

## **TS-x73A Series**

AMD Ryzen V1500B 4C/8T 2.2 GHz 2.5GbE NAS supports M.2 NVMe SSD and dual PCIe for 10GbE





### NAS for professionals and SMBs. The new TS-x73A AMD Ryzen 4/6/8-bay desktop NAS

- 2020/06 Launched the industry-first AMD V1500B Ryzen 8/12/16-bay TS-x73AU rackmount NAS series.
- 2020/11 Launched the 9-bay TS-h973AX desktop NAS.
- 2021/02 Introducing the same powerful V1500B into 4-bay TS-473A, 6-bay TS-673A and 8-bay TS-873A desktop NAS.



# The new TS-x73A Ryzen NAS with many upgrades over previous generation TS-x73

### **QTS/QuTS** there Default is OTS switcher

Default is QTS, switchable to ZFS QuTS hero enterprise OS during setup



#### AMD Ryzen V1500B 4C / 8T 2.2GHz SoC Next-gen AMD Ryzen embedded processor



#### M.2 PCIe NVMe SSD

Dual M.2 2280 NVMe SSD slots for performance



**USB 3.2** 

Gen 2

#### 2.5GbE high-speed network

2 x 2.5GbE for fast data transfer speed

#### USB 3.2 Gen 2 10Gbps

3 x USB-A 10Gbps for quick backup with SSD or enclosure



### AMD long-term supported Zen core embedded SoC The low-power V1000 series V1500B 4C 8T 2.2 GHz

#### TS-x73A

Processor	V1500B
Cores	4
Threads	8
Base frequency	2.2 GHz
Turbo frequency	
L2 cache	2MB
L3 cache	4 MB
Memory	DDR4
TDP	12 to 25 W
CPU family	Zen



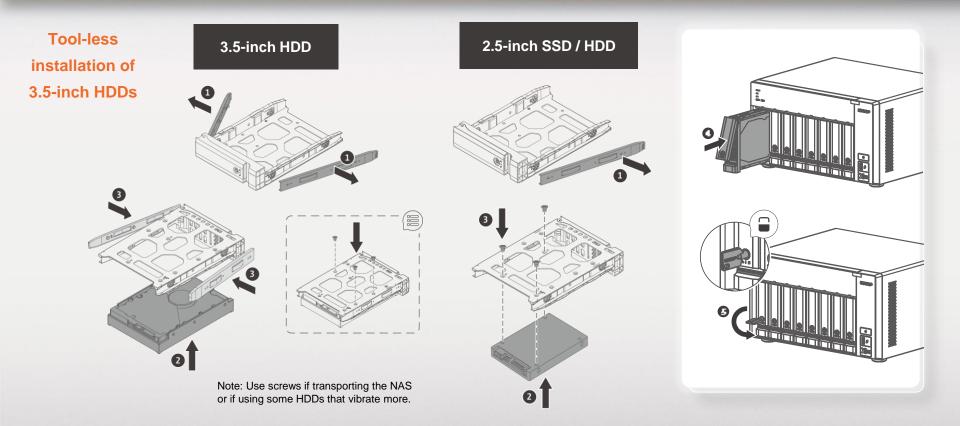
## **TS-473A front view**



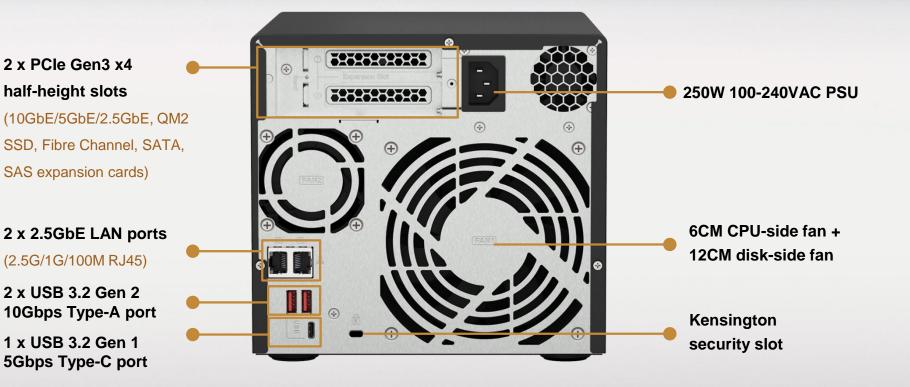
## TS-673A / TS-873A front view



## Easy installation of disks and lockable trays



## **TS-473A rear view**



## TS-673A / TS-873A rear view



## 2 x M.2 NVMe PCIe SSD slots supporting SSD cache or Qtier auto tiering

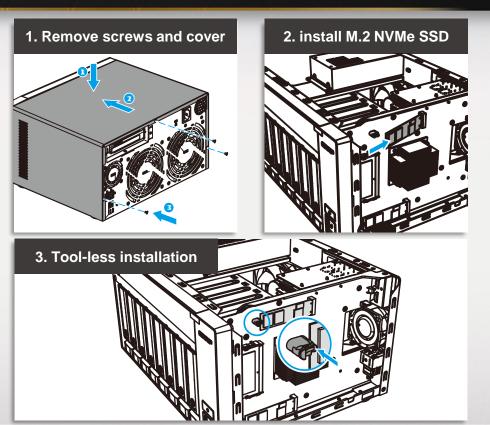
2 x M.2 2280 PCIe Gen3 x1 NVMe SSD slots for SSD cache or Qtier auto tiering performance enhancement.

