

8-bay Turbo NAS

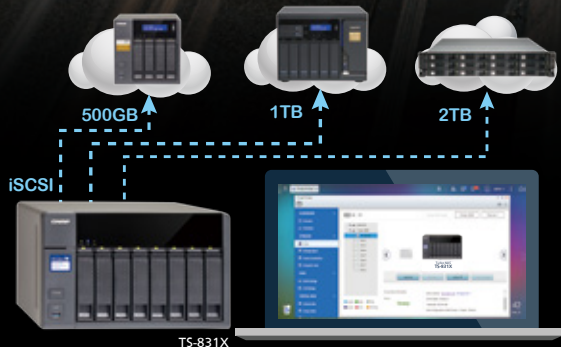
# TS-831X

Cost-effective, integrated dual-port 10GbE SFP+ NAS with Cortex-A15  
 Annapurna Labs Alpine AL-314 quad-core 1.4GHz processor, and 8GB/16GB RAM



### Virtual JBOD (VJBOD) Network-Based JBOD

Economically expand the capacity of other QNAP NAS



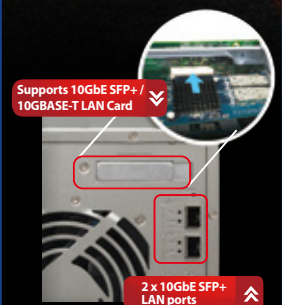
### Container Station for IoT Era

Rapidly deploy IoT apps with  
 Container Station



### 10GbE-Ready

Up to 3x 10GbE Ports



- Centralized data management, file sharing, and Hybrid Backup Sync advanced backup tool
- Advanced hardware encryption engine for accelerated encryption performance
- Quickly locate files with Qsirch, a full-text search engine
- Expand up to 24 drives with two QNAP UX-800P storage expansion units



The powerful 8-bay, quad-core TS-831X includes two 10GbE SFP+ ports to fully support 10GbE high-speed networks at a budget price with maximized ROI. The TS-831X provides versatile all-in-one functionalities and unique features including VJBOD (Virtual JBOD), which introduces an economical way to utilize unused NAS storage space for expanding the storage capacity of other QNAP NAS, and Container Station, which allows you to rapidly develop and deploy Internet of Things (IoT) apps. The TS-831X is a cost-effective storage solution designed for growing businesses looking for backup, restoration, private cloud, storage for virtualization, and to future-proof their IT infrastructure for 10GbE networks.

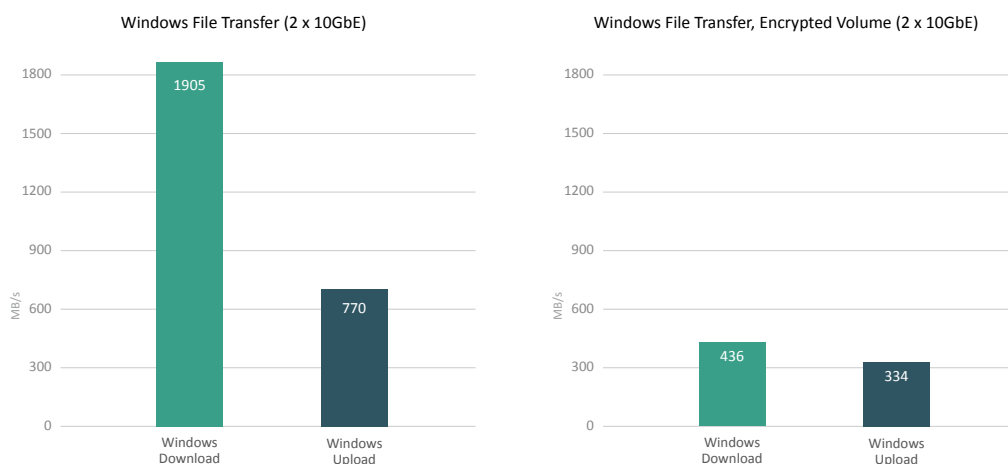
## Quad-core CPU, 8GB/16GB RAM and hardware-accelerated encryption

The TS-831X is equipped with a quad-core 1.4 GHz ARM® Cortex-A15 processor with 8GB/16GB DDR3 RAM (upgradable to 16GB), SATA 6Gb/s, two 10GbE SFP+ LAN ports as well as Gigabit LAN ports, and an PCIe expansion slot for an additional Network Interface Card (NIC). The TS-831X's hardware-accelerated encryption engine provides unmatched encryption performance in its class, up to 377 MB/s with AES 256-bit full NAS volume encryption, boosting system performance & security while ensuring the safety of sensitive business data stored in the TS-831X.



## Built-in dual 10GbE SFP+ ports

The TS-831X offers not only two inbuilt Gigabit Ethernet ports but also two 10GbE SFP+ ports to fully support 10GbE high-speed networks, capable of delivering lightning-fast throughput for businesses that demand higher bandwidth for virtualization and fast backup & restoration for an ever-growing amount of data. The extra PCIe slot allows for the installation of a third 10GbE port for flexible high-speed network deployment. Coupled with its large storage capacity potential, the 10GbE-ready TS-831X is perfect for companies to store massive amounts of data and excel in fast data transmission.



Tested in QNAP Labs. Figures may vary by environment.  
Test Environment:  
NAS OS: QTS 4.2.1

Volume type: RAID 5; 8 x INTEL SSDSC2BB240G4 SSDs; NAS and PCs are connected.  
Client PCs:  
Intel® Core™ i7-4790 3.60GHz CPU; DDR3L 1600Hz 16GB; Seagate 500GB HDD; Intel Gigabit CT (MTU 1500); \*Windows® 8.1 64bit; Multiple PCs via a switch.



## High efficiency with multiple LAN ports

The TS-831X supports multiple port-trunking modes, enabling IT administrators to set up link aggregation to increase total data transmission capability. Failover and dual IP are also supported to ensure continuous system operations. The supported port-trunking modes include: Balance-rr (Round-Robin), Active Backup, Balance XOR, Broadcast, IEEE 802.3ad, Balance-tlb (Adaptive Transmit Load Balancing) and Balance-alb (Adaptive Load Balancing).



## SSD cache acceleration

The TS-831X supports SSD caching which can greatly boost IOPS performance of storage volumes to increase operational efficiency. It is perfect for improving the overall workflow of IOPS-demanding applications and allows the best of both cost and performance by combining SSDs with HDDs.



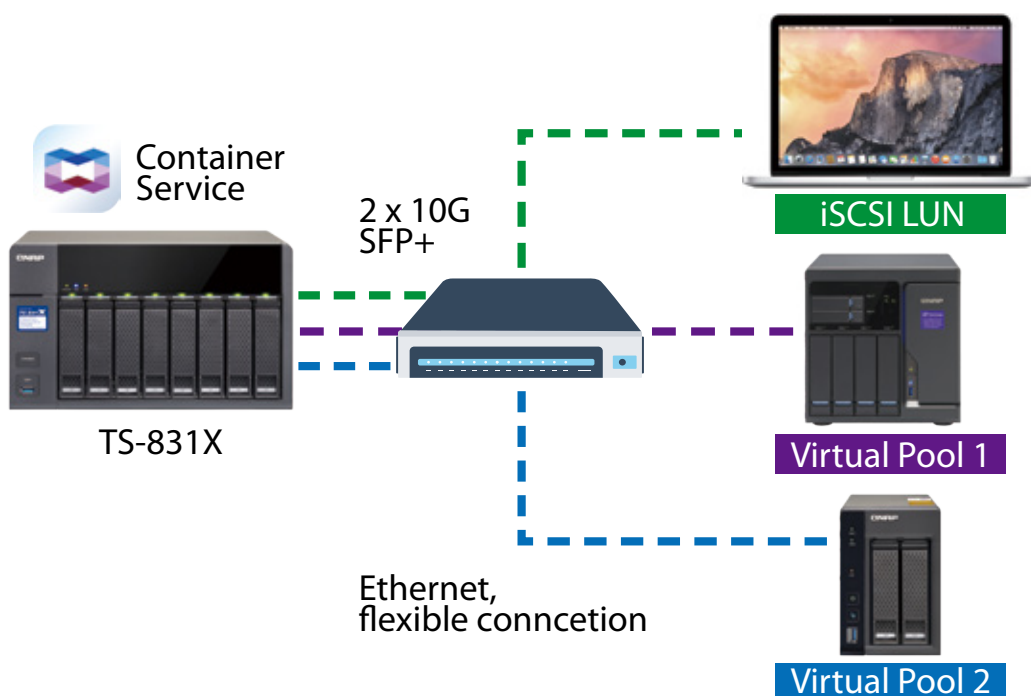
**TS-831X**

# Share Storage Space with Multiple NAS via Virtual JBOD

QNAP VJBOD (Virtual JBOD) allows you to share unallocated storage space of one NAS with other NAS and allow those NAS to use the space as local drives. Through an Internet connection, Virtual JBOD not only allows you to establish a backup connection, but also to expand storage space online, allowing you to maximize the storage space utilization of all of your NAS.

