud Drive's Unlimited Photo Storage Plan

This service can save not only photos but also videos and other files.



Google™ Drive for Work

This service enables users to save all their work in a secured cloud environment to allow access from anywhere and at anytime, convenient sharing among colleagues with unlimited storage space.



Google™ Drive for Work

This service enables editing of Office files directly from Dropbox on the web.




Yandex.Disk for data synchronization across different devices

Yandex.Disk is offered by a Russian Internet company. Supported operating systems include Windows, Mac, iOS and Android.




Box offers secure content and online file sharing for businesses

Box provides flexible and secure file management and collaboration for individuals, teams and businesses, enabling secure file sharing and online access to your files.

 HybridBackup Sync App will be available in Dec, 2015.

A comprehensive backup strategy from anywhere, anytime, on any device

The explosive growth of data brings challenges of data protection and management. Unless an organization has the necessary knowledge and a disaster recovery strategy to protect and recover data, data integrity and data security will continue to present a problem. Hybrid Backup Restore assists you in managing and planning backup strategies (including local, remote-site, and cloud backups) with its centralized management capability even in the most complex data environments.

Local Jobs		Remote Jobs		Cloud Jobs	
Job Name	From	To	Schedule	Latest time & details	Action
Local Restore 1	Public	WebPublic	Manually No schedule	---	Restore Now
Local Backup 3_1	homes	Recordings\Local Backup 3_1\Media\homes	Schedule Daily 02:00	Finished 2015/10/2 15:02	Backup Now
Local-Local_Job1	homes	web	Real-time	Standby	
Local Backup 2_3	solution_1	Web\Local Backup 2_3\Media\solution_1	Schedule Daily 02:00	Finished 2015/10/2 06:31	Backup Now
Local-Local_Job2	solution	solution_1	Schedule Run once	Terminated	Sync now
Local Restore 5	Recordings\Local Backup 3\Media\solution	Download\solution	Manually No schedule	Finished 2015/09/24 18:01	Restore Now
Local Backup 7	solution	Recordings\Local Backup 7\Media\solution	Schedule	---	Backup Now
Local Restore 8	Recordings\Local Backup 1\Media\solution	solution	Schedule Run once	Finished 2015/09/24 23:59	Restore Now

Cloud backup made simple

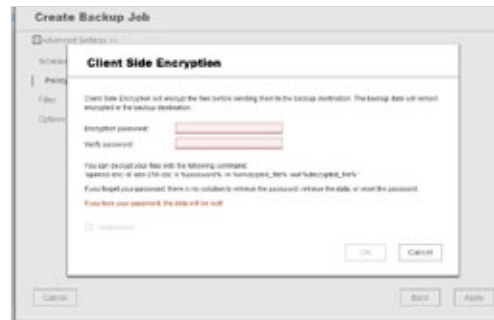
1 Compress

Cloud Backup supports compressed backup files, scheduled file deletion according to users' specifications and sparse file detection to avoid backing up unnecessary files. You can screen files by type, size, and date to ensure only the required files are saved on the cloud for greater storage and cost efficiencies.



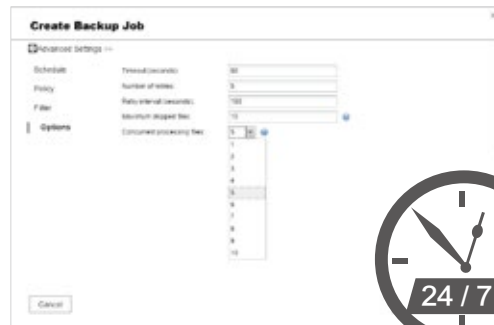
2 Select folder and encrypt


Cloud Backup features an SSL-secured connection and military-grade AES 256-bit data encryption to protect your data in transmission and at rest on the cloud.



3 Multi-thread transmission

Cloud Backup supports multi-task processing and multithreaded data transfer*. The latter improves file transmission speed and enhances work efficiency by segmenting large files into smaller ones before uploading. You can preview files in the cloud and download individual files instead of the entire folder.



 WebDAV app does not support multi-threaded data transfer.

Cloud Backup

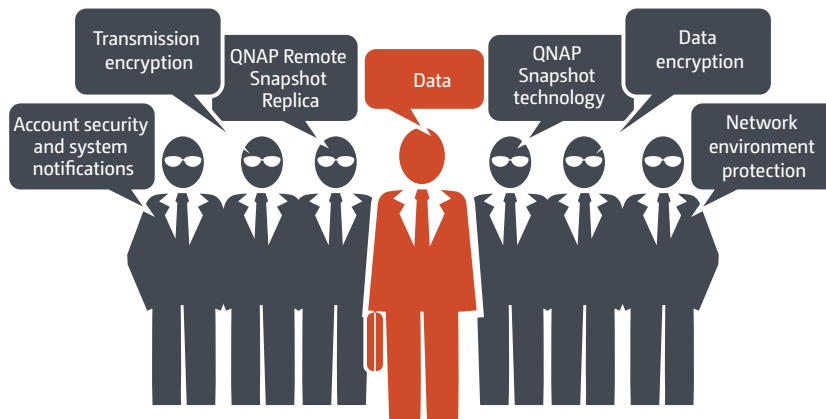
Protecting against potentially disastrous data loss is of paramount importance for all businesses regardless of size. A QNAP NAS is a comprehensive backup and recovery solution to back up not only files for all devices on the LAN, but also for remote-site NAS units and servers. Furthermore, QNAP Turbo NAS fully supports backup from the QNAP NAS to online cloud storage services (e.g. Amazon® S3, Amazon® Glacier, Microsoft® Azure, Google® Cloud Storage, IBM® SoftLayer, HP® Cloud, Rackspace®, and ElephantDrive®). The QTS Backup Station is a powerful and comprehensive tool that makes backup and recovery simpler for any business's disaster recovery plan.





Secure your data with six protection mechanisms

The increasing risks of data breaches and leaks mean both business and personal data such as documents, photos, and videos need greater protection against unauthorized access. QNAP helps you to minimize risk with our six data protection mechanisms, enabling you to focus more on using your data rather than worrying about it.



1. Network environment protection

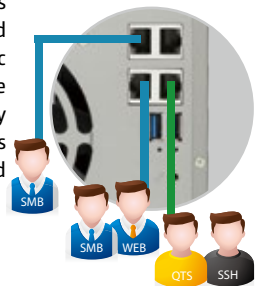
Connection management (black/white list)

Allow or deny specific IP addresses or subnets to connect to the NAS. This increases connection safety by creating lists of allowed and blocked IP addresses. For example, block an IP address from accessing the NAS for one hour, one day, or permanently based on the criteria that it has over 5 failed login attempts in the last minute. Servers of the blocked IP will be unable to connect to the NAS. Block a user who has stayed online for too long or logged in from suspicious IPs to enhance system security further.



Service binding

QNAP NAS are equipped with multiple Ethernet ports, and can permit data access through every port. Service binding allows users to bind network interfaces with certain services (e.g. critical company data can be accessed only by specific personnel through specific protocol or allowed internal IPs) to enhance system security. In addition to security protection, service binding with LAN ports can ensure critical services get dedicated bandwidth.



2. Account security and system notifications

Push service

In addition to email and SMS, you can get messages sent to your mobile devices in the event of a system failure or other warning*. This keeps you updated with the latest system status so that you can take immediate action to rectify the situation and reduce the risk of data loss.

Requires installing Qmanager on your mobile device.

Two-Step Verification

The Two-Step Verification* requires users to log in to the QNAP NAS with both their passwords and a 6-digit one-time password (OTP) generated by an authenticator app. To simplify the log in process, trusted devices (e.g. home computer) can be "remembered" and only the password will be required from future log in attempts from that device.



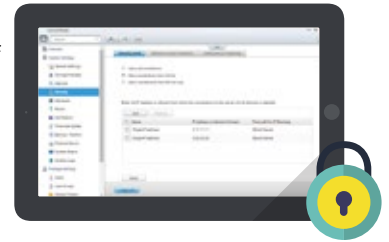
This requires the installation of one of the following authenticator apps on your mobile device: Google Authenticator (Android, iOS, BlackBerry) or Authenticator (Windows Phone).


3. Protection by transmission encryption

Network transmission encryption

Advanced AES encryption ensures the security of shared folders. Without the key, no one can access the data in encrypted folders or files. Data transmitted over the Internet can also be encrypted to protect data security when using services such as FTP, WebDAV or in File Station.

QNAP NAS provides SSL connectivity, and SSH encryption to secure data transmission and authentication. System administrators can restrict access to HTTPS (SSL over HTTP) encrypted connections. SFTP is also supported for transmission security and file access. The SSH encrypted connection provides another layer of protection for data transmission over public networks.




-  The following services provide encryption:
- rsync backup (SSH encryption), RTRR backup (SSL encryption),
 - SFTP: FTP (SSH encryption)
 - FTPS: SSL/ TLS encryption, web server (SSL encryption), share access (SSH encryption)

Virtual Private Network (VPN)

A Virtual private network (VPN) enables secure connections to access network resources and services across a public network. A VPN offers a convenient solution for NAS users to build end-to-end encrypted tunnels to your QNAP NAS. Whether you are an individual user or an IT administrator, you can use the built-in VPN server (L2TP/IPsec, PPTP, or OpenVPN) or VPN client (PPTP or OpenVPN) on the NAS for such purposes.

VPN Proxy Server

The proxy server provides cache and connection controls for Internet services such as HTTP and FTP to enhance connection speed and security.

-  For detailed information about this function and applications, see: [VPN + proxy server - the best solution for secured communication.](#)

4. Data encryption

External hard drive encryption

External storage devices are convenient for data migration. QTS also supports AES-256 encryption to protect against unauthorized access of external USB/eSATA drives.



Folder encryption

Additionally, the NAS also offers folder encryption— to encrypt data in a specific folder to protect it from being accessed by unauthorized users.



Anti-Virus protection

QTS integrates the ClamAV™ antivirus toolkit to defend against the latest viruses, malware, worms, and Trojan horses with continuous free virus database updates, ensuring continuous business operation. Email notification upon task completion or virus detection is built-in.

QTS also supports McAfee™ virus scanner (which is available in the QTS App Center with a free 30-day trial). You can install McAfee™ to safeguard against the latest viruses or malware with automatic software and virus database updates.

Internal hard drive encryption for the entire system

QTS offers volume encryption to protect the data stored on the NAS. The system will ask for the encryption key when mounting the encrypted volume and the data is inaccessible without it. This function effectively protects data from being accessed if the entire NAS or individual drives are stolen.



5. QNAP Snapshot Technology

QNAP's whole volume/ LUN Snapshot offered in Storage Manager employs Copy-on-Write technology to record file state. If system failures occur, you can immediately revert the system to a specific state earlier in time.

6. Remote Snapshot Replica

By using the Snapshot Replica function in Backup Station, you can also backup snapshots to a remote site. With so many layers of protection, you will never worry about data loss again.

-  Please see next chapter for more information on QNAP Snapshot Technology and Remote Snapshot Replica.



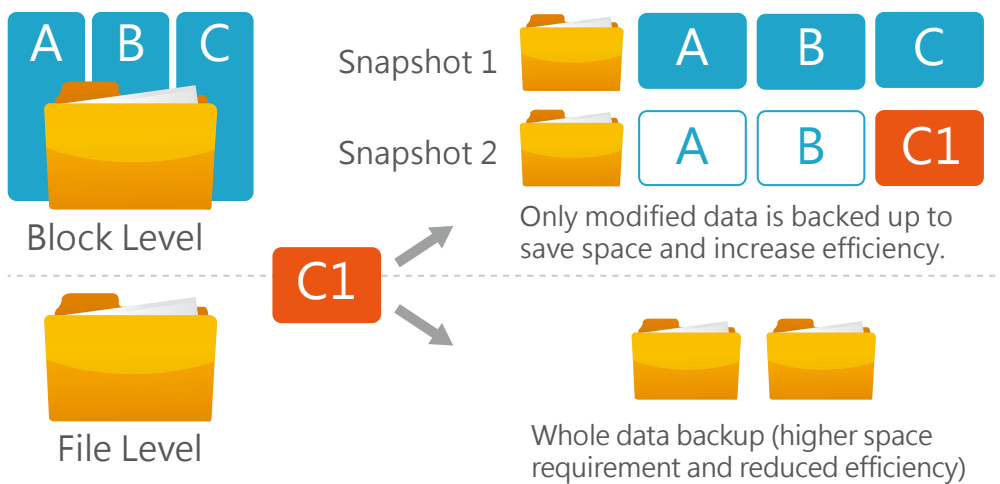
Local Snapshot and Remote Snapshot Replica

Block-based snapshot technology

QNAP's Whole Volume/LUN Snapshot Technology records the status of files using the Copy on Write mechanism. This helps in recovering files to a previously saved state in case of accidental deletion or modification.

Snapshot advantages

QNAP uses block-based snapshot technology to support up to 256 snapshots for each volume or LUN, up to 1024 snapshots. Schedule snapshots hourly, daily, weekly, monthly, or yearly to assist in saving space and reserve snapshots for future use. Additionally, Snapshot Agent ensures data integrity on locked or open files while taking snapshots.



	Snapshot Replica	RTRR	Rsync	NAS to NAS
Data backup scope	Volume/LUN	Shared Folder	Shared Folder	Shared Folder
Transmission mode	Block-based	File-Level File-based	File-Level block-based	File-Level block-based
Backup scheme	Transmit only modified blocks	Transmit new files	Transmit new files but only with modified blocks	
Backup schedule	Scheduled	Immediate/Scheduled	Scheduled	Scheduled
Encryption	Support	Support	Support	Support
Compression	Support	Support	Support	Support
Memory requirement	At least 4GB RAM	Unlimited	Unlimited	Unlimited
Remote system	QNAP NAS	QNAP NAS	Rsync Server	QNAP NAS
Application scenario	<ul style="list-style-type: none"> A large number of files with various file sizes Large files with frequent modifications such as virtual machine images or backup images. 	<ul style="list-style-type: none"> Real-time file replication File synchronization Fast transmission on local network 	<ul style="list-style-type: none"> Transmits large files with minor modifications Transmit to a remote site over the Internet 	

Snapshot requires a minimum of 4GB RAM.

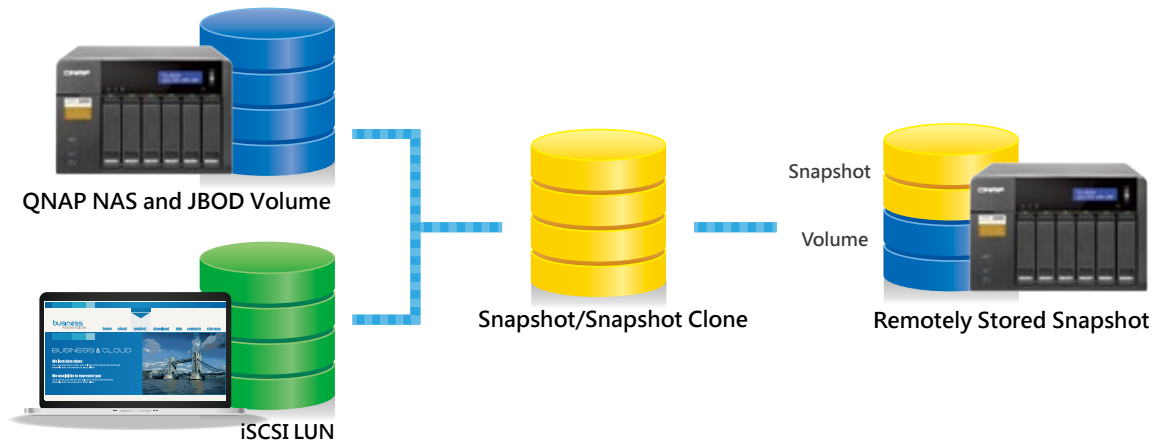
Local Snapshot to provide continuous data protection

File-level recovery

The low-impact, small-sized, and user recoverable snapshots offer more benefits of storage administration compared to traditional file copies, which are often stored as a single large data file. For instance, you can choose to recover a file in a folder or the entire folder instantly with a few clicks.

