

# QNAP

## Turbo NAS TS-x53 Pro/SS-x53 Pro

Powerful, reliable and scalable Celeron Quad-Core 2.0GHz NAS solution for SMBs to build a private cloud

**Celeron Quad-Core 2.0GHz SOC CPU, burst up to 2.41GHz**



Turn your NAS into a PC



- Turn your NAS into a PC with QvPC Technology
- Manage, share, and back up business data
- Real-time Remote Replication (RTRR) and cloud-based storage backup
- NAS and iSCSI-SAN unified storage solution
- Enhanced data security with high-performance AES 256-bit encryption and anti-virus
- Supports VMware®, Citrix®, and Microsoft® Hyper-V and advanced virtualization features
- Run multiple Windows/Android/Linux virtual machines with Virtualization Station
- Transcode Full HD videos on-the-fly & offline with QNAP unique transcoding technology



TS-253 Pro



TS-453 Pro



TS-653 Pro



TS-853 Pro



SS-453 Pro



SS-853 Pro

# Powerful, reliable and scalable NAS for SMBs

The TS-x53 Pro/SS-x53 Pro, featuring the easy-to-use QTS operating system, is a powerful, reliable, secure and scalable NAS solution designed for mission-critical business applications and fast growing data storage needs. The TS-x53 Pro/ SS-x53 Pro delivers high performance with persistent throughput, providing a comprehensive storage solution for SMBs to build a reliable private cloud. Powered by a cutting-edge 22nm Quad-core Intel® Celeron® 2.0GHz processor with 4GB/2GB energy-efficient DDR3L RAM (upgradable up to 8GB), coupled with the support of 4 Gigabit LAN ports and HDMI connectivity, the TS-x53 Pro/SS-x53 Pro is a powerful NAS delivering up to 440MB/s read & write speeds. The TS-x53 Pro/SS-x53 Pro can also automatically increase the processor's clock rate from 2.0GHz to 2.41GHz when needed for CPU-intensive tasks. The TS-x53 Pro/SS-x53 Pro's fast encryption and decryption performance provides transfer speeds of up to 96MB/s with AES-256 bit volume encryption, boosting system performance & security while ensuring the safety of sensitive business data stored in the TS-x53 Pro/SS-x53 Pro.



QvPC Technology



Built-in VMs



QNAS Unique Transcoding Technology



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## Leading QvPC Technology from QNAP



### ■ About QvPC Technology

Based on Software-defined Anything (SDX), QvPC Technology is the result of years of R&D effort that QNAP has put into developing and perfecting its software and hardware expertise. As a cutting-edge technology, QvPC Technology has consolidated a number of high-end technologies, including VM integration, multimedia transcoding, HDMI output, cloud integration, NAS connection technologies and has brilliantly realized the computing environment of a PC on a NAS. With a TS-x53 Pro/SS-x53 Pro, you only need a keyboard, mouse and monitor and you can turn the TS-x53 Pro/SS-x53 Pro into a PC. QvPC Technology can successfully enable the NAS to become a low-cost, high-performance device with the functionality of a PC. So whether you are working in a studio or at a remote site, you are sure to have the best user experience with a TS-x53 Pro/SS-x53 Pro.

#### Instantly turn your NAS into a PC

By simply connecting a keyboard, mouse and HDMI monitor to an TS-x53 Pro/SS-x53 Pro, you can use it as a PC for direct access to Windows, Android and Linux-based VMs, Surveillance Station, Google Chrome, XBMC, etc.

#### Save Bandwidth and Smooth Playback

QvPC Technology supports HDMI output and by playing multimedia files directly from the NAS, you can enjoy a lag-free multimedia experience while saving network bandwidth.

### ■ Key QvPC Technology Highlights:

#### Turn your NAS into a PC

##### Access Data with QTS

After you connect a monitor, keyboard and mouse to the TS-x53 Pro/SS-x53 Pro, you only need to go through a few simple steps to access data stored on the NAS with QTS operating system, and it instantly becomes a ready-to-use PC.



#### Easily Surf the Web on TV with Chrome

QvPC Technology features the HybridDesk Station (HD Station) and supports Google Chrome, allowing you to directly surf the Internet through the connected monitor.



#### Launch Windows and other VMs on TV with QVM

QvPC Technology supports VMs. After you install popular OS such as Windows, Android or Linux in a virtual machine and appropriate applications/programs, you can virtually open all type of files stored on the NAS. This exclusive feature is only available on QNAP Turbo NAS.



## Cinema-grade Multimedia Experience

### XBMC Media Player

The HybridDesk Station (HD Station) has an integrated XBMC media player, allowing you to directly enjoy multimedia files stored on a TS-x53 Pro/SS-x53 Pro using an HDMI-enabled display. With a QNAP remote control in hand, you can easily select what videos, photos, and music you would like to enjoy.



### Qremote Mobile App

With the Qremote app, iPad and iPhone users can turn their devices into remote controls to play videos, music and photos on their HDTV/monitor. iOS and Android users can also download the Official XBMC Remote app as an alternative remote control solution.



## Safeguard your Office and Property -24/7

### Surveillance Station as your Office Monitoring Center

QvPC Technology supports displaying the real-time live view on TV. With a QNAP remote control, you can monitor up to 16 online channels or play back the recording files on a big screen, allowing you to clearly see all the details or movement taking place inside your office.



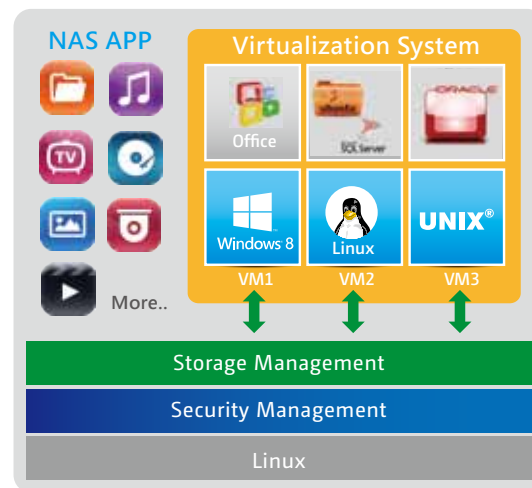


# Virtualization Station

## Multi-purpose on a Machine (Virtualization Station)

### ■ Introduction

TS-x53 Pro/SS-x53 Pro Series is the world's first SMB-grade NAS that supports Intel VT-x and virtual machine applications. Just download the Virtualization Station App from App Center, and you can install & operate multiple operating systems with Windows, Linux, and UNIX. The virtual machines can be used in a variety of different ways to boost the functionality of your Turbo NAS.



Virtualization technology is normally solely used in enterprise IT environments, but with the growing needs of a digital office, virtualization is slowly becoming part of our everyday applications. Many offices have printers, and when users want to print out the documents stored on their Turbo NAS, but have a printer with Windows-only drivers, they would need to startup their PC just for this simple task.

With the Virtualization Station, you can install these drivers on a Windows-based virtual machine, allowing you to easily print out documents stored on the Turbo NAS.

Creating multiple VMs and running only one on TS-x53 Pro/SS-x53 Pro at the same time.



To use Virtualization Station, we recommend that you buy a TS-x53 Pro/SS-x53 Pro Series model with 4GB RAM (TS-x53 Pro-4G/SS-x53 Pro-4G).



You can carry out the aforementioned scenario using the below steps.

- 1 Download the Virtualization Station from the App Center and create a Windows-based VM (you will need at least two Ethernet cables connected to the Turbo NAS)\*
- 2 Install the printer drivers in the VM
- 3 Download the QNAP mobile app "Qfile" from the App Store (iOS) or Play Store (Android) and set a destination folder on the Turbo NAS for uploading photos
- 4 Map the destination folder into the VM
- 5 Access the VM remotely via web browser to select a photo and then print it instantly

\*The network usage of Virtualization Station is separated from the Turbo NAS. One Ethernet cable is reserved for the Turbo NAS to use, so you will need at least another one for the Virtualization Station to use.



How to map the destination folder into a Windows VM?  
Please follow these steps:

- A (Using Windows 7 as an example) Please go to "Computer" and click [Map network drive]
- B Please insert the IP address of your Turbo NAS and click [Browser]. Select the folder you want to use and click [Finish].
- C This folder you want to use will appear as a network drive on your "Computer"

# Virtualization Station

## ■ The Highlights of QNAP Exclusive Virtualization Technology

### Direct access to files & data via VM

Specific file formats cannot be opened directly by the Turbo NAS, but the Virtualization Station makes it possible. Administrators can install Windows, Linux, and UNIX on the Turbo NAS to run any supported application or file.

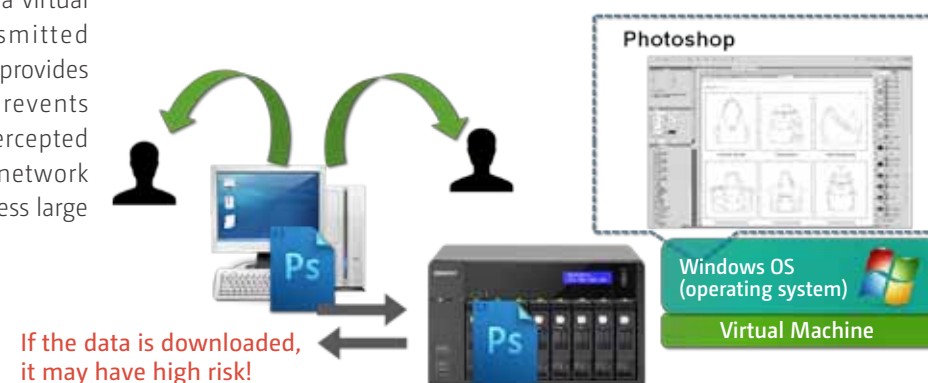


### Save bandwidth & time

As you download a large amount of data to a local PC, it has the potential to take a long time and to use up network bandwidth. When accessing data on the Turbo NAS through virtual machines on the Virtualization Station, you can enjoy secure data transmission and save bandwidth & time, as the data is not transmitted via physical network cables.