 Improve random data access speeds with an SSD cache

SSD caches accelerate IOPS performance and reduce latency for storage volumes. They are perfect for IOPSdemanding applications (including databases and virtualization) and can significantly improve overall workflows.

 Maximize the value of SSDs with Qtier Technology Qtier<sup>TM</sup> Technology empowers TS-x73A with auto tiering that helps continuously optimize storage efficiency by automatically moving data between M.2 SSDs, 2.5-inch SSDs, and high-capacity HDDs based on the data's access frequency. Qtier<sup>TM</sup> 2.0 features IO-awareness that empowers SSD-tiered storage with a cache-like reserved space to handle burst I/O in real time, greatly maximizing the advantages of SSDs.

Note: Qtier is only supported in the QTS OS, not in the QuTS hero OS.

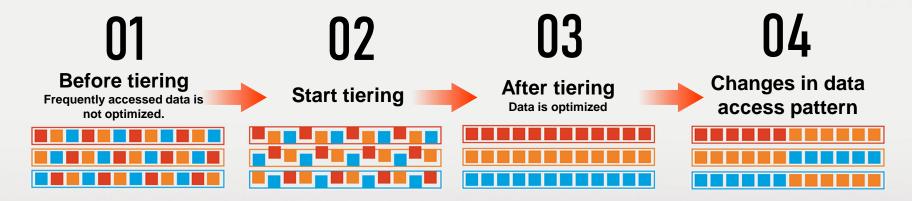


## M.2 NVMe SSD and Qtier auto-tiering for speed and capacity



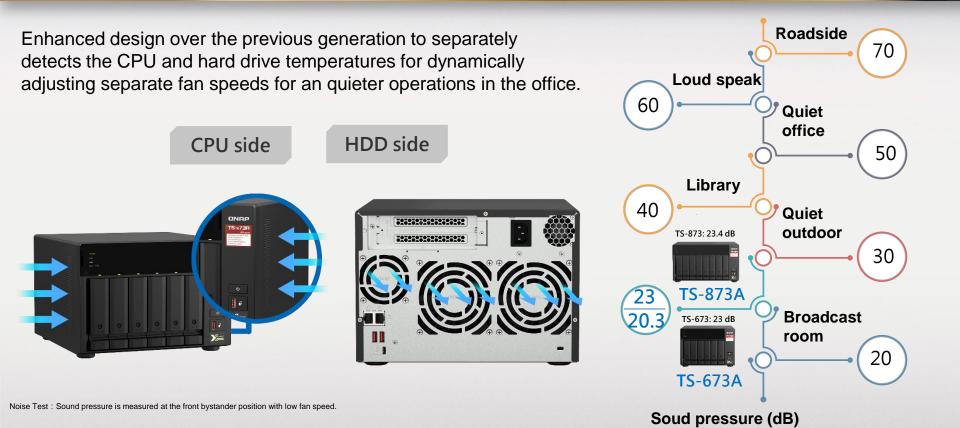
Hot data Warm data Cold data

- Automatically moves data between different tiers
- SSD tier capacity is not limited by RAM size



Note: Qtier is only supported in the QTS OS, not in the QuTS hero OS.

## **Compartmentalized smart cooling**



## Large pre-installed 8GB DDR4 RAM, upgradeable to max 64GB and also optional ECC RAM support

#### **NAS Model Numbers:**

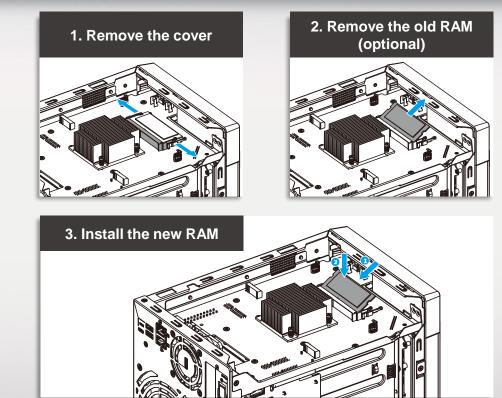
 TS-473A-8G
 TS-673A-8G

 8 GB RAM (1 x 8 GB)
 8 GB RAM (1 x 8 GB)

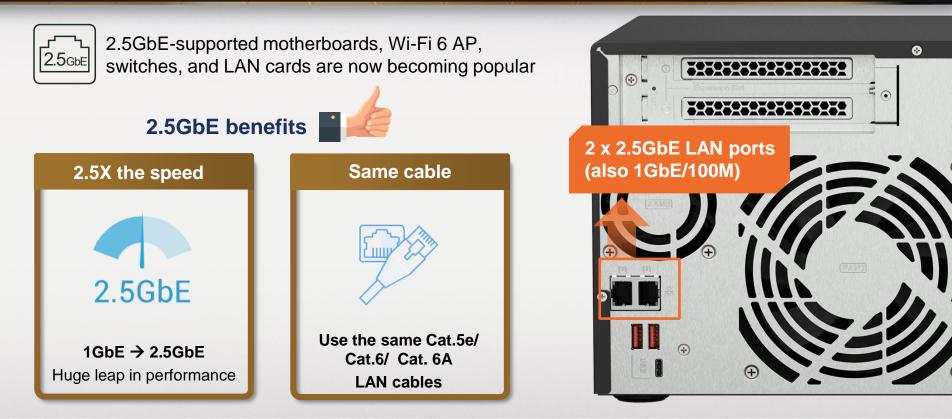
 TS-873A-8G
 8 GB RAM (1 x 8 GB)

- 2 x DDR4 SO-DIMM RAM slots for a max of 64 GB (2 x 32 GB), dual-channel design and optional ECC RAM support.
- QNAP 8/16/32 GB RAM modules for easy upgrade and better multi-app or multi-user usage.