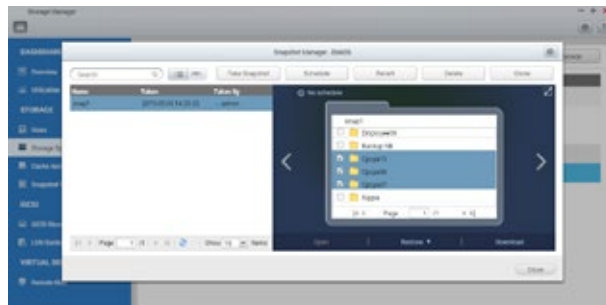
High Flexibility

Snapshots can be used with iSCSI LUNs and Volumes in QNAP NAS and expansion units to achieve full protection. On the other hand, Snapshot Replica allows you to transfer your snapshot to a remote QNAP NAS for backup.



Intuitive and user-friendly interface

The QNAP Snapshot provides tools in Storage Manager to help you find specific files to recover. You can easily view files and folders in a snapshot and browse through different snapshots displayed in chronological order. In addition, file recovery just takes a few clicks, increasing operational efficiency.



Snapshot Clone

Clone a snapshot as a volume or LUN for quick file access, eliminating long restore times and reserving sizeable space for storing backups.

VMware® / Microsoft® VSS integration

QNAP Snapshot also supports virtual machine snapshots on VMware® or deployment with Microsoft® Volume Shadow Copy Service (VSS). Before taking snapshots, the Snapshot Agent notifies VMware® or Microsoft® VSS to stop accessing iSCSI LUNs to ensure data integrity and to reduce system overhead.

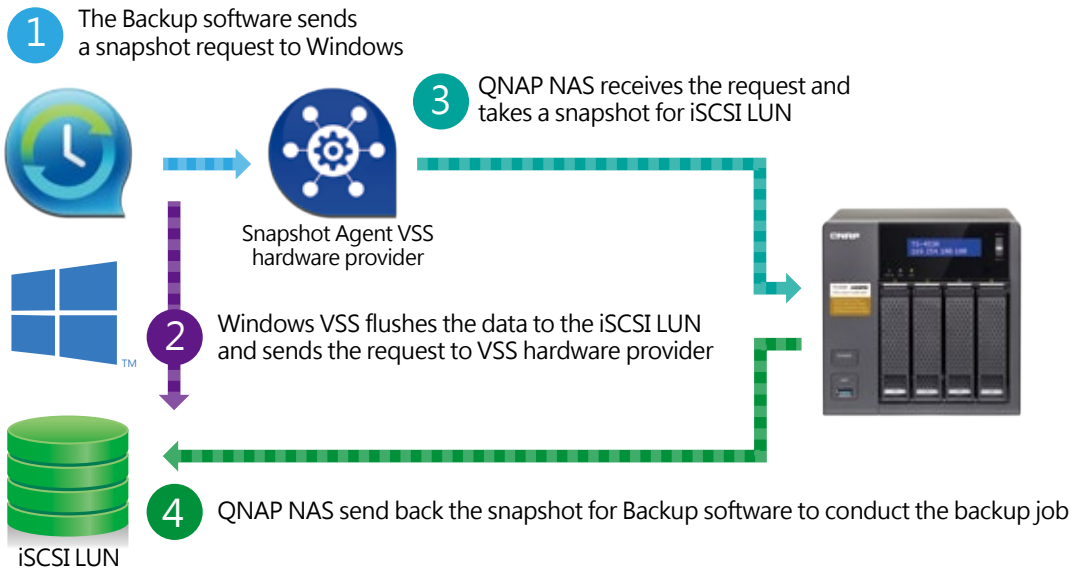
Rsync/RTRR integration

The Rsync/RTRR functions in Backup Station automatically detect whether the system supports Snapshots. The RTRR/Rsync functions take snapshots of the volume before starting replication and then back up snapshots to a remote server. This greatly enhances data integrity.

Application Consistent Snapshots

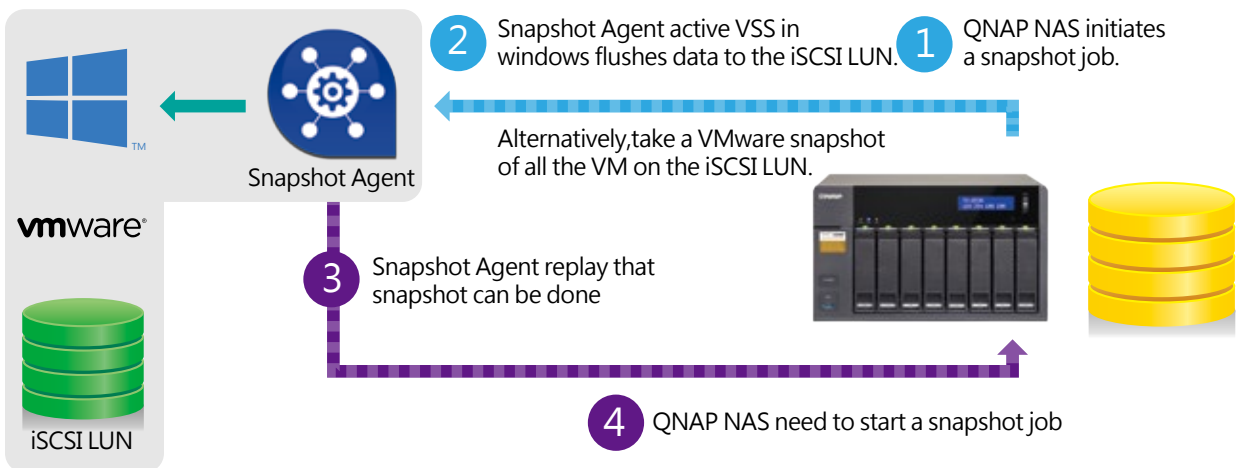
QNAP Snapshot Agent (used for iSCSI LUN) allows connecting the QNAP NAS to remote servers (VMware vCenter™ or Windows Server®) to ensure consistent snapshots. On those remote servers, the running applications (VMware® virtual machines, Hyper-V® virtual machines, etc) will write/flush data from memory to the iSCSI LUN prior to the snapshot being taken. The application will then be consistent and include all necessary data. In case of snapshot restoration, no data will be missing.

VSS Hardware Provider Work Flow



- Support for backup software such as Netbak Replicator®, Acronis®, and Symantec®.
- The system may temporarily halt operations while flushing data to the iSCSI LUN.

Snapshot Agent Work Flow

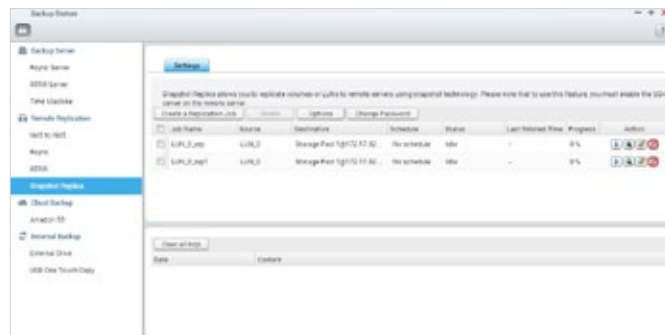


- The system may temporarily halt operations while flushing data to the iSCSI LUN.

Remote Snapshot Replica prevent data loss

Snapshot Replica

Remote Snapshot Replica enables you to replicate Volumes/LUNs between different remote servers using snapshot technology, reducing both storage and bandwidth usage. Take a snapshot immediately or schedule snapshots to be taken at regular intervals as required. This method is widely considered to be the most fundamental of strategies for data backup.



Snapshot Vault

Snapshot Vault is the backup center for storing and managing every snapshot created remotely from another QNAP NAS. It is also capable of cloning a snapshot (with specified files in a snapshot) as a local volume for data access.

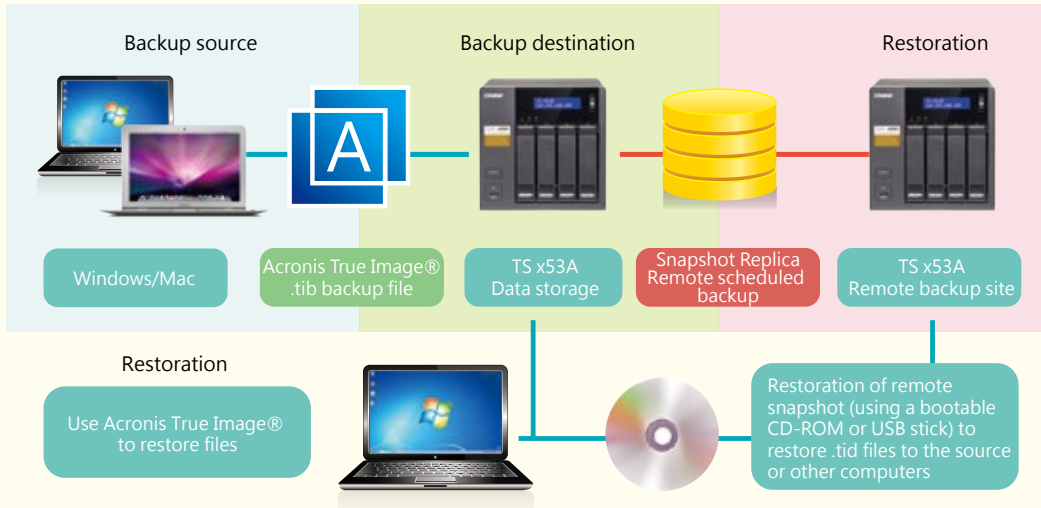
Managing snapshots remotely from another NAS

Use the Clone function to clone (or mount) a snapshot from the Snapshot Vault as a volume or iSCSI LUN on a QNAP NAS. Directly access these files through File Station or Backup Station. Use an iSCSI initiator to connect to a cloned iSCSI LUN from another computer.

Replication Settings

To minimize the risk of data breach, Snapshot Replica provides the option of file encryption. It also provides file compression and transfer rate adjustment to lower bandwidth consumption.

QNAP NAS backup with Acronis True Image®



As a proven remote backup/restore solution for small and medium businesses, QNAP NAS with Acronis True Image® makes it possible to save storage and bandwidth consumption for backup and restoration with QNAP's Snapshot Replica (block-level replication) and scheduled backup.

The powerful tools provided by Acronis True Image® enable you to recover specific user files, or to recover an entire system. This ensures all the data on your QNAP NAS is protected while providing flexible approaches to data recovery and reducing total cost of ownership. For more information on Acronis True Image®, please visit <http://www.acronis.com/en-us/personal/computer-backup/?t=ab>.



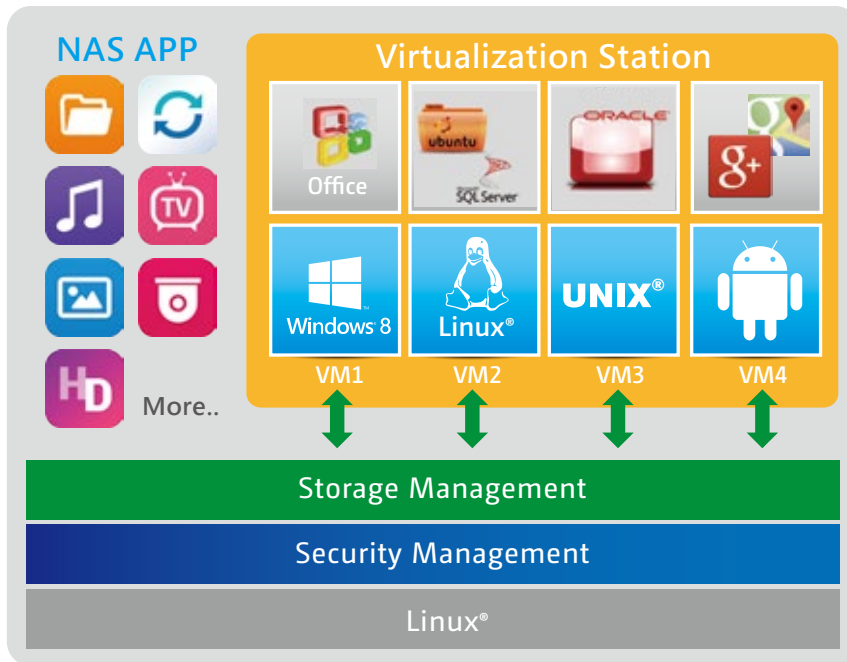
Acronis True Image® and other names of Acronis True Image® Products are proprietary marks or registered trademarks of Acronis®, Inc.



Virtualization Station 2.0

Features shared network interfaces

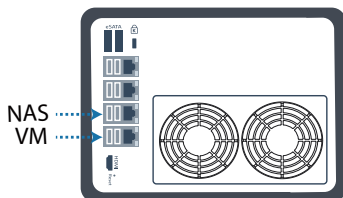
Virtualization Station eliminates the constraints that exist on conventional VMs such as requiring dedicated network ports. By leveraging Software Defined Network (SDN) architecture, Virtualization Station now has an upgraded underlying network architecture, effectively improving network speeds.



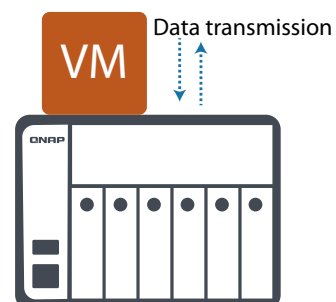
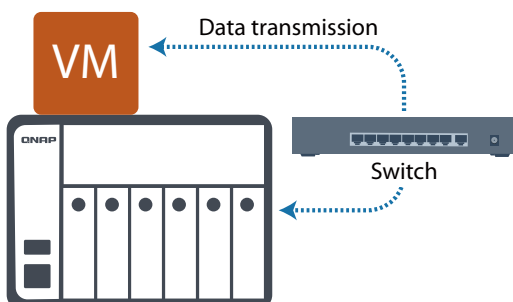
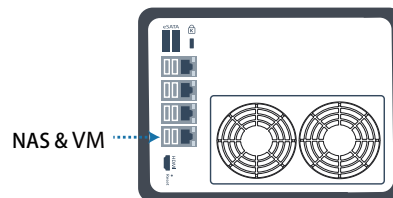
Software-defined Switch

By adopting a Software Defined Network (SDN) approach, VMs can now share the network interface with the QNAP NAS to maintain the best data transmission speed while allowing users to define their own network mode, potentially enhancing deployment flexibility and network security.

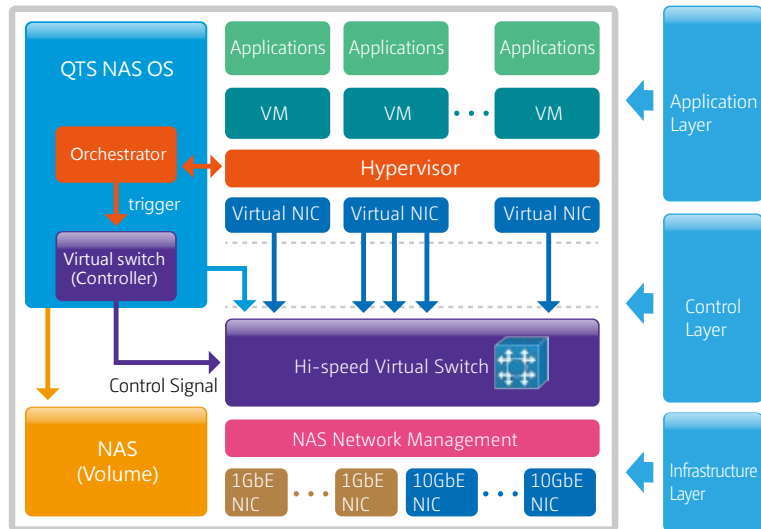
Previously, virtual machines required dedicated network ports.



Now, virtual machines can share network ports with the NAS.



The SDN-based architecture consists of Application Layer, Control Layer and Infrastructure Layer. At the Application layer, the VM orchestrator manages workload schedules through communication with the Hypervisor. When the VM Orchestrator receives a transmission request from the Hypervisor, the VM Orchestrator will signal the vSwitch Controller (as the NAS's network control), and then the vSwitch Controller of the control layer will dynamically adjust the Hi-speed Virtual Switch so that VMs can connect with the Physical Networks or NAS storage for data communication.