## Use a NAS as an application server and expansion unit at the same time

Virtual JBOD allows you to transfer unallocated space from one NAS into a Virtual Disk and insert it into another NAS, while at the same time the first NAS can continue hosting containers or virtual machines. With another QNAP NAS you can gain extra QTS functions as well as a flexible expansion unit.



You can currently only expand the storage space of the following models with Virtual JBOD: X89, X82, X80, X79, X71, X70, X63, X53, IS-453S, IS-400. All of the involved NAS must be using firmware 4.2.2 (or newer).

## Share storage space online

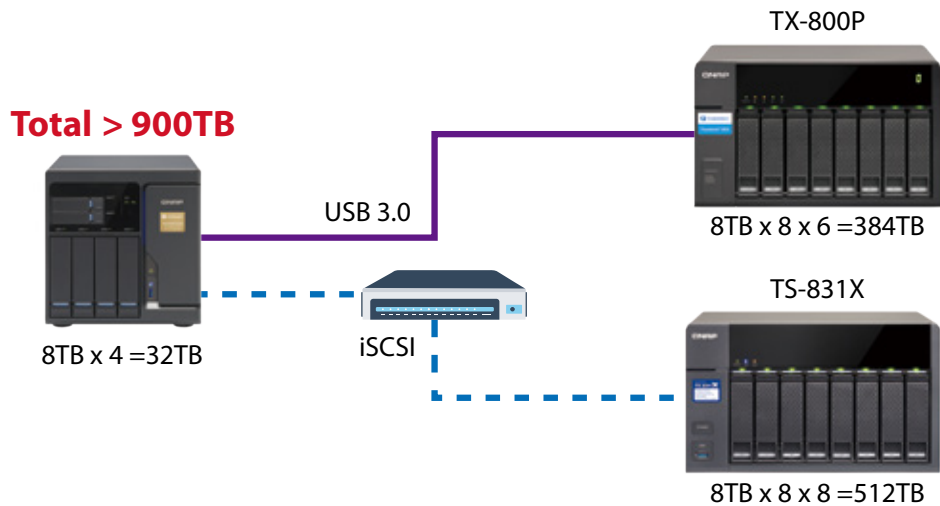
Virtual JBOD provides numerous advantages compared to using a conventional expansion unit.

	TS-831X Virtual JBOD	UX-800P Traditional USB3.0 JBOD
QTS	Yes	Not Have
Interface	Ethernet (1Gb and 10Gb) and more	N/A
Connection Count	Multiple NAS	One NAS, and limited to port number
Connection Method	Ethernet	USB
Backup Connection	Support (Port Trunking)	Not Support

Virtual JBOD does not currently support directly expanding a local storage pool.

## Exceed the limits of conventional expansion units

Every QNAP NAS that supports the iSCSI service and Storage Pools can be used as a Virtual JBOD. Using the TVS-682T as an example, when used with six TX-800P expansion units it can have the raw capacity of around 400TB when used with 8TB drives. With Virtual JBOD, the raw space can be further expanded to over 900 TB by using additional QNAP NAS.

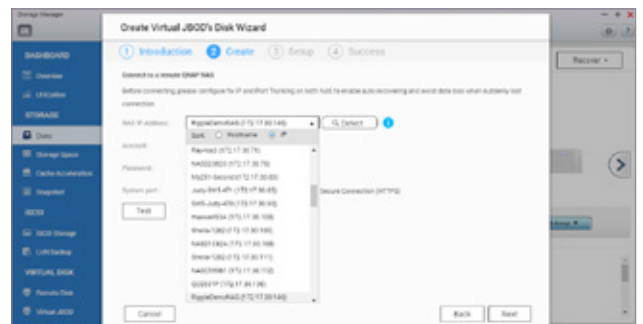


## One button to setup, one interface to operate

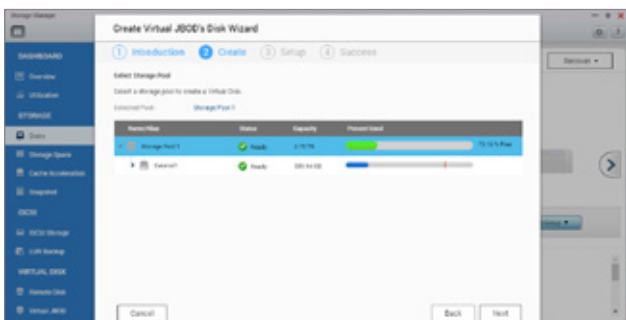
Virtual JBOD is easy to set up. After ensuring that the involved NAS can reach each other on the network, select "Virtual JBOD" in "Storage Manager" and the wizard will assist in finding the NAS, confirming usable space, creating iSCSI, and converting the storage space into a usable drive. You don't even need to log into the remote NAS.



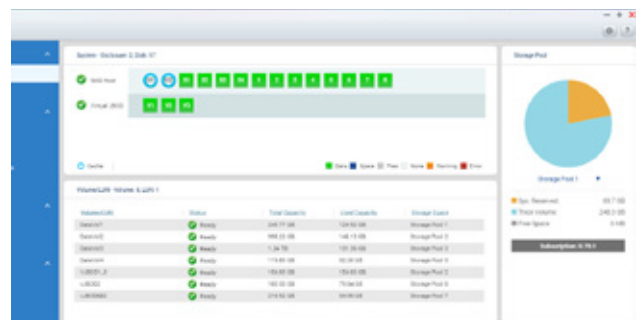
Step 1: Open the Virtual JBOD Wizard



Step 2: Search NAS



Step 3: Confirm space usage



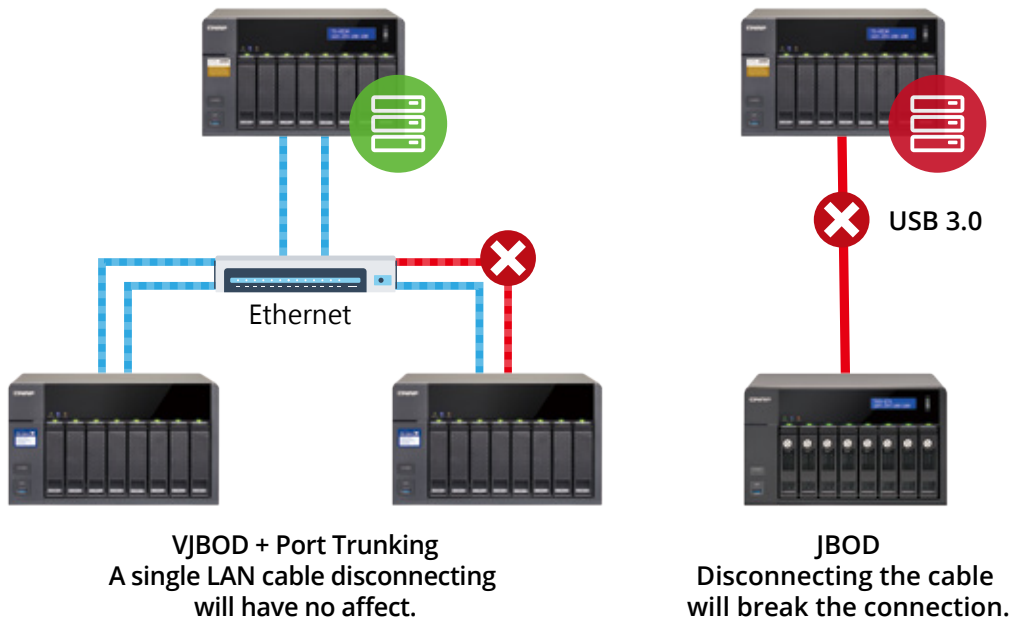
Step 4: The space will be used as a local drive.

## Build high-efficiency expansion storage with a backup connection

Virtual JBOD can be used to set up a flexible configuration that traditional storage cannot match. Except from using 10GbE and a switch to build a long range but parallel connection, for upper level applications, local LUN and Virtual JBOD LUN all belong to local, and Offloaded Data Transfer will work under such deployment.

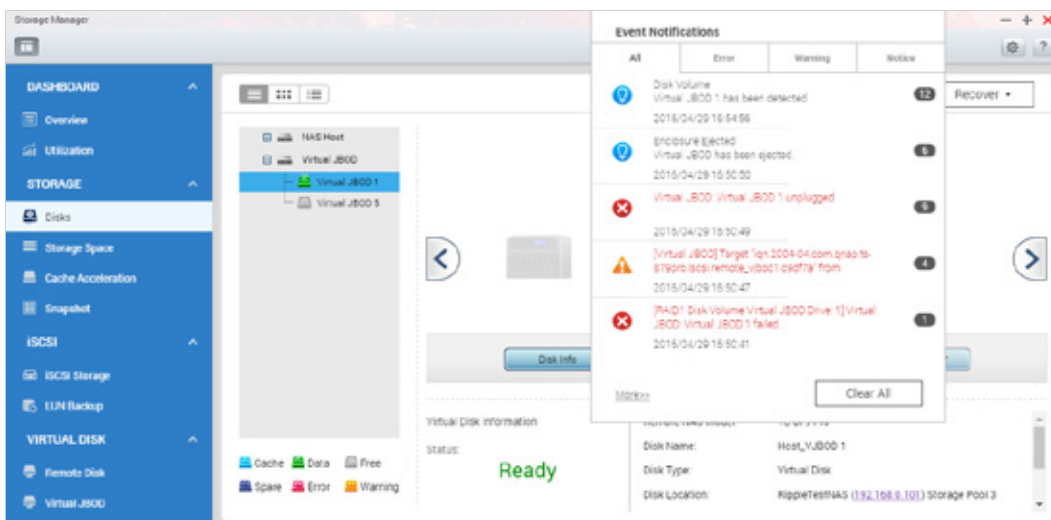
Moreover, with a Port Trunking configuration, you can use multiple Ethernet connections to connect a Host and an Virtual JBOD (except load balancing) this kind of setup also allow you to build a reliable expansion storage.

