



New Business Series

- Intuitive GUI with Multi-window and Multi-tasking Design
- Cross Platform Data Storage, Backup and Sharing Center
- Large Capacity Personal Cloud with Dropbox-style Data Sync
- VMware® Ready, Citrix® Ready, and Microsoft® Hyper-V Compatible
- 4GbE Ports for Up to 450MB/s in Reading and 432MB/s in Writing
- 10 GbE Ready and SSD Caching Support for Ultra-High Performance

TurboNAS Business Series



Overview

Modern businesses face the challenge of dramatic growth of digital data. Deploying a reliable, affordable, and expandable storage center to securely store, share, and back up digital assets has become an important task for the IT administrators. QNAP Turbo NAS provides an efficient and flexible network attached storage solution with multi-window and multi-tasking QTS 4.0 Turbo NAS operating system. The TS-x70 series delivers a high-performing storage storage solution with 4 GbE ports and optional 10GbE network expansion for superior performance. SSD caching technology accelerates

the random IOPS by up to 10 times and reduces I/O latency by up to 3 times for the storage volume. QNAP provides powerful utilities and mobile apps which help business users to easily build up private cloud storage for data access, sharing, synchronization, and backup anywhere, anytime via the Internet. With VMware® Ready™ and Citrix® Ready™ verifications, and proven compatibility with Microsoft® Hyper-V™ environment, the Turbo NAS is an ideal shared storage solution in a virtualized and clustered environment. Furthermore, the smart NAS offers built-in App Center with over 90 apps for even more applications in various industries.



QNAP QTS 4.0

Intuitive, innovative operating system featuring synchronization capabilities, multi-window and easy management.

Innovative Desktop

The QTS 4.0's intelligent desktop offers an intuitive, sleek, and easy-to-follow graphic user interface, simplifying the whole Turbo NAS experience. It allows you to open multiple application windows and run multiple tasks simultaneously. Application windows can be minimized to the toolbar which allows you to see an overview of the opened applications and switch among the running applications.

Intelligent Desktop



Smart toolbar

Background tasks
Displays all the active tasks and scheduled jobs performed in the background.

External device
Access the connected storage devices and eject the devices safely with only one click.

Event notifications
Displays constant updates of system information such as system warnings and other error messages.

Quick search
Quickly search the system settings and QTS Help content using relevant keywords.

Main menu

All your applications, system preferences, and additional apps installed from the App Center are neatly presented for you to find your desired app quickly. Drag and drop frequently used icons to the desktop as shortcuts for quick access.

Multiple desktops

This extended desktop workspace is designed specifically to improve your productivity. You can separate the apps onto different desktops according to their nature or genre and switch between the desktops freely.

Smart dashboard

In one click the smart dashboard presents all important system information in a single panel. Drag any status to the desktop for constant monitoring.

Centralized Storage and File Sharing

Cross-platform Sharing

The Turbo NAS supports SMB/CIFS, AFP, and NFS protocols for file sharing across Windows, Mac, or Linux/UNIX networks. User accounts and shared folders can be created via the user-friendly web-based interface without IT expertise.

File Station

Upload, download and manage files anywhere with a web browser. File extraction, folder creation, smart search files or folders are functioned over the Internet. Preview your photos and videos through any web browsers too!

Windows ACL

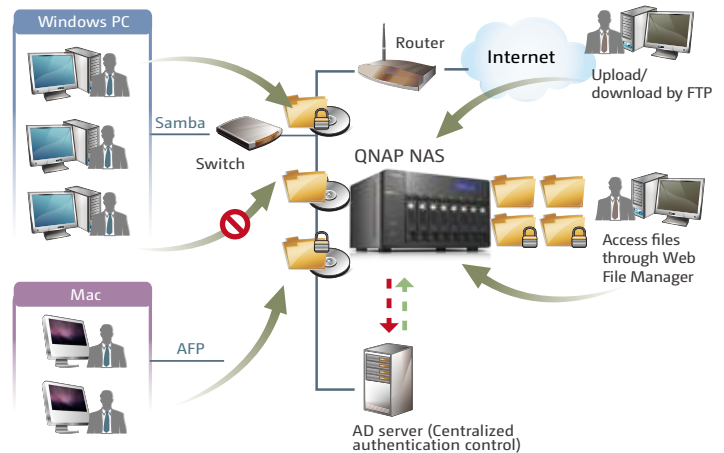
Basic permissions and 13 advanced permissions can be set up from the Windows Explorer and synchronized with the permission settings of the Turbo NAS. In addition, the same permissions can be applied to AFP, FTP, Web File Manager, and Microsoft Networking when Advanced Folder Permissions are enabled at the same time.

Advanced Folder Permissions

Advanced folder permissions allow users to configure folder and subfolder access to the Turbo NAS. Users can manage the folder permissions from the web-based management interface of the Turbo NAS easily.

Windows Active Directory (AD) and LDAP Directory Service

Retrieve multiple user accounts from a Windows AD server or an LDAP directory server by the Turbo NAS for efficient account setup.



Well-rounded Backup Solution

Client Backup

The QNAP Turbo NAS supports NetBak Replicator, Time Machine and more third party backup software.

External Backup

QNAP Turbo NAS comes with a "one touch data copy button" for direct data backup between the Turbo NAS and external USB/eSATA storage devices.

Remote Backup

- Back up the Turbo NAS data to another remote Turbo NAS or an FTP server on a real-time basis via QNAP's Real-time Remote Replication (RTRR) service.
- Back up the Turbo NAS data to a standard rsync server on scheduled basis via the rsync protocol.