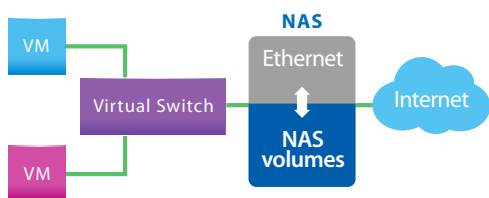
By employing a high-performance virtual switch, the VMs are no longer confined to the limits of the transmission speed of the physical NICs when transmitting data between VMs or between VMs and the NAS.

Virtual Switch

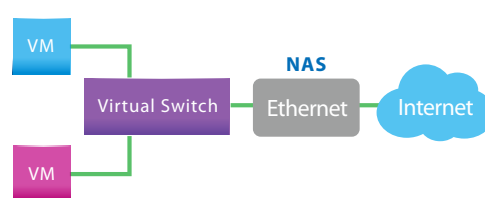
Virtual Switches are an efficient and effective network design compared to dedicated network ports. Virtual Switches enable VMs' to share the Ethernet interfaces removing the need for a dedicated VM network. This bypasses the need to transfer data through the physical network equipment and also increases the transfer rate between VMs and the NAS. The Virtual Switch is capable of 10 GbE and port-trunking enabling a fast and secure network environment.

Support Networking modes of Virtual Switch

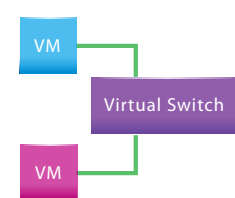
- Bridged Networking
- External-only Networking
- Isolated Networking



Attaching an Ethernet interface (port-trunking available) to a Virtual Switch creates a bridged network. The NAS and the Virtual Switch can share the same Ethernet interface with fully supported high-speed data transfer via internal routing.




After attaching an Ethernet interface to a Virtual Switch, the IP address of the interface will be changed to 0.0.0.0 so that the VM network traffic will not go throughout the NAS.



Not attaching any Ethernet interface to a Virtual Switch creates an isolated network. Manually setting IP address of VMs can enable communication between VMs connected to the same Virtual Switch.

QVM supports 4K displays, audio output

QVM in the HybridDesk Station enables the use of a VM as a PC simply by connecting an HDMI® monitor, keyboard, and a mouse. QVM offers 4k resolution and virtualized audio output to support a wide variety of applications. Using a browser with HTML5 is limited to 1080P without audio. This makes QVM ideal for video applications.

 noVNC is an HTML5-based remote desktop web client that can communicate with a VM. noVNC does not support audio transmission. For audio output, use Windows® Remote Desktop or the SPICE® Client to connect to the VMs.



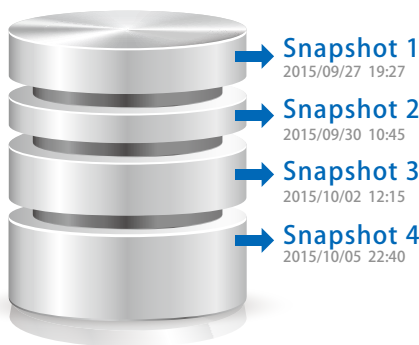
Virtual machine import/export

Virtual machines of various formats can be easily imported to and exported from the Virtualization Station. IT administrators can get VMs up and running quickly on a QNAP NAS or other Hypervisors.

How do snapshots work (basic)

The Internal Snapshot feature will capture an image of a running virtual machine and compare the capture to the original virtual machine image. The differences are recorded as the snapshot, and the original virtual machine image is marked as read-only.

The most recent virtual machine image will contain the original virtual machine image in addition to the differential images captured thereafter. Snapshots are not inter-dependent, enabling you to restore a virtual machine to any point in time when a snapshot was captured.



VM backup and restore


With Virtualization Station, it is effortless to manage multiple virtual machines on a QNAP NAS. They can be backed up/restored centrally using an easy-to-use interface, and users can obtain scheduled tasks/status, and manually start or stop backup tasks. The online backup tasks run in the background without interrupting VM operations and/or powering off the system. Furthermore, you can set the schedule for backup tasks and maximum number of backup copies. When restoring, the system will automatically start up the restored VM, simplifying the whole process and reducing system downtime.

Device management

The Device Management screen provides an overview of all VMs, keeping you informed of the storage capacity, network interface, and USB devices of the NAS as well as letting you connect or remove a new device.

USB devices (USB Pass-through)

Virtualization Station supports connecting USB devices to virtual machines. Commonly used USB devices such as storage devices and card readers can be connected to virtual machines, and you can select a specific device using Virtualization Station. This can be used together with QVM Desk just like a PC. You can also connect USB card readers/scanners to a QNAP NAS via Virtualization Station and store scanned data directly to the NAS without taking up Internet bandwidth. Further, with the advent of USB 3.0, higher data transmission can be easily achieved.

 Please note that this function is only available on Windows® 8 or later.

Seven advantages of QNAP's exclusive virtualization technology

Visibility and direct access to files

Specific file formats cannot be opened directly by the QNAP NAS, but the Virtualization Station makes it possible. This saves bandwidth and access time.

Administrators can install Windows®, Linux®, UNIX®, and Android™ based VMs on the QNAP NAS to run any supported application or file.



Save bandwidth & time

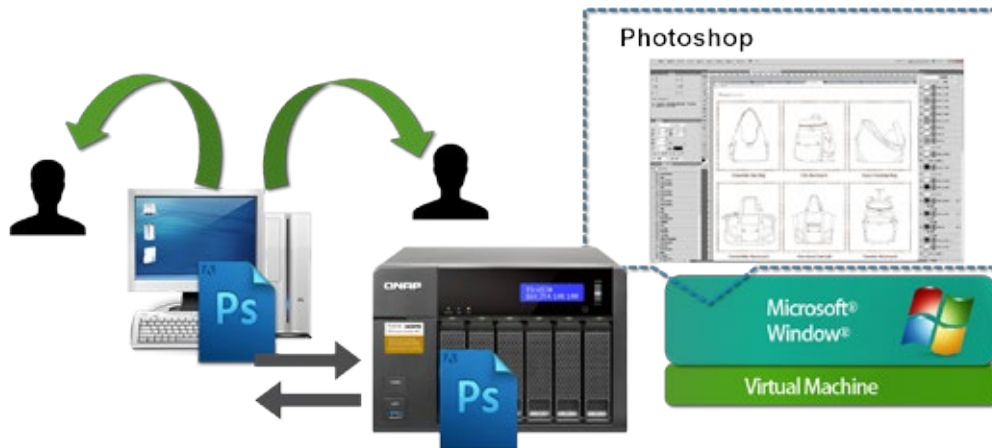
Downloading a large amount of data to a local PC can take a long time and use up network bandwidth.

When accessing data on the QNAP NAS through virtual machines on the Virtualization Station, you can enjoy secure data transmission and save bandwidth & time as the data is not transmitted via physical network cables.



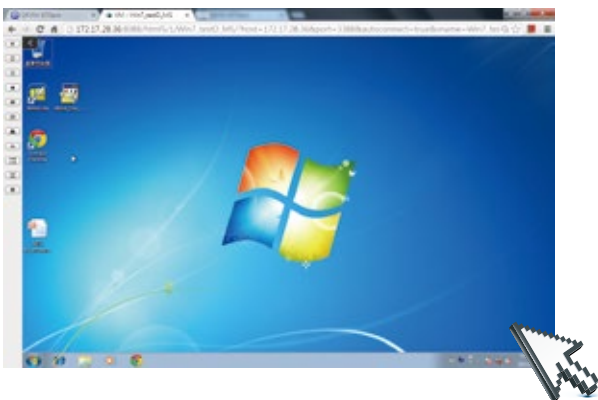
Enhanced security

When accessing files & data on a virtual machine they are not transmitted outside of the QNAP NAS. This provides a secure environment that prevents sensitive data from being intercepted and saves bandwidth and network resources when accessing large files.



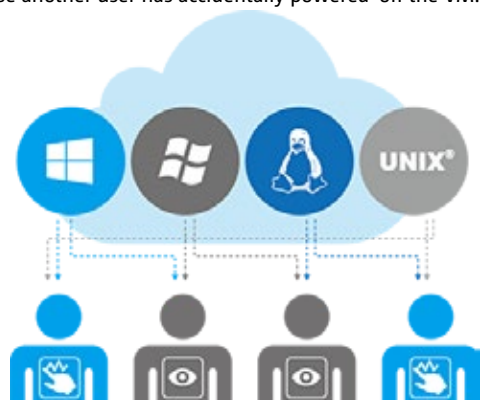
Operate VMs as Remote Desktops

Enjoy the convenience of operating Windows®, Linux®, UNIX®, and Android™ based VMs as remote desktops. A list of buttons is provided on the left side of each individual VM display, allowing users to suspend, shutdown, force shutdown, reset, bring up key combinations: Ctrl +Alt+ Del and function keys, and take snapshots of the VMs.



User-based permissions settings

The Virtualization Station administrator can create users and set granular permissions for each Virtual Machine (VM), helping to efficiently manage and allocate VM resources for users with different needs. With these permissions, users can work independently on their VM without worrying about their work being interrupted or data being lost because another user has accidentally powered-off the VM.



Lightbulb icon: User-based permissions include:
 Console permissions: Control and View-only
 VM controls: Snapshot and Advanced

QNAP QVM Desk

QNAP QVM Desk supports local display for deploying virtual applications on a big screen when connected to an HDMI® monitor, keyboard, and mouse. Compared to webpage operations, it is smoother, more secure, and worry-free to do on a QNAP NAS. Even when Internet connectivity is limited, you can still access data and run virtual machines on a QNAP NAS.

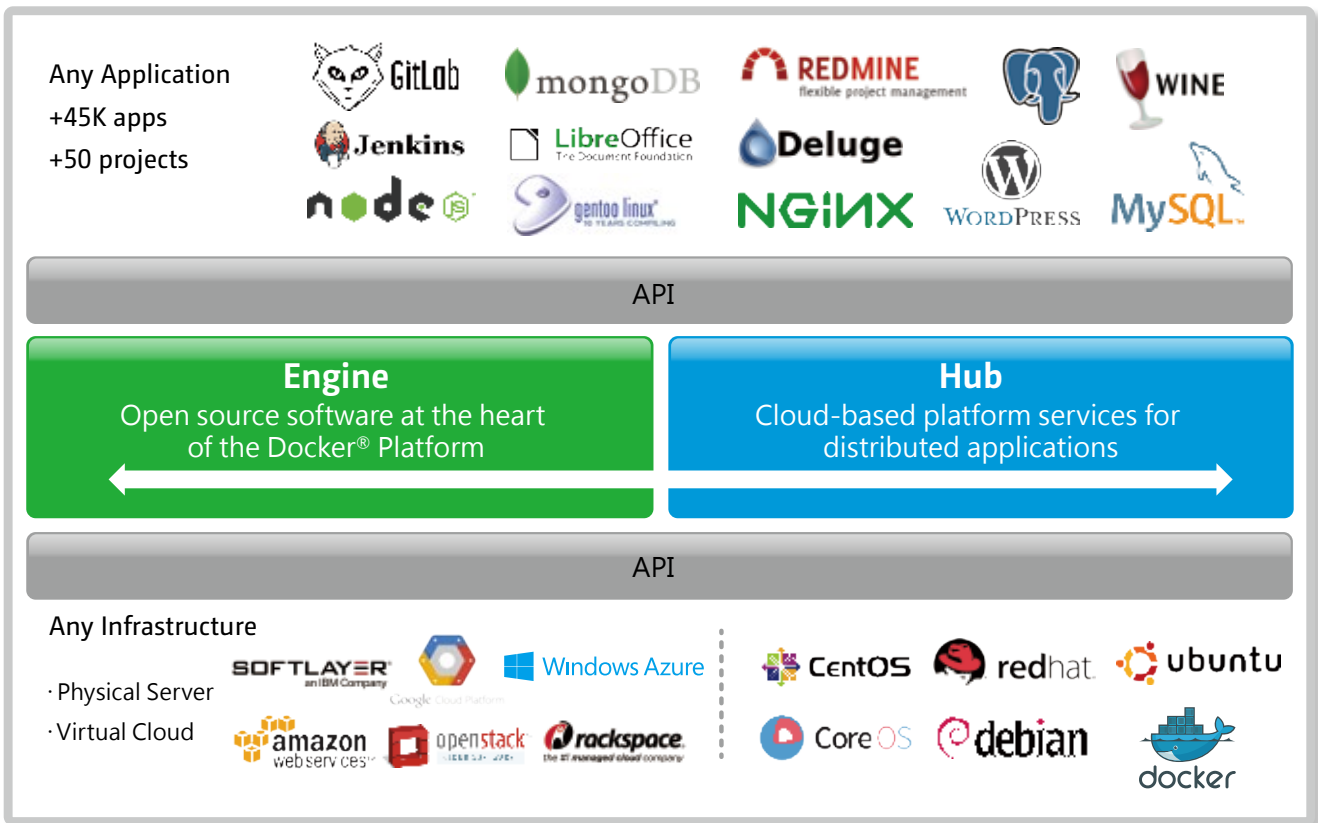






Container Station 1.0

The new era of virtualization and cloud computing

As the Internet of Things (IoT) and Big Data rapidly emerge, virtualization is key to maximizing IT resource utilization. Container Station is developed following the Just enough OS, or JeOS, philosophy. This lightweight virtualization technology can instantly and truly create a ready-to-use environment on PC's, QNAP NAS and the Cloud for RD developers and IT administrators.



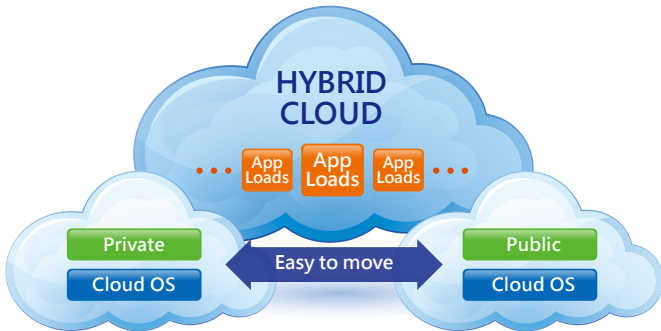
Build a project in Container Station on your home computer. After the completion of each development stage, upload the container to Docker Hub™ or export and save it on the NAS. Your coworkers are then able to download the container and continue with the next development stage. With a container-based application, on QNAP NAS, VMware, OpenStack, or on the cloud, developers can deploy and share any app on any of these platforms, quickly and reliably.

-  Container Station is available in the App Center.
-  Docker and the Docker logo are trademarks or registered trademarks of Docker, Inc. in the United States and/or other countries. Docker, Inc. and other parties may also have trademark rights in other terms used herein. Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries.

Benefits of Container Station

1. Seamlessly bridge NAS and cloud applications in a hybrid cloud infrastructure.

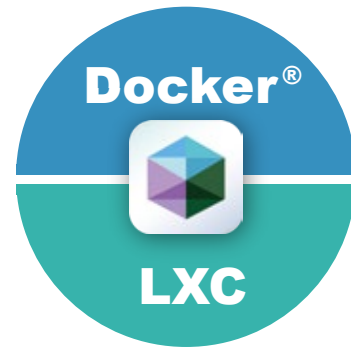
With Docker®, applications can be uploaded (pushed) from the NAS to a public cloud at anytime from anywhere, shortening development cycles and increasing testing speed.



2. Integrate both virtualization technologies to bring more value to your NAS

LXC: the lightweight Linux Container enables a high-performance lightweight virtualized Linux® environment on your NAS. Install a lightweight version of Linux® as the base for your container application with LXC.

Docker®: Facilitates fast and mass application deployment to build microservices.



3. An isolated and portable operating environment

Instead of virtualizing hardware, containers rest on top of a single lightweight Linux instance. This makes it possible to quickly set up and run containers from the same host where each guest has a unique operating environment isolated from its host and with performance close to that of a physical server.