 Offloaded Data Transfer (ODX) allows data transfer between two attached LUN without passing through the Client.



## Automatically recover lost connections

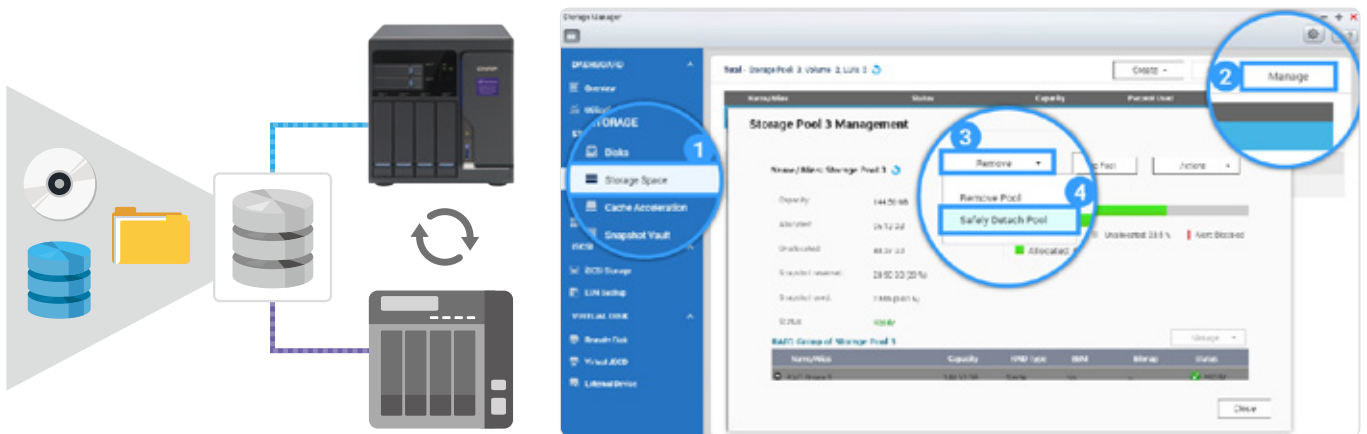
If a Virtual JBOD is accidentally powered off, loses connection or changes IP, you will receive a notification much faster than in a normal iSCSI connection, and if the configurations such as IP or iSCSI Port is not changed, the Host will also automatically reconnect to the Virtual JBOD when it return to normal.



## Safely detach and relocate the Virtual JBOD online to transfer mass data

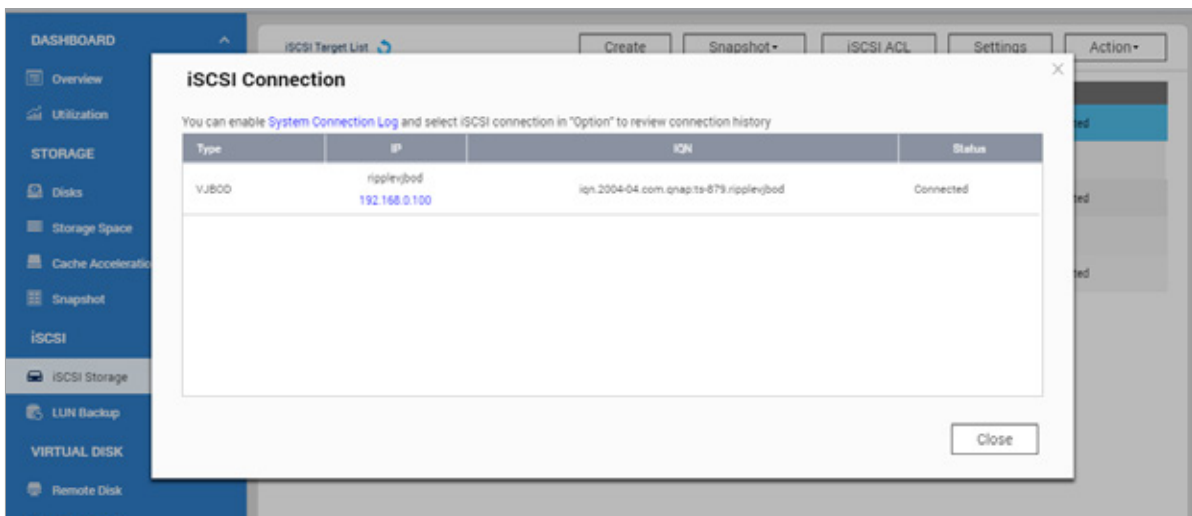
Traditional storage expansion will need IT personnel to physically manipulate cables and hardware to transfer data. Using Virtual JBOD, data can be easily and safely detached and immediately moved to another NAS. This makes it incredibly easy to transfer large amounts of data from one NAS to another.

 iSCSI targets that have been used for Virtual JBOD are not recommended to be connected by multiple iSCSI initiators.



## Monitor the connection status from remote NAS

The Storage Manager not only shows every detail regarding Virtual JBOD configuration and status, you can also use the iSCSI connection page on the remote NAS to check what NAS is currently using the Virtual JBOD function. Furthermore, with the independent system on the remote NAS, if the host NAS is down and the connection log is inaccessible, you can still access the remote NAS to view logs and records for easy troubleshooting.



 Qcenter can also be used to simplify the management and monitoring of the involved NAS.

# Enjoy Virtualized Services with Container Station



Integrated LXC and Docker® for efficient containerization on your QNAP NAS

Container Station provides an agile, ready-to-use development platform for developers and system administrators to rapidly develop and seamlessly deploy projects and applications across NAS, PCs, and public clouds .

## Six industry-leading functions

### 1: One-click installation >>>

Enjoy the benefits of software containers with one-click installation. Container Station will automatically download the application, detect the required settings, and complete the setup process.

### 2: Lightweight virtualization >>>

LXC is built-in to Container Station and features the most common operating systems including Ubuntu®, Debian®, and Fedora®. Download any of the 14,000 applications including databases, web servers, programming tools and its entire development suites from the Docker® Hub Registry.

### 3: Automated deployment >>>

Container Station automatically detects the settings and configures the instruction set, making it easy for rapid deployment.



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### 4: Containers on ARM-based NAS >>>

The TS-531P with QTS 4.2 and Container Station is the only containerization-ready, ARM®-based NAS.

### 5: Operate containers from a web browser or terminal >>>

Easily create, deploy and operate containers using a web browser or familiar CLI.



### 6: Export/import containers >>>

Containers can be imported and exported to/from PC's and shared folders. This enables fast container backup and migration.

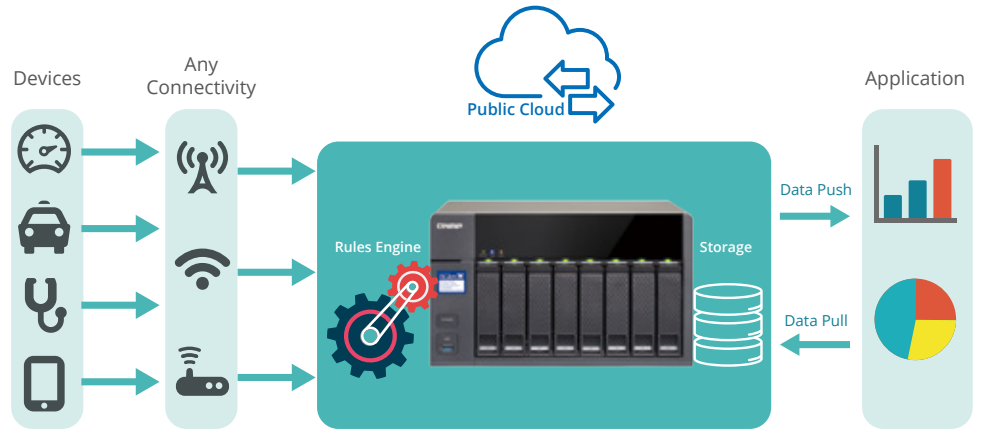




# Rapid Development of IoT Apps using Containers

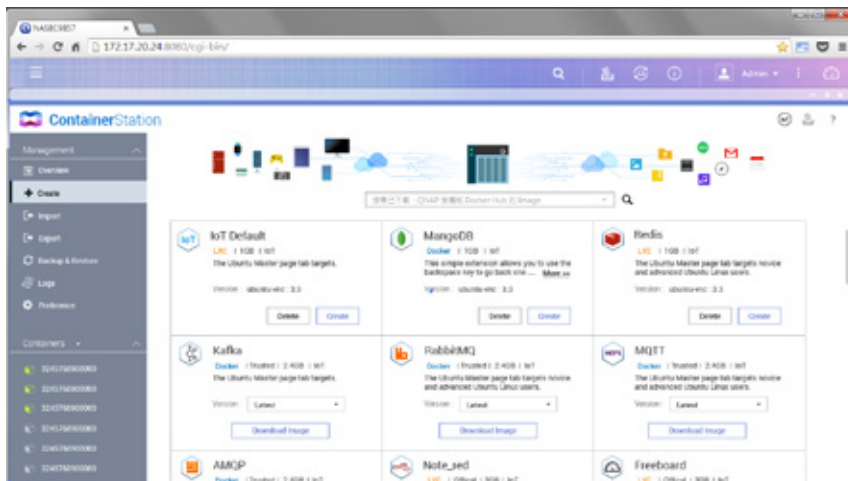
## IoT architecture

IoT architecture includes sensor, network, and application layers. The sensor layer is made up of sensors and smart devices, real-time information to be collected and processed. The network layer connects the sensor information and applications together. The application layer combines a variety of information and visualizations to fulfill different business models.