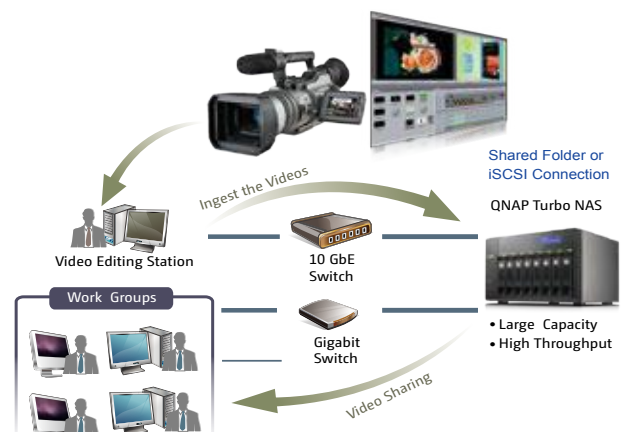
Cloud Backup

- Real-time data backup from the Turbo NAS to online cloud storage services: Amazon S3, ElephantDrive, Symform, Dropbox, or Google Drive.



Video Editing

Digital film and video production produces volumes of data that require high performance RAID storage with sustainable throughput to balance with the demanding output of video editing. The QNAP TS-x70 Series Turbo NAS fulfills storage and video editing needs with a high-speed 10 GbE network interface. Digital videos can be quickly stored and edited on the Turbo NAS directly over the network. The Turbo NAS supports various network file sharing protocols such as NFS, AFP, and SMB/CIFS, so sharing files among PCs with different operating systems is easy.



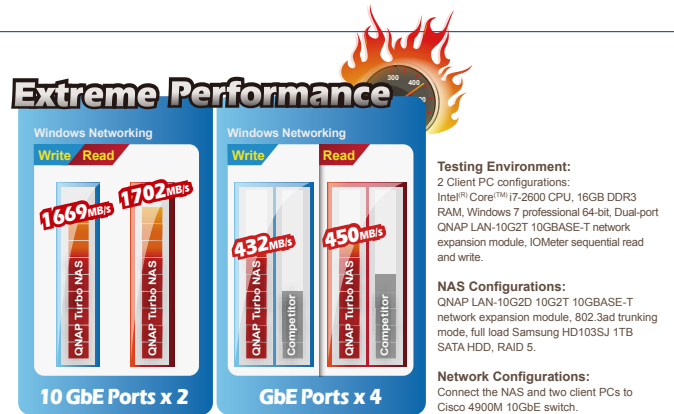
Superior Performance

SSD Caching Acceleration*

Accelerates the IOPS performance by 10 times and reduces I/O latency by 3 times for the storage volumes. This feature is perfect for IOPS demanding applications such as virtualization to significantly improve overall work flow.

10GbE Storage Solution

The QNAP TS-x70 Series Turbo NAS supports 4 GbE ports for industry-leading performance in business settings. The optional dual-port 10GbE adaptor support makes it ready for the high-speed data transfer craved by data centers.



Extreme Performance

10 GbE Ports x 2

| Write | Read |
|-----------|-----------|
| 1669 MB/s | 1702 MB/s |

GbE Ports x 4

| Write | Read |
|----------|----------|
| 432 MB/s | 450 MB/s |

Testing Environment:
2 Client PC configurations:
Intel® Core™ i7-2600 CPU, 16GB DDR3 RAM, Windows 7 professional 64-bit, Dual-port QNAP LAN-10G2T 10GBASE-T network expansion module, IOMeter sequential read and write.

NAS Configurations:
QNAP LAN-10G2D 10G2T 10GBASE-T network expansion module, 802.3ad trunking mode, full load Samsung HD103SJ 1TB SATA HDD, RAID 5.

Network Configurations:
Connect the NAS and two client PCs to Cisco 4900M 10GbE switch.

Private Cloud Storage

myQNAPcloud service

Create your own private cloud with the free myQNAPcloud service. The Turbo NAS creates your own unique URL and in a few easy steps, you will be able to access your files on any web browser.

VPN Sever

The VPN service allows you to access the Turbo NAS on the same local network from the Internet and easily manage the files by drag-and-drop through the file browser.

CloudLink

CloudLink helps you pass through the complicated network environment and connect to the Turbo NAS from a remote PC and easily access the data from anywhere without complicated settings.

myQNAPcloud Connect

myQNAPcloud Connect is a Windows VPN connection utility. It can establish a secure VPN connection with the remote NAS over the Internet and enable you to access the NAS as if it were in the network.



Dropbox-style Data Sync

Qsync

Your Turbo NAS becomes a safe data center for file synchronization with huge storage. Qsync provides multiple ways of file synchronization and group file sharing, greatly enhancing the flexibility of collaboration. Whenever you add, edit, delete or rename a file on one computer, the change applies to all others linked with the Turbo NAS, so you have exactly identical contents on all your devices.

Save storage

Remove the files on one computer without affecting the files stored on other devices linked with the Turbo NAS. Even when someone updates the same files from another computer, Qsync will ensure that you will always have the latest files. When synchronizing files, you can choose to only sync specific subfolders within the Qsync folder.

Share team folders with different groups of people

Create subfolders within the Qsync folder, and share each with different

groups of Turbo NAS users as a file exchange center. Everyone in the same subfolder is always kept up-to-date with the latest version of the files.

Quickly share files with download links

You can create download links to share files with others. This greatly reduces the time in creating user account and password for users just to share less-important documents.



Storage for Virtualization

The QNAP Business Series Turbo NAS is a virtualization-aware storage solution which supports VMware vSphere, Microsoft Hyper-V, and Citrix XenServer. QNAP vSphere plug-in and QNAP SMI-S provider highly increase the productivity and efficiency.



Datastore for VMware

• VAAI for iSCSI, VAAI for NAS

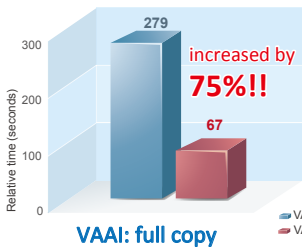
VMware vStorage APIs Integration (VAAI) is a set of APIs that allow ESXi hosts to offload processing for certain storage-related services to storage systems. The integration of QNAP NAS with VMware VAAI offers optimal performance for customers to deploy a virtualization environment.

The QNAP NAS, VAAI iSCSI and VAAI NAS are VMware certified. Businesses can either select iSCSI or NFS as a centralized storage to boost performance. VAAI for iSCSI supports Full Copy (hardware-assisted copy), Block Zeroing (hardware-assisted zeroing), Hardware-assisted Locking, and Thin Provisioning with space reclaim. VAAI for NAS supports Full File Clone, Extended Statistics, and Reserve Space.