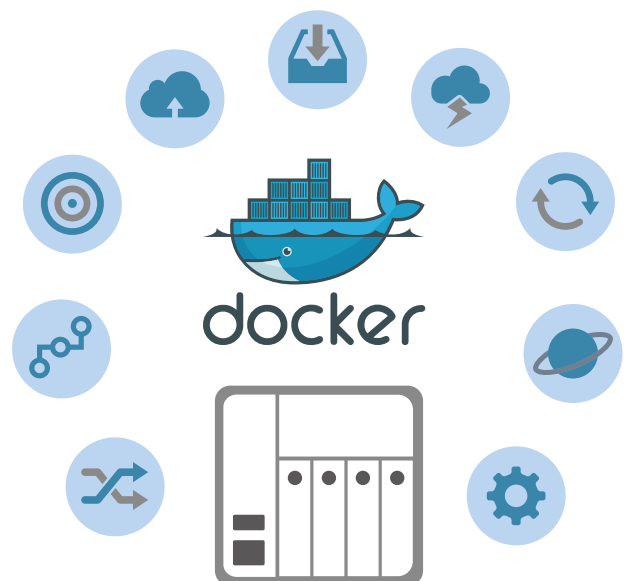


4. Easy cross-platform deployment

LXC/Docker® has been widely adopted by many public cloud services. Containers run on almost any platform, including PC, servers, VMs, and public and private clouds. Container Station with Docker® streamlines application deployment and migration on virtualized and cloud environments. Using QNAP NAS with Container Station enables seamless integration with major public cloud services.

5. Install shared applications on demand

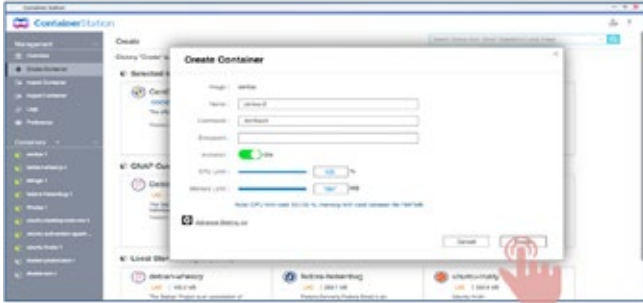
Use the Docker Hub™ to search for publicly shared applications, whether they are databases, web servers, programming languages, or development tools; install it as you would an app on your smartphone.



Seven exclusive and industry-leading functions

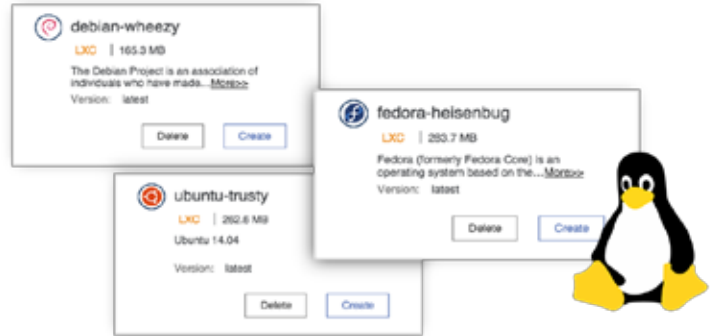
1. One-click installation

Forget complicated configuration and simply enjoy the benefits of software containers. Just click “Create” and the system will automatically download and install the applications.



2. LXC (Linux Containers)

LXC is now available in Container Station. It features the most common operating systems including Linux®, Debian®, and Fedora® built-in. Users can add desired applications after downloading.



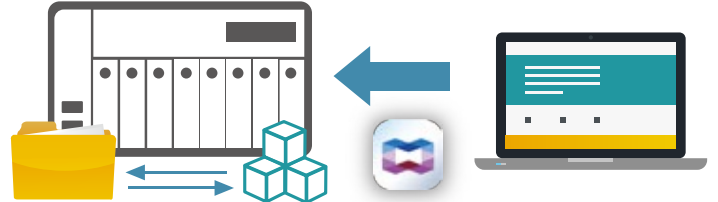
3. Automated deployment

Wondering how to set up software containers? QNAP's exclusive automated deployment function makes using software containers very easy, enabling rapid installation and deployment.



4. Easy backup and migration

You can export software containers along with data contained in it to a given shared folder. You can also import software containers from PC or shared folders. Employs this function to back up as well as transfer your containers at ease.



5. A simple way to operate containers

The Container Station automatically provides links to web-based applications to streamline software development throughout the entire process. In addition, the console provides a familiar development environment for Linux® experts.



6. Virtualization on NAS for small and medium businesses

Entry-level NAS models, e.g., TS-231+, TS-431+ can enable Linux® virtualization on QTS 4.2. Just download the default Linux® version from Container Station and you can have the only virtualization-ready ARM® based NAS.

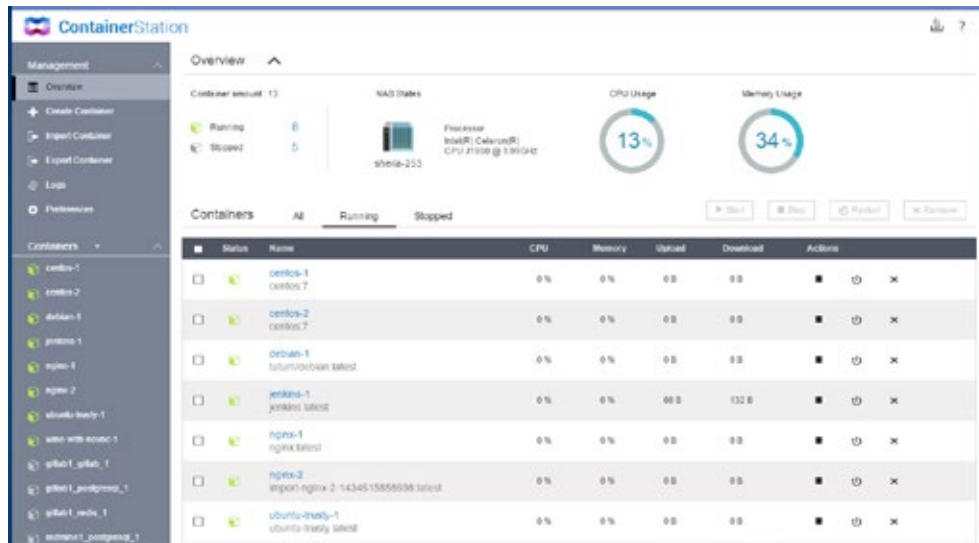
7. Auto start up

Your software container starts automatically after your QNAP NAS powers on or after Container Station reboots. This eases system administrators' workload while improving the system availability.

More functionality to suit your environment

Resource management

Specify host CPU/memory resources allocated to a software container and monitor the host in addition to each container's performance from a single screen. The visualized presentation with graphics provides a quick overview of resource consumption and aids in resource management.

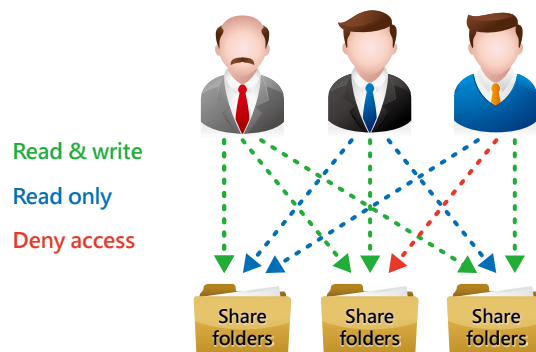


Access shared folders

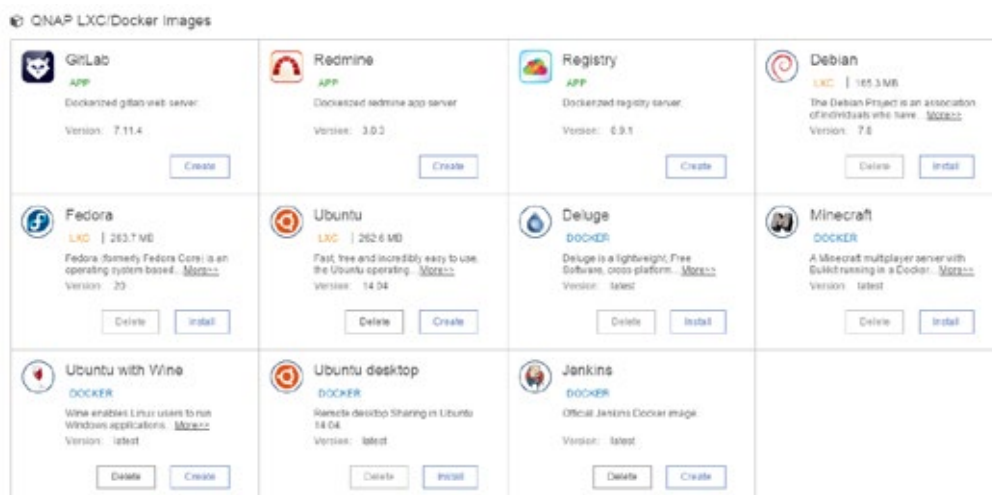
Shared folders mounted in a container (or from other containers) save data to the NAS at comparable access speeds to that of bare metal environment.

Permission control

Access shared folders on the NAS or other containers as well as connect to other host servers with granular permission control.



QNAP customized LXC/Docker® images





Surveillance Station

Build a robust surveillance system

As surveillance technology evolves, the required system hardware and software have become increasingly affordable. For all environments, including homes, offices, schools and other organizations, QNAP offers comprehensive support and solutions that can flexibly meet your schedule and budget constraints.



Before using Surveillance Station, please install the Surveillance Station App from the App Center. For a list of compatible cameras, please refer to www.qnap.com.

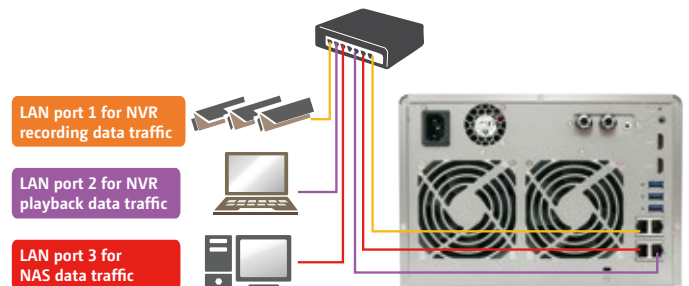
Tiered Storage for Hybrid NAS and NVR Operations

Empowered with a tiered storage architecture, QTS can now separately store NAS and NVR data in different storage pools that consist of dedicated hard drives. Additionally, you can designate dedicated network ports for NVR or NAS traffic to achieve the best data write/read performance.



Network Tap

In addition to tiered storage, QNAP have also added a “network tap” capability to Surveillance Station. Activate this function on a QNAP NAS with more than one network port and easily reroute the monitoring network flow to other QNAP NAS network ports, optimizing the read/write performance for NAS and NVR traffic.



Customized layout

Surveillance Station 5.1 supports various monitoring modes to display 1, 2, 3, 4, 6, 8, 9, 10, 12, 16, 20, 25, 36, 49 and 64 channels on a single screen. Choose to display each channel sequentially, or use dual displays for a wider view.



Granular playback control

With the speed-control shuttle bar, users are able to fast forward and rewind playback by dragging the bar to find the desired capture quickly.



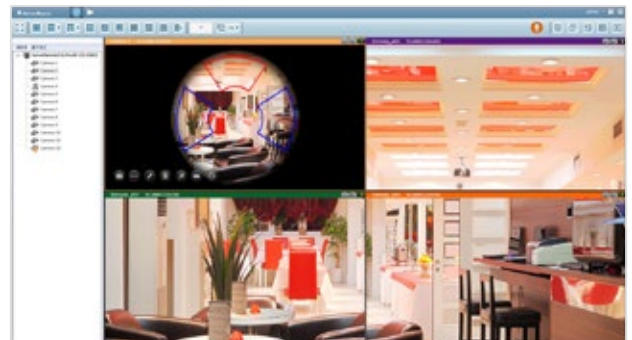
PTZ Control and ROI

Directly adjust the up/down, left/right panning angles, and zoom in and out on cameras with compatible PTZ (Pan/Tilt/Zoom) functions. The ROI (region of interest) enables users to freely enlarge, adjust, or move the region of interest on any recording channel.



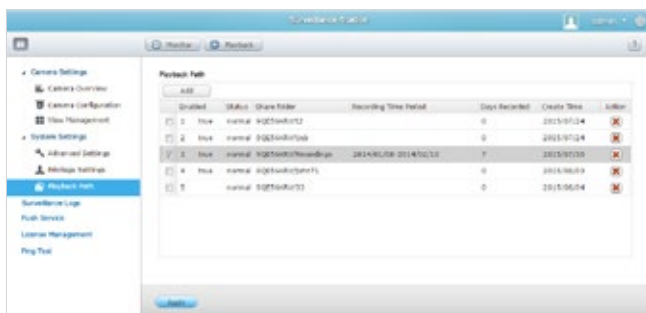
QNAP Qdewarp

Fisheye lenses are ideal for wide-angle scenes. With de-warping technology, users are able view detailed images without distortion. Qdewarp is compatible with every fisheye camera that QNAP supports, and enables users to de-warp images at any time point in a recording. Qdewarp supports real-time monitoring and recording playback, ensuring there are no blind spots.



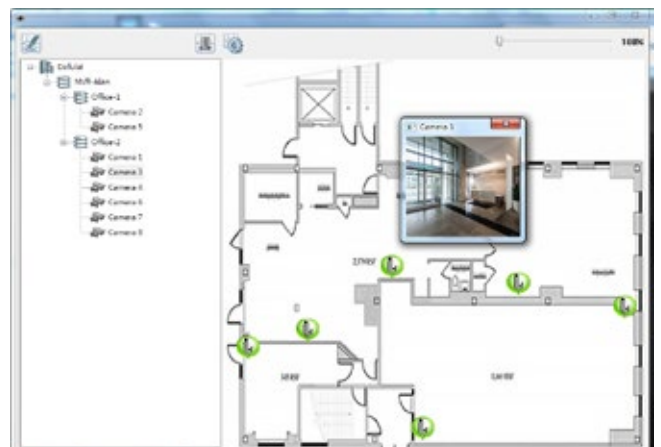
Immediate alerts for events

When cameras detect motion or alerts are triggered, Surveillance Station will automatically send notifications to up to 5 email addresses.



Digital floor plan for camera locations

Uploading a floor plan to Surveillance Station enables users to map out where cameras are located. Based on alarm settings, the camera icons will then alert users to assist in decision making for appropriate action to be taken.





Productivity Tools

Maximize the value of your QNAP NAS

QNAP NAS features a wide range of value-adding applications and tools for both business and home needs. These applications and tools help to increase productivity by maximizing the IT impact on business and home users.



myQNAPcloud cloud access service - Helps you easily create your NAS cloud

Cloud access is greatly simplified in QTS 4.2. Following the setup wizard you can effortlessly create your personal or private cloud. With myQNAPcloud, you can always enjoy the services of your QNAP NAS safely and conveniently.



myQNAPcloud ID (QID)

Access your QNAP NAS by signing into your myQNAPcloud portal (www.myqnapcloud.com), mobile Apps, or the PC utility Qsync with "QID", a unique ID for you to access your NAS and securely share your private data and files.

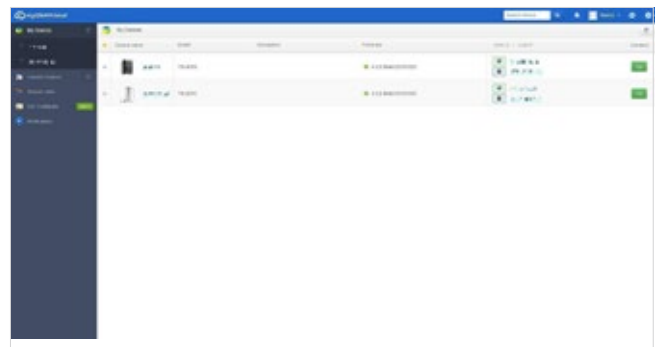
CloudLink

CloudLink is the best remote access service provided by myQNAPcloud and allows you to connect to your device via the Internet using the myQNAPcloud website (www.myqnapcloud.com). No complicated port forwarding settings on the router are required: just sign in using your myQNAPcloud ID (QID). Then, you can access files from the myQNAPcloud website. CloudLink will automatically select the best connection for you according to your network environment. In addition to the web-based connection, CloudLink also allows you to connect to your QNAP device with the QNAP mobile apps Qfile and Qmanager as well as the PC utility Qsync.