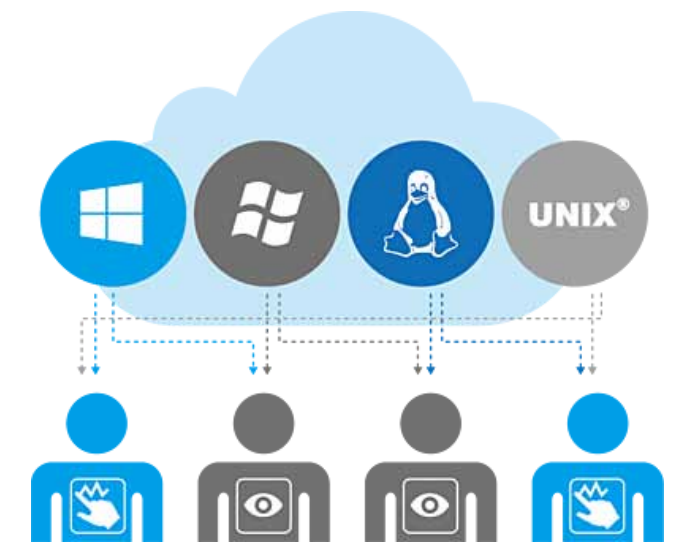
### Enhance security and save bandwidth

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

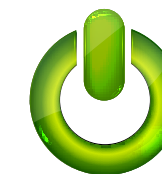


### User-based permissions settings

The Virtualization Station administrator can assign VMs to users and set different permissions to them such as power control, snapshot, advanced VM settings and the VM's view-only console. According to the purpose of VMs and the user demands, administrators can easily and efficiently allocate VM's resources to users.



### Auto Start



### VM auto-start

Once NAS restart, VMs can be automatically started by setting up a certain timeframe.

### Dedicated network for VM only

The Virtualization Station provides functions for network monitoring. You can monitor all NIC (network interface controller) traffic and assign a specific NIC exclusively to a single VM.



### Operate VMs as remote desktops

You can operate VMs using remote desktops to enjoy the utmost convenience. A list of buttons is provided on the left side of individual VM pages allowing you to suspend, shutdown, force shutdown, reset, use function keys, take snapshots, and to use Ctrl+Alt+Del for the VMs.





# Transcoding Center

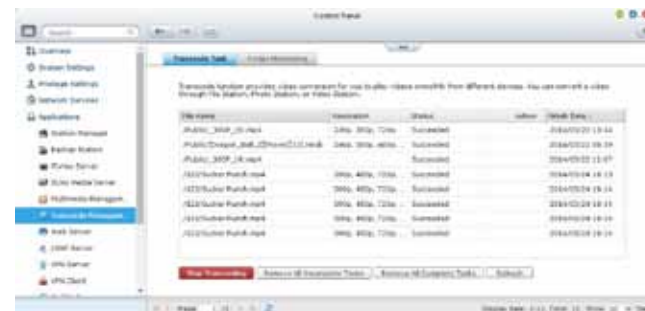


## QNAP Unique Transcoding Technology

Due to the increasing use of HD videos (720p, 1080p), video files are becoming increasingly large in size and can use lots of network bandwidth to share or play them over a network.

### Transcode Management

On-the-fly Transcoding and Background Transcoding allows you to convert videos to lower resolutions to accommodate slower/restricted network environments and device limitations.



### Why We Need Transcoding?

With the popularity of high-definition smartphones and digital cameras, the resolution of videos is getting higher. A higher resolution means larger file sizes and more bandwidth. Transcoding can provide lower resolution videos when sharing and watching, saving bandwidth, but also retains the unaltered original video on the Turbo NAS.

### Smart Transcoding Adapts to Suit Different Bandwidth

The TS-x53 Pro/SS-x53 Pro Series provides a range of resolutions to play/share videos according to different bandwidth limits. Higher resolutions need more bandwidth, and you can select the right resolution for your network environment to get the best viewing experience.

Resolution \ Network	240P	360P	480P	720P	1080P
Ethernet					
Wi-Fi					
4G (LTE)					
3G					

### Multi-mode Transcoding Function

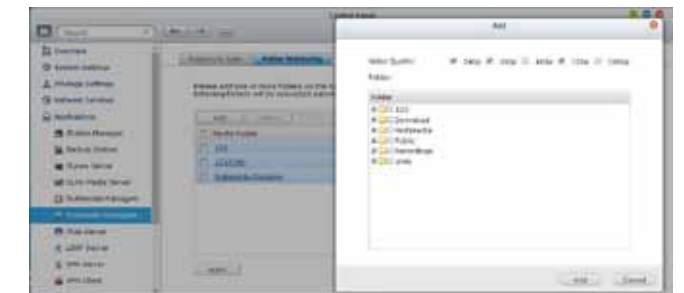
TS-x53 Pro/SS-x53 Pro Series provide multiple transcoding functions for you to have the best video experience.

#### Background hardware accelerated transcoding

You can add videos to a transcoding list and use the Turbo NAS to convert the original high resolution video for use with multiple resolutions. Then you can select an appropriate resolution to match your environment when sharing or watching.

#### Auto transcoding

When you set a Turbo NAS folder as an auto transcoding folder, the Turbo NAS will automatically convert the videos in this folder to the resolution you have set. For example, if you set the folder to 360P, the video will auto transcode to this resolution when you upload to this folder as a background task.



#### On-the-fly transcoding

If you have many high-resolution videos, but did not transcode in advance, you can use on-the-fly transcoding. This will adapt to meet bandwidth limits, with the Turbo NAS transcoding in real time for watching the video directly. For this hardware based transcoding technology, up to **5** users can watch videos streamed simultaneously from the same Turbo NAS.

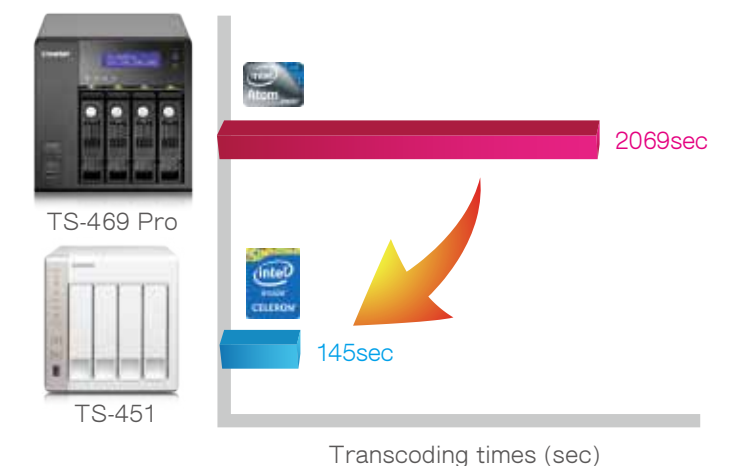


#### Hardware-accelerated transcoding technology

With Intel® HD Graphics video creation & conversion is faster, easier and can significantly reduce transcoding time while handling multiple on-the-fly transcode tasks.

### Performance

Compare the transcoding time between the TS-x53 Pro/SS-x53 Pro and TS-x69L / TS-x69 Pro with using the same high resolution (1080p) video.



**Results:** The performance of Hardware-accelerated Transcoding is **18 times** better than Software Transcoding.

## Intuitive & Simple

Based on Linux, QTS is designed to be simple and flexible, and centralizes multiple applications efficiently in the App Center.

QTS kernel highlights:

- › Multi-Window: Simultaneous multi-window operation, ease of usage.
- › Multi-Task: Perform multiple tasks at the same time, improve work efficiency.
- › Multi-Device: Synchronize cross multiple devices anytime, anywhere.
- › Multi-App: Download apps, easy to manage.

## Intelligent Desktop

The QTS 4.1'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 between running applications.



**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.

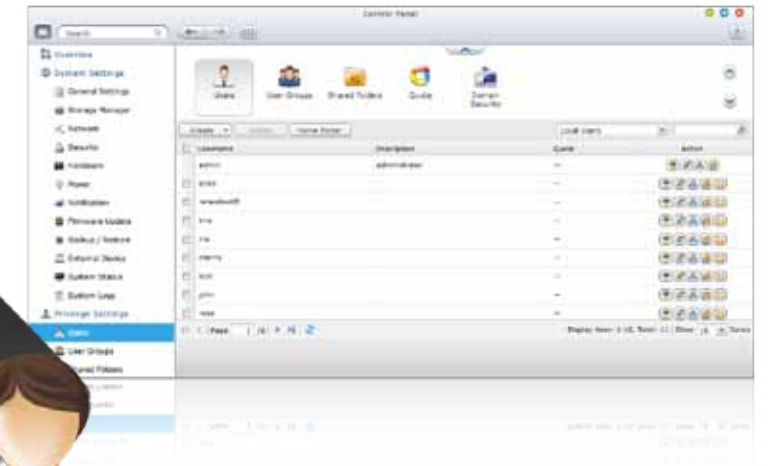
**Multiple desktops**  
This extended desktop workspace is designed specifically to improve your productivity. You can separate the apps onto different desktops according to their nature or genre and switch between the desktops freely.