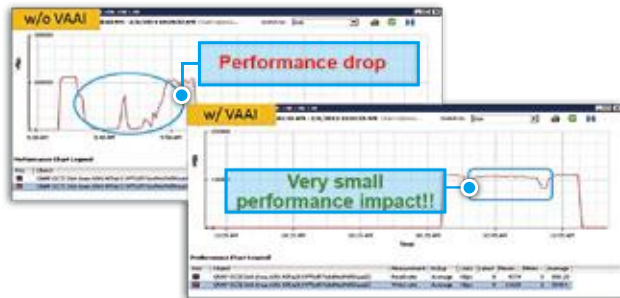
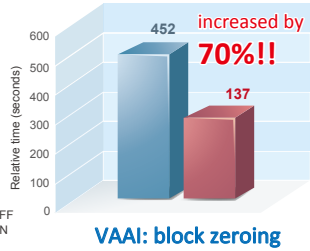
The QNAP NAS uniquely supports VAAI iSCSI and VAAI NAS to enhance storage performance up to 75% in a virtualized environment.

• Enhanced Performance by VAAI

Deployment time for a 30 GB Thick Provision Eager Zeroed virtual disk (lower is better)



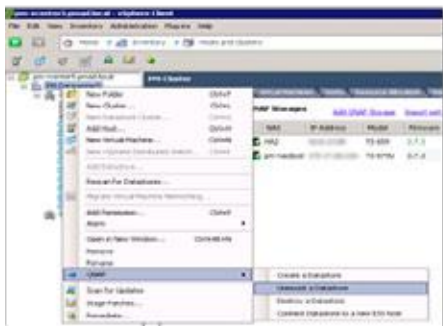
Relative time for cloning a 30 GB VM (lower is better)



VAAI: Hardware-assisted Locking

• vSphere Plug-in

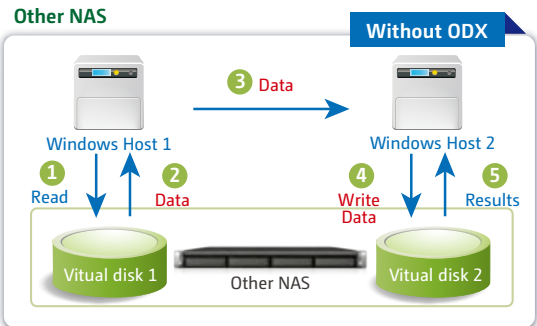
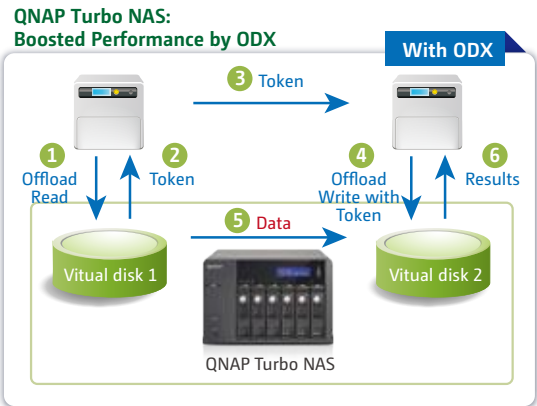
The vSphere plug-in allows users to manage the QNAP Turbo NAS directly on the vSphere client, making datastore management more effective.



Storage for Microsoft Hyper-V

• ODX (Offloaded Data Transfer)

With ODX support, the QNAP Turbo NAS becomes a high performance iSCSI storage solution under Windows Server 2012, including Hyper-V virtualized environment. QNAP storage enables full copies of virtual machines within the NAS without requiring the Windows hosts to read and write the data. This highly reduces the loading of Windows hosts and improves the performance of copy and move operations for Windows 2012 hosts using the QNAP iSCSI storage. When providing QNAP storage to a Windows 2012 file server, the end user using Windows 8 client workstation will also benefit from the Offloaded copy process for large file transfers.



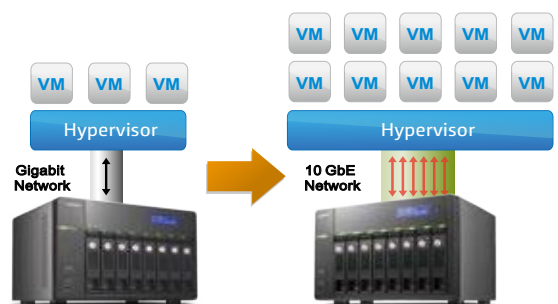
• NAS Management via SCVMM

The QNAP SMI-S provider enables management of the QNAP Turbo NAS directly through Microsoft System Center Virtual Machine Manager 2012 (SCVMM).



10 Gigabit Ethernet Storage Solution for the Virtualized Data Center

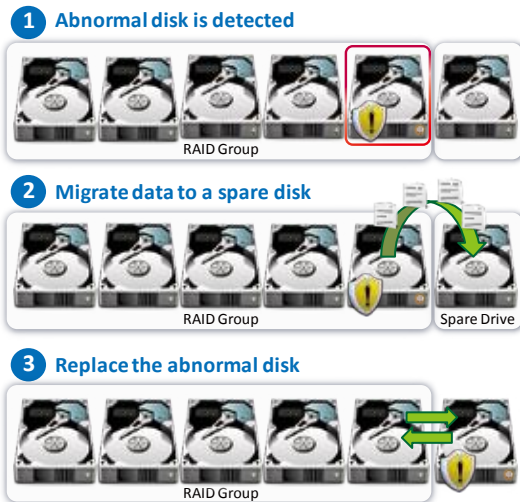
The QNAP TS-x70 Series Turbo NAS supports an optional 10GbE adaptor, including SFP+ and 10G Base-T interface. The 10Gb speed increases the agility of data transmission in a virtualized environment, intensifying NFS and iSCSI connection performance, and enables more VMs with multiple transactions running concurrently without performance penalty.