Manage files and multiple NAS devices with a web browser

The myQNAPcloud web portal (www.myqnapcloud.com) is a user-friendly interface that allows you to check available and connected NAS servers. You can download, move, copy and share files stored on your NAS servers with your web browser and enjoy the convenience of accessing multiple NAS servers from a central Internet portal.



myQNAPcloud SSL authentication

QNAP offer myQNAPcloud SSL certificates for you to purchase online. myQNAPcloud SSL certificates are used to provide a secured connection between the QNAP NAS and web browsers, providing authorization as well as encrypting the connection to secure data and transactions.





Qsync Central Station 2.0 - Centrally manage and secure your files and devices

Coupled with Qsync Central Station and Qsync Client, QNAP NAS provides a economical file sync solution that resembles Dropbox syncing and backup service. This allows businesses and organizations to ensure that team members always have the most up-to-date files for greater working efficiency.

Synchronization for better and easier file management

Qsync Central Station 2.0 supports file synchronization between multiple devices, and you can utilize a smart phone, tablet, computer or webpage to browse through synchronized files. When your computer is offline, you can edit the files offline or view the files on the local Qsync folder, and as soon as the network resumes, online, Qsync will resume the data synchronization. You can also choose to keep the files stored on your QNAP NAS un-deleted to save the storage space of your local device.



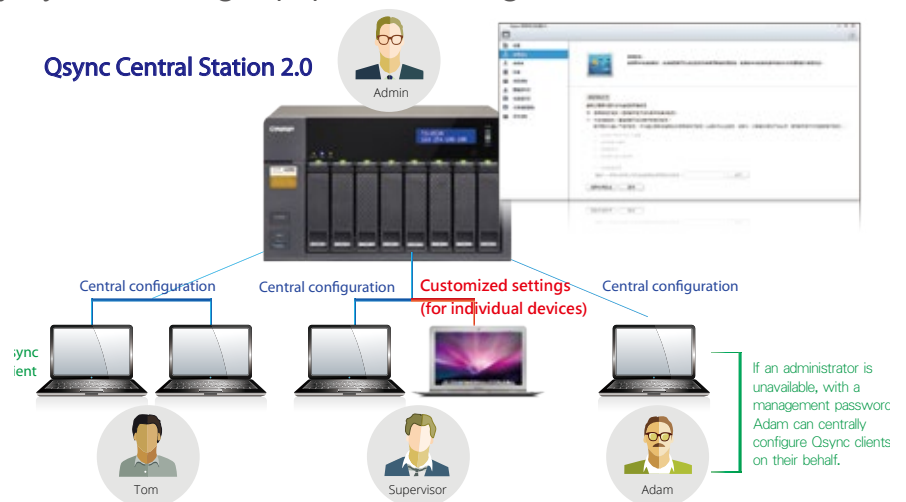
Seamless file sharing for better work collaboration

Besides the Qsync folder, now you can synchronize shared folders on a QNAP NAS to the Qsync client on your computer, enabling synchronization among multiple shared folders on the NAS and elevating the level of file sync and sharing efficiency to a higher level.



Enhance management efficiency by monitoring equipment settings

The administrator can create default settings on Qsync Central Station 2.0 and also apply them to Qsync clients, which helps to not only save time and effort setting up individual clients, but also allows administrators to monitor user settings, thereby strengthening enterprise-wide IT management and file filtering control and avoiding the risk of deleting files on a QNAP NAS by mistake due to synchronization. Also, by using permission settings, administrators can flexibly adjust individual user's equipment settings, where it not only retains the above advantages, but further enhances the flexibility and convenience of the centralized management approach.



Remotely delete shared folders to prevent data leaks

In the event where a computer/device is stolen or lost, the Qsync folder can be remotely erased* to ensure that sensitive or confidential data is not accessed by unauthorized users or leaked. Once the computer/device is recovered, Qsync can easily restore the data that was deleted, ensuring the perfect balance between security and convenience.



The data will still be retained on the QNAP NAS



Advanced system database and algorithms for enhancing system performance

On QTS 4.2 a brand-new database system and refined algorithms are incorporated into Qsync Central Station 2.0 to greatly improve the overall system performance and reduce the burden on the NAS and computers/devices using it. When accessed by a single user, Qsync Central Station 2.0's upload efficiency nearly doubles. With 20 users, the upload efficiency further increases by nearly 20 times. All the improvement can maximize collaborative efficiency while minimizing the wait time for the team.

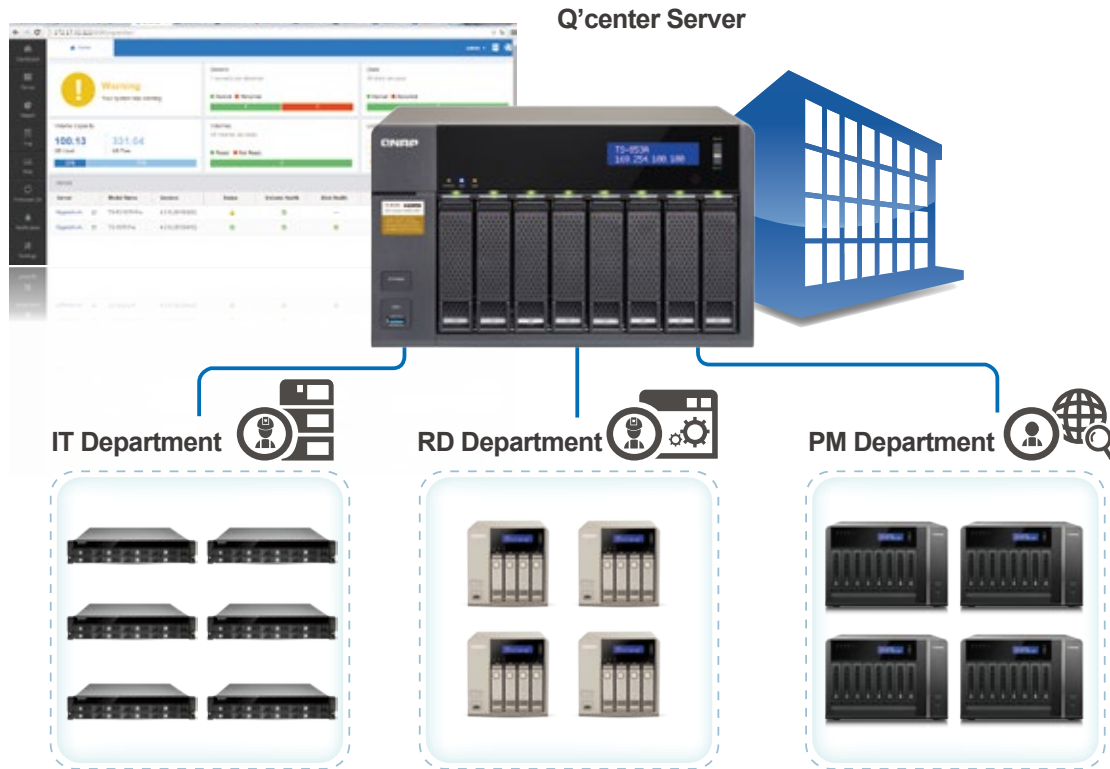


Q'center Central Management System - A system administrator's best assistant

Previously, IT administrators needed to log in to QNAP NAS units individually to check their status. The QNAP Q'center CMS (Central Management System) offers a platform to centrally manage multiple NAS units. The simple setup, cost effective, convenient and flexible approach that Q'center delivers greatly improves management efficiency for IT administrators.

Central Management Platform

The "Dashboard" screen provides you with tools to conveniently inspect and monitor system status for all connected NAS units and allows you to efficiently review system logs of selected NAS units. You can customize dashboards to get a quick overview of specific system information or statuses and alerts.

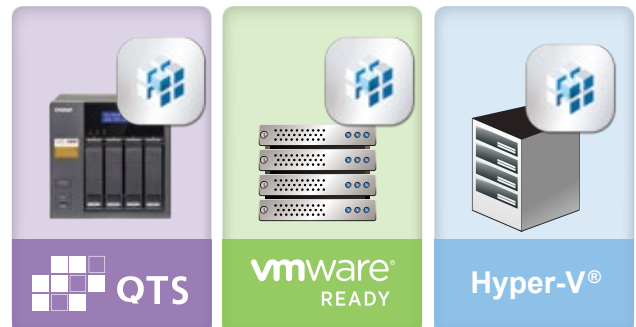
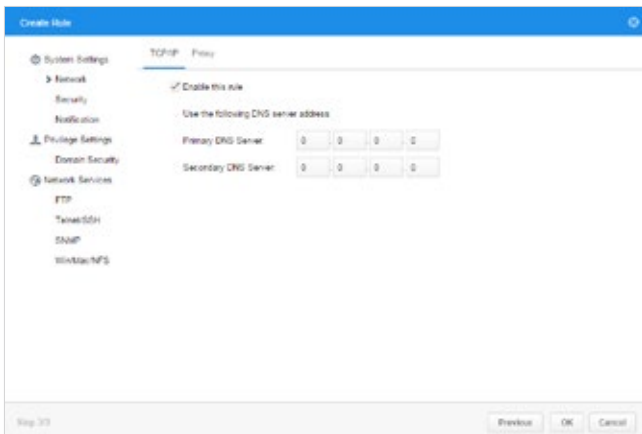


Centralized platform

Use Q'center as a centralized platform to enable network services and other settings on a group of NAS units at once or a specific NAS unit. Q'center can also act as a firmware storage center and be used to store historical firmware versions or schedule firmware updates for all NAS units or a specific NAS unit to improve efficiency for IT operations.

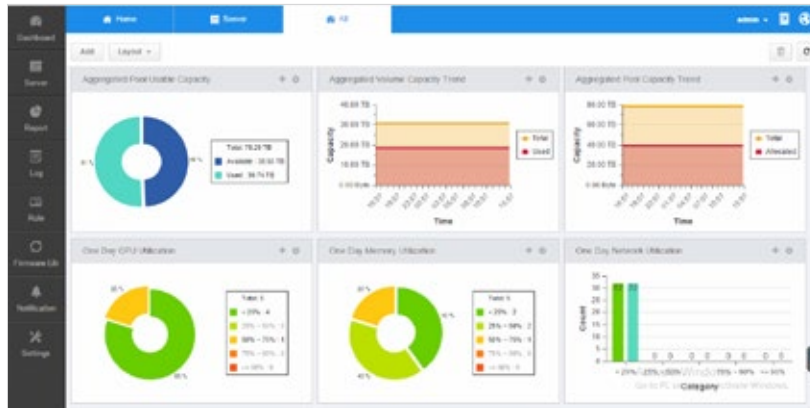
Q'center for VM

QNAP also offers a version of Q'center for VMware® and Windows® Hyper-V® enabling installation to a virtual machine without needing a QNAP NAS, adding flexibility to your setup choices.



Customized dashboard

The "Dashboard" screen provides you with tools to conveniently inspect and monitor system status for all connected NAS units and allows you to efficiently review system logs of selected NAS units. You can customize dashboards to get a quick overview of specific system information or statuses and alerts.



Visualized Statistics

The visualized statistics and messages allow you to rapidly gain a clear picture on the system status of all QNAP NAS units, including disk usage, shared folder space usage, HDD IOPS, HDD delays, and CPU usage for use as the basis of your system utilization trend analysis.



Manage QNAP NAS behind firewalls

Forget about compatibility issues or complicated router and VPN setting, Q'center is designed to accommodate various network environments and its stable firewall traversal technology ensures that the Q'center server and the client QNAP NAS units maintain the connection across different networks. In addition, with the prevalence of virtualized services, Q'center also has a version for virtual machine. By installing Q'center Assistant, client QNAP NAS can establish a connection with Q'center server automatically.








Notes Station 2.1 – A handy notepad on your private cloud

QNAP has leveraged its private cloud functionalities to introduce Notes Station 2.1. It provides the convenience of notetaking on cloud-based services but with the privacy and security of QNAP NAS. Users do not have to worry about risks from public storage, and are able to enjoy easier data access at all times.



Diverse backup styles for peace of mind

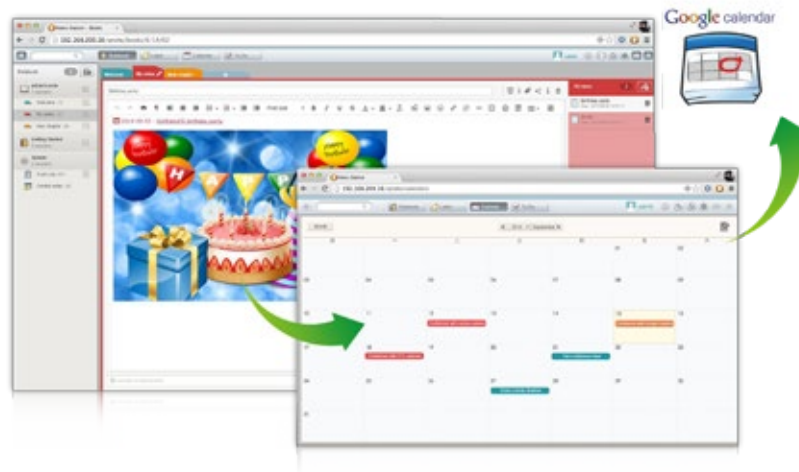
Notes Station 2.1 offers several backup options. Users can choose to back up files to their PC or NAS. Additionally, system administrators can use the backup features of the NAS to periodically and remotely replicate everyone's notes.

-  Notebook backup: A user can choose to back up his or her notebook.
-  Full backup: This feature is for administrators only. Administrators can back up notebooks for all users of the NAS.
-  NAS to NAS backup: Administrators can back up notebooks to a different NAS for all users.

	Notes Station 1.0	Notes Station 2.1
Snapshots for version control		✓
Notebook backup	✓	✓
Full backup		✓
NAS to NAS backup		✓

Google Calendar Support

An event in the Notes Station Calendar links to the note you created it from. You can update the calendar from Notes Station 2.1 to your Google Calendar with a single click, so you will be reminded for every event.



Restore notes to a previous version

Notes Station 2.1 features snapshots for version control, which can be used to retain different versions of notes at different time points. You can easily restore a note to a previous version whenever needed without worrying about frequent changes to notes.



Protect notes with military-grade encryption

Notes Station 2.1 secures your notes using the highly-efficient AES 256-bit encryption specification. By encrypting your notes, you can rest easy knowing that only authorized users can access confidential and sensitive information.



Share notes for teamwork

Notes Station 2.1 is helpful for communication and teamwork in work and life. You can create sharing links to share your notes via social networks and messenger apps on mobile devices, or invite other users to read and edit notes for productive communication and teamwork.



Subscribe to RSS live feeds

Notes Station 2.1 includes RSS support that helps gather subscribed online content from websites and blogs. All of the latest RSS contents are effortlessly centralized on the Notes Station for easy note-taking.



Back up content from Evernote

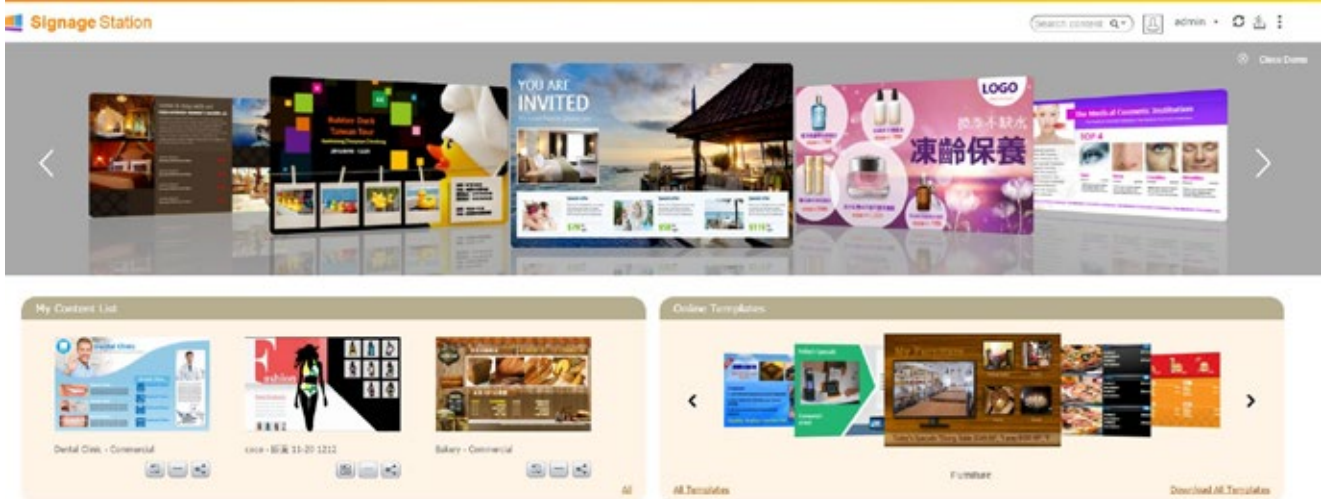
Notes Station 2.1 supports backing up your notes from Evernote™, enabling you to directly import them from the Evernote™ public cloud to the secure private cloud provided by your QNAP NAS. Further edit these imported notes with Notes Station's powerful editing tools and easily share with others.