**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.

## System Management

### Privileges Settings

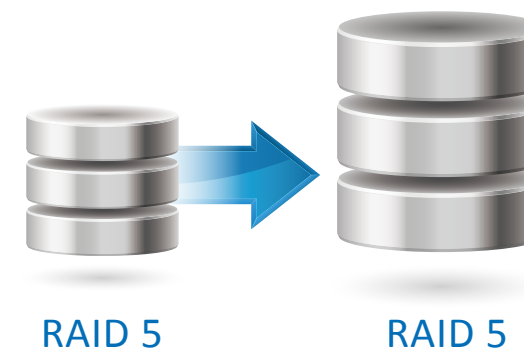
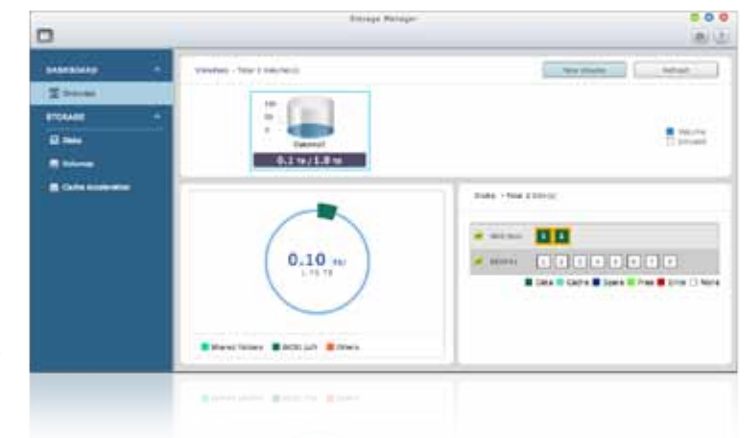
You can create multiple user accounts and shared folders, and authorize each user to different shared folders with the system support of privilege settings and Windows ACL advanced permissions.



### Storage Management

#### RAID configurations

The Turbo NAS supports comprehensive RAID configurations to have better data protection. Based on the number of hard drives of different Turbo NAS, you can choose from RAID 0, 1, 5, 6, 10, 5+hot spare, 6+hot spare, and 10+hot spare configurations. Considering the performance gain and extra redundancy, you can choose the most appropriate RAID configuration to effectively reduce the risk of data loss caused by unexpected hard disk failure.



#### RAID volume expansion

TS-x53 Pro/SS-x53 Pro makes RAID volume expansion convenient and easy. At initial setup of the Turbo NAS, you can create RAID volumes by using small-sized hard drives. You can still replace the hard drives with larger ones anytime in need because RAID volume expansion can be done easily with the Turbo NAS. All the actions of expanding the volume capacity can be done online, without turning off the server and with all the data retained.



You can install the Qmanager app on your mobile device to conveniently manage your Turbo NAS and monitor the system status on the go.





## ■ Network Settings

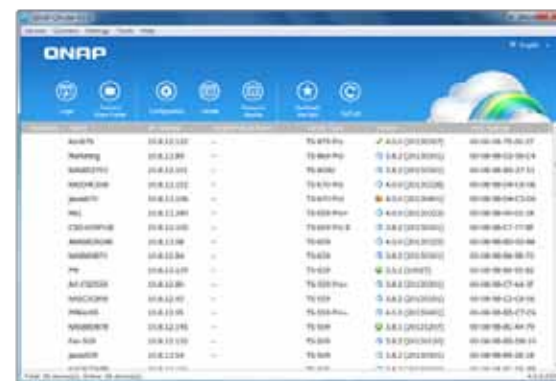
Setup the network under control panel. The TS-x53 Pro/SS-x53 Pro Series support multiple port-trunking modes, enabling administrators to set up link aggregation to increase total data transmission capability. Failover is also supported to ensure continuous system operations. The supported port-trunking 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).



## ■ Qfinder

Connect and set up NAS easily

Qfinder is a utility, available for Windows, Mac, and Linux, to quickly find and access the Turbo NAS over the LAN. Install the Finder on your computer, open it, and double click your Turbo NAS name, and the login page is ready for you.



## Easily access the NAS by Storage Plug & Connect

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



Qfinder is a utility, available for Windows, Mac, and Linux, to quickly find and access the Turbo NAS over the LAN. Install the Finder on your computer, open it, and double click your Turbo NAS name, and the login page is ready for you.

## File Backup/Disaster Recovery

The QTS allows data on PCs, servers, virtual machines, and external drives to be backed up to the Turbo NAS; and provides disaster recovery solutions to back up data on the Turbo NAS to external devices or remote servers.

## ■ Backup Center

### Backup from computer to NAS

#### PC backup

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 Turbo NAS units.

With simple clicks, you can set up real-time backup, scheduled

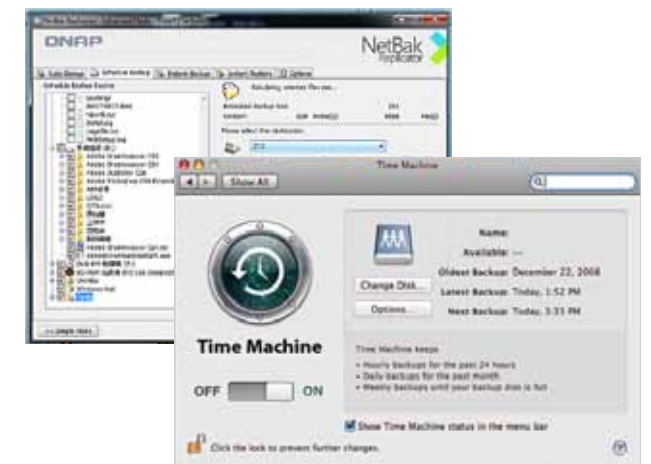
backup and auto-backup. You can set power off after the backup is finished to save energy; file filtering to exclude files not to be backed up; and email notification when backup is completed.

#### Mac backup

Mac users can use the Mac Time Machine to back up data to the Turbo NAS. You only need to set the Turbo NAS as the backup destination on the Time Machine management page, and it's done.

#### 3rd party backup software

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



## ■ Disaster Recovery

### Backup to remote server

- Use rsync protocol to execute scheduled backup to remote rsync server
- Use RTRR (Real-Time Remote Replication) services for real time data backup to a remote Turbo NAS or FTP server.
- Use RTRR to sync shared folders between two Turbo NAS units.

### Backup to cloud storage

Users can back up the data from the Turbo NAS to online cloud storage services, such as Amazon® S3, Amazon Glacier, ElephantDrive®, Microsoft® Azure, Symform®, Google® Drive, and Dropbox®, and restore the data to your Turbo NAS anytime.



## Security Management

QTS offers various options for security management to prevent the system from hacking, and data from interception, theft, and loss. QTS security management meets the electronic requirements of HIPAA (Health Insurance Portability and Accountability Act), performing as an ideal storage solution to store medical records.

### Privilege Settings

#### Windows AD/ACL

QTS supports Windows AD/ACL to help IT administrators manage user account more effectively, and to simplify the process of privilege settings in large-scale organizations. Besides, QTS supports SAMBA v4 that enables the Turbo NAS to serve as a Windows domain controller to manage privilege settings.

#### LDAP Directory Service

QTS supports LDAP protocol, integrating the Turbo NAS into networks that have deployed an LDAP-based directory service such as OpenLDAP and greatly simplifying the efforts of managing a large amount of user accounts. QTS makes Turbo NAS a LDAP server too.

#### Radius Server

QTS RADIUS Server provides centralized authentication and authorization management for computers to connect and use a network service.

QTS RADIUS Server maintains a list of user accounts that are authorized for remote network access through dial-up equipment, Wi-Fi access point, or VPN connections. IT administrators can easily apply access policies to multiple access points for a fine-grained control of network access.



### Anti-interception

#### VPN

QTS supports VPN Server, with VPN connections secured with up to 256-bit encryption. It is easy to configure, and is seamless integrated with the QNAP myQNAPcloud service and Auto Router Configuration. Complicated port forwarding settings for PPTP and OpenVPN are therefore simplified.

#### Encrypted access

QTS supports SSL, SSH and SFTP for secure connection and data transfer. IT administrators can host websites on the Turbo NAS and only allow access via the HTTPS (SSL over HTTP) secure channel.



### Privilege Settings

#### Anti-hacking

IT administrators can set up the black or white list to grant the proper access from different users to the Turbo NAS by IP address. It operates as a policy-based automatic IP blocking by enabling the network access protection command.



### Anti-theft

#### Anti-hacking

QTS supports up to AES 256-bit encryption for internal drives and external USB/eSATA drives, and adopts a military level FIPS 140-2 validated encryption, which is considered to be the highest security certification for compliance.\*

\* Supported by specific Turbo NAS models.



### Anti-data loss

#### Anti-virus

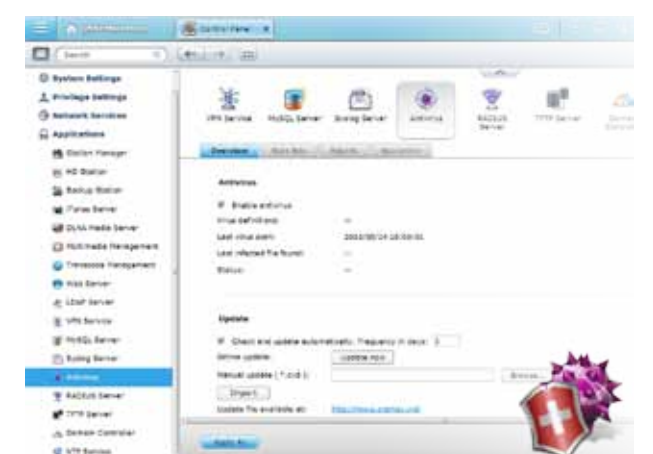
QTS integrates ClamAV antivirus toolkit to detect against the latest viruses, malware, worms, and Trojan horses with continuous free virus database updates, ensuring continuous business operation. An E-mail notification upon task completion or virus detection is provided.