Proactive Data Protection

QNAP SMART Data Migration

The data stored on the Turbo NAS is constantly monitored to reduce potential data loss and rebuilding time. If the Turbo NAS detects a possible drive failure or abnormal health status, the data will be proactively migrated to a new spare drive. This ensures valuable business assets are well stored and protected.



Supports TLER and ERC

TLER (Time-Limited Error Recovery) and ERC (Error Recovery Control) are now supported with compatible hard drives, improving drive error handling in RAID applications. This further prevents the hard drives from prematurely failing out of RAID arrays, forcing rebuilds, and RAID volume loss. The data will be retrieved more quickly when a hard drive takes too long to respond from bad blocks.

RAID Read Error Recovery





When read errors are detected in the hard drive blocks, they are automatically corrected with healthy ones. The bad block recovery will run in the background and ensure data is well stored in the hard drives.

RAID Hot-spare and Global Hot-spare Drives

A hot spare drive can be configured so that if a hard drive in a specific RAID group fails, the hot spare drive will operate automatically. Moreover, the QNAP storage also supports global hot spare drives which allow the administrator to share the spare drives efficiently among multiple RAID Groups.

Abundant Business Features

The Turbo NAS supports abundant server applications.

- 
Web Server
 Multiple websites can be hosted on the Turbo NAS with the built-in web server and virtual host feature.
- 
Syslog Server
 By collecting and storing the logs of other network devices on the Turbo NAS with the Syslog server support, the IT administrator can monitor the status of these devices and collect the information necessary for further troubleshooting.
- 
RADIUS Server
 The RADIUS server centralizes and consolidates user authentication by maintaining a list of user accounts that are authorized for remote network access through dial-up equipment, Wi-Fi access point, or VPN connections.
- 
Proxy Server
 With the help of the Squid App add-on, the QNAP Turbo NAS can be used as a Proxy Server.

Secure Measures for Data Storage and Access

Policy-based Unauthorized IP Blocking

Users can allow, deny or auto block specified IP addresses or network domains which attempt to connect to the Turbo NAS via SSH, Telnet, HTTP(S), FTP, Samba, or AFP.

Remote Login

The Turbo NAS supports remote login by SSH (secure shell) or Telnet connection.

SSL Security (HTTPS)

The Turbo NAS supports HTTPS. Users can upload a secure certificate and RSA private key in X.509PEM format issued by a trusted provider to allow access the Turbo NAS by secure SSL login.

Secure FTP

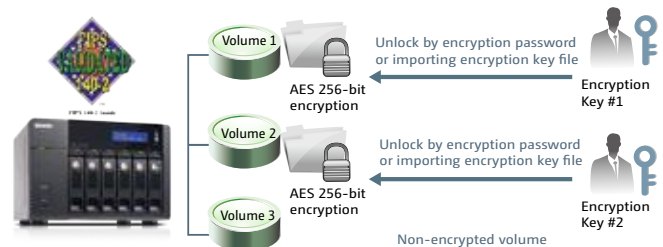
The Turbo NAS offers secure data transfer with SSL/TLS (explicit) encryption. Passive FTP port range setup is also supported.

Encrypted Remote Replication by Rsync

The data on the Turbo NAS can be backed up to or from another Turbo NAS or rsync server over the network securely.

FIPS 140-2 Validated AES 256-bit Volume-based Data Encryption

The disk volume with FIPS 140-2 validated AES 256-bit encryption can only be accessed by an authorized encryption password or key. This prevents sensitive data on the Turbo NAS from unauthorized access, even if the hard disk drives or the entire system were stolen.



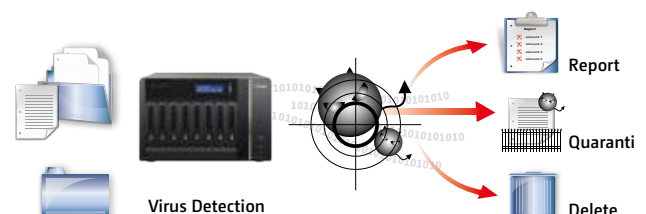
* The data encryption functions may not be available in accordance to the legislative restrictions of some countries. Please contact QNAP sales representatives for further information.

Advanced Folder Permissions

Advanced folder permissions allow users to configure folder/subfolder access to the Turbo NAS. With this feature enabled, users can manage the folder permissions from Microsoft Windows or the web-based management interface of the Turbo NAS without complicated procedures.

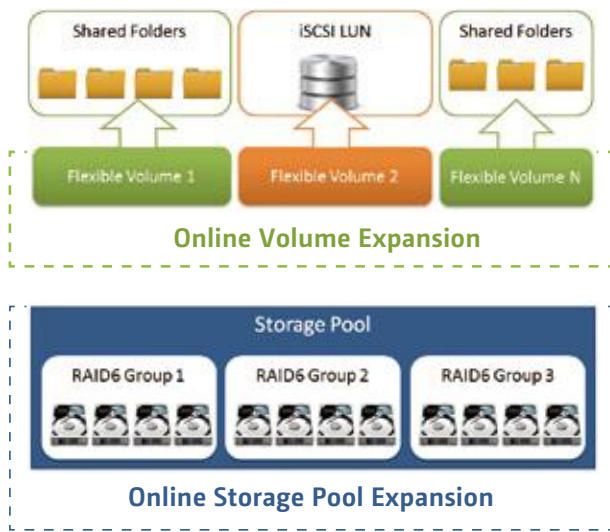
Antivirus

The integrated antivirus solution for the Turbo NAS ensures business continuity by offering detection against the latest viruses, malware, worms, and Trojan horses with continuous free virus database updates.



QNAP Flexible Volume

QNAP Flexible Volume provides a more secure and flexible way to store and manage the NAS data. This next generation volume offers powerful features such as storage pooling with multiple RAID, thin-provisioned volume with space reclaim, and online capacity expansion.