IoT is based on existing technologies including sensor, network and application software. It can be easily realised by integrating and connecting all of these things.

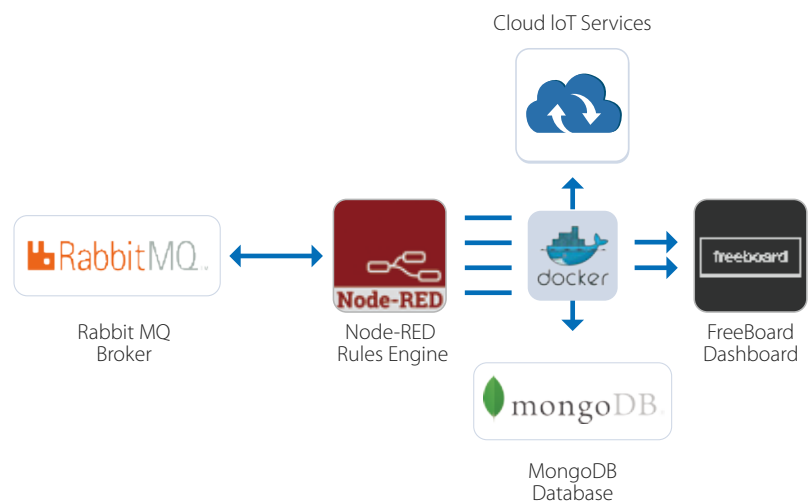
## Designed container applications for IoT



Container Station v1.5 provides recommended IoT applications, such as :

- Kafka
- RabbitMQ
- MQTT
- Freeboard
- Node-RED
- Redis
- MongoDB
- Ponte
- Dashing

Quickly develop and implement IoT using: RabbitMQ, Node-RED, MongoDB, and Freeboard.

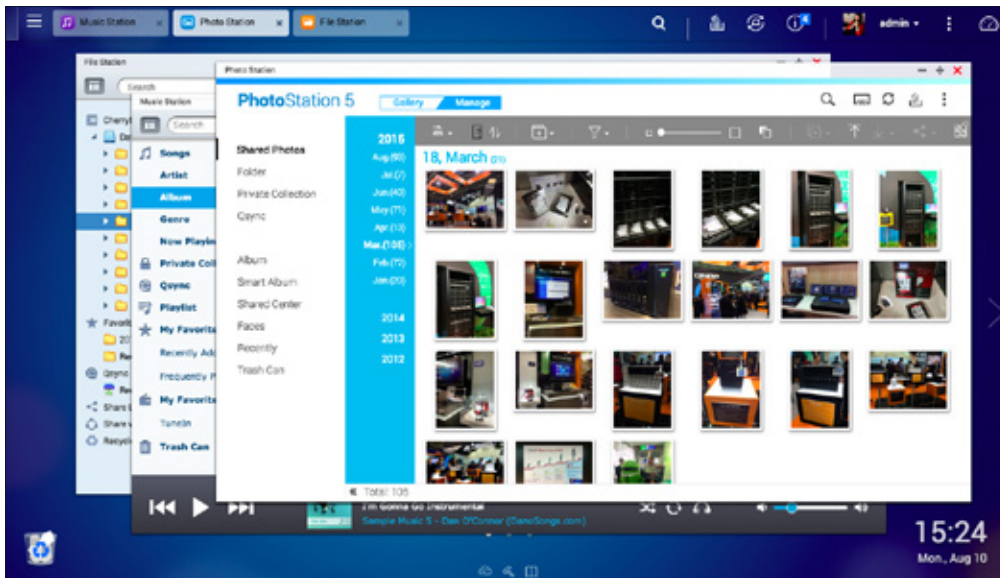


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# Experience Simple and Intuitive QTS 4.2 NAS O.S.

## Multi-tasking and multi-display modes

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. You can drag and drop a desktop icon on top of another one to group them together to create a personalized desktop for greater efficiency. QTS consists of 3 modes: Tab, Window, and Frameless. The Tab mode allows more convenient switching among screens when using QTS with tablets. The exclusive Frameless mode improves visibility when viewing photos.



## 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 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 data.



## Recycle Bin

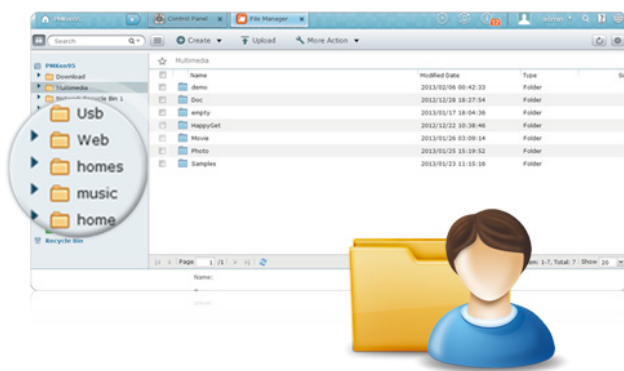
The Recycle Bin enables you to recover files that have been unintentionally or accidentally deleted. Right-click on the Recycle Bin on the desktop to empty it or open it to see the full range of functions available.



# Comprehensive Accounts and Privileges

## User home folders

With user home folders feature, unnecessary repetition of creating folders and setting permissions for each local user and domain user can be omitted for IT administrators. It saves time and efforts. All user home folders are organized in the "homes" folder that appears to IT administrators, allowing convenient user data backup. The "home" folder is designed for providing a private storage space for each user to store or back up non-collaborative files. User's home folder can be automatically mapped as a drive letter in the Windows AD environment for easy access.



## Windows ACL

The Turbo NAS supports Windows ACL, enabling IT administrators to easily leverage the Windows system usage experience to the Turbo NAS for shared folder permission settings and access control. It allows sophisticated shared folder permission settings and thus simplifies IT management for businesses with a large number of users. By enabling Windows ACL support, the basic permission and 13 advanced permissions can be set up from the Windows Explorer and sync to the Turbo NAS shared folder permission setting. Not only sub-folder permission is supported, but also are the file-level privilege settings. In addition, the same permissions apply to AFP, FTP, File Station and Samba when Advanced Folder Permissions is enabled at the same time.



## Centralized access right verification

### Windows Active Directory (AD) >>>

The Turbo NAS can be easily joined to Windows AD for efficient user account management. The domain users can enjoy using the same Windows AD account name and password to connect to different Turbo NAS on the local network, and IT administrators can benefit from the centralized access right verification, thus able to save precious time for other more important tasks. The Turbo NAS supports large-scale AD deployment of up to 200,000 AD users and groups.

### SAMBA v4 >>>

The Turbo NAS can now act as a domain controller for Windows. IT administrators can easily configure the Turbo NAS as the centerpiece of organization's domain directory service to store user account information, manage user authentication and enforce security for a Windows domain. QTS 4.1 supports SMB 2.0 protocol to improve Microsoft Networking performance by 30-50%\*. Besides, the further support of SMB 3.0 protocol for Secured Data Transmission (SDT) provides SMB encryption with secure access to data over the untrusted networks.

### LDAP Directory Service >>>

QNAP's LDAP protocol support allows the Turbo NAS to be added to LDAP-based directory services, such as OpenLDAP. As a result, IT administrators no longer need to create and manage the same user account on each server within the network. Instead, users are authenticated centrally by the LDAP server, and can use the same LDAP account name and password to access any Turbo NAS that has been added the LDAP server, largely reducing IT deployment time and increasing business productivity. Furthermore, the Turbo NAS has built in an easy-to-use LDAP Server to save your costs and efforts. Simply enable the LDAP Server function, and all other LDAP-enabled devices and applications could use the Turbo NAS to centrally authenticate users and groups.