Signage Station 2.1 - Your best design partner

Signage Station is a free app for QNAP NAS. It allows businesses to create attractive menu boards, advertising posters and business profiles and easily publish them to monitors and tablet devices to attract more customers. For home users, they can edit their own multimedia content, and publish them to Facebook™ and other websites. There are no complicated steps involved, and by using simple drag & drop operations you can create content and dynamic resumes with iArtist Lite and publish them using your QNAP NAS.



Drive business growth and increase revenue

Your content can be presented on a web browser and when on the go, and you can even show your profile, business card and product catalogs on mobile devices and share on Facebook. A QNAP NAS with Signage Station is the ideal tool to present creativity and drive business growth.

Instantly publish and conveniently revise

With iArtist Lite you can save your designs as different projects and upload them to multiple QNAP NAS with Signage Station installed. Whenever you want to revise the content, just open iArtist Lite to update and publish instantly. You can fully control all your content in a timely way.

Absolutely easy-to-use

iArtist Lite provides a drag-and-drop interface that allows you to flexibly embed videos, marquees, pictures, and PowerPoint® slides on the canvas panel. With the layered playlist and timeline features, you can freely arrange the order of media objects. iArtist Lite also offers numerous templates for various scenarios, saving you lots of time & effort. Useful widgets such as audio, clock, RSS are also available to add to the designed content.

Collaboration increasing efficiency

The original content can be saved on a local computer or a QNAP NAS with the help of the connection wizard. Content saved on a QNAP NAS is accessible for every authorized user to increase the work efficiency in projects involving multiple members.



Ready-to-use templates

It offers professional, quality templates that differ from the bland playback effects of most other animated signs. With an animation display mode, and high-resolution audiovisual playback, you only need to click on your mouse to download free advertisement templates, which will help to create attractive signs to improve your business.

Selected QNAP template examples

Sports bar

Inform customers about special deals and the TV schedule for sporting events.



Trendsetter

Allow your customer to get the latest trends and fashion information.



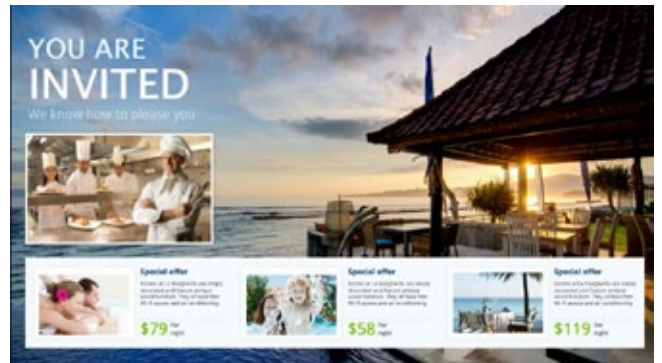
Healthcare center

Advice and notices can be easily shared and broadcasted throughout the health center to inform patients and staff alike.



Dream hotel

Introduce visitors to an animated walkthrough of available rooms and facilities.



Easily create ad contents with iArtist Lite (For PC)

You only need to drag and drop media files on the iArtist Lite canvas, where you can quickly produce professional content. First select the device to be displayed on (tablet, TV, etc) and then resolution and layout (portrait or landscape) depending on how the device will be placed.





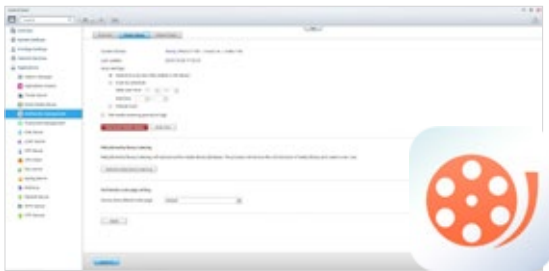
Multimedia Center

Enjoy home entertainment with cloud technology

A QNAP NAS is an ideal way to safely store and search through huge collections of videos, music, and photos. QNAP provides feature rich applications that enable you to enjoy your digital collections, empowering your NAS as a multimedia center for you to collect, share, and enjoy. QNAP NAS supports multiple streaming playback protocols and modes, enabling you to easily stream your content to playback devices for you and your family to enjoy anywhere in your home.

Multimedia management to assist in media management

The Media Library service scans for multimedia files, such as photos, music, and videos from your designated media folder and indexes them into the media library to make searching for and organizing your content quick and easy. To manage your content in Photo Station, Video Station and Music Station, go to “Control Panel” > “Applications” > “Multimedia Management” > “Media Library” and enable “Activate Media Library”. Then go to “Media Folder” to add, edit, and scan folders that contain your media.



Background transcoding to accelerate media playback

Background transcoding enables you to convert video into different resolutions and formats suitable for multiple devices and multiple networks. Enable on-the-fly transcoding to watch a video while it is being converted in real time (please note that on-the-fly transcoding is only available on certain models) without the need to download the media files.



Photo Station 5.0 – Record the precious moments in your life

QTS Photo Station helps you archive, easily manage, and share your precious memories. The Photo Station functions as your private photo hub while safeguarding your memories with the very highest levels of protection.

Centrally manage all your pictures on your NAS

Whether you upload your photos directly, or by synchronizing with the Qsync utility, using Photo Station to manage your photos (including very high-resolution photos) from multiple sources is a very effective way to organize massive volumes of photos.






Share via Sharing Cart

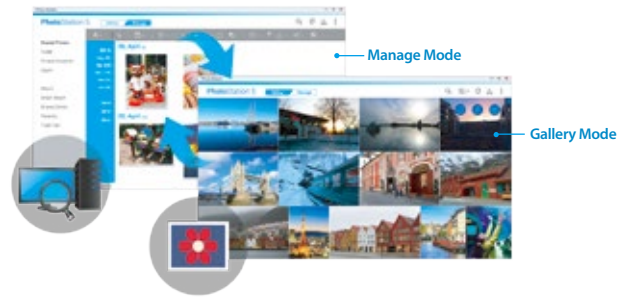
Use the Sharing Cart to add and modify shared content as well as specify sharing settings such as a validity period. Share by email, social networks, or create a sharing link.



Switch between Gallery and Management

Switch between Gallery and Management mode to view and organize your photos easily. Photo Station provides three quick configuration menus to adjust the look and feel of how your photos are displayed.

-  Switch between display modes, and select the photos to display
-  Customize the background music in gallery mode. The background music can be chosen from playlists in the Music Station.
-  Play your selected photos in a slideshow.



Video Station 2.3 – Entertainment beyond the limits of devices and languages

Video Station features an excellent platform for you to create your personal video website. All of the videos on the QNAP NAS can get categorized by Video Station and converted into different resolutions and universal formats for smooth viewing across any network bandwidth or any device.

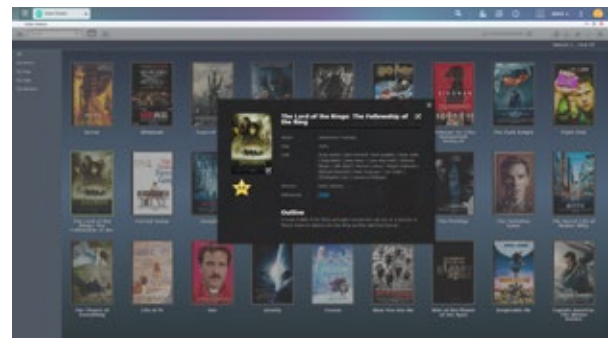
Easy video categorizing

You can set up video categories including movie, TV series, home video, and music video then create smart collections in terms of category, label, ratings, and more. The smart collection folder will gather similar videos for better management and to make it easier and faster to find videos you want to watch.





Automatically retrieve movie information

The system will automatically gather posters and other movie information from the Internet (genre, director, actors, etc) to enrich your collections and viewing experiences.



Comprehensive subtitles support

Subtitles can now be uploaded from a computer or searched for and downloaded from an Internet database, allowing viewers to enjoy videos in their native language or a language they are studying.

-  Supporting .srt, .ssa and .ass subtitles files, and also supporting more languages, it frees you from worrying about format incompatibility and display issues.
-  Subtitles can also be embedded into videos when sharing with your friends.



Music Station 4.8 – Build your own music cloud

The Music Station allows you to play stored music on the PC and mobile devices via the Internet, acting as your personal music cloud. With the Internet, you can enjoy all your music on your QNAP NAS anywhere.

Easily organize large music collections

Music lovers often face the problem of organizing and managing huge music collections. Music Station offers a number of categories and browsing modes and allows you to create up to 200 playlists. You will never miss your favorite music again.



Customized album covers

Album covers can be automatically found for your music, allowing you to organize your music better. If an appropriate cover cannot be found, you can also import your own image to use as the album cover.





One-to-multiple streaming playback – Unleash an intelligent home entertainment lifestyle

QNAP NAS supports multiple streaming playback protocols and modes, enabling users to easily stream files to various multimedia playback devices.



Remotely control a QNAP NAS using smart devices

installing QNAP mobile apps (Qfile, Qmusic, Qphoto or Qvideo) on your smart phone or tablet PC, you can turn them into a remote control to directly control the NAS for multimedia playback to supported DLNA®, AirPlay®, or Chromecast™ devices, Bluetooth® speakers, or USB speakers/DAC. Simply pick up your smart device and select the media to play.

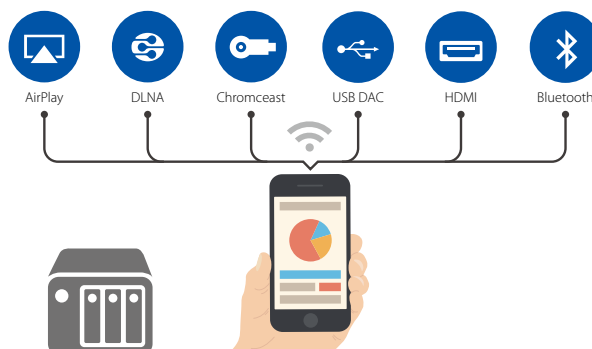


Supports multiple playback devices and protocols

You can utilize the browser-based File Station, Music Station, Photo Station or Video Station to directly play back a variety of multimedia, or stream the files via these stations to various devices. You can also utilize your smart phone or tablet to stream video files to DLNA, AirPlay and Chromecast compatible devices and music files to Bluetooth and USB devices.



The Multimedia Extension Pack must first be installed from the App Center on the NAS.



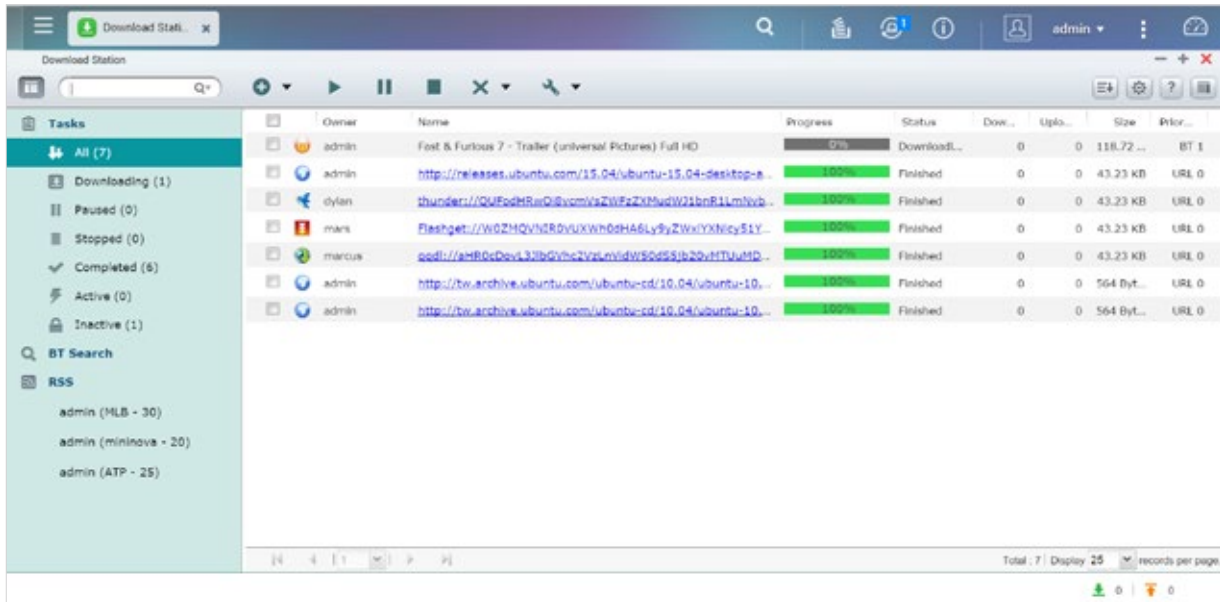


Download Station 4.2 – Your 24/7 download center

Once you finish managing download tasks, just turn off the computer. The download tasks will keep going until they are finished. Easy, and power-saving.

Multilingual search engine for BT sites

Download Station has a built-in torrent search engine that supports searching BT sites in a number of languages.



Wide range of download types

Supports HTTP/HTTPS, FTP/FTPS, BitTorrent®, PT*, Magnet Xunlei®, FlashGet®, qqdl as well as Baidu® Cloud downloads.



For PT download, supported client applications vary based on PT sites. If Download Station (libtorrent) is not in the client application list recommended by your PT sites, please search for an alternative one (ex. Transmission™) in the App Center.

RSS subscription and automatic download

You can subscribe to RSS feeds, also set filters and download criteria, and Download Station will automatically download subjects that interest you, enabling you to grasp all of the latest information.

Online download settings and scheduling management

You can set the download/upload speed limits according to your personal needs with a flexible download schedule, allowing you to optimize your bandwidth distribution.

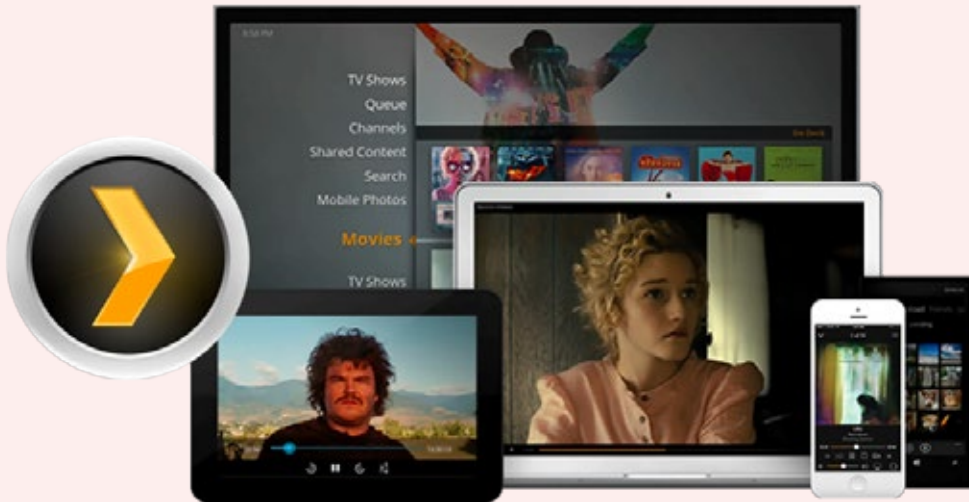
Sharing by multiple users

Under your control, you, as a system administrator, can grant the access of Download Station to NAS users*, enabling all your friends and family members to enjoy the convenience brought by Download Station.