Block-based iSCSI LUN

In addition to storing data, the QNAP Flexible Volume can be utilized as an iSCSI LUN at the same time. The block-based iSCSI LUN provides less overhead which improves the overall read/write performance. The block-based iSCSI LUN takes advantages of Flexible Volume such as thin-provisioned LUN with Space Reclaim, and online capacity expansion.

Online Capacity Expansion

Increase the capacity size of the LUNs, volumes, and storage pools on the fly. The Turbo NAS allows you to add more hard drives to increase the storage capacity of the storage pool on demand. The LUN and volumes can also be expanded online without interrupting the services.

Thin-provisioned Volume

Pre-allocate storage to give the appearance of having more capacity than actually available. This allows you to consume storage on demand as data is written to disk, instead of having capacity ahead of time.

Space Reclaim

Space reclaim complements thin provisioning so storage can be recovered and used for other NAS applications. Normally when data is deleted in a volume, the storage capacity cannot be transferred back to the overall storage pool. But with space reclaim, space can be recovered and allocated back to the overall storage pool. This provides a much more efficient space usage.

Alert for Volume/LUN Threshold

An alert can be created once a LUN or volume reaches a particular threshold size with email and SMS notifications. This prevents the storage or volume from running out of space and the administrator can provision a new storage or expand an existing volume before it is out of space.

App Center

Powerful, organized, rich-in-content

The new App Center makes it easy to find and install all sorts of apps and also acts as a central platform to manage and update your installed apps.



Mobility and Remote Access

Qfile

You can manage as many Turbo NAS units as you want by Qfile and conveniently connect to any of them in the login page. Enable the auto-upload function will let your pictures and photo album automatically sync to your Turbo NAS and works as a real-time backup of your precious photos. Qfile displays thumbnails on the list for you to easily identify the file type at a glance. You can move, copy, rename or delete files on the Turbo NAS, all with your mobile device.

Qmanager

Qmanager lets you monitor the CPU usage, memory usage, system event info, and active users. You can also remotely check the connection status or logged in users to prevent unauthorized activities. Remotely restart or shut down your Turbo NAS, and use Qmanager to turn the application services on and off. You can use Wake on LAN to power on your NAS. It only takes a single click and you are done!



QNAP mobile apps are available at Google Play Store and the Apple App Store.

Surveillance

Surveillance Station Pro

The Surveillance Station Pro allows users to easily set up a home security system and flexibly choose the IP cameras for live view monitoring, recording, and playback. The live view provides instant video images from the monitored areas. Event notifications and fast video retrieval also offered. iOS® or Android™ users can install the VMobile app to monitor the surveillance channels anytime and anywhere.



TS-869U-RP

Turbo NAS Business Series - Tower



| Model | TS-870 | TS-869 Pro | TS-670 | TS-669 Pro |
|--|--|--|--|--|
| CPU | Intel® Celeron™ 2.6 GHz Dual Core | Intel® Atom™ 2.13 GHz Dual Core | Intel® Celeron™ 2.6 GHz Dual Core | Intel® Atom™ 2.13 GHz Dual Core |
| Memory | 2GB DDR3 | 1GB DDR3 | 2GB DDR3 | 1GB DDR3 |
| Maximum RAM Support | 16GB | 3GB | 16GB | 3GB |
| Internal HDD/SSD ⁽¹⁾ | 8 x 2.5"/3.5" SATA 6Gb/s | 8 x 2.5"/3.5" SATA 6Gb/s | 6 x 2.5"/3.5" SATA 6Gb/s | 6 x 2.5"/3.5" SATA 6Gb/s |
| Maximum RAW Capacity ⁽¹⁾ | 32TB | 32TB | 24TB | 24TB |
| Hard Drive Tray | Hot Swappable with Key Lock | Hot Swappable with Key Lock | Hot Swappable with Key Lock | Hot Swappable with Key Lock |
| USB 3.0 | Back: 2 | Back: 2 | Back: 2 | Back: 2 |
| USB 2.0 | Front: 1, Back: 2 | Front: 1, Back: 4 | Front: 1, Back: 2 | Front: 1, Back: 4 |
| eSATA | 2 | 2 | 2 | 2 |
| Gigabit LAN Port | 4 | 2 | 4 | 2 |
| 10GbE Ready ⁽³⁾ | √ (optional) | -- | √ (optional) | -- |
| HDMI Port | √ | √ | √ | √ |
| VGA Port | -- | √ | -- | √ |
| LCD | √ | √ | √ | √ |
| Dimensions (HxWxD) | 185.2 x 298.2 x 235.4 mm 7.29 x 11.74 x 9.27 inch | 185.2 x 298.2 x 235.4 mm 7.29 x 11.74 x 9.27 inch | 175 x 257 x 235 mm 6.89 x 10.12 x 9.25 inch | 175 x 257 x 235 mm 6.89 x 10.12 x 9.25 inch |
| Weight | Net: 7.4 kg (16.31 lbs) Gross: 8.7 kg (19.18 lbs) | Net: 7.3 kg (16.08 lbs) Gross: 8.6 kg (18.94 lbs) | Net: 5.3 kg (11.68 lbs) Gross: 6.6 kg (14.55 lbs) | Net: 5.2 kg (11.46 lbs) Gross: 6.5 kg (14.33 lbs) |
| Supported RAID Types | Single Disk, JBOD, RAID 0, 1, 5, 6, 10, 5 + Hot Spare, 6 + Hot Spare, 10 + Hot Spare | | | |
| Power | 350W | 350W | 250W | 250W |
| Smart Fan | 2 x 12 cm | | 2 x 9 cm | |
| Power Consumption ⁽²⁾ | HDD Standby: 38W; Access: 93W | HDD Standby: 30W; Access: 59W | HDD Standby: 32.6W; Access: 84.9W | HDD Standby: 31.5W; Access: 63.6W |
| Max User Accounts | 4096 | 4096 | 4096 | 4096 |
| Max Groups | 512 | 512 | 512 | 512 |
| Max Shared Folders | 512 | 512 | 512 | 512 |
| Max Concurrent Connections | 800 | 600 | 800 | 600 |
| Max IP Cam Recording Channels (1 free channel included) | 16 | 16 | 16 | 16 |