QTS also supports McAfee virus scanner which is available in the QTS App Center with 30-day free trial.

#### Advanced RAID storage technology

QTS supports comprehensive RAID types, including RAID 0, 1, 5, 6, 10, 5+hot spare, 6+hot spare, and 10+hot spare configurations, to effectively decrease the possibilities of data loss due to hard drive failure.

QTS Global Hot Spare feature allows RAID group with multiple RAID volumes on a Turbo NAS to share spare drives. When a hard drive fails in any RAID volume, the global hot-spare drive will automatically





## Application Server

QTS integrates numerous server functions, including Web Server and Printer Server.

### ■ Web/MySQL Server

QTS supports built-in web server, together with PHP/MySQL support, allowing hosting multiple websites and running famous web applications on the Turbo NAS such as Joomla online shop and phpBB forum.



### ■ FTP Server

Large file sharing

Use FTP high-speed data transfer to increase the efficiency of large file sharing.

Flexible settings

Use anonymous login, read/write, read-only control or bandwidth control to flexibly manage the access right control.

Secure access

Use the safe FTPS (FTP over SSL/TLS) connection to ensure the secure data transmission.

### ■ Printer Server

QTS supports Printer Server, with the support for IPP (Internet Printing Protocol), Samba, print job management, and Bonjour printing on Mac OS X.

By connecting a compatible USB printer to the Turbo NAS, members can instantly share the printer resources over the network at the same time (Max. 3 USB printers).



### ■ VPN Server

Your Turbo NAS can be a VPN Server too. You can share files and any resource with your families and friends via the secured private network, and access websites without the Internet blocking mechanism in certain countries.

## myQNAPcloud SmartLink Service



### ■ myQNAPcloud Connection

It's so easy to create your personal cloud or private cloud. With the myQNAPcloud service, you can always enjoy the Turbo NAS services safely and conveniently.

#### myQNAPcloud ID (QID)

Access your Turbo NAS by signing into your myQNAPcloud portal with "QID", a unique ID for you to access your Turbo NAS and securely share your private data and files.

#### Web-based file management

The myQNAPcloud portal enables you to manage multiple Turbo NAS units in one place. With the easy-to-use management interface, you can simply download, move, and copy files on your Turbo NAS, lessening the difficulty in accessing multiple Turbo NAS servers. All you need is to sign myQNAPcloud.

#### Trustworthy file protection

To ensure the security of remote access service, myQNAPcloud strengthens keys on SSL Certificates to 2048-bits. The files on the Turbo NAS are 100% under the NAS owner's control.

#### Publish and share

myQNAPcloud is an easy-to-setup service that simplifies the steps in publishing Turbo NAS contents over the Internet. On QTS myQNAPcloud, you can select numerous web-based Turbo NAS services, such as Photo Station, Music Station, and File Station to be published to the myQNAPcloud.com website. Likewise, you can easily view friends' public services on myQNAPcloud.com website too.



### myQNAPcloud Connect

myQNAPcloud Connect application is designed for Windows PC users. By installing the myQNAPcloud Connect, users will be able to connect to the Turbo NAS and easily manage files by drag-and-drop within the Windows Explorer. It's a great remote VPN gateway to access restricted websites via the NAS remotely.



## File Management



### File Station

With the File Station, you can easily manage, upload, download, share files, and enjoy media playback anywhere with a web browser. The File Station brings conventional file operations performed on the computer desktop to the web browser.



### File upload

Move files from local PC/Mac to File Station by drag-and-drop to easily upload the files to the Turbo NAS.

### Mutual file sharing

You can easily share a bunch of files in a shared folder with friends via a Share Link. By activating the file upload function, your friends will be granted the privilege to upload files to your File Station without a user account required. You can even set an expiration time for shared files.

### Photo slideshow

Right-click the selected photos to play the slideshow smoothly.

### Media streaming & playing

The 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.

### Click and play the videos

Real-time transcoding allows immediate and smooth video, music, and photo playback. No need to wait for the files to be converted in advanced.



### Advanced quick search

The File Station provides smart filters for file searching and browsing by file size, modified date, file name, and so on. The pop-up thumbnails enable you to quickly and clearly preview the files. File browsing is more intuitive and effortless with the File Station.



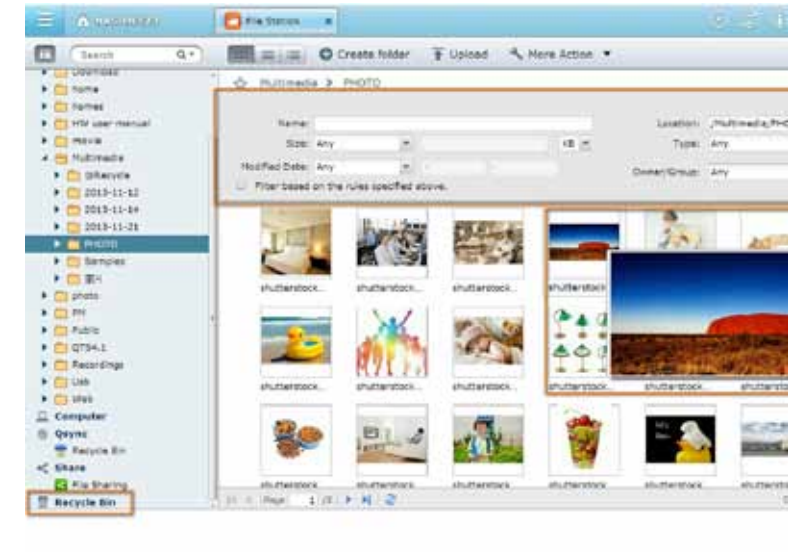
### Photo thumbnails preview

The File Station shows thumbnails of photos, music and videos, making management easier.



### Recycle bin

The recycle bin helps retrieve files accidentally deleted. It is categorized by shared folders to increase efficiency on file retrieval.



### Compress/Extract multiple files

Choose multiple files on File Station and select “More Action>Compress (Zip)” to compress the files to a Zip. Or you can extract a Zip to files. How easy it is!





# QTS 4.1



## Qfile: Share Files with Mobile Devices

You can install the Qfile app on your mobile device to browse and manage files stored on your Turbo NAS anytime, anywhere.

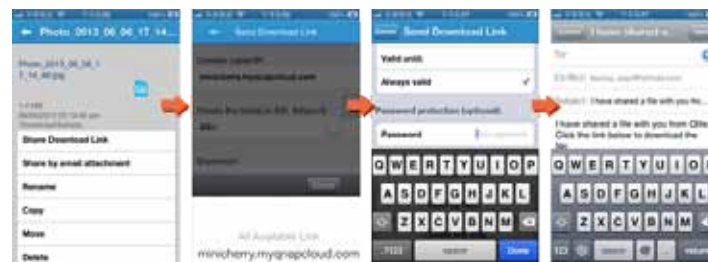
Follow below steps to start:

### 1. Share a file by the download link (email or SMS)

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

(1) Tap the "➔" icon next to the file you want to share.

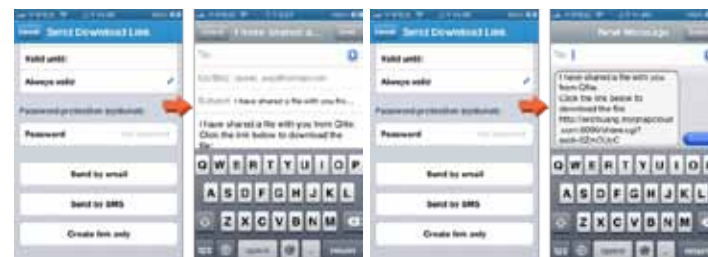
(2) Select a download link address. To allow your friends to download the file from the Internet, select myQNAPcloud, DDNS, or WAN IP.



(3) Specify the expiry time.

(4) Share the link via email or SMS.

(5) Specify the recipients and send your message



### 2. Share a file by email (attachment)

You can share a file on the NAS as an email attachment.



An email attachment cannot exceed 20MB. Qfile will download the file to your handheld device and send it via the default email function. Please make sure there is enough space on your device to save the file.



Install the Qfile app on your mobile device to browse and manage files stored on your Turbo NAS anytime, anywhere.



## Qsync: Your Personal Synchronization Tool

The Qsync utility provides file synchronization feature similar to Dropbox, with even larger storage capacity. You can easily upload files in one place and access from multiple devices, and share files with different groups flexibly and effortlessly.



### Cross-device synchronization

The Turbo NAS is your data center for photos, documents, videos and any file. Any newly added file to the Qsync folder will be automatically accessible on your computers, notebooks, smart phones, tablet devices, or File Station. You can easily enjoy the flexible file access, and the storage capacity is bigger than Dropbox.

### Team folders sharing

You can create sub-folders within the Qsync folder, and share each with different groups of Turbo NAS users as a file exchange center. Everyone in the same sub-folder is always kept up-to-date with the latest version of the files.

### Flexible ways for sync

You can select different sync modes and the shared folders to sync. It effectively decreases the storage consumption and solves the problem of limited space provided by computers.

### Auto-upload from mobile devices

Enable the auto-upload function of the Qfile. Whenever you take new photos or videos, the Qfile will automatically upload the files to the Turbo NAS. It works as a real-time backup of your precious photos and videos.