Note: Do not install ECC and Non-ECC RAM on the same NAS at the same time.

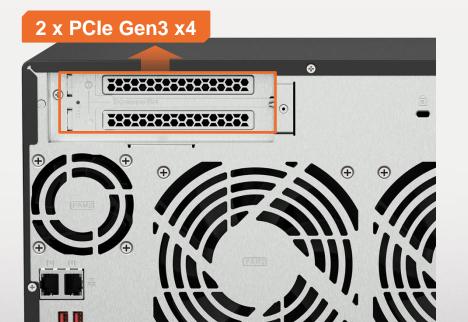


## Built-in 2 x 2.5 GbE LAN ports, aggregated for maximum 5Gbps bandwidth



## 2 x PCIe slots for network, storage, and more

2 x PCIe Gen3 x4 expansion slots for various QNAP PCIe cards for more value-added applications.



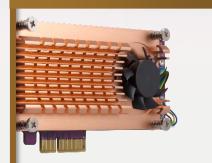


### QM2 cards add support for SSD caching and 10GbE connectivity

- QM2 M.2 SSD PCIe cards allow adding 2 or 4 M.2 NVMe / SATA SSDs to TS-x73A. Enable SSD caching or create RAID 5 group with the two on-board M.2 NVMe SSDs using Qtier.
- Maximize the storage capacity and performance without occupying any 3.5" drive bays. Some QM2 models even combine M.2 SSD and 10GBASE-T connectivity into one solution.



#### Active cooling module

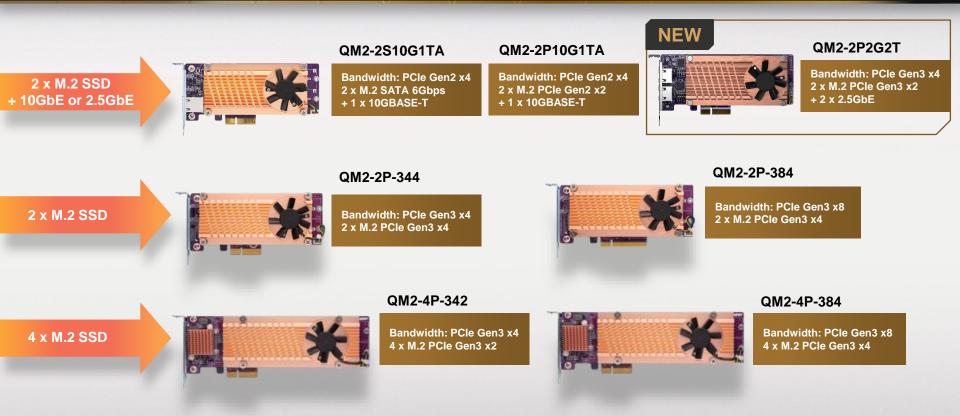


Thermal sensors allow realtime temperature monitoring and adjust fan rotation speed Compatible with standard PCIe slots

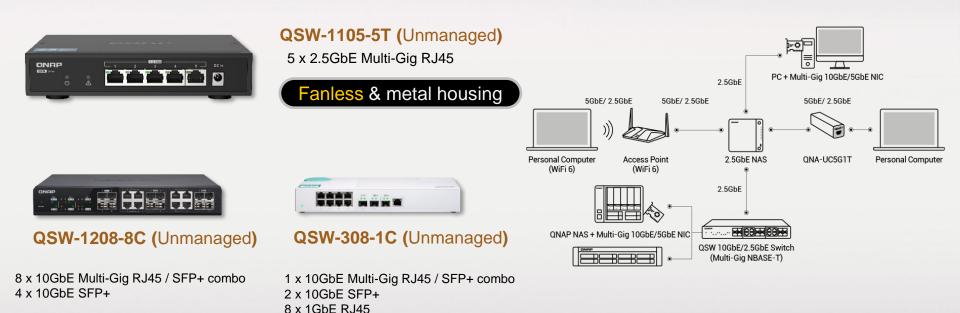


Low-profile PCIe card including full-height bracket

### QM2 Series - Add more M.2 SSD slots to TS-x73A



### Budget-friendly unmanaged switches for multi-user environment



# Layer-2 managed switches for multi-user environment and efficient deployment



QSW-M1208-8C (Managed)

8 x 10GbE Multi-Gig RJ45 / SFP+ combo 4 x 10GbE SFP+



#### QSW-M1204-4C (Managed)

4 x 10GbE Multi-Gig RJ45 / SFP+ combo 8 x 10GbE SFP+



QSW-M408-4C (Managed)