Plex Media Server

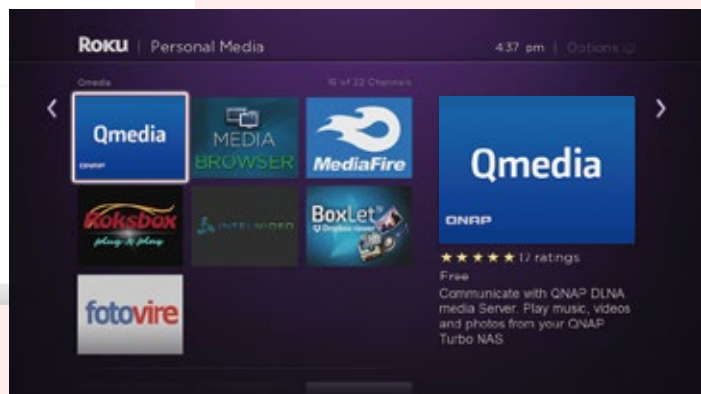
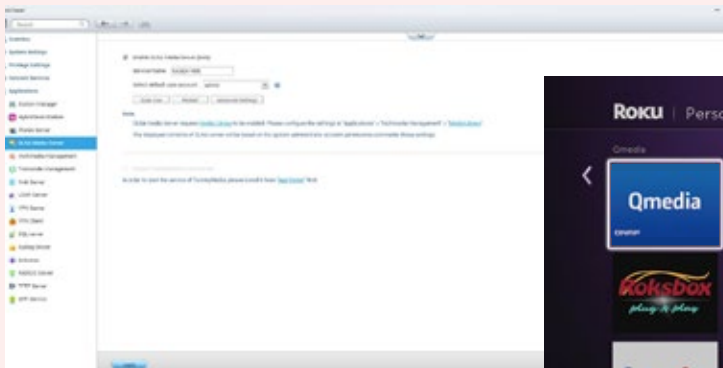
Video streaming is made easy with Plex Media Server. Use Plex Media Server to enjoy easy management and instant playback of all your media on your NAS wherever you are. Plex apps for Android, iOS, Windows, and Windows Phone let you browse and enjoy your media on your choice of device. Plex Media Theater can directly display your media via an HDMI output or via a stream to Plex mobile app clients, either on the same machine, the same local area network, or over the Internet. Configure Plex Media Server to index and transcode content in any directory on your NAS to reduce bandwidth and increase playback device compatibility. Plex Media Server can be downloaded and installed from the App Center. For more information about Plex Media Server, visit <https://plex.tv>



Qmedia - a player designed for Roku®

Qmedia is a customized channel for Roku®, which enables you to browse and play the media stored on your NAS via Roku. Qmedia enables users to easily stream photos, music, and videos from a QNAP NAS to a TV. With full support for on-the-fly transcoding on your NAS, users can transcode media files to formats that can be streamed by Roku. Improve transcoding performance by installing CodexPack if your NAS supports hardware acceleration.

Roku uses DLNA to retrieve media from the NAS. To enable the QNAP DLNA Media Server go to "Control Panel" > "Application" > "DLNA Media Server" and check "Enable DLNA Media Server". Then add the Qmedia channel on your Roku. Search for it on the menu or go to "Streaming Channels" > "Personal Media" to find Qmedia and add it to your Roku. Now you can enjoy media content streamed from QNAP NAS on your TV.





App Center

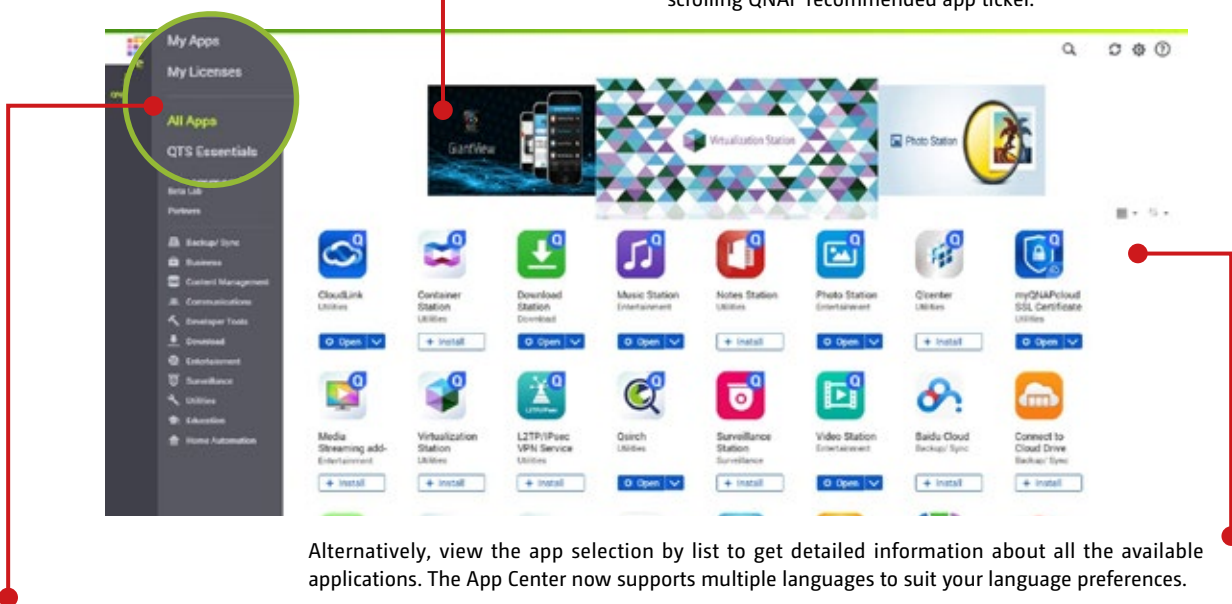
Customize your QNAP NAS for endless possibilities

Search for, install, remove, and update apps through the App Center to extend the functionality of your QNAP NAS. The QTS App Center provides a wide range of install-on-demand apps for you to deploy. The available applications include business applications, cloud backup and synchronization tools, home entertainment, surveillance, and many more.

Newly designed App Center interface

The App Center has been redesigned to be simpler and easier for you to use.

Search by category, by keyword, or try a suggested app from the live scrolling QNAP recommended app ticker.



Alternatively, view the app selection by list to get detailed information about all the available applications. The App Center now supports multiple languages to suit your language preferences.

App management and upgrade reminder

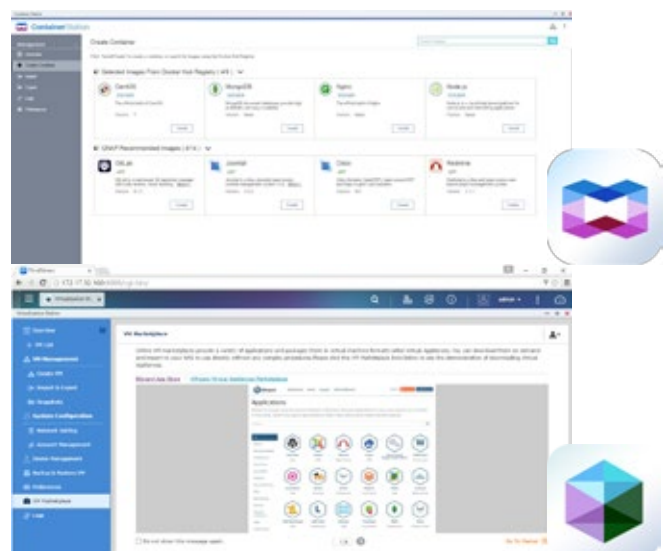
Click the "My Apps" category on the left to browse, open, start, stop, or remove and manage all of your installed apps. When there is an update to any of your installed apps, an upgrade reminder will show on the QTS desktop to help you keep your NAS applications up-to-date.

- 1 Click "Volume Info" to view the information about the volume on which the app is installed.
- 2 Create and display an app shortcut on the login screen, enabling users to access the app directly from the login screen.



Functionality expansion without limits

The QTS App Center provides more than 100 add-on apps in several categories including Backup and Synchronization, Business, Content Management, Communications, Developer Tools, Download, Entertainment, Surveillance, and general purpose Utilities. Download applications from the QTS App Center to customize your NAS to suit your needs. Alternatively download and deploy apps from public repositories for use in Container Station or Virtualization Station.





Mobile Apps

Have the power of NAS applications wherever you are

Nowadays people depend on their mobile device instead of computer for internet access every day. With all these apps offered by QNAP, you'll get more done and have more fun, across your day and your devices. You'll have easy access to your files, documents, photos, friends, and family through the Internet.



Qfile

Remotely upload/download, share or manage files from and automatically back up photos and music on your mobile phone to your QNAP NAS.



Qremote

Use your mobile device as a multimedia control and application switcher in HD Station.



Qphoto

Browse, share, or download your photo collection using a timeline view, thumbnails, detailed list and folders.



Qget

Directly upload torrent files by searching the Internet Qget to create or manage download tasks in Qget.



Qmusic

Stream your music collection on your QNAP NAS by song, artist, album or folder.



Qmanager

Monitor your system information, check backup tasks and system events and manage backup jobs.



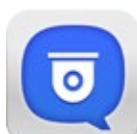
Qnotes

Lot down and share your ideas wherever you are.



Qvideo

Download, stream, share videos to other people from the NAS.



Vmobile

Remotely access Surveillance Station and its playback function and manage IP cameras.



Vcam

Record to your QNAP NAS from your mobile device anywhere you go without professional IP cameras.





Computer Utilities


Boost your productivity

QNAP offers many computer utilities for you to connect to your NAS effortlessly. With all these utilities, you'll be able to install set up a QNAP NAS quickly, set up backup jobs, upload files to the NAS or synchronize files across all of your devices.



Qfinder Pro

Qfinder Pro helps you find and access a QNAP NAS in the LAN and can be used to generate thumbnails for media files in advance of file upload, accelerating media file processing and improving user experience.

 Available for Windows®, OS X®, Linux® and the Chrome™ Browser.

Search and set up your QNAP NAS

Qfinder Pro assists in finding, setting up and accessing a QNAP NAS on local network. Install Qfinder on your computer, open it, and double click your QNAP NAS name, and the login page is ready for you.

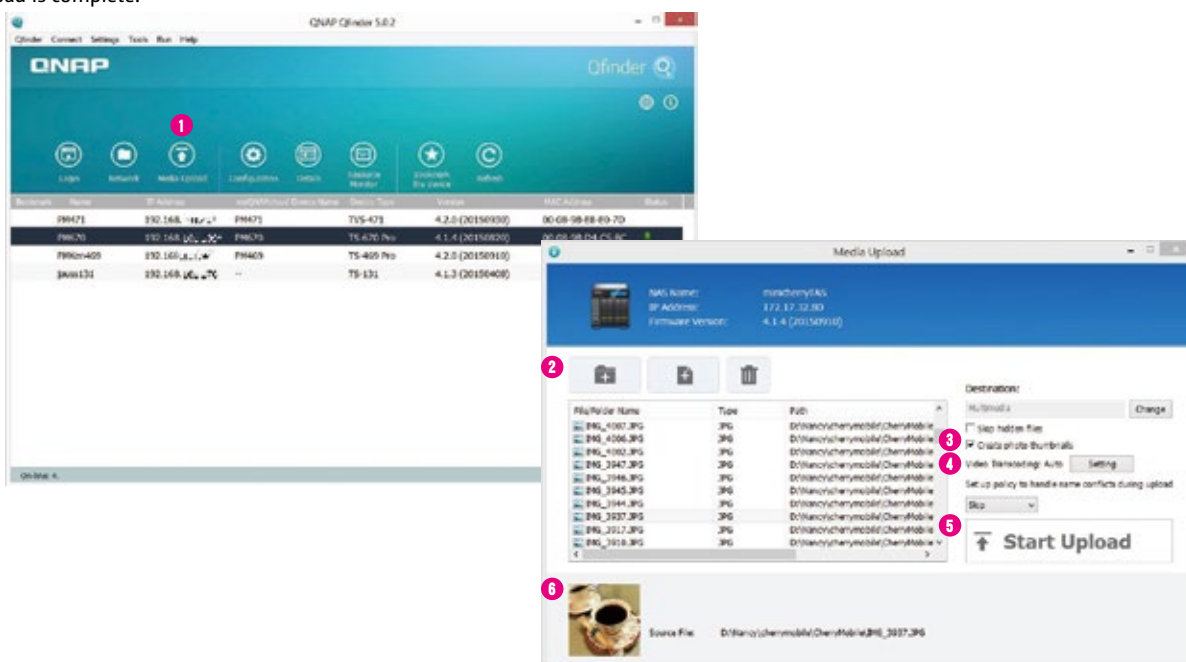
 Qfinder for Chrome is for Chromebooks & Chrome only.

Easily access the NAS by Storage Plug & Connect

The Windows version of Qfinder Pro provides a convenient way to connect to QNAP NAS and map a network drive or a virtual disk. By creating a shared folder on the QNAP NAS and mapping it as a network drive, you can use it as an additional drive and store files on it as it is a local drive of the computer.


Upload multimedia files using Qfinder Pro

- 1 Download the install Qfinder Pro, select the device to upload to, and click "Media Upload" from the main menu.
- 2 Choose a folder or file to be uploaded.
- 3 Check the option "Create photo thumbnails" on the right to create thumbnails in advance.
- 4 Click "Setting" for the Video Transcoding option to convert videos into different resolutions. Transcoding provides video conversion for you to play videos smoothly and instantly on different devices via the Internet.
- 5 Click "Start Upload" to start uploading the files to the NAS.
- 6 The system will display the upload progress at the bottom of the screen. You can enjoy your media collections on the NAS after the upload is complete.





With the Qsync utility, you have all the files you want on the computer, server, or mobile devices you use without spending a lot of time copying files manually.

 Available for Windows® and Mac.



Share team folders with different groups of people

Your life is connected with different groups of people. You can create sub-folders within the Qsync folder, and share them with different groups of QNAP NAS users as a file exchange center. Everyone having the privilege of the same sub-folder will have the most recent versions of the files .



Sync selective sub-folders

When synchronizing files, you can choose to only sync specific sub-folders within the Qsync folder, which is useful if your computers have limited storage.



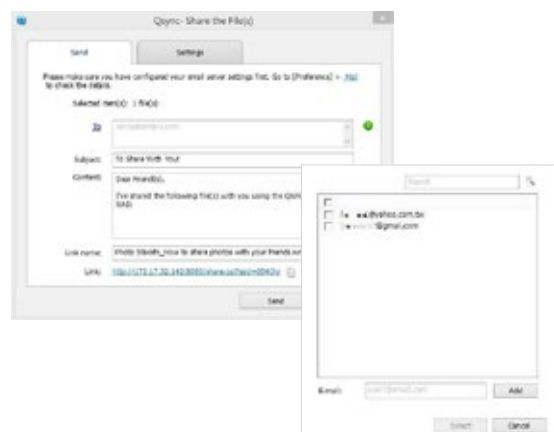
Version control

With Qsync version control, all file revisions (up to 64 versions) are saved as a copy for future retrieval. With file versioning, there's no need to worry about files being overwritten or mistakenly deleted. Even the files that have been deleted from the recycle bin can be retrieved.



Display previous sharing contacts

The new version of Qsync can save contacts from past file sharing to help you find email addresses to be sent to when you share a new file.





myQNAPcloud Connect

myQNAPcloud Connect is a VPN application designed for all Windows users and supports all VPN options to connect to a QNAP NAS (including L2TP/IPsec, PPTP and OpenVPN). By installing and setting up myQNAPcloud Connect, you will be able to connect to the QNAP NAS and easily manage files by drag-and-drop actions.

Available for Windows®.



NetBak Replicator

The QNAP NetBak Replicator is free for anyone with a QNAP NAS and helps you easily back up files from Windows PC - entire disk drives, documents, pictures, music, videos, fonts, emails, and more - to the QNAP NAS. The operation is very simple. You can set up the backup task in just a few clicks using NetBak Replicator by the setting real-time synchronization, scheduled backup and auto-backup from multiple PCs to the QNAP NAS. NetBak Replicator also supports backing up to a remote server via FTP and WebDAV through the Internet.

Available for Windows®.



vSphere Client plug-in

QNAP NAS supports vSphere Client Plug-in that allows managing VMware datastores on the NAS directly from the vSphere client console. In a large-scale server virtualization environment, management is centralized and straightforward.

Available for Windows®.



Qsnap

Qsnap is a handy utility that helps you quickly capture screenshots on your PC, and easily edit, save, and share, enabling quick note-taking or productive communication in your work and life.

Available for Windows®.