## Unified Storage and Virtualization Applications

The Turbo NAS supports iSCSI and NFS protocols, and is virtualization ready - VMware® Ready™, Citrix® Ready™, and Microsoft® Hyper-V™ compatible, to provide businesses with powerful and flexible storage solutions for virtualization applications.



### Virtualization ready

The Turbo NAS supports VMware® Ready™ vSphere 5, VAAI; Citrix® Ready XenServer™ 6.0, and is compatible for Microsoft® Hyper-V, supporting ODX and Windows Server 2012.

### VAAI/Hyper-V Plug-in Support

Use the free QNAP vSphere Client plug-in and QNAP SMI-S provider for SCVMM. Managing the Turbo NAS from the virtualization management client console is easy.

### Secure and flexible storage utilization

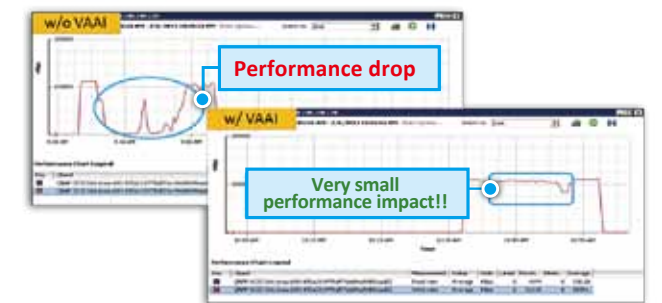
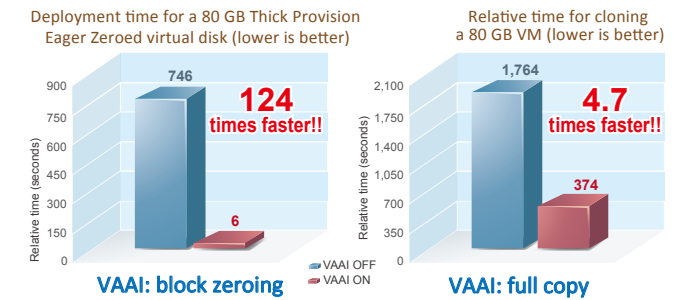
The Turbo NAS offers flexible management through creating and allocating iSCSI LUNs (Logical Unit Numbers), mapping and unmapping LUNs to and from the iSCSI targets, and thin provisioning function. The support of CHAP authentication and LUN masking reinforces secured deployment in virtualization applications.

### NAS/IP SAN unified storage

QTS supports NFS and iSCSI/IP-SAN storage solution that can be utilized as a network shared storage of the virtualization environments. It helps achieve efficient cost-saving, energy-saving and utilization of storage capacity.

### VAAI for iSCSI, VAAI for NAS

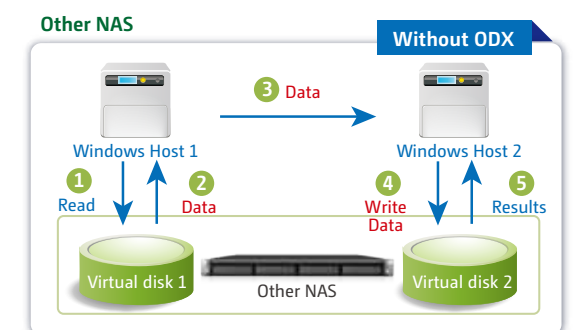
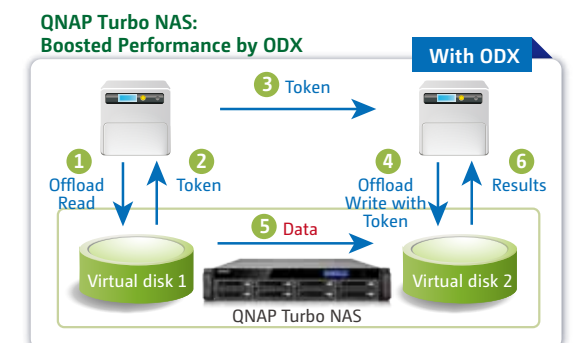
The QNAP NAS, VAAI iSCSI and VAAI NAS are VMware certified. Businesses can either select iSCSI or NFS as a centralized storage to boost performance. VAAI for iSCSI supports Full Copy (hardware-assisted copy), Block Zeroing (hardware-assisted zeroing), Hardware-assisted Locking, and Thin Provisioning 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 in a virtualized environment.



VAAI: Hardware-assisted Locking

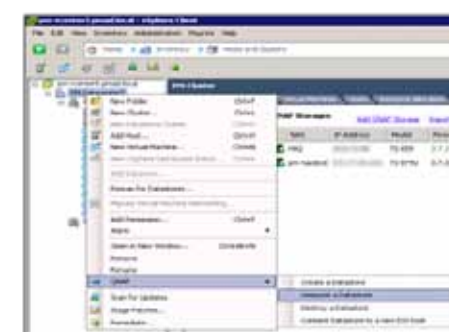
### Storage for Microsoft Hyper-V

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.



### 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.



### 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).



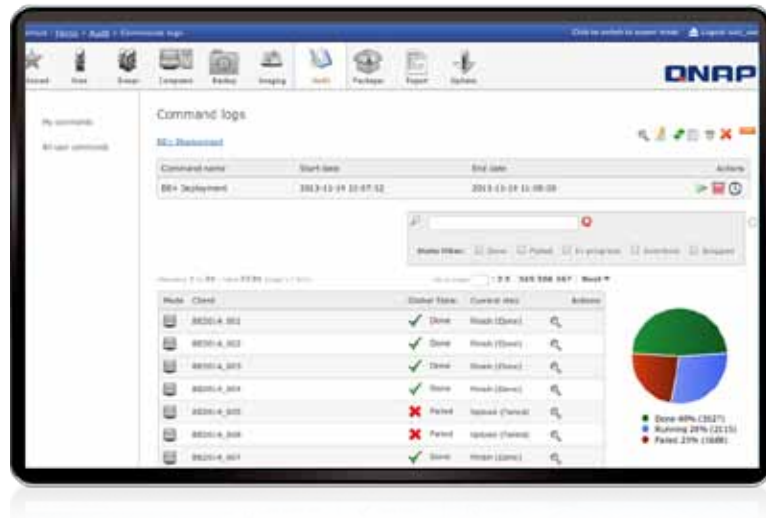


# QTS 4.1



## IT Management Station

NAP IT Management Station is powered by Mandrive® Pulse, and is designed to simplify daily tasks and IT asset management for businesses of all sizes. Your Turbo NAS becomes an IT system management server to help you centrally manage multi- OS and multi-site IT resources, applications and security with greater flexibility.



## At the core of Pulse



### Comprehensive Inventory

Pulse automatically retrieves your hardware and software information from your IT system using an inventory agent to provide you with reliable and timely data. Measure the potential of your inventory and run your IT assets tactfully, thanks to dynamic groups, self populated from queries.



### Mastering

Create a generic disk image for carrying out your OS deployments from a cloned image.



### Remote Control

Help your users in their everyday tasks by connecting from a distance without compromising the security of their IT assets.



### Cloning

As part of a scheduled or an on-demand restore, a full backup of the system and its data can be done using identical replication of discs.



### Deployment

Design, schedule and implement software installation and settings on your IT assets.



### Backup and Restore

Protect your data from accidental loss by incremental backups that optimize disk space and save time.

## New functionalities (Version 2.0)

### Reporting

Create and edit user ready reports and graphs for anticipating and better control of changes in your IT assets.

### Pull Mode

Increase the compliance of your roaming devices enabled to deploy packages needed in any environment.

### License Management

Optimize your software assets with an overview of available and used licenses.

### Patch Management

Get a single point of view of centralized software updates and control of your endpoint security.

### Software Convergence

Efficient software deployments using automated process.



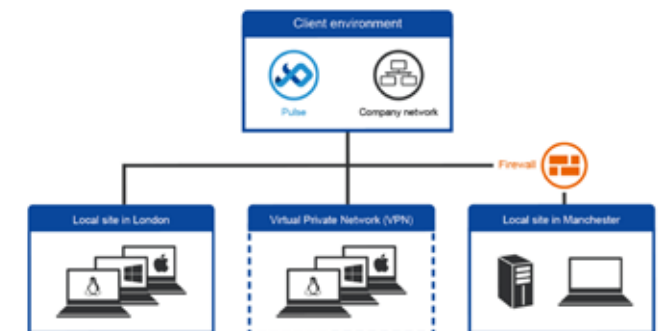
## Flexible management of your IT assets

### Multi-OS

Manage all your IT assets and virtual machines no matter what the OS: GNU/Linux, Windows, Mac or Unix.

### Multi-site

Manage your sites securely from a distance through SSH tunnel, simultaneously controlling the bandwidth and conserving the availability of your network.

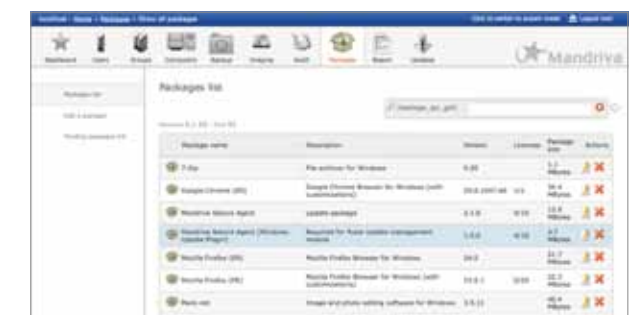


## Intuitive tools

A desktop icon for quick self installation to facilitate access and remote control of new deployment.