4 x 10GbE Multi-Gig RJ45 / SFP+ combo 8 x 1GbE RJ45



QSW-M804-4C (Managed)

4 x 10GbE Multi-Gig RJ45 / SFP+ combo 4 x 10GbE SFP+



QSW-M408-2C (Managed)

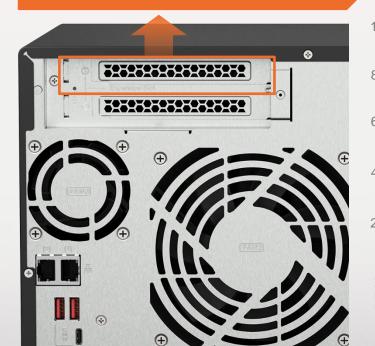
2 x 10GbE Multi-Gig RJ45 / SFP+ combo 2 x 10GbE SFP+ 8 x 1GbE RJ45

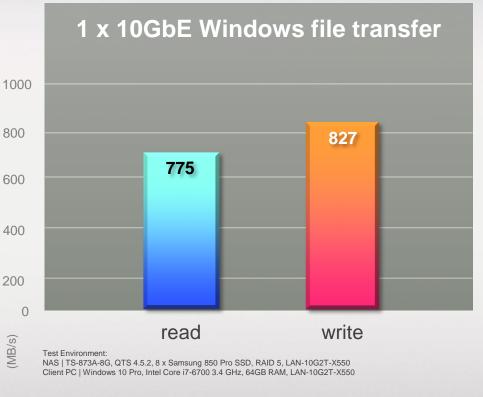
#### Keep existing wiring for 2.5GbE

	CAT 5e	CAT 6	CAT 6A
100M	~	~	✓
1G	✓	~	✓
2.5G	✓	~	✓
5G	~	✓	✓
10G	X	✔(55m)	~

## **Optional 10GbE card for fast performance**

#### 2 x PCIe Gen3 x4 slots for many 10GBASE-T & 10GbE SFP+ cards





## **QNAP 16Gb Fibre Channel card for FC SAN**

QXP-16G2FC Dual-port 16Gbps FC card with 16Gb FC transceivers

Manage Fibre Channel connection using **iSCSI & Fibre Channel** app

16Gb FC transceiver
 TRX-16GFCSFP-SR
 16Gb/8Gb/4Gb

### QNAP QXP-W6-AX200 Wi-Fi 6 card connects NAS wirelessly to a Wi-Fi 6 AX network



QNAP TS-873A NAS



Install the QXP-W6-AX200 PCIe Wi-Fi 6 card QNAP QHora-301W Wi-Fi 6 10GbE SD-WAN router



QNAR

ONAP TS-x73

Xmall



## DEMO

### Performance

### Connect to Dropbox, OneDrive, Google Drive and more

<b>Qfile</b>		File Stati	ion	
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Shared_folder_not_working		• 🗅 home	🗆 📄 qmail test	1970/01/01
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GoogleDrive (linuslin@qnap.com)	NAS	• 回 快照	enctest	1970/01/01
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	Cloud	→ 🗁 GoogleDrive (joshchen@qna	IMG_0033.MOV	2018/07/26
	Storage	🖌 🖓 Dropbox (joshchen@qnap.c	OF W ABDCEFG.docx	2018/07/25
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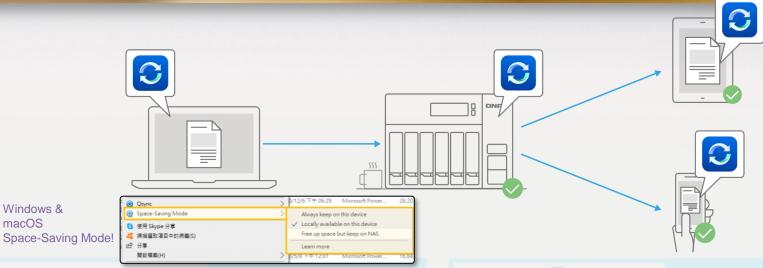
# Easily make NAS your team collaboration portal with File Station

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	Edit with Office Online	View in Google Docs	Open with Google Chrome Extension
Requirement	CloudLink needs to be enabled	CloudLink needs to be enabled	Use Chrome with extension "Office Editing for Docs, Sheets & Slides" to open
Supported formats	.docx, .pptx, .xlsx	.doc, .ppt, .xls .docx, .pptx, .xlsx	.doc, .ppt, .xls .docx, .pptx, .xlsx
Capabilities	•File collaboration •Auto save to NAS in real time	<ul> <li>Document preview</li> <li>Convert to Google docs for editing &amp; saving in your Google Drive</li> </ul>	<ul> <li>Document preview</li> <li>Convert to Google docs for editing &amp; saving in your Google Drive</li> </ul>
- Saving	Save to NAS in real tir	me Rrezon	Multi-user online editing