| Model | TS-569 Pro | TS-470 | TS-469 Pro | TS-269 Pro |
|--|---|---|---|--|
| CPU | Intel® Atom™ 2.13 GHz Dual Core | Intel® Celeron™ 2.6 GHz Dual Core | Intel® Atom™ 2.13 GHz Dual Core | Intel® Atom™ 2.13 GHz Dual Core |
| Memory | 1GB DDR3 | 2GB DDR3 | 1GB DDR3 | 1GB DDR3 |
| Maximum RAM Support | 3GB | 16GB | 3GB | 3GB |
| Internal HDD/SSD ⁽¹⁾ | 5 x 2.5"/3.5" SATA 6Gb/s | 4 x 2.5"/3.5" SATA 6Gb/s | 4 x 2.5"/3.5" SATA 6Gb/s | 2 x 2.5"/3.5" SATA 6Gb/s |
| Maximum RAW Capacity ⁽¹⁾ | 20TB | 16TB | 16TB | 8TB |
| Hard Drive Tray | Hot Swappable with Key Lock | Hot Swappable with Key Lock | Hot Swappable with Key Lock | Hot Swappable with Key Lock |
| USB 3.0 | Back: 2 | Back: 2 | Back: 2 | Back: 2 |
| USB 2.0 | Front: 1, Back: 4 | Front: 1, Back: 2 | Front: 1, Back: 4 | Front: 1, Back: 4 |
| eSATA | 2 | 2 | 2 | 1 |
| Gigabit LAN Port | 2 | 4 | 2 | 2 |
| 10GbE Ready ⁽³⁾ | -- | √ (optional) | -- | -- |
| HDMI Port | √ | √ | √ | √ |
| VGA Port | √ | -- | √ | -- |
| LCD | √ | √ | √ | -- |
| Dimensions (HxWxD) | 185 x 210.6 x 235.4 mm 7.28 x 8.29 x 9.27 inch | 177 x 180 x 235 mm 6.97 x 7.09 x 9.25 inch | 177 x 180 x 235 mm 6.97 x 7.09 x 9.25 inch | 150 x 102 x 216 mm 5.91 x 4.02 x 8.5 inch |
| Weight | Net: 5.1 kg (11.24 lbs) Gross: 6.5 kg (14.33 lbs) | Net: 3.75 kg (8.27 lbs) Gross: 4.75 kg (10.47 lbs) | Net: 3.65 kg (8.04 lbs) Gross: 4.65 kg (10.24 lbs) | Net: 1.74 kg (3.84 lbs) Gross: 2.92 kg (6.44 lbs) |
| Supported RAID Types | Single Disk, JBOD, RAID 0, 1, 5, 6, 10, 5 + Hot Spare | | | Single Disk, JBOD, RAID 0, 1 |
| Power | 250W | 250W | 250W | 90W External Adapter |
| Smart Fan | 1 x 12 cm | 1 x 9 cm | | 1 x 7 cm |
| Power Consumption ⁽²⁾ | HDD Standby: 29.1W; Access: 48.5W | HDD Standby: 33W; Access: 61.8W | HDD Standby: 25W; Access: 43W | HDD Standby: 16W; Access: 25W |
| Max User Accounts | 4096 | 4096 | 4096 | 4096 |
| Max Groups | 512 | 512 | 512 | 512 |
| Max Shared Folders | 512 | 512 | 512 | 512 |
| Max Concurrent Connections | 600 | 800 | 600 | 600 |
| Max IP Cam Recording Channels (1 free channel included) | 16 | 16 | 16 | 16 |

(1) The standard system is shipped without hard drives. Please visit www.qnap.com for the official hard drive compatibility list.

(2) Actual results may vary due to environment factors and other variables.

(3) Additional network expansion cards are required (optional).

All specifications are subject to change without notice.