A unique interface for management of software licenses and automatic package management resulting in increased performance.



A simple to use web interface with an intuitive dashboard for a quick glance of information related to your IT assets.

# QTS 4.1



## ■ Signage Station

The Signage Station is a free app for the Turbo NAS, allowing shop owners to create menu boards, advertising posters, or business profiles by themselves, and easily display the eye-catching works on tablet devices to attract more customers.



### Drive business growth, increase revenue

Your designed contents can be presented on a web browser. When on the go, you can even show business profile, business cards or product catalogs on smart phones or tablet devices, and share on Facebook. The Turbo NAS with the Signage Station is your ideal tool to present creativity and drive business growth.

### Instantly publish, and conveniently revise

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

### Absolutely easy-to-use

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

### Collaboration increasing efficiency

The original design contents can be saved in local computer or the Turbo NAS with the help of the connection wizard. Content saved on the Turbo NAS are accessible for all authorized users. It helps increase work efficiency in projects involving multiple members.



## ■ iArtist Lite (Running on Windows PC): Create Your Advertising Content Easily

### How to make advertising content on iArtist Lite?

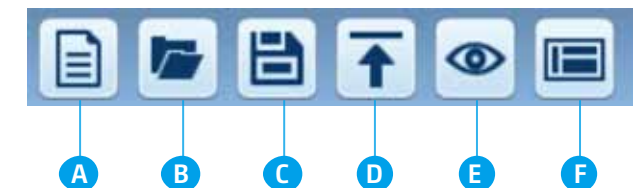
The concept of dynamic multimedia content is quite simple, just drag & drop media files to canvas on iArtist Lite, and you can create professional content quickly.

First of all, choose the device that you want to display, such as tablet, TV or smartphone. After selecting the device resolution you can select the landscape for vertical or horizontal content.



### Introduction of function kit

- |                                |                                  |
|--------------------------------|----------------------------------|
| <b>A</b> Add new content       | <b>D</b> Upload to Turbo NAS     |
| <b>B</b> Open previous content | <b>E</b> Preview the design      |
| <b>C</b> Save content          | <b>F</b> Online template support |



### Introduction of iArtist Lite windows-based tools:

- Video, photo, and music: Add file to the canvas from Windows.
- Digital & analog clock: Supports multiple styles of clocks and formats, just drag and drop to canvas.
- Background image: Choose a background color or choose a background image.
- Mask: Add an image mask to the content.
- Text & banner: Edit the text on the banner you'd like to promote.
- RSS: Get an RSS link from a website for sharing messages from the feed.
- Digital menu board: Use the digital menu board function to design a neat menu board, and edit the price and picture anytime, anywhere.
- Combo menu board: Just select the template and add the price and picture.
- HTML: Drop a whole website to the canvas for the most direct promotion.
- PPT and PDF: Easily add documents to the canvas including slideshows – retaining the animations from the PPT.



### Intuitive user interface with timeline view

After dragging and dropping from the left panel to the canvas, each media file will have a corresponding timeline at the bottom of the canvas to allow users to understand the details of dynamic content.





## Surveillance Station

The Surveillance Station is professional network surveillance Video Management System (VMS). Being one of the Turbo NAS standard applications, the Surveillance Station can be activated on the QTS App Center to turn the Turbo NAS into a professional Network Video Recorder (NVR) system for real-time monitoring, recording, playback, alarm notifications, Intelligent Video Analytics (IVA), and management to safeguard your assets and property when used with supported IP cameras. The TS-x53 Pro/SS-x53 Pro series comes with **2** free camera channels, allowing users to easily build a surveillance system.



### Live-view

#### Various remote monitoring modes

The Surveillance Station supports various monitoring modes to display 1, 4, 6, 8, 9, 10, 12, 16, 20, 25, 36, 42, and 64 channels on a single screen. Users can also choose to sequentially display each channel or use dual displays to have a wider view.

#### PTZ (Pan/Tilt/Zoom) control

On the Surveillance Station web interface, you can directly adjust the PTZ (Pan/Tilt/Zoom) functions of supported cameras, greatly enhancing the convenience in remote monitoring of desired corners.

#### Instant playback

On the Live-view page, whenever you want to look back to check suspicious events of a camera channel you just missed, just hit 'Instant Playback' button to bring up the window to review recent feeds.

#### Visual aid by E-map

Just upload the pictures of the monitoring locations to the Surveillance Station and drag and drop the IP camera icons to the right place on the E-map. Once an alarm event happens, the camera icons will flash to indicate the event type for you to be alerted immediately and take necessary actions.

#### Instant notification

When the alarm recording is enabled and an event occurs, an alarm icon will be shown instantly on the monitoring page. The alert details can be viewed by clicking the icon.



### The most professional NVR system

#### Wide range of supported IP cameras

The Surveillance Station is compatible with over 2,600 IP camera models of over 90 brands and ONVIF specifications, including those support advanced features such as multi-streaming and fisheyedewarping.

#### Comprehensive Turbo NAS product spectrum

TS-x53 Pro/SS-x53 Pro offers 2 free IP camera channels, and can be expanded to 24 channels, fulfilling all kinds of surveillance deployment needs.

#### Cross-platform support

The Surveillance Station works with all major web browsers such as Google Chrome, Mozilla Firefox and Internet Explorer. With QNAP Surveillance Client for Mac, users can also enjoy a similar experience on their Macs.

#### Advanced RAID storage technology

The Surveillance Station is installed on the Turbo NAS platform and is protected against loss, theft, and damage of recorded videos with the help of QTS security features and RAID technology.

### Playback

#### Preview recordings by thumbnails

You can move the mouse cursor over the timeline to preview the video thumbnails to quickly identify and search the event. No need to play the video from the start and wait long just to find a short video clip.

#### Intelligent Video Analytics (IVA)

IVA is an advanced way to quickly search videos corresponding to particular modes, greatly saving the time & effort of manually screening out matching videos. IVA includes motion detection, foreign object, missing object, out-of-focus and camera occlusion.

#### Real-time watermarking

The support of digital watermarking helps prove that the exported videos and snapshots are genuine without any falsification. The Watermark Proof utility developed by QNAP can verify the credibility of the exported videos and snapshots by showing the exact recording date and time, camera name and the Turbo NAS model name. This is rather useful when the videos could be raised as evidence in a relative investigation or in court.

#### Playback and speed control by shuttle bar

With the speed control shuttle bar, you are able to fast-forward the video playback by dragging the button to the right and rewind to the left at the speed you like, helping you quickly find the desired screenshots.



### Flexible Management

#### Flexible camera access control

You can create up to 32 user accounts on the Surveillance Station and flexibly assign them to different user groups with different rights for monitoring, playback, PTZ control, and audio monitoring.

#### Expendable license management

The Surveillance Station comes with at least one free IP camera license for each Turbo NAS by default. Administrators can expand the channel number based on demands by purchasing additional licenses. This provides a flexible and cost-effective way of scaling the surveillance needs.

#### Advanced event management

The system starts alarm recording when alarm events occur. Administrators can configure events and assign 7 types of event actions, including recording, PTZ Control, alarm output, email notification, SMS notification, buzzer notification, and user-defined actions, ensuring to be alerted immediately.

#### Manage large-scale camera

By connecting multiple Turbo NAS units, you can manage, monitor and play back up to 128 IP cameras managed by the Turbo NAS at the same time from a single unit.

### Mobile apps

#### VMobile – Anytime anywhere surveillance

The VMobile mobile app enables you to monitor the Surveillance Station anytime and anywhere using iOS and Android devices. It provides camera live-view, PTZ control, instant event notifications, video snapshot, video playback, and video search by date and time.



#### Vcam – Turn your mobile device into camera

The Vcam mobile app can turn your mobile device into a network camera. With the Vcam mobile app, you could record any moment around you to your Turbo NAS, saving the budget of expensive IP cameras.

# App Center & Developers



## App Center

QTS App Center provides various apps for you to install on demand, enjoying more applications and lowering the cost of purchase.

### Powerful and, Rich-in-content

The App Center provides more than 100 add-on apps, including backup/sync, business, content management, communications, developer tools, download, entertainment, surveillance and utilities.

### Install on Demand

Find what you need and install it immediately with just one click.

### Upgrade Reminder

If newer versions of your installed apps are available, an upgrade reminder will show on the QTS desktop to help you keep your Turbo NAS applications up-to-date.



### ★ Most Popular Apps:



## Dropbox App

The Dropbox service is a cloud-based storage service that allows you to access your photos, documents, and videos anywhere, anytime with easy sharing. The free space from the Dropbox service is limited however, and to make it more efficient you can connect it with your Turbo NAS to store files.

### How to use Dropbox App?

The QNAP Dropbox app can synchronize your Dropbox account and your Dropbox folder on the Turbo NAS in both directions and in real-time. After you install the Dropbox QPKG and log into your Dropbox account, a Turbo NAS folder called "Dropbox" will be created and the synchronization process will start. With Real Time Remote Replication (RTRR), a built-in Turbo NAS function, you can easily back up files from your Dropbox account.



## Google Drive Sync App

Google Drive is a cloud storage service provided by Google that lets users save their files online for accessing them anywhere. By installing the Google Drive Sync QPKG on QNAP Turbo NAS you can select a shared folder on the Turbo NAS to synchronize the data with Google Drive or simply use Google Drive as a backup destination.



## 3rd party Development Platform

The open-source Linux kernel of the QTS makes it a friendly development platform with features including RAID technology, backup security and cloud storage, allowing software developers to develop all kinds of applications. Coupled with rich applications of QTS and the leading Turbo NAS hardware design, developers can enjoy the much more efficient process for R&D.