## **Qsync 5.0** – Cross-device file sync for individuals and teams

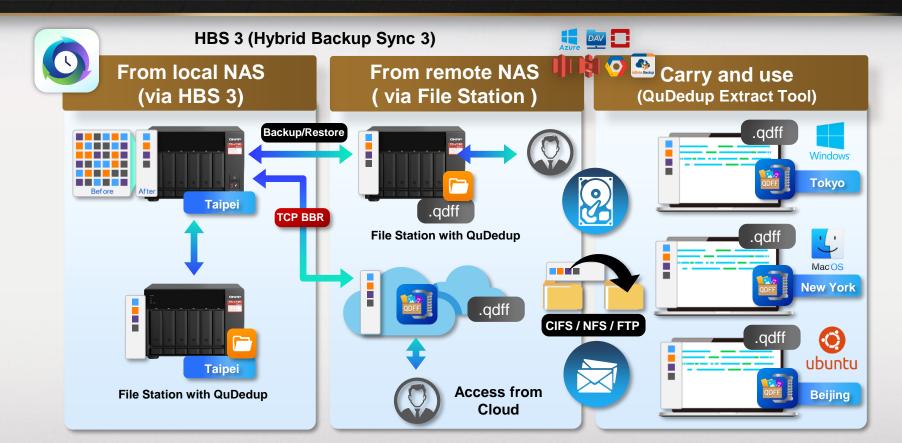
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If you own many devices, any file changed on one device will be automatically synchronized with the others. For team works, any file changed will be automatically distributed to your teams' devices, accelerating and streamlining your workflows.

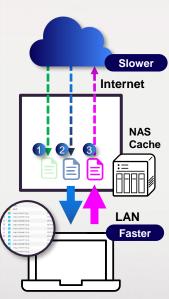
## Complete backup with 3-2-1 HBS 3



# HybridMount provides two modes for file-based cloud storage gateway

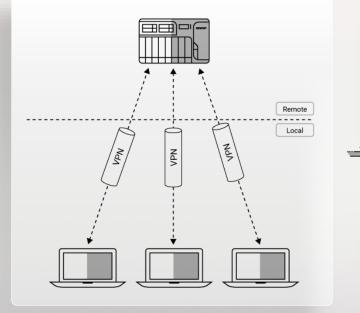
	Network Drive Mount	File Cloud Gateway	
Setup Method	Mount cloud drives and file servers	Select "File Cloud Gateway" mode and create a dedicated cache space	
Connections	No limit	2 free and perpetual connections. Purchase license for more connections	
Access Performance	Depends on network speed	High performance thanks to caching	
Access in File Station	Supported	Supported	
Access through SMB / NFS / AFP	Not supported	Supported	
Sync with the cloud	Sync only when browsing	Sync constantly for quick access	
Integration with QTS apps	Not supported	Supported 💽 💦 🗾 🛄	
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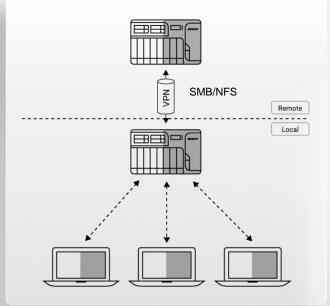
- Online collaboration
- File data analysis



# HybridMount - Cascade share the access permission to remote devices

The remote data mounted by SMB/NFS can be shared with other devices with folder permission to achieve a cascade share architecture.

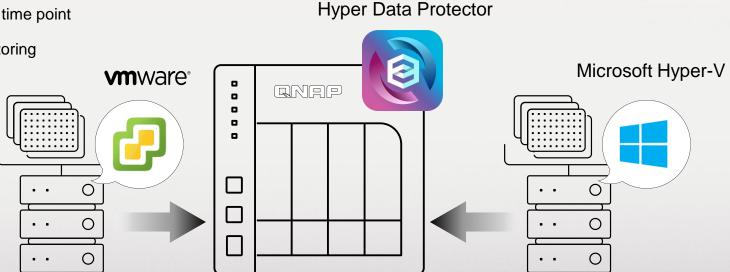




- To avoid local users accessing the remote data by VPN and to reduce the security concern and risk of VPN.
- No longer need to manage user accounts in the remote server. The local admin retains full control over assigning different permissions to local users.

# Hyper Data Protector : All-in-one active backup solution for virtual machines

- Supports VMware and Microsoft Hyper-V
- · Unlimited VM backups and license-free
- Active backup solution
- · Restore at any time point
- Constant monitoring



## Boxafe: Comprehensive Backup Solution for Google Workspace and Microsoft 365

- Keep important data in your hands
- Move older data out of the cloud to reduce cost

#### Google<sup>™</sup> Workspace



Gmail

Backup all your emails and attachments in Gmail



#### **Google Drive**

Backup all your file versions in Google Drive and supports My Drive and Shared Drive



#### Contacts

Backup all your contacts in Google Contacts



#### Calendar

Backup all your events and attachments in Google Calendar

#### Microsoft 365®



#### Outlook

Backup all your emails and attachments in Outlook



#### Contacts (People) Backup all your contacts in Outlook People



#### Calendar

Backup all your events and attachments in Outlook Calendar

#### OneDrive



Backup all your files in OneDrive and support SharePoint

## **QmailAgent – email backup solution**

#### **Best Email Retention Solution**

- Collectively manage and back up your personal and business emails.
- Easily auto back up all your emails and attachments.
- Quickly search and gain access to specific messages.
- Back up emails for disaster recovery.
- Encryption service protects backed up private emails.