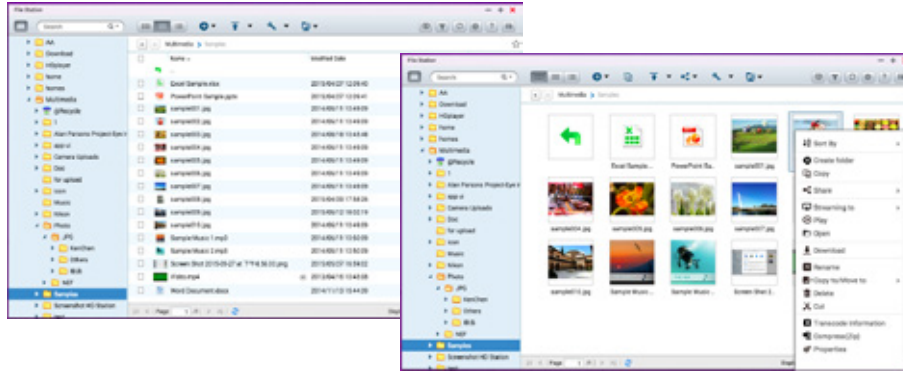


# Organize and Share Files with Web-based File Station



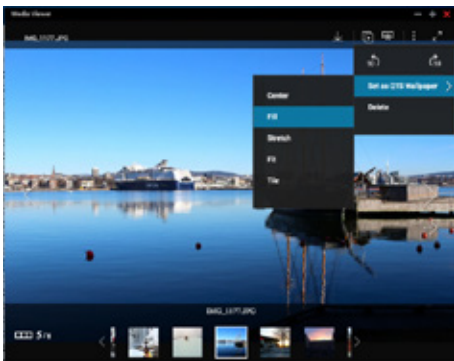
## Drag-and-drop file operations with a browser

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.



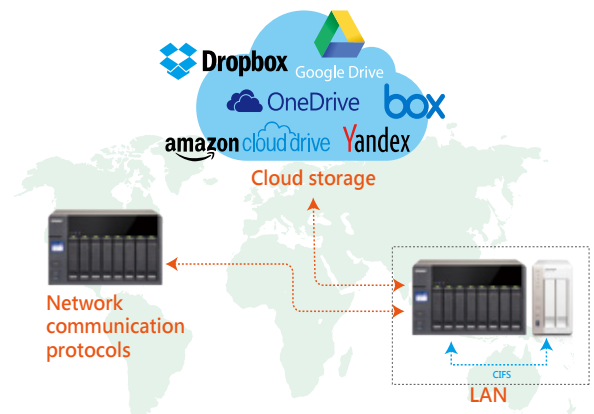
## Stream multimedia contents

File Station supports VLC player for multimedia streaming. Just click on your photos, music and videos to directly play the contents. The slideshow display helps gather the media files in an organized manner for you to preview and play.



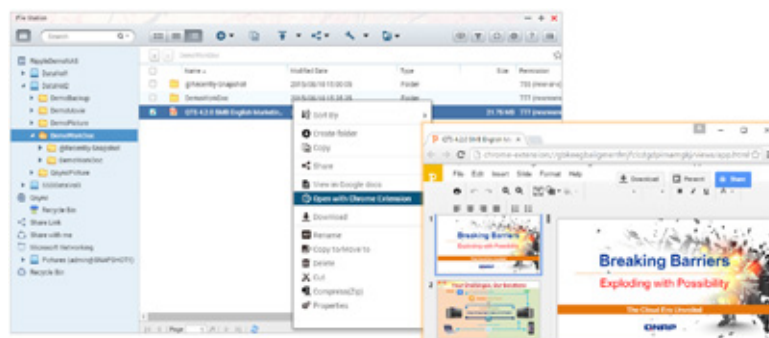
## Remote device connection and cloud storage access

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™.



## Document preview

Preview Microsoft Office files using File Station in Chrome (with the Office Editing for Docs, Sheets & Slides Chrome extension installed from the Chrome Web Store). Microsoft Office files can also be previewed in File Station using Office Online and Google Docs.



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

# Maximize the Value of Your NAS with Productivity Tools



myQNAPcloud —  
Create your own cloud with easy access

Cloud access is greatly simplified in QTS 4.2. Effortlessly create your personal or private cloud by following the setup wizard. Enjoy the services of your QNAP NAS safely, conveniently, any time, from anywhere with myQNAPcloud 2.0.



## CloudLink

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

## Optional myQNAPcloud SSL authentication

myQNAPcloud allows you to purchase and install SSL certificates to provide validated authorization as well as encrypting the connection to secure data and transactions.

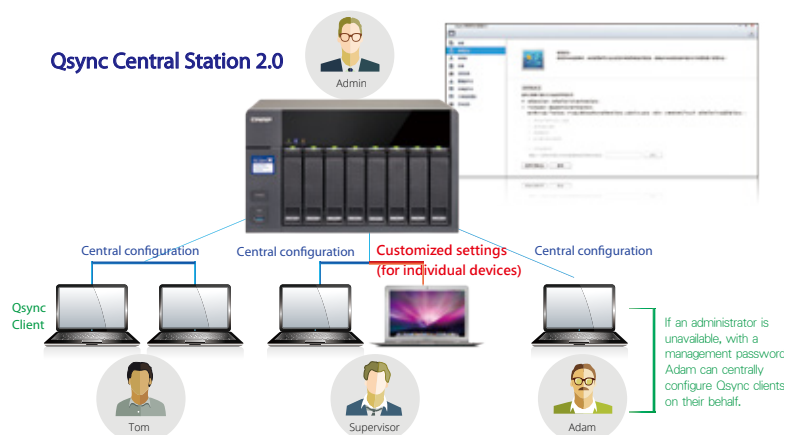


Qsync Central Station 2.0 - Centrally manage and sync your files and devices

Qsync Central Station 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.

## 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.

# Hybrid Cloud with Comprehensive Backup and Synchronization

## 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 autobackup. Mac users can use Time Machine to back up files in Mac.

### Local backup >>>

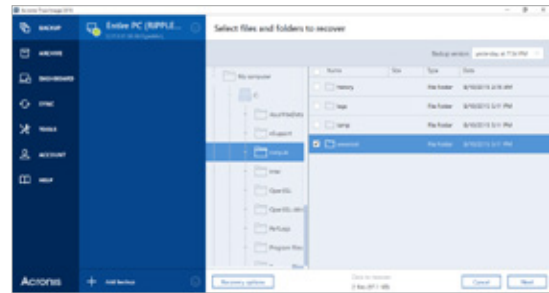
Use the One Touch Copy button on the front panel of the NAS to quickly backup data to or from external USB devices or disks.

### 3rd party backup software >>>

The NAS 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 NAS.




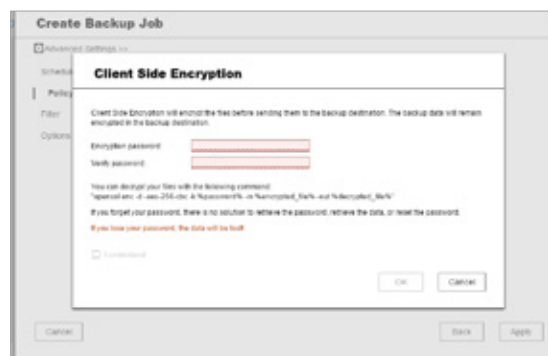
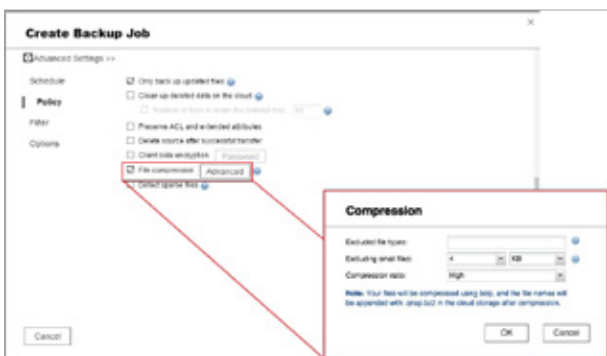
The powerful tools provided by Acronis® True Image enable you to back up system image files and all additional data. In the event of data loss, choose to recover specific files or to recover an entire system and its data, to balance Recovery Point Objective (RPO) and Recovery Time Objective (RTO) enterprise requirements. QNAP NAS with Acronis® True Image™ makes it possible to utilize storage space efficiently while remaining entirely confident with automated scheduled backups. Additionally, Acronis True Image® licensing allows a maximum of 3 activations for one serial number. For more information on Acronis True Image®, please visit <http://www.acronis.com/>



## Hybrid Backup Sync

Hybrid Backup Sync consolidates backup, restoration and synchronization functions into a single QTS application for you to easily transfer your data to local, remote and cloud storage spaces as a comprehensive data storage and disaster recovery plan. You can synchronize files between the NAS and cloud storage in real time inclusion Amazon® Cloud Drive, Google Drive™, Dropbox®, Microsoft OneDrive®, Yandex® Disk, and Box®, and back up files to Amazon® S3, Amazon® Glacier, Microsoft® Azure™, Google Cloud Storage™, OpenStack Swift and WebDAV cloud services. Hybrid Backup Sync can detect sparse files to avoid backing up unnecessary data, and supports file compression backup to save storage space. There are flexible settings for concurrent file processing and multi-thread data transfer by splitting large files into smaller parts, greatly increasing the file transfer rate for greater work efficiency.

 The feature of Multi-thread data transfer is not supported by WebDAV.