For more QNAP product information, please visit www.qnap.com

Turbo NAS Business Series - Rack Mount



| Model | TS-1269U-RP | TS-869U-RP | TS-469U-RP/TS-469U-SP | TS-421U | TS-420U |
|--|---|--|--|--|--|
| CPU | Intel® Atom™ 2.13 GHz Dual Core | Intel® Atom™ 2.13 GHz Dual Core | Intel® Atom™ 2.13 GHz Dual Core | Marvell® 6282 2.0 GHz | Marvell® 6282 1.6 GHz |
| Memory | 2GB DDR3 | 2GB DDR3 | 1GB DDR3 | 1GB DDR3 | 1GB DDR3 |
| Maximum RAM Support | 3GB | 3GB | 3GB | -- | -- |
| Internal HDD/SSD ⁽¹⁾ | 12 x 2.5"/3.5" SATA 6Gb/s | 8 x 2.5"/3.5" SATA 6Gb/s | 4 x 2.5"/3.5" SATA 6Gb/s | 4 x 2.5"/3.5" SATA 3Gb/s | 4 x 2.5"/3.5" SATA 3Gb/s |
| Maximum RAW Capacity ⁽¹⁾ | 48TB | 32TB | 16TB | 16TB | 16TB |
| Hard Drive Tray | Hot Swappable with Key Lock | Hot Swappable with Key Lock | Hot Swappable with Key Lock | Hot Swappable with Key Lock | Hot Swappable with Key Lock |
| USB 3.0 | Back: 2 | Back: 2 | Back: 2 | Back: 2 | Back: 2 |
| USB 2.0 | Back: 4 | Back: 4 | Front: 1, Back: 4 | Front: 1, Back: 1 | Front: 1, Back: 1 |
| eSATA | 2 | 2 | 2 | 2 | 2 |
| Gigabit LAN Port | 2 | 2 | 2 | 2 | 2 |
| 10GbE Ready ⁽³⁾ | -- | -- | -- | -- | -- |
| HDMI Port | 1 (reserved) | 1 (reserved) | 1 (reserved) | -- | -- |
| VGA Port | 1 | 1 | 1 | -- | -- |
| LCD | -- | ✓ | -- | -- | -- |
| Dimensions (HxWxD) | 89 x 482 x 534 mm 3.50 x 18.98 x 21.02 inch | 89 x 482 x 534 mm 3.50 x 18.98 x 21.02 inch | 44 x 439 x 499 mm 1.73 x 17.28 x 19.65 inch | 44 x 439 x 483 mm 1.73 x 16.97 x 19.02 inch | 44 x 439 x 483 mm 1.73 x 16.97 x 19.02 inch |
| Weight | Net: 11.54 kg (25.44 lbs) Gross: 19.58 kg (43.17 lbs) | Net: 11.02 kg (24.29 lbs) Gross: 19.26 kg (42.46 lbs) | TS-469U-RP: Net: 7.63 kg (16.82 lbs) Gross: 9.55 kg (21.05 lbs) TS-469U-SP: Net: 7.43 kg (16.38 lbs) Gross: 9.35 kg (20.61 lbs) | Net: 6.7 Kg (14.77 lb) Gross: 9.5 Kg (20.94 lb) | Net: 6.7 Kg (14.77 lb) Gross: 9.5 Kg (20.94 lb) |
| Supported RAID Types | Single Disk, JBOD, RAID 0, 1, 5, 6, 10, 5 + Hot Spare, 6 + Hot Spare, 10 + Hot Spare | | Single Disk, JBOD, RAID 0, 1, 5, 6, 10, 5 + Hot Spare | | |
| Power | 380W Redundant PSU | 300W Redundant PSU | TS-469U-RP: 250W Redundant PSU TS-469U-SP: 250W Single PSU | 250W Single PSU | 250W Single PSU |
| Smart Fan | 2 x 7 cm | | 2 x 4 cm | | |
| Power Consumption ⁽²⁾ | HDD Standby: 66.8W; Access: 81.2W | HDD Standby: 56.6W; Access: 74.7W | HDD Standby: 37W; Access: 52W | HDD Standby: 12W; Access: 33W | HDD Standby: 15W; Access: 29W |
| Max User Accounts | 4096 | 4096 | 4096 | 4096 | 4096 |
| Max Groups | 512 | 512 | 512 | 512 | 512 |
| Max Shared Folders | 512 | 512 | 512 | 512 | 512 |
| Max Concurrent Connections | 600 | 600 | 600 | 260 | 260 |
| Max IP Cam Recording Channels (1 free channel included) | 16 | 16 | 16 | 8 | 8 |

Accessories

| Category | Order P/N | Product Description | Applied Models |
|----------|---|---|--|
| LAN Card |  LAN-1G2T-D | Dual-port 1 GbE network expansion card for tower model, desktop bracket | TS-870, TS-670, TS-470 |
| |  LAN-10G2T-D | Dual-port 10Gbase-T network expansion card for tower model, desktop bracket | TS-870, TS-670, TS-470 |
| Rail Kit |  RAIL-B01 | Rail kit for 2U rackmount models | TS-869U-RP, TS-1269U-RP |
| |  RAIL-C01 | Rail kit for 1U rackmount models | TS-420U, TS-421U, TS-469U-SP/RP |
| RAM |  RAM-1GDR3-SO-1333 | 1GB DDR3-1333 204Pin SO-DIMM RAM Module | TS-269 Pro, TS-469 Pro, TS-569 Pro, TS-669 Pro, TS-869 Pro, TS-469U-SP/RP, TS-869U-RP, TS-1269U-RP, TS-470, TS-670, TS-870 |
| |  RAM-2GDR3-SO-1333 | 2GB DDR3-1333 204Pin SO-DIMM RAM Module | TS-269 Pro, TS-469 Pro, TS-569 Pro, TS-669 Pro, TS-869 Pro, TS-469U-SP/RP, TS-869U-RP, TS-1269U-RP, TS-470, TS-670, TS-870 |

All specifications are subject to change without notice.

Software Specifications

Operating System

- Embedded Linux

Supported Clients

- Windows XP, Vista, Windows 7 (32/64-bit), Windows 8 (32/64-bit), Windows Server 2003/2008 R2/2012
- 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: EXT3, EXT4
- External Hard Drive: EXT3, EXT4, NTFS, FAT32, HFS+

Networking

- TCP/IP (IPv4 & IPv6: Dual Stack)
- Dual Gigabit NICs with Jumbo Frame - Failover
 - Multi-IP Settings
 - Port Trunking/NIC Teaming
- Service Binding Based on Network Interfaces
- Proxy Client, Proxy Server
- 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

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 Data Encryption**
- AES 256-bit External Drive Encryption**
- Importable SSL Certificate
- Instant Alert via E-mail, SMS, Beep, and LCD Panel*

Disk Management

- QNAP Flexible Volume with Thin Provisioning and Space Reclamation
- Supports Storage Pool
- Online Volume Expansion
- Online Storage Pool Expansion
- Online RAID Capacity Expansion and Online RAID Level Migration
- SMART Data Migration
- 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

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 Multimedia Station
- Subfolder Permissions Support for CIFS/SMB,

AFP, FTP, and File Station

Domain Authentication Integration

- Microsoft Active Directory (AD)
- LDAP Server, LDAP Client
- Domain Users Login via CIFS/SMB, AFP, FTP, and File Station

myQNAPcloud Service

- Private Cloud Storage and Sharing
- Free Host Name Registration (DDNS)
- Auto Router Configuration (via UPnP)
- CloudLink for Remote Access without Complicated Router Setup
- myQNAPcloud Connect for Easy VPN Connection (Windows VPN Utility)

Qsync

- Syncs Files among Multiple Devices through the NAS
- Option for Not Removing Files on the NAS during Synchronization
- Selective Synchronization
- Shares Securely with SSL
- Team Folder
- Shares Files by Links via E-mail
- Uploads Photos or Videos to Qsync Folder Automatically via Qfile
- Restores Files from Network Recycle Bin
- File Name Conflict Policy
- Option for Filter Settings
- Privilege Control for Qsync Users
- Supports Windows & Mac OS