# Install an NVIDIA graphics card to add HDMI output and improve VM / container performance



Support graphic cards that do not need power cables, including **NVIDIA® GTX 1650**, **1050**, or **1030** to add an HDMI output and boost performance of GPU-accelerated computing, virtual machines, and containers via GPU passthrough.



Virtualization Station

#### Container Station



Ubuntu Linux Station

#### Note:

1. Supported video formats depend on the hardware and software specifications of the devices. Playback capability and quality may vary due to factors including the original file formats/quality, hardware and software limitations, and output devices.

2. When Virtualization Station uses graphics cards, the NAS will temporarily stop hardware transcoding acceleration for QTS (and vice versa).

3. Consult the <u>Compatibility List</u> for information on supported NAS and graphics cards.

### All-in-one server to host virtual machines and containers



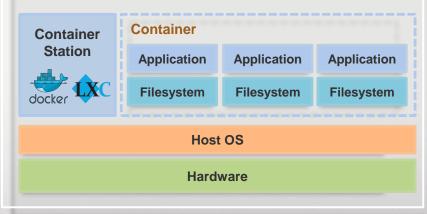
Supports to run the Virtual machine such as Windows, Linux<sup>®</sup>, UNIX<sup>®</sup> and Android.





#### **Container Station**

QNAP's Container Station exclusively integrates LXC and Docker lightweight virtualization technologies, allowing you to download apps from the built-in Docker Hub Registry.



## Establish and run dual systems -Ubuntu & QuTS hero



#### Run QuTS hero and Ubuntu dual system, dual system application to enjoy.

- One-click installation of multiple versions Ubunutu: 16.04 / 18.04 / 20.04
- Ubuntu Software Center enjoy a variety of application downloads
- Remotely access the Ubuntu Linux desktop through a browser /
- Install a PCIe graphic card to add an HDMI output screen, and use a USB keyboard and mouse with it.



## Smart and automatic file management

#### **Qsirch 5**

#### A powerful, Google<sup>™</sup>-like search tool

- Search image, music, video, document, and email by keyword and filters.
- 5 advanced image search: search by face, text in image, things, color and map.
- Supports Qfiling to perform archival tasks based on your search criteria.

#### Automatically filing and archiving



Qfiling 3

- <u>2 type of task</u>: filing task, recycling task
- <u>3 type of scheduling rule</u>: one-time, scheduling, realtime
- <u>9 editing module</u>: Al face blur, encryption and decryption, video transcoding and so on

### Notification Center diversity of active notification

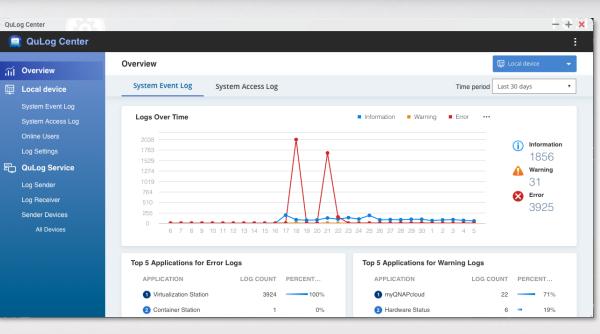


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Centralized setting		Multiple notification methods	Highly flexible rule setting	Multi-language support	Double insurance
One interface to integrate all notification settings and operations		Meet your various notification scenarios	Easily filter important messages	Support 23 language & composed by professionals	Notification history and test function
Rotification Ce. x Notification Center Notification Center Notification Center Notification Queue and Notification Queue and	er ⊡ ] Active E-mail	Q E O E	admin • : ② • • ★ × * ③ ① Matification Center * ③ ① Matification Center * ③ ① Matification Center * ③ ① Matification Center * ③ ③ Notification Center * ③ Notification Center * ③ Notification Center * ③ Notification Center * ③ Notification Center * ③ Notification Center * ③ * ③ * ③ * ③ * ③ * ③ * ③ * ③	Center	Q (≦ ⊕ 0) (A admin • : 2) - + × ☆ 0 0
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	Browser status Pairec Browser name admin	a to your web browser. To receive notifications, click "Pair" to pair the NAS with your web browser. Uncuin			is that occur during a certain time period. 1: 00 + 22 + 1: 99 + 1
View the System Logs	Paired Devices Name admin (1) admin_Windows_Firefox	Model         OS Version           Windows         firefox 61         QTS Browser Notification 4.3.5	Action	🛄 App Center 💿	Confirm Cancel

# QuLog Center proactively analyze and monitor connections

#### Proactive analysis

- List the top 5 Applications for Error/Warning Logs
- System access statistics such as connection types and logged in IP
- Quick filtering
- Categorize by APP name or date
- Customize labels/styles/flags for advanced search
- Real-time monitoring
- View the online members and their connection types
- Unified management
- Consolidate detailed local and remote NAS record files
- Set the size of the space for the record
- Send NAS log files to a standard Syslog server
- Notify specified notifications by Notification Center

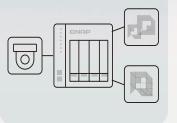


### Brand new surveillance app QVR Elite



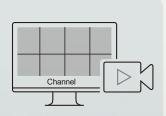
#### Channel License Type Unlimited

QVR Elite is subscription-based, with monthly, yearly, and 3-year subscription plans. You can build a robust surveillance system with a low-cost monthly price of US \$1.99 per channel. You can alter the subscription based on your needs to reach higher cost efficiency.