### Fully supportive customer services, sales and R&D

QNAP NAS applications can be developed using the following three approaches:

#### Development Toolkit (API & SDK)

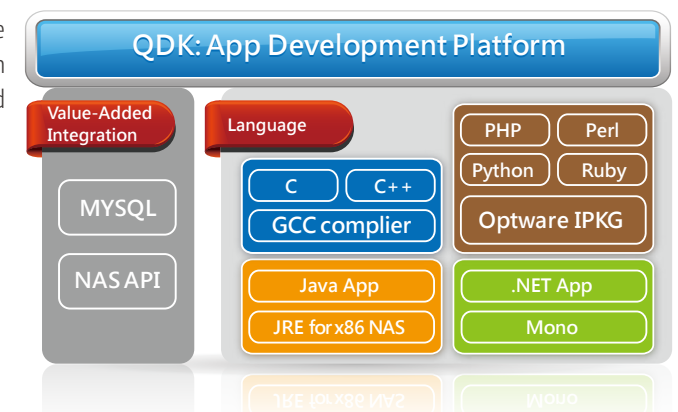
Developers can use QNAP Development Toolkit (API & SDK) to design applications that can run on a client's device (such as a smart phone or PC), and remotely manage and access files and documents stored on the NAS.

#### NAS App (QPKG) Development

Developers can design add-ons or applications running on the Turbo NAS and have the applications and related data integrated on the same platform. Also, through the built-in App Center on QNAP Turbo NAS, users can easily install and manage those applications.

#### VM Integration

Ever wanted to run non-Linux based applications on the Turbo NAS? No problem! VM integration is the solution for you to install a different OS and non-Linux based applications on the Turbo NAS.





# App Center & Developers

## ★ Success Stories :



### ■ Nextep

Nextep allows you to easily manage your private cloud using a mobile device. Photos, documents, and webpages can all be displayed in the windows-like interface, and you can also use the built-in browser to save documents, photos or videos to your private cloud, using a “lazy bag” or TeamSync feature to drag & share different types of contents.

#### Features

- TeamSync  
A simple “drag” approach to sharing information exclusively with team members from a mobile device via the team private cloud improves team efficiency and security of information exchange no matter where you are.
- Speedy Synchronization  
Nextep synchronizes content with your private cloud. Whether it is external information gathering via Nextep, or quickly uploading files from PC, all of the data can be presented side by side immediately in Nextep App or downloaded to PC. This allows you to get the latest information anytime, anywhere.
- Ultimate Storage  
Nextep integrates different types of information & content from different sources on your mobile device, and displays it side by side immediately. Documents, images, and webpage content can be stored in the private cloud for solving the problem of scattered information.
- Nextep Lazy Bag  
Freely pack different types of files on mobile devices, share via email, LINE, WeChat, Facebook, Twitter, LinkedIn, and view/download it on another mobile device or computer.
- Cross-platform, Cross-device  
Whether your web browser is Internet Explorer, Chrome, or Safari or your mobile device is iOS or Android: shared contents can be viewed and downloaded.



### ■ GiantView

GiantView creates a web platform or mobile app and lets you use video & communications anytime, anywhere, on any device to meet business, training and learning requirements. It also provides private and public business communication for meeting environments.

You can reduce wasted time and cost from travel/transport to the same place at fixed times. You can deal with more business, services and work more efficiently. It also provides the best communicating tool for your business and career:

#### Features

- Time Cost:  
You can greatly reduce the time & cost of meetings and communication.
- Transportation costs:  
You can save round trip traveling costs and accommodation expenses.
- Training costs:  
You can train your employees anytime, anywhere and on any device without specific equipment or venue.
- Investment costs:  
You can use the host device, virtual machine, and Turbo NAS to become a multi-purpose conference communications platform.



### ■ BitTorrent Sync

BitTorrent Sync uses the P2P (peer-to-peer) protocol to synchronize an unlimited number of files (stored on the Turbo NAS) between your devices. Your data is not stored on a server in the cloud but is protected using private keys during file transmission.



#### Features

- Access your files anywhere.  
Create a Sync folder for your QNAP Turbo NAS. Open QTS and access docs, share photos, and start working from anywhere.
- Send and sync, without speed limits.  
BitTorrent Sync skips the cloud to deliver your files at lightning speed. no matter where you are.
- Free for all.  
Sync, send and share as much as you want. There are no file size limits, or caps on creativity. It's as simple as that.

# TS-x53 Pro/SS-x53 Pro Series Hardware Introduction

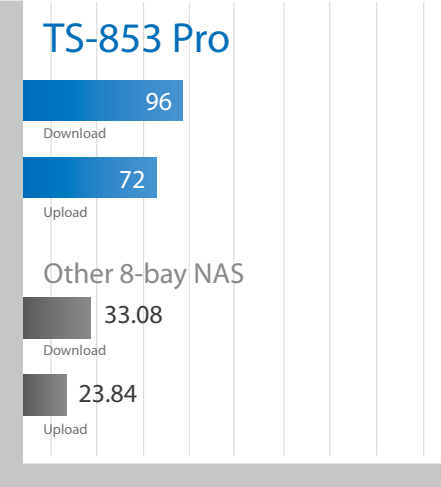
## Features

### 2X the processing power

Powered by a dual-core Intel® Celeron® 2.0GHz processor (burst up to 2.4GHz), 4GB (expandable to 8GB) energy-efficient DDR3L RAM and dual LAN ports: the TS-x53 Pro/SS-x53 Pro Series is a powerful NAS with the highest-standard hardware that delivers unrivaled performance with up to 430MB/s read/write speeds. The TS-x53 Pro/SS-x53 Pro's fast encryption performance provides transfer speeds of up to 96MB/s with AES-256bit volume encryption that boosts system performance & security while ensuring the safety of personal sensitive data stored in the TS-x53 Pro/SS-x53 Pro Series.

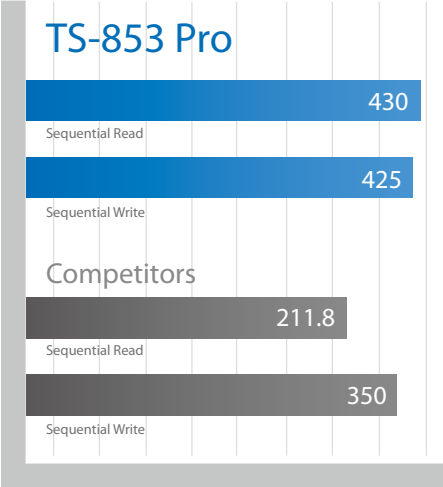
### AES 256-bit Encryption

Windows Upload/Download, 5GB file



### Throughput (Quad-LAN Link Aggregation)

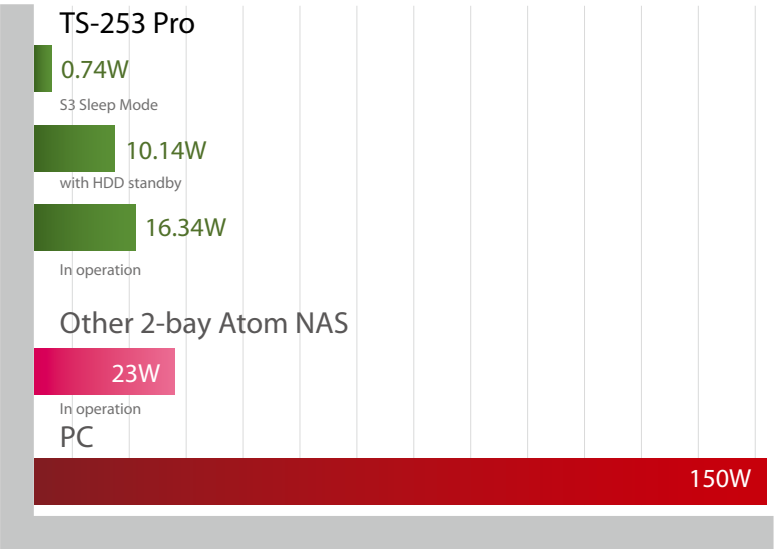
Windows Upload/Download, 5GB file,  
IO Meter 8 worker settings



### Eco-friendly design

The TS-x53 Pro/SS-x53 Pro3 Series provides high performance with minimal power requirements and reduced heat generation with a cutting-edge 22nm processor and low-voltage, low-power DDR3L RAM. Other eco-friendly designs include scheduled power on/off, hard disk standby mode, and Wake on LAN.

### Power Consumption



### Economical storage expansion with scale-up solution

The TS-x53 Pro/SS-x53 Pro series offers a high-performance yet economical storage solution to fulfill the needs of businesses to archive rapidly growing data & large files. The TS-x53 Pro/SS-x53 Pro series allows users to expand their total storage capacity by connecting a QNAP expansion enclosure. With this scale-up solution, the raw storage capacity can be expanded on demand, making the TS-x53 Pro/SS-x53 Pro series an ideal file center for large amounts of business data.



### QNAP Expansion Enclosure

QNAP UX series expansion enclosures, UX-500P and UX-800P, provide an additional 5 and 8 hard drives respectively. Both support SATA 6Gbps hard drives and SSDs.