# Full-text, Real-time Search Engine with Qsirsch

## A smarter and faster way to search

Qsirsch 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 Qsirsch enables users to search while typing and sort through files faster and more precisely



## Qsirsch browser add-on for Google Chrome

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



• Chrome add-on Qsirsch Helper

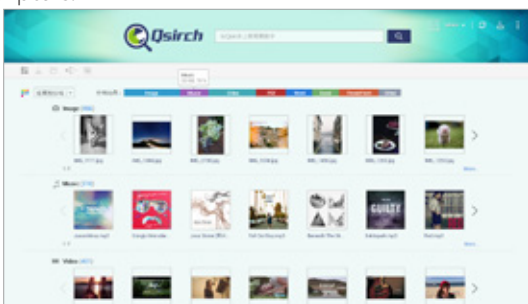
## Content preview

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.



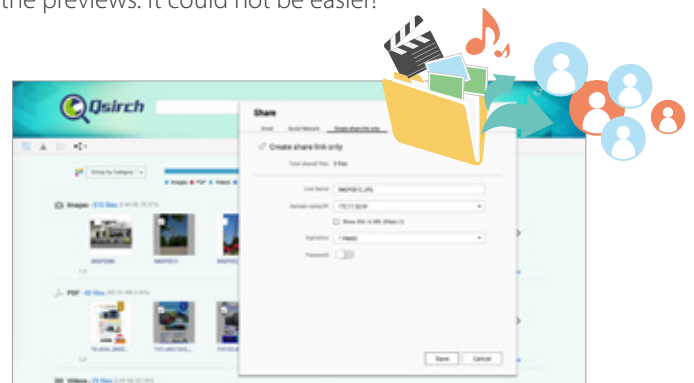
## Organization of results by criteria

Your search results can be filtered and organized by various types including photos, music, videos, and documents. Results can also be organized based on criteria such as date modified, file size, and many other standard file descriptors.



## Share directly from your search results

Qsirsch 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!



# Secure Your Data with Multiple Protection Mechanisms

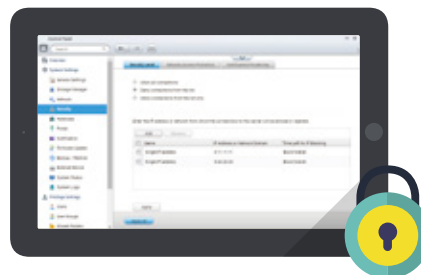
## Connection management

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. 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.




## Data encryption

Advanced encryption ensures the security of volumes and shared folders. Without the key, no one can access the data in encrypted folders or files.



## Two-step verification

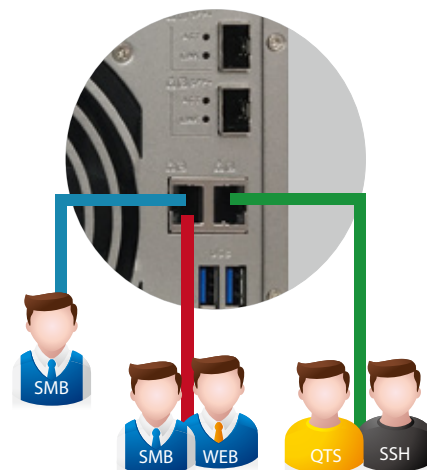
The Two-Step Verification\* requires users to log in to the QNAP NAS with both their passwords and a 6-digit one-time password (OTP) generated by an authenticator app.

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



## 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.

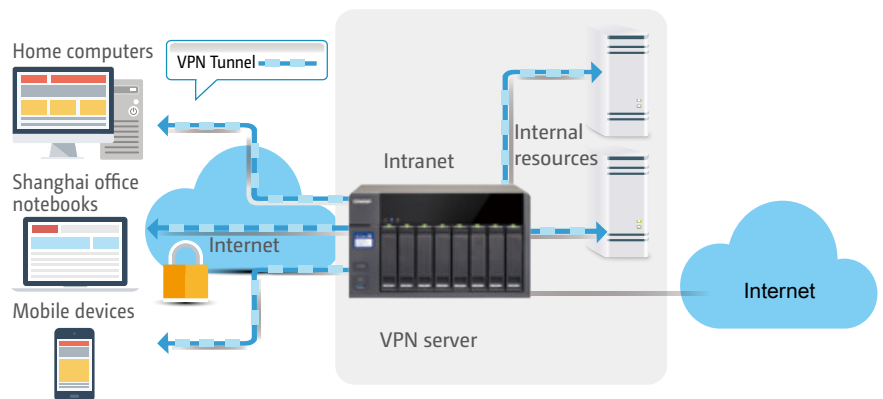




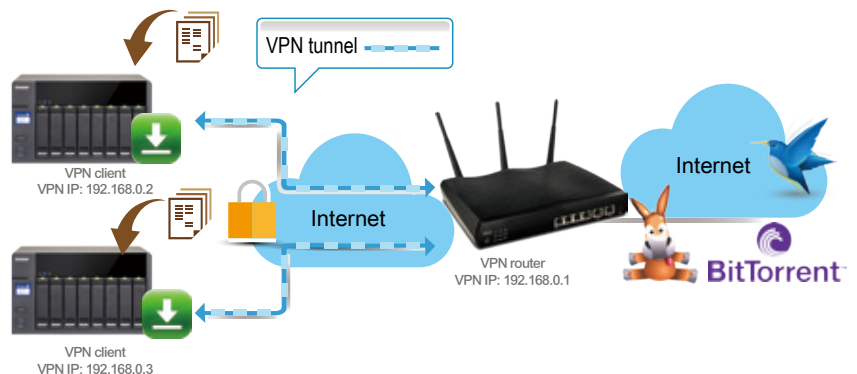
# VPN & Proxy Server for Secure and Faster Communication

## VPN server & VPN client

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 L2TP/ IPsec, PPTP, or OpenVPN encrypted tunnels to your QNAP NAS. 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.



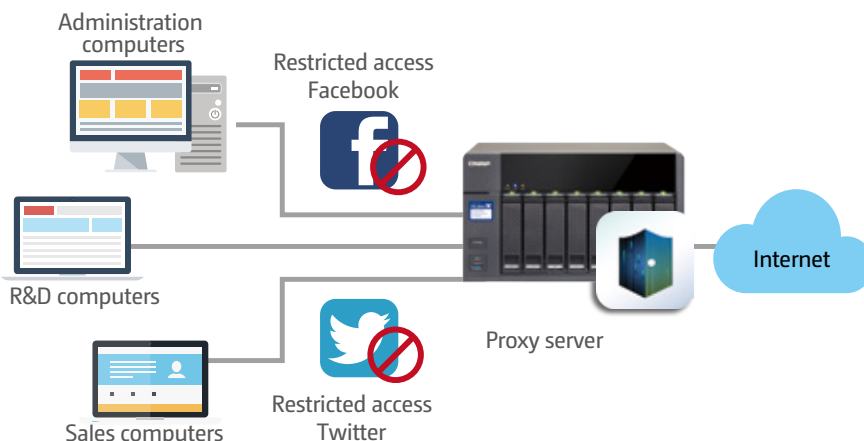
When the NAS acts as a VPN client, VPN can provide secure data transmission. You can set up remote site backup with secure data transmission. For example, configure the NAS to be a VPN client for secure data transmission when setting up backup or other services to branch offices at remote locations. A single VPN Client can also support multiple VPN connections to different VPN servers.



## Proxy server

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:

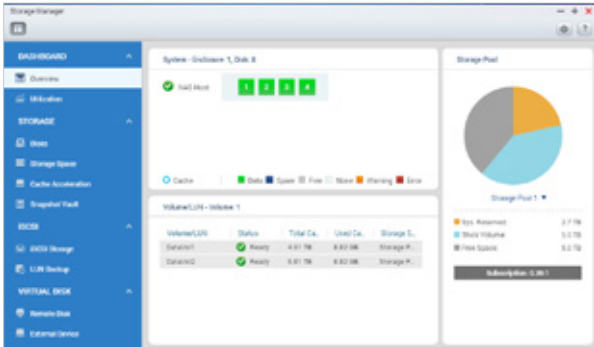
- Caching: Improves response times and saves bandwidth required for web access by caching visited web content and other web resources.
- Access Control: blocks access to certain websites or restricts access for Internet connections.
- Logging: logs visits to web sites for generating statistics to aid 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.



# Build a Robust 24x7 Surveillance System

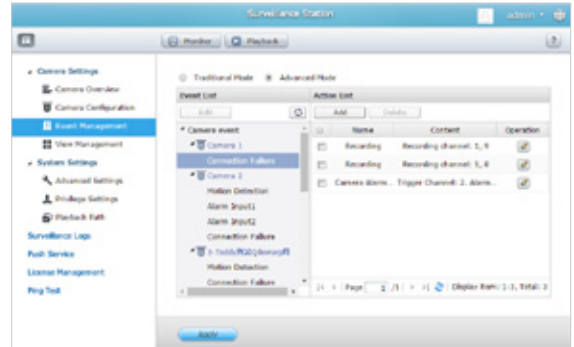
## Tiered storage for hybrid NAS and NVR operations

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



## Immediate alerts for events

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



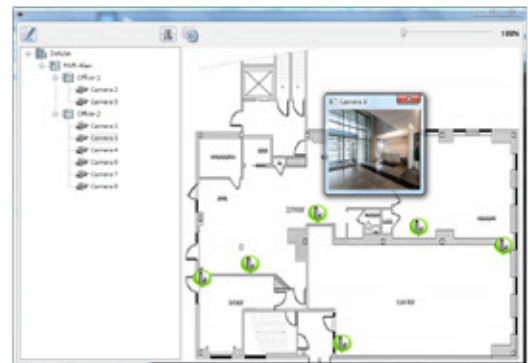
## Granular playback control

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.