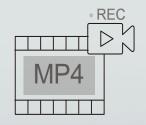
#### **QVR Pro Client**

- Supported by the QVR Pro Client same as QVR Pro's client
- Same features include Dynamic View Layout, Live and Playback at the same time, and e-map event display



#### **Performance Evoluatioin**

• At initial version, max recording channel is 128 channels, the next version we will increase it to 192 channels.



#### **Standard MP4 file**

- Supported by both QuTS hero and QTS
- Record standard MP4 format, allowing for smooth playback on all devices

### High-performance multimedia streaming platform

Plex Server media streaming



QuMagie AI smart photo albums and auto classification



CAYIN MediaSign Player HEVC (H.265) video transcoding



Use Cinema28 for multi-room streaming

# With QTS / QuTS hero two systems, depending on your preference

The QTS operating system is preloaded. Businesses can switch to ZFS-based QuTS hero operating system with greater reliability based on the needs of different applications at any time.

Attention :

1. Since QTS and QuTS hero use different file systems,

users must not insert the old hard disks between different

operating systems to avoid data loss.

2. When using QuTS hero, we recommend to use SSD

as your system drives to gain better performance.

a. Hot swap drives by installing 2.5" SATA SSD in two

3.5" drive bays

b. M.2 NVMe SSD slots on motherboard do not supprt

hot-swapping



#### Welcome to the QTS Smart Installation system!

Thank you for choosing QNAP. Smart Installation will guide you through the installation process. This process may take a few minutes depending on the installed hard drives.







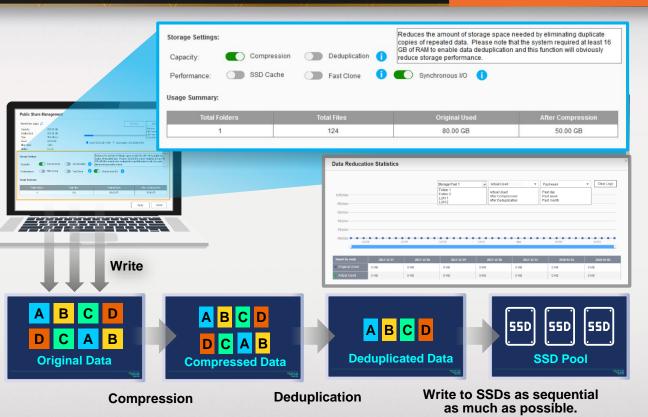
# **Powerful data reduction** – Extend the SSD endurance

### It only works with inline processing before writing

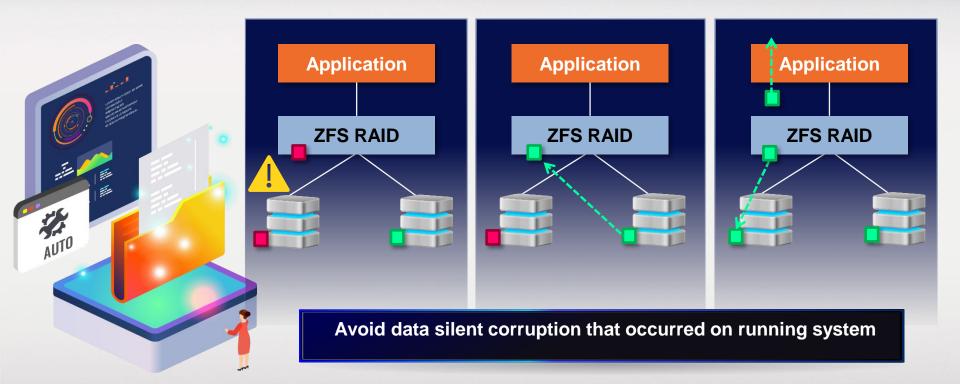
ZFS file system with inline deduplication compression feature

It's the best choice to pair with the all-flash and SSD storage because it reduces the data size and pattern that need to be written to the SSD directly.

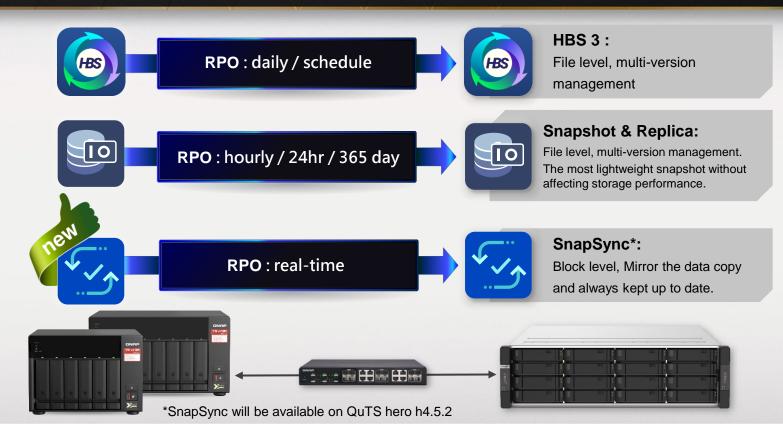
Deduplication Min Requirement : 16GB RAM