# TS-x53 Pro/SS-x53 Pro Series


## Hardware Introduction

The maximum raw storage capacity available by connecting a QNAP expansion enclosure:

Turbo NAS Model	QNAP Expansion Enclosure	Max. No. of Expansion Enclosure	Total HDD No. (NAS + Enclosure)	Max. Raw Capacity (TB)#
TS-1253U-RP	UX-1200U-RP	1	24 (12+12)	144
	UX-800U-RP	1	20 (12+8)	120
TS-853U-RP	UX-1200U-RP	1	20 (8+12)	120
	UX-800U-RP	1	16 (8+8)	96
TS-453U-RP	UX-1200U-RP	1	16 (4+12)	96
	UX-800U-RP	1	12 (4+8)	72
TS-853 Pro	UX-800P	1	16 (8+8)	96
	UX-500P	1	13 (8+5)	78
TS-653 Pro	UX-800P	1	14 (6+8)	84
	UX-500P	1	11 (6+5)	66
TS-453 Pro	UX-800P	1	12 (4+8)	72
	UX-500P	1	9 (4+5)	54
TS-253 Pro	UX-800P	1	10 (2+8)	60
	UX-500P	1	7 (2+5)	42
SS-853 Pro	UX-800P	1	16 (8+8)	56
	UX-500P	1	13 (8+5)	38
SS-453 Pro	UX-800P	1	12 (4+8)	52
	UX-500P	1	9 (4+5)	34

# The maximum capacity is calculated by using 6TB hard drives.

### Accessories

Category		Order P/N	Description
RAM		RAM-2GDR3L-SO-1600	2GB DDR3L-1600 RAM Module SODIMM
RAM		RAM-4GDR3L-SO-1600	4GB DDR3L-1600 RAM Module SODIMM
RAM		RAM-8GDR3L-SO-1600	8GB DDR3L-1600 RAM Module SODIMM
Remote Control		RM-IR002	QNAP Infrared (IR) Remote Control

# Hardware Specification



Model	TS-253 Pro-4G TS-253 Pro	TS-453 Pro-4G TS-453 Pro	TS-653 Pro-4G TS-653 Pro	TS-853 Pro-4G TS-853 Pro	SS-453 Pro-4G SS-453 Pro	SS-853 Pro-4G SS-853 Pro
CPU	Quad-Core Intel® Celeron® 2.0 GHz (Burst up to 2.41 GHz)					
Memory (RAM)	TS-253 Pro-4G/TS-453 Pro-4G/TS-653 Pro-4G/TS-853 Pro-4G: 4GB DDR3L TS-253 Pro/TS-453 Pro/TS-653 Pro/TS-853 Pro: 2GB DDR3L					
Max. Memory	8GB	8GB	8GB	8GB	8GB	8GB
Flash	512MB (DOM)	512MB (DOM)	512MB (DOM)	512MB (DOM)	512MB (DOM)	512MB (DOM)
Number of RAM Slots	2	2	2	2	2	2
Max. number of HDDs/SSDs	2 x 2.5" or 3.5" SATA 6Gb/s, 3Gb/s HDD/SSD; hot-swappable	4 x 2.5" or 3.5" SATA 6Gb/s, 3Gb/s HDD/SSD; hot-swappable	6 x 2.5" or 3.5" SATA 6Gb/s, 3Gb/s HDD/SSD; hot-swappable	8 x 2.5" or 3.5" SATA 6Gb/s, 3Gb/s HDD/SSD; hot-swappable	4 x 2.5" SATA 6Gb/s, 3Gb/s HDD/SSD; hot-swappable	8 x 2.5" SATA 6Gb/s, 3Gb/s HDD/SSD; hot-swappable
Expansion Enclosure Support	1 (UX-500P, UX-800P)	1 (UX-500P, UX-800P)	1 (UX-500P, UX-800P)	1 (UX-500P, UX-800P)	1 (UX-500P, UX-800P)	1 (UX-500P, UX-800P)
Gigabit LAN Ports	2	4	4	4	2	4
USB Ports USB	USB 3.0: 3 USB 2.0: 0	USB 3.0: 3 USB 2.0: 2	USB 3.0: 3 USB 2.0: 2	USB 3.0: 3 USB 2.0: 2	USB 3.0: 3 USB 2.0: 0	USB 3.0: 3 USB 2.0: 2
IR Sensor (MCE Remote)	Yes	Yes	Yes	Yes	Yes	Yes
HDMI	1	1	1	1	1	1
LED Indicators	Power/Status, LAN, USB, HDD1-2	Power/Status, LAN, USB, HDD1-4	Power/Status, LAN, USB, HDD1-6	Power/Status, LAN, USB, HDD1-8	Power/Status, LAN, USB, HDD1-4	Power/Status, LAN, USB, HDD1-8
Buttons	Power, Reset, USB Auto Copy	Power, Reset, USB Auto Copy	Power, Reset, USB Auto Copy	Power, Reset, USB Auto Copy	Power, Reset, USB Auto Copy	Power, Reset, USB Auto Copy
Form Factor	Tower	Tower	Tower	Tower	Tower	Tower
Dimensions (HxWxD)	150 x 102 x 216 mm 5.91 x 4.02 x 8.5 inch	177 x 180 x 235 mm 6.97 x 7.09 x 9.25 inch	175 x 257 x 235 mm 6.89 x 10.12 x 9.25 inch	185.2 x 298.2 x 235.4 mm 7.29 x 11.74 x 9.27 inch	150 x 102 x 216 mm 5.91 x 4.02 x 8.5 inch	185.2 x 298.2 x 235.4 mm 7.29 x 11.74 x 9.27 inch
Weight (Net/ Gross)	Net weight: 1.74 kg (3.84 lbs) Gross weight: 2.92 kg (6.44 lbs)	Net weight: 3.65 kg (8.04 lbs) Gross weight: 4.65 kg (10.24 lbs)	Net weight: 5.2 kg (11.46 lbs) Gross weight: 6.5 kg (14.33 lbs)	Net weight: 7.3 kg (16.08 lbs) Gross weight: 8.6 kg (18.94 lbs)	Net weight: 1.97 kg (4.34 lbs) Gross weight: 3.15 kg (6.94 lbs)	Net weight: 3.97 kg (8.75 lbs) Gross weight: 4.97 kg (10.96 lbs)
Temperature and Humidity	0 - 40 °C, 5 - 95% RH	0 - 40 °C, 5 - 95% RH	0 - 40 °C, 5 - 95% RH	0 - 40 °C, 5 - 95% RH	0 - 40 °C, 5 - 95% RH	0 - 40 °C, 5 - 95% RH
Power Supply Specification	External Power Adapter: Input: 100-240V AC, 50/60Hz, Output: 90W	ATX 250W, Input: 110-240 Vac~, 50-60Hz, 5A	ATX 250W, Input: 110-240 Vac~, 50-60Hz, 5A	ATX 350W, Input: 110-240 Vac~, 50-60Hz, 5A	External Power Adapter: Input: 100-240V AC, 50/60Hz, Output: 90W	ATX 250W, Input: 110-240 Vac~, 50-60Hz, 5A
Power Consumption HDD Sleep (W)	10.14W	20.71 W	22.95 W	28.62 W	13.48 W	20.01 W
Power Consumption: Typical Operation (W)	16.34W	33.13W	41.65 W	59.54 W	20.83 W	32.27 W
Power off: S3 Sleep (W)	0.74W	0.80W	1.09 W	1.08 W	0.75 W	0.78 W
File System: Internal Hard Drive	EXT4	EXT4	EXT4	EXT4	EXT4	EXT4
File System: External Hard Drive	EXT3, EXT4, NTFS, FAT32, HFS+	EXT3, EXT4, NTFS, FAT32, HFS+	EXT3, EXT4, NTFS, FAT32, HFS+	EXT3, EXT4, NTFS, FAT32, HFS+	EXT3, EXT4, NTFS, FAT32, HFS+	EXT3, EXT4, NTFS, FAT32, HFS+
RAID Recovery	Yes	Yes	Yes	Yes	Yes	Yes
Online RAID Capacity Expansion	Yes	Yes	Yes	Yes	Yes	Yes
Online RAID Level Migration	Yes	Yes	Yes	Yes	Yes	Yes
RAID Type	Single Disk, RAID 0, RAID 1, JBOD	Single Disk, RAID 0, RAID 1, RAID 5, RAID 6, RAID 10, RAID 5 + Spare, JBOD	Single Disk, RAID 0, RAID 1, RAID 5, RAID 6, RAID 10, RAID 5/6/10 + Spare, JBOD	Single Disk, RAID 0, RAID 1, RAID 5, RAID 6, RAID 10, RAID 5/6/10 + Spare, JBOD	Single Disk, RAID 0, RAID 1, RAID 5, RAID 6, RAID 10, RAID 5 + Spare, JBOD	Single Disk, RAID 0, RAID 1, RAID 5, RAID 6, RAID 10, RAID 5/6/10 + Spare, JBOD
Global Hot Spare	N/A	Yes	Yes	Yes	Yes	Yes
USB One-Touch-Copy Backup	Yes	Yes	Yes	Yes	Yes	Yes
Surveillance Station - Default IP Cameras	2	2	2	2	2	2
Surveillance Station - Max IP Cameras	24 (optional license purchase)					
Virtualization Station	TS-253 Pro-4G/TS-453 Pro-4G/TS-653 Pro-4G/TS-853 Pro-4G: default 1 running VM (Max. 3 by upgrading RAM to 8GB) TS-253 Pro/TS-453 Pro/TS-653 Pro/TS-853 Pro: 2GB DDR3L: default 1 running VM (Max. 3 by upgrading RAM to 8GB)					
VPN Server (PPTP + OpenVPN)	Yes	Yes	Yes	Yes	Yes	Yes
Max. Number of Users	4096	4096	4096	4096	4096	4096
Max. Number of User Groups	512	512	512	512	512	512
Max. Number of Shared Folders	512	512	512	512	512	512
Max. Number of Concurrent Connections	600	600	600	600	600	600



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