Hardware Specifications and Accessories



Model No.	TS-253A-4G	TS-253A-8G	TS-453A-4G	TS-453A-8G	TS-653A-4G	TS-653A-8G	TS-853A-4G	TS-853A-8G
CPU	14nm quad-core Intel® Celeron® N3150 1.6 Hz (burst up to 2.08GHz)							
Floating Point Unit	√							
Hardware Encryption Engine	√ (AES-NI)							
Graphics	8th Generation Intel® HD Graphics							
Pre-installed Memory	4GB (2 x 2GB)	8GB (2 x 4GB)	4GB (2 x 2GB)	8GB (2 x 4GB)	4GB (2 x 2GB)	8GB (2 x 4GB)	4GB (2 x 2GB)	8GB (2 x 4GB)
Memory Expandable up to	8 GB							
Total Memory Slots	2, SODIMM DDR3L-1600 (*To install on both DIMM slots, the same type of memory same size, speed, and manufacturer) should be used for each slot.							
Flash	512MB							
Max. number of HDDs/SSDs	2		4		6		8	
Compatible Drive Type	Hot-swappable 3.5" SATA 6Gbps / SATA 3Gbps HDD or SSD or 2.5" SATA 6Gbps / SATA 3Gbps HDD or SSD							
LAN Ports	2 x Gigabit RJ-45 Ethernet ports			4 x Gigabit RJ-45 Ethernet ports				
USB Ports	4 x USB 3.0 ports (front: 1, back: 3) to support printers, external drives, and UPS, etc							
Video Output	2 x HDMI to support up to 4K 2160P Ultra HD output							
Audio Input	2 x 6.3mm microphone jack (only supports dynamic microphone)							
Audio Output	Line-out jack (to an amplifier)							
LED Indicators	Status, USB, HDD 1-2		Status, USB, HDD 1-4		√ Status, USB, HDD 1-6		Status, USB, HDD 1-8	
Front LCD Status Panel	×		Monochrome, backlit LCD status panel					
Buttons	Power/status, USB One-touch-copy, Reset							
IR Sensor	√, to support QNAP RM-IR002 and RM-IR003 remote control							
Other Connectors	Kensington lock and system maintenance port							
Buzzer	System alarm							
Form Factor	Desktop							
Dimensions	150 x 102 x 216 mm 5.91 x 4.02 x 8.5 inch		177 x 180 x 235 mm 6.97 x 7.09 x 9.25 inch		175 x 257 x 235 mm 6.89 x 10.12 x 9.25 inch		185.2 x 298.2 x 235 mm 7.29 x 11.74 x 9.25 inch	
Weight (Net/Gross)	Net: 1.74 kg (3.84 lbs) Gross: 2.92 kg (6.44 lbs)		Net: 3.65 kg (8.04 lbs) Gross: 4.65 kg (10.24 lbs)		Net: 5.2 kg (11.46 lbs) Gross: 6.5 kg (14.33 lbs)		Net: 7.3 kg (16.08 lbs) Gross: 8.6 kg (18.94 lbs)	
Power Consumption (W)	Sleep mode: 1.18W HDD standby: 8.38W In operation: 14.43W		Sleep mode: 1.61W HDD standby: 18.86W In operation: 32.35W		Sleep mode: 1.7W HDD standby: 32.02W In operation: 51.16W		Sleep mode: 1.91W HDD standby: 32.71W In operation: 58.8W	
Operating Temperature	0-40°C							
Relative Humidity	5~95% non-condensing, wet bulb: 27°C.							
Power Supply	65W AC power adapter , 110-240V		96W AC power adapter , 110-240V		ATX 240W power adapter , 110-240V AC, 50-60Hz, 5A			
System Fans	7cm quiet fan (12V DC)		12cm quiet fan (12V DC)		2 x9cm quiet fan (12V DC)		2x 12cm quiet fan (12V DC)	

Accessories

	Category	Model No.	Product description
Expansion enclosure		UX-800P	QNAP 8-bay expansion enclosures Size and weight : 185.2 x 298.2 x 235.4 (mm) (height x width x depth), 7.3 kg
		UX-500P	QNAP 5-bay expansion enclosures Size and weight : 185.2 x 210.6 x 235.4 (mm) (height x width x depth), 5.1 kg
Memory		RAM-2GDR3L-SO-1600	2GB DDR3L RAM, 1600 MHz, SO-DIMM
		RAM-4GDR3L-SO-1600	4GB DDR3L RAM, 1600 MHz, SO-DIMM
		RAM-8GDR3L-SO-1600	8GB DDR3L RAM, 1600 MHz, SO-DIMM
Remote Control		RM-IR002	QNAP IR Remote Control (shipped with the product)

Software Specifications

Operating System

- QTS 4.2 (embedded Linux)

Supported Client OS

- Windows 7 (32/64-bit), Windows 8 (32/64-bit), Windows Server 2003/2008 R2/2012/2012R2
- Apple Mac OS X
- Linux & UNIX

Supported Browsers

- Microsoft Internet Explorer 10+
- Mozilla Firefox 8+
- Apple Safari 4+
- Google Chrome

Multilingual Support

- Chinese (Traditional & Simplified), Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese (Brazil), Romanian, Russian, Spanish, Swedish, Thai, Turkish

File System

- Internal Hard Drive: EXT4
- External Hard Drive: EXT3, EXT4, NTFS, FAT32, HFS+

Networking

- TCP/IP (IPv4 & IPv6: Dual Stack)¹
- Gigabit NICs with jumbo frame (failover, multi-IP settings, port trunking/NIC teaming)
- Service binding based on network interfaces
- Squid Proxy server
- Proxy client
- DHCP client, DHCP server
- Protocols: CIFS/SMB 3.0, AFP (v3.3), NFS(v3), FTP, FTPS, SFTP, TFTP, HTTP(S), Telnet, SSH, iSCSI, SNMP, SMTP, and SMSC
- UPnP & Bonjour Discovery
- USB Wi-Fi Adapter Support

Security

- Network access protection with auto-blocking: SSH, Telnet, HTTP(S), FTP, CIFS/SMB 3.0, AFP
- CIFS host access control for shared folders
- FIPS 140-2 validated AES 256-bit volume-based and shared folder data encryption²
- AES 256-bit external drive encryption²
- Importable SSL certificates
- Instant alerts via email, SMS, beep, push service, and LCD panel³
- 2-step verification

Storage Management

- Storage Space Utilization monitoring
- QNAP flexible Volume/LUN with thin provisioning and space reclamation³
- Disk volume types
 - 2-Bay: RAID 0, 1, JBOD, single
 - 4-Bay: RAID 0, 1, 5, 6, 10, 5 + hot spare, JBOD, single
 - 6- & 8-Bay: RAID 0, 1, 5, 6, 10, + hot spare, JBOD single
- Supports storage pools
- Supports volume/LUN snapshots
 - Snapshot clone, vault, replica
 - Snapshot agent for Microsoft Windows and VMware vSphere
- Online volume expansion
- Online storage pool expansion
- Online RAID capacity expansion and online RAID level migration
- SMART data migration
- Storage expansion via a QNAP UX-500P/UX-800P expansion unit
- JBOD enclosure roaming
- SSD read-only/read-write cache
- Bad block scan and hard drive S.M.A.R.T.
- Bad block recovery & RAID recovery
- Bitmap support

Power Management

- Wake on LAN
- Internal hard drive standby mode
- Scheduled power on/off
- Automatic power on after power recovery
- USB and network UPS support with SNMP management
- System sleep mode (S3)

Access Right Management

- Batch users creation
- Import/Export users
- User quota management
- Local user access control for CIFS, AFP, FTP, and WebDAV
- Application access control for Photo Station, Music Station, Video Station, and File Station

- Subfolder permissions support for CIFS/SMB 3.0, AFP, FTP, and File Station

Domain Authentication Integration

- Microsoft Active Directory (AD) & Domain Controller support
- LDAP server, LDAP client
- Domain users login via CIFS/SMB 3.0, AFP, FTP, and File Station

myQNAPcloud Service

- Private cloud storage and sharing
- Free host name registration (DDNS)
- Optional myQNAPcloud SSL certificates (DDNS)
- Auto router configuration (via UPnP)
- Web-based file manager with HTTPS 2048-bit encryption
- CloudLink for remote access without any complicated router setup
- myQNAPcloud connect for easy VPN connection (Windows VPN utility)

Qsync

- Sync files across multiple devices with SSL secure connection
- Selective synchronization for only syncing specific folders
- Use team folders as a file center for greater team collaboration (maximum sync tasks: 32)
- Shares files by links via e-mail
- Policy settings for conflicting files and file type filter support
- Version control: up to 64 versions.
- Unified configuration management
- Supports remote erase/restore
- Supports Windows & Mac OS

Web Administration

- Multi-window, multi-tasking based system management
- Smart toolbar and dashboard for neat system status display
- Resource monitor
- Network recycle bin for file deletion via CIFS/SMB 3.0, AFP, and File Station
- Automatic Cleanup
- File Type Filter
- Comprehensive logs (events & connection)
- Syslog client/server
- System settings backup and restore
- Mobile app: Qmanager for remote system monitoring & management

File Server

- File sharing across Windows, Mac, and Linux/UNIX
- Windows ACL
- Advanced folder permissions for CIFS/SMB 3.0, AFP, FTP
- Shared folder aggregation (CIFS/SMB 3.0)

FTP Server

- FTP over SSL/TLS (Explicit)
- FXP support

File Station

- Supports mounting cloud drives (such as Google Drive, Dropbox, Microsoft OneDrive, Amazon Cloud Drive, Yandex Disk and Box).
- Supports mounting remote shared folders through FTP, WebDAV or Microsoft networking (CIFS/SMB 3.0)
- Supports opening documents via Office Online, Google Docs or Chrome Extension (Edit Office files in Google Docs, Sheets, and Slides)
- Supports ISO Mounting (Up to 256 ISO Files)
- Supports sharing download links and upload links
- Drag-n-drop Files via Chrome and Firefox Browsers
- Photo, music, and video preview and playback with hardware-accelerated transcoding
- File Compression (ZIP or 7z)
- Creation of and sending download links for sharing public files with expiration date and password protection
- Supports displaying subtitles (*.SRT, UTF-8 format)
- Mobile App: Qfile for file browsing and management

Transcode Management

- Transcode video files to 240p, 360p, 480p, 720p and 1080p resolution
- Automatic video transcoding for watched folders
- Hardware accelerated transcoding support
- Embed subtitles into videos for background transcoding

Backup Station

- Remote replication server (over rsync)
- Real-time remote replication (RTRR) to another QNAP NAS or FTP server
- Works as both RTRR server & client with bandwidth

control

- Real-time & scheduled backup
- Backup versioning for RTRR
- Snapshot support for RTRR/Rsync
- Encryption, compression, file filter, and transfer rate limitation
- Desktop backup with QNAP NetBak Replicator for Windows
- Apple Time Machine backup support
- Data backup to multiple external storage devices
- Synchronizes with cloud storage: Amazon S3, ElephantDrive, Symform, Dropbox, and Google Drive
- Third party backup software support: Veeam backup & replication, Acronis True Image, Arctserve backup, emc retrospect, Symantec Backup Exec, etc.

Print Server

- Max number of printers: 3
- Supports Internet Printing Protocol
- Print job display and management
- IP-based and domain name-based privilege control

Cloud Backup Station

- Amazon S3
- Amazon Glacier
- WebDAV-based cloud storage
- Microsoft Azure
- OpenStack

AirPlay & Chromecast

- Streams videos, photos and music from NAS to Apple TV or Chromecast via File Station, Music Station, Photo Station, Video Station or mobile app (Qfile, Qmusic, Qphoto or Qvideo).
- Note: The Media Streaming add-on app must be installed from the QTS App Center.

HD (HybridDesk) Station 3.1

- Playback videos, music, photos on TV with Kodi via HDMI
- Watch various online contents
- Web browsers (Chrome, Firefox)
- Supports international keyboards, input and mouse
- Supports QNAP Qremote app and the official Kodi remote app
- Supports user login permissions
- A variety of applications are available including Skype, Plex Home Theater, and more
- Up to 7.1 channel audio passthrough is supported
- Note:
 - The playback and quality of some video files may be affected by the system's CPU and GPU decoding abilities.

Linux Station

- Use your NAS as a Linux Desktop using the NAS HDMI output
- Supports remote desktop to monitor and access remotely
- An open source software platform for developers

Virtualization Station

- Supports Virtual Machine (VM) creation to run operating systems such as Windows, Linux, Unix and Android
- Supports VM import and export
- Supports VM cloning & snapshots
- Supports VM backup and restore
- VM console can be displayed via HDMI output - QVM
- HTML5-based shared remote console
- Supports three different networking modes: Isolated, External-only and Bridged

Container Station

- Supports LXC and Docker
- Download applications from the built-in Docker Hub Registry
- Supports one-click installation, container export/import & console mode
- Supports auto port forwarding
- Supports auto-start containers
- Supports downloading Docker certificates

Qsirch

- Supports full-text search & near real-time search
- Bar chart to show data distribution
- Supports previews for photos, music, videos, Gmail, PDF, etc
- Show search results using thumbnails or a list
- Supports search Chrome extension

Storage Plug & Connect

- Creating and mapping shared folders by QNAP Windows Qfinder
- Creation of and connection to iSCSI target/LUN

iSCSI (IP SAN)

- iSCSI target with multi-LUNs per target (Up to 256 targets/LUNs combined)
- Supports LUN mapping & masking
- Online LUN capacity expansion
- Supports MPIO & MC/S
- iSCSI LUN backup, one-time snapshot, and restoration
- iSCSI connection and management by QNAP Windows Qfinder
- Virtual disk drive (via iSCSI initiator)
- Stack chaining master
- Max No. of virtual disk drives: 8

Surveillance Station

- Supports over 3,000 IP cameras
- Includes 4 free camera licenses, up to 40 camera channels by purchasing additional licenses³
- Instant playback to check recent events
- Visual aid by e-map
- Playback and speed control using the shuttle bar
- Video preview on playback timeline
- Intelligent video analytics (IVA) for advanced video searching
- Surveillance client for Mac
- Mobile surveillance app: Vmobile (iOS and Android)
- Mobile recording app: Vcam (iOS and Android)

VPN Server

- Secure remote access: PPTP, L2TP/IPsec & OpenVPN VPN services
- Max number of clients: 30

VPN Client

- Supported VPN protocols: PPTP & OpenVPN services
- PPTP Authentication: PAP, CHAP, MS-CHAP, MS-CHAPv2
- PPTP Encryption: None, AES 40/128 bit, AES 256 bit
- OpenVPN Encryption: None, AES 40/128 bit, AES 256 bit
- Transmission package monitor
- OpenVPN port control
- OpenVPN link compression

DLNA Server

- Supports DLNA/UPnP TVs and players such as PlayStation 4 and Xbox One
- Supported audio formats: AIFF, APE, DSD (DSF, DFF), FLAC, M4A, M4A Apple Lossless (ALAC), MP3, Ogg Vorbis, WAV (PCM, LPCM), WMA, WMA PRO, WMA VBR
- Support CUE indexing file for APE, FLAC audio format.
- Video and Audio On-the-fly Transcoding

Q'center (NAS CMS)

- Multiple NAS monitoring
- Utilization history reports
- Unified configuration management
- Visual display reports
- Monitor NAS behind NAT routers with Q'center Assistant
- Virtual appliances supported by Microsoft Hyper-V and VMware ESXi

OceanKTV

- Use the NAS as a karaoke machine.
- Display songs by artists, languages, and favorites.
- Enhance the experience with effects such as tuning echo, key, or applause
- Control the playlist with a mobile app.
- Supports keyboard, mouse and remote control (RM-RF001/ RM-IR002).
- Note: Microphone not included.

iTunes Server

- Audio and video sharing for Windows & Mac iTunes

App Center

- Over 100 official and community software add-ons such as Photo Station, Music Station, Video Station, Download Station, Notes Station, Signage Station,

¹ Not all IPv6 services are supported.

² Data encryption functions may be unavailable in accordance with the legislative restrictions of some countries.

³ This feature may vary by model.

⁴ DRM-protected content is not supported.

Designs and specifications are subject to change without notice.

An ideal platform to build and run IoT applications

TS-x53A Series

Powered by the QTS - Linux Dual-system NAS



TS-853A

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