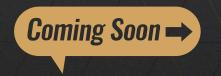


## Silent data corruption & self-healing



### Three-layer backup solution Builds the most complete data backup protection

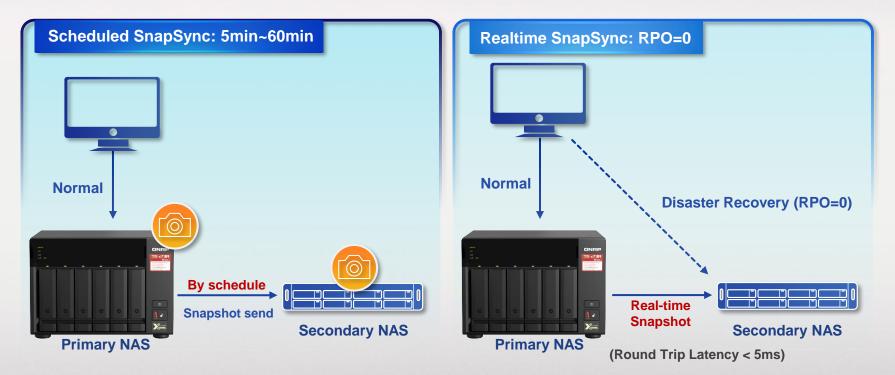






Will be available on QuTS hero h4.5.2 (Mar 2021)

The most cost-effective backup, data protection and disaster recovery solution



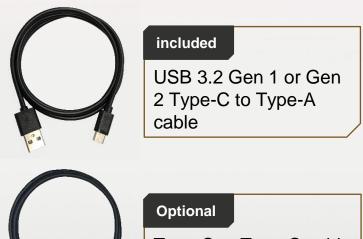




### Storage expansion: TR-002 / TR-004 USB RAID units

- NAS with a USB port can support TR USB RAID enclosures
- Integrated USB Type-C port for plug & play, supporting USB Type-A & Type-C hosts
- NAS can connect max. 2 of TR-002/TR-004 enclosures





Type-C to Type-C cable

**TR-002** USB 3.2 Gen 2 10Gbps

**TR-004** USB 3.2 Gen 1 5Gbps

### Storage expansion : TL-D800C USB JBOD units

- NAS with a USB port can support TL USB JBOD enclosures
- USB Type-C provide speed up to USB 3.2 Gen 2 10Gb/s

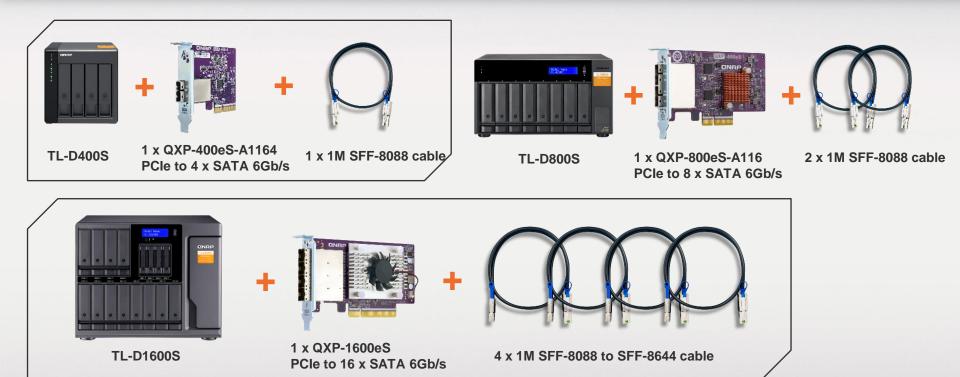


## High-speed storage expansion with PCIe to SATA enclosures

- Install a QNAP QXP SATA HBA on NAS to access the TL expansion units via PCIe Gen3 bandwidth
- Each SFF-8088 cable provides 4 x SATA 6Gb/s = 24 Gb/s bandwidth. Connect multiple cables for up to 64 Gb/s performance



## **QXP SATA HBA and cables are included**



## The most feature-rich and cost-effective choice AMD Ryzen QTS / QuTS hero NAS QuTS Little Course Cou

### QNAP TS-673A / TS-873A NAS

#### **Two 2.5GbE LAN ports**

- Fast and cost-friendly
- Support 2.5G/1G/100M Multi-Gig



### Other 6/8-bay NAS

Built-in 1GbE LAN port

<ul> <li>Pre-installed high-density 8GB DDR4 memory</li> <li>Available for using more software features and connections with smooth experience</li> <li>Expand the memory up to 64GB (ECC memory supported)</li> </ul>	4GB memory
USB 3.2 Gen2 Type-A and Gen1 Type-C ports Support speed up to 10Gbps for backup with external SSD/HDD	USB 3.2 Gen 1 Type-A port
<b>Two PCIe slots for more features on NAS</b> 2 x PCIe Gen3 x4 expansion slots allow installation of 10GbE network expansion card and QM2 M.2 SSD expansion card at the same time, or other host bus adapters for more applications	One PCIe Gen3 x4 slot
Support up to sixteen 16-bay rackmount or two 16-bay desktop expansion units Multiple QNAP SAS, SATA, USB JBOD or USB RAID expansions solutions	Max. of two 5-bay expansion units



## **TS-x73A Series**

### Legend continues, and even grows

Ryzen V1500B 4C/8T 2.2 GHz, USB 3.2 Gen2, two PCIe slots





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