## 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.



## 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.



## Camera Licenses

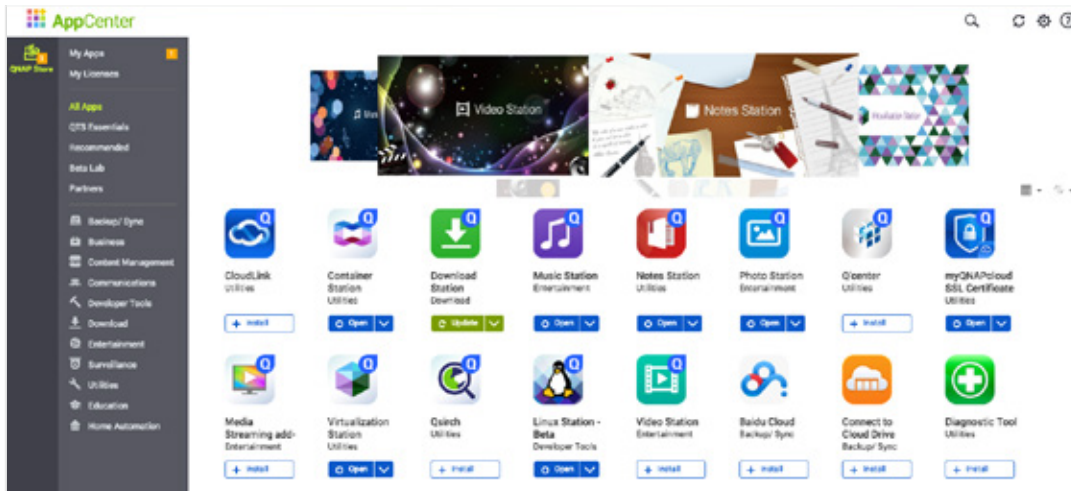
**Free: 2 Max: 30**



# Customize Your NAS for Endless Possibilities

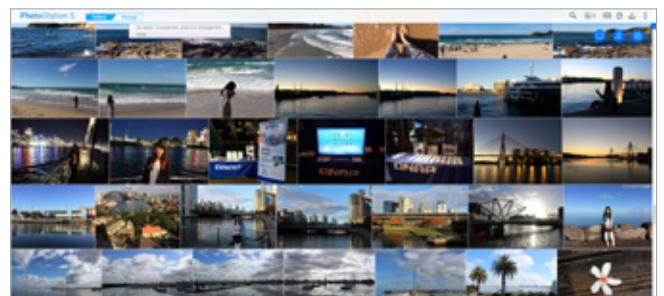
## Release the NAS potential with App Center

The built-in App Center provides various install-on-demand apps developed by QNAP and third-party developers, including tools for backup/sync, business, content management, communications, download, entertainment, and much more. It is also a centralized location for managing & updating installed apps, allowing you to directly update applications once newer versions are released.



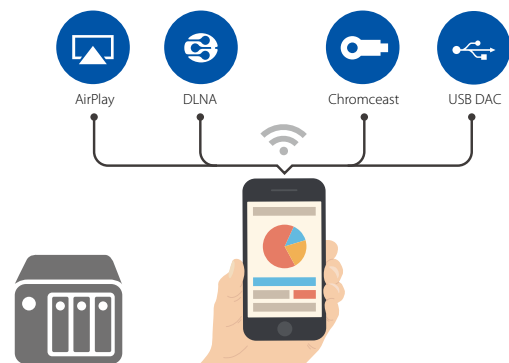
### Photo Station

You can easily upload photos, create albums, change the display mode, set up slideshows, tag photos, add descriptions, and set up sharing through email, social networking sites or a sharing link.



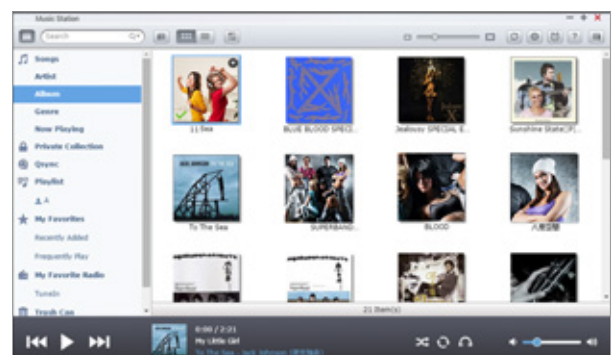
### DLNA, Airplay, Chromecast

The NAS supports multiple streaming playback protocols and modes, enabling users to easily stream files to various multimedia playback devices. You can utilize the browser-based File Station, Music Station, Photo Station or Video Station to 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.



### Music Station

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 NAS anywhere.



# Computer Utilities to Boost Your Productivity

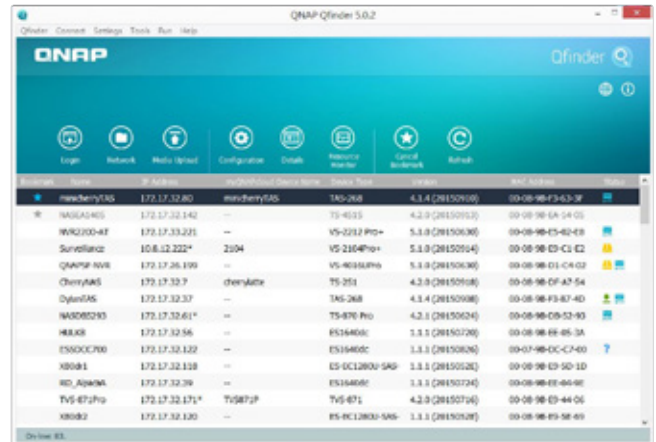
## Qfinder Pro

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 saving NAS resources

Available for Windows® · Mac · Linux O.S. and Chrome browser.



If you're finding it difficult to connect your NAS to a Chromebook™, Qfinder for Google Chrome™ allows you to quickly find and connect to a QNAP NAS over LAN. Just download Qfinder from the Chrome™ Web Store and enjoy easy access to your QNAP NAS.



## NetBak Replicator

The QNAP NetBak Replicator is free for anyone with a QNAP NAS and helps you easily back up files from Windows® PC.

Available for Windows®



## 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 with dragand drop actions.

Available for Windows®



## Qsync

Qsync synchronizes files across multiple computers and supports Windows and Mac. It creates a specific "Qsync folder" in your devices that you can simply drop files in, and synchronizes the files to all your devices linked to the QNAP NAS.

Available for Windows® and Mac O.S.



## Qsnap

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

Available for Windows®

# Conveniently Access Your NAS From Your Mobile Devices



## Qfile

Remotely upload / download, share, manage, and stream files from your QNAP NAS and synchronize files between the NAS and your mobile device.



## Qphoto

Browse your photo collection using a timeline, thumbnails, or a detailed list view.



## Qmanager

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



## Qvideo

Download and play videos on the NAS or share your videos with other.



## Qmusic

Browse and play your music collection on your QNAP NAS by song, artist, album, or folder.



## Qget

Conveniently review and manage all of your download tasks ( including running, pausing and removing tasks ).



## Qnotes

Jot down and share your ideas wherever you are.



## Vmobile

Remotely connect to and manage your IP Camera and playback your recordings in Surveillance Station.

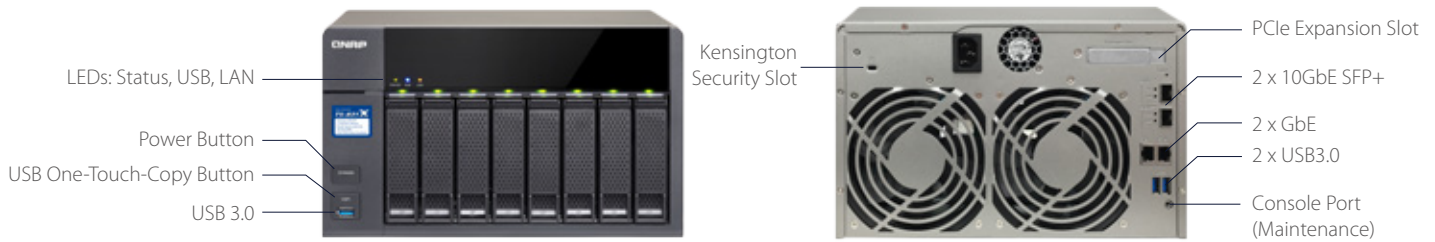


## Vcam

Directly record your surroundings using your mobile device's camera to your NAS anywhere you go without having to purchase professional IP cameras.