Web Administration

- Multi-window, Multi-tasking based System Management
- Movable Icons and Personalized Desktop
- Smart Toolbar and Dashboard for Neat Display on System Status
- Smart Fan Control
- Dynamic DNS (DDNS)
- SNMP (v2 & v3)
- Resource Monitor
- Network Recycle Bin for File Deletion via CIFS/SMB and AFP
 - Automatic Cleanup
 - File Type Filter
- Comprehensive Logs (Events & Connection)
- Syslog Client/Server
- Firmware Live Update
- System Settings Backup and Restore
- Restore to Factory Default
- Mobile App Qmanager for Remote Monitoring

File Server

- File Sharing across Windows, Mac, and Linux/UNIX
- Windows ACL
- Advanced Folder Permission for CIFS/SMB, AFP, FTP
- Shared Folder Aggregation (CIFS/SMB)

FTP Server

- FTP over SSL/TLS (Explicit)
- FTP Supported
- Passive FTP Port Range Control

File Station

- Supports ISO Mounting (Up to 256 ISO Files)
- Creates and Sends Download Links for Sharing Public Files with Expiration Time and Password Protection
- Drag-n-drop Files via Chrome and Firefox Browsers
- Photo, Music, and Video Preview and Playback Empowered by Built-in Transcoding Technology
- File Compression (ZIP or 7z)
- Mobile App: Qfile for File Browsing and Management

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
- Encryption, Compression, File Filter, and Transfer Rate Limitation
- Encrypted Replication between QNAP NAS Servers
- Desktop Backup by QNAP NetBak Replicator for Windows
- Apple Time Machine Support with Backup Management
- 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, ARCServe Backup, EMC Retrospect, Symantec Backup Exec, etc.

Print Server

- Max No. of Printers: 3
- Supports Internet Printing Protocol
- Print Job Display and Management
- IP-based and Domain Name-based Privilege Control

Storage Plug & Connect

- Creates and Maps Shared Folders by QNAP Windows Qfinder
- Creates and Connects to iSCSI Target/LUN

iSCSI (IP SAN)

- iSCSI Target with Multi-LUNs per Target (Up to 256 Targets/LUNs Combined)
- Supports LUN Mapping & Masking
- Block-based LUN
- Thin-provisioned LUN with Space Reclamation
- Online LUN Capacity Expansion
- Supports SPC-3 Persistent Reservation
- Supports MPIO & MC/S
- iSCSI LUN Backup, One-time Snapshot, and Restore
- iSCSI Connection and Management by QNAP Finder (Windows)
- Virtual Disk Drive (via iSCSI Initiator)
- Stack Chaining Master
- Max No. of Virtual Disk Drives: 8

Server Virtualization & Clustering

- VMware vSphere (ESX/ESXi 4.x, 5.x)
- VMware VAAI for iSCSI and VAAI for NAS
- vSphere Plug-in
- Citrix XenServer (6.0)
- Windows Server 2012 Hyper-V
- Supports Microsoft ODX
- QNAP SMI-S Provider for Microsoft SCVMM
- Windows Server 2012 Failover Clustering

Surveillance Station Pro

- Supports over 1,400 IP Cameras
- Includes 1 Free Camera License
- Up to 16 Camera Channels via Additional License Purchase
- Intelligent Video Analytics (IVA) for Advanced Video Search
- Visual Aid by E-map
- Surveillance Client for Mac
- Mobile App: VMobile (iOS and Android)

VPN Server

- Secure Remote Access: PPTP & OpenVPN VPN services
- Max No. of Clients: 30

Photo Station

- Organizes Photos in Timeline Automatically
- Tags Photos by Text, Color, and Rating for Quick Search
- Slideshows with Background Music and Different Transition Effects
- Animated Thumbnails for Videos
- Geotags Photos with Google Maps
- Shares Slideshows and Photo through Email, URL, or Social Websites

Music Station

- Plays or Shares Music Collections with Web

Browser

- Automatic Classification via Media Library
- Local Playback with USB Speakers/Sound Card
- Internet Radio (MP3)
- Up to 8 Music Alarms

iTunes Server

- Audio and Video Sharing for Windows & Mac iTunes

Video Station

- Web Video Sharing
- Video Categorization and Transcoding
- Publish Videos to Facebook, Twitter, and Google+

DLNA Server

- Supports DLNA/UPnP TVs and Players such as PlayStation 3 and Xbox 360

AirPlay

- Streams Videos, Photos and Music from NAS to Apple TV via Qfile or QAirplay's Web-based Controller

Digital TV Station

- DVB-T Digital TV Live View, Recording, and Playback
- Supports up to 4 USB TV Tuners*
- Electronic Programming Guide (EPG) with Scheduled Recording
- Note: The availability of DVB-T broadcasting and EPG may vary depending on geographic locations.

Download Station

- PC-less BT, FTP, and HTTP Download (up to 500 Tasks)
- BT Download with Magnet Link and PT Support
- Scheduled Download and Bandwidth Control
- RSS Subscription and Download (Broadcasting)
- Bulk Download with Wildcard Settings
- RapidShare Download Support
- Website Subscription Service: YouTube, Vimeo, niconico
- QNAP Download Management Software: QGet - For Both Windows & Mac OS
- Manage the Download Tasks of Multiple QNAP NAS Remotely over LAN or WAN

HD Station

- Playbacks Videos, Music, Photos on TV with XBMC via HDMI Output
- Watch Various Online Contents Such as YouTube, Flickr, Picasa, Shoutcast, etc.
- Web Browser
- Supports USB U.S. Keyboards and Mice
- Supports iOS Qremote App and the Official XBMC Remote App
- Note:
 1. For the best HD Station experience, QNAP recommends upgrading your Turbo NAS memory to 2GB or more.
 2. The playback and quality of some video files may be affected due to the current CPU and GPU's decoding capability.
 3. Currently the HDMI audio passthrough is not supported.

APP Center

- Adds New Features by Online Installation of over 90 Official and Community Software Add-ons

* This feature may vary according to different models.

** The data encryption functions may not available in accordance with the legislative restrictions of some countries.

Design and specifications are subject to change without notice.

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