# Hardware Specifications and Accessories



Ordering P/N	TS-831X-8G	TS-831X-16G
Processor	Annapurna Labs Alpine AL-314 Quad-core 1.4GHz Cortex-A15 CPU	
Hardware Encryption Acceleration	✓	
System Memory	<b>8GB</b> DDR3 (1 x 8GB)	<b>16GB</b> DDR3 (2 x 8GB)
Maximum Memory	16GB	
Memory Slot	2 x SODIMM DDR3 (*For dual-DIMM configurations, you must use a pair of identical DDR3 RAM modules.)	
Flash	512MB	
Drive Type	8 x 3.5"/2.5" SATA 6Gb/s HDDs/SSDs	
10GbE LAN	2 x 10Gigabit SFP+ LAN ports	
GbE LAN	2 x Gigabit RJ45 LAN ports	
USB Port	3 x USB 3.0 ports (Front: 1, rear:2)	
PCle Slot	1 x PCIe Gen2 (x2)	
LED	Status/Power · USB · HDD 1-8	
Button	Power, USB One-touch-copy, Reset	
Security Slot	Kensington security slot	
Dimension	185.2 x 298.2 x 235 mm 7.29 x 11.74 x 9.25 inch (HxWxD)	
Weight	Net: 7.3 kg (16.08 lbs) Gross: 7.61 kg (18.52 lbs)	
Operating Temperature	0-40°C	
Relative Humidity	5~95% RH non-condensing, wet bulb: 27°C	
Noise Level	20.6 dB (A)	
Power Consumption	HDD standby: 19.47 W In operation: 46.36 W (with 8 x 1TB HDDs installed)	
Power	ATX 250W · 110-240V AC · 50-60Hz · 3.5A	
Fan	2 x 12cm quiet cooling fan (12V DC)	
Package Contents	NAS, power cord, quick installation guide, 2 x Ethernet cable	

## Accessories

		Ordering P/N	Description
Expansion Unit		UX-800P	QNAP 8-bay expansion unit Dimension (H x W x D): 185.2 x 298.2 x 235.4 mm / 7.29 x 11.74 x 9.27 inch Net Weight: 7.3 kg / 16.08 lbs
		UX-500P	QNAP 5-bay expansion unit Dimension (H x W x D): 185.2 x 210.6 x 235.4 mm / 7.29 x 8.29 x 9.27 inch Net Weight: 5.1 kg / 11.24 lbs
Expansion Card		LAN-10G1SR-D	Single-port 10GbE SFP+ NIC
		LAN-10G1T-D	Single-port 10GbE 10GBASE-T NIC
		LAN-1G2T-D	Dual-Port Gigabit NIC
Memory		RAM-8GDR3-SO-1600	8GB DDR3-1600 SO-DIMM

# Software Specifications

## Operating System

- QTS 4.2 (embedded Linux)

## 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

## Storage Management

- QNAP flexible Volume/LUN with thin provisioning and space reclaim
- Volume types: RAID 0/1/5/6/10, + hot spare, single, JBOD
- Supports storage pools
- Online volume expansion & storage pool expansion
- Online RAID capacity expansion and online RAID level migration
- SMART data migration
- Storage expansion via max 2 QNAP UX-500P/UX-800P expansion units
- JBOD enclosure roaming
- SSD read-only/read-write cache
- Bad block scan, recovery, and hard drive S.M.A.R.T.
- RAID recovery
- Bitmap support

## 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

## File System

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

## Networking

- TCP/IP (IPv4 & IPv6: Dual Stack)\*
- 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, 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

## Qsync

- Syncs files across multiple devices with SSL support
- 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.
- Incremental synchronization for HDD space saving
- Unified privilege management
- Unified configuration management
- Supports central configuration mode
- Supports remote erase / restore
- Supports shared folders sync
- Supports Windows & Mac OS

## Access Right Management

- Batch user 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, AFP, FTP, and File Station management

## Web Administration

- Movable Icons and personalized desktop
- Smart toolbar and dashboard for neat system status display

## Smart fan Control

- Dynamic DNS (DDNS)
- SNMP
- Resource monitor
- Network recycle bin for file deletion via CIFS/SMB, AFP, and File Station
- Automatic Cleanup
- File Type Filter
- Comprehensive logs (events & connection)
- Syslog client/server
- System settings backup and restore
- Restore to factory default
- Mobile app: Qmanager for remote system monitoring & management

## Security

- Network access protection with auto-blocking: SSH, Telnet, HTTP(S), FTP, CIFS/SMB, AFP
- CIFS host access control for shared folders
- FIPS 140-2 validated AES 256-bit volume-based and shared folder data encryption\*
- AES 256-bit external drive encryption\*
- Importable SSL certificates
- Instant alert via E-mail, SMS, beep, and push service
- 2-step verification
- Data encryption functions may be unavailable in accordance with the legislative restrictions of some countries.

## Domain Authentication Integration

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

## File Server

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

## Web Administration

- Movable Icons and personalized desktop
- Smart toolbar and dashboard for neat system status display
- Smart fan Control
- Dynamic DNS (DDNS)
- SNMP
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## File Server

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

## 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

## myQNAPcloud Service

- Private cloud storage and sharing
- Free host name registration (DDNS)
- Supports 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)

## FTP Server

- FTP over SSL/TLS (Explicit)
- FXP support
- Passive ftp port range control

## Surveillance Station

- Supports over 3,000 IP cameras
- Includes 2 free camera licenses, up to 30 camera channels via additional license purchase
- Instant playback to check recent events
- Online editing to edit cameras during live view
- 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)

## 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: Media Streaming add-on app from the App Center is required

## Photo Station

- Show photos by thumbnails, list, timeline, or folder view
- Supports virtual/smart albums
- Validity control for sharing albums
- Tag photos with text, colors, and ratings
- Slideshows with background music and different transition effects
- Geotag photos and display them on Google maps
- Advanced search by tags, metadata, etc
- Supports uploading photos/videos to Picasa, Flickr, Weibo, YouTube
- Share slideshows links to social websites or by email
- Supports Facebook friends login
- Backup/Restore album configuration

## 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
- Encrypted replication between QNAP NAS servers
- 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, Dropbox, and Google Drive
- Third party backup software support: Acronis True Image, Arcserve backup, emc retrospect, Symantec Backup Exec, etc.

## File Station

- Supports mounting a Cloud Drive (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 (SMB/CIFS)
- 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 thumbnail display of multimedia files
- Supports sharing download links and upload links
- Supports sharing to other NAS users
- Drag-n-drop Files via Chrome and Firefox Browsers
- Photo, music, and video preview and playback
- File Compression (ZIP or 7z)
- Supports displaying subtitles (\*.SRT, UTF-8 format)
- Supports slideshow playback in media viewer
- Mobile App: Qfile for file browsing and management

## 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

## Download Station

- PC-less BT, FTP/FTPS, and HTTP/HTTPS, Thunder, FlashGet and qqdl download (up to 500 Tasks)
- BT download with Magnet Link and PT support
- Scheduled download and bandwidth control
- RSS subscription and download (broadcasting)
- BT search
- Proxy support for BT download
- Mobile app: Qget for downloads and management

## Storage Plug & Connect

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

## iTunes Server

- Audio and video sharing for Windows & Mac iTunes

## Container Station

- Supports LXC and Docker
- Supports CPU/Memory management
- Download applications from the built-in Docker Hub Registry
- Supports one-click installation, container export/import & console mode
- Supports mounting NAS shared folders and data-only containers
- Supports auto port forwarding
- Supports auto-start containers
- Supports downloading Docker certificates

## 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, OggVorbis, WAV (PCM, LPCM), WMA, WMA PRO, WMA VBR\*
- Supports CUE indexing file for APE, FLAC audio format.
- \*DRM-protected content is not supported.

## iSCSI (IP SAN)

- iSCSI target with multi-LUNs per target (Up to 256 targets/LUNs combined)
- Supports LUN mapping & masking
- Online LUN capacity expansion
- Support for SPC-3 persistent reservation
- Supports MPIQ & MC/S
- iSCSI LUN backup, one-time snapshot, and restoration
- iSCSI connection and management by QNAP Windows Qfinder Pro
- Virtual disk drive (via iSCSI initiator)
- Max No. of virtual disk drives: 8

## Video Station

- Supports virtual/smart collections
- Tag videos with text, color, and ratings
- Share video links to social websites or through email
- Sort videos automatically into defined classifications
- Display movie posters from IMDB or user upload
- Supports displaying subtitles (\*.SRT, \*.ASS, \*.SSA)
- Supports Facebook friends login
- Supports custom video classification
- Supports multi-zone video display
- Mobile app: Qvideo for online video browsing and management

## Print Server

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

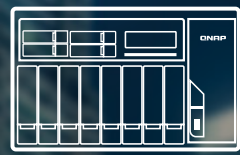
## App Center

- Official and community software add-ons such as Signage Station and Notes Station

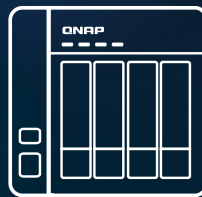
# 8-bay Turbo NAS TS-831X

## Redefining the Level of the Most Cost-effective 10GbE NAS

Faster throughput with two 10GbE SFP+ ports



1TB



500GB



2TB

*Virtual JBOD to seamlessly expand the capacity of other QNAP NAS via network*



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