

# TS-364

Quad-core

Celeron 3-bay RAID 5 NAS supports 2.5GbE connectivity, M.2 NVMe SSD cache, 4K HDMI and AI analytics



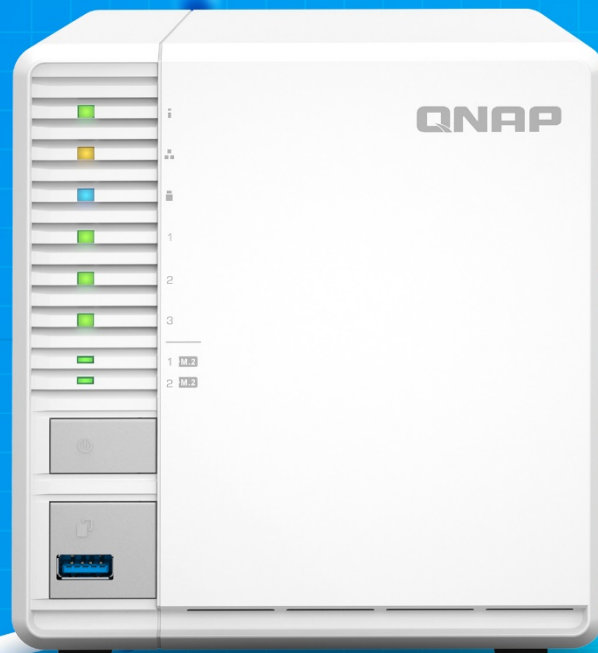
2 x M.2 NVMe SSD



1 x 2.5G LAN

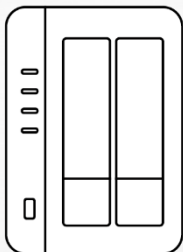


4GB DDR4 RAM



# Cost effectively secures data with RAID5

2-Bay NAS



**RAID1 :**

**Space: 1: 1 x HDD**

**HDD utilization: 50%**

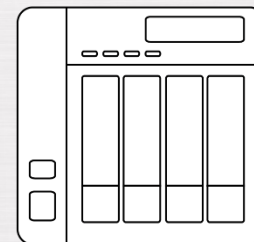


**RAID5:**

**Space: 1 : 2 x HDD**

**HDD utilization: 67%**

4-Bay NAS



**RAID5 :**

**Space: 1 : 3 x HDD**

**Budget concern**

# Flexibly use SSD cache or Qtier

**RAID  
1**

**2 x M.2 NVMe SSD**



**Better  
Performance  
Data protection**



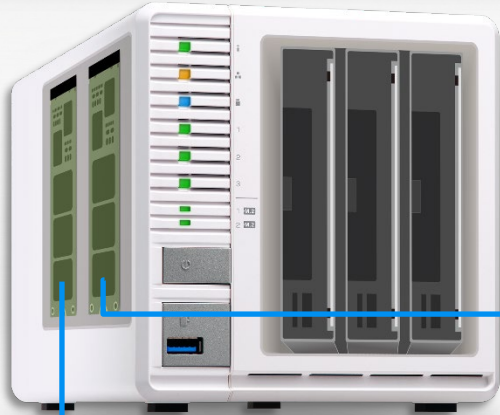
**RAID  
5**

**3 x SATA HDD**



**High storage  
capacity  
Data protection**

# M.2 NVMe Gen 3 x 2 SSD



M.2 NVMe Gen 3 x 2 provide up to **16Gbps**

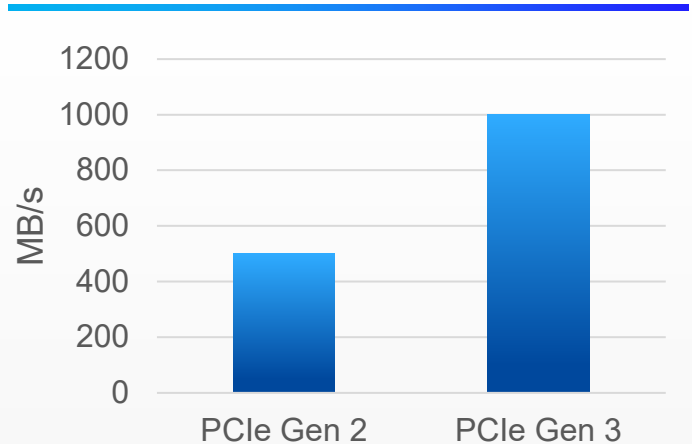
PCIe Gen 3 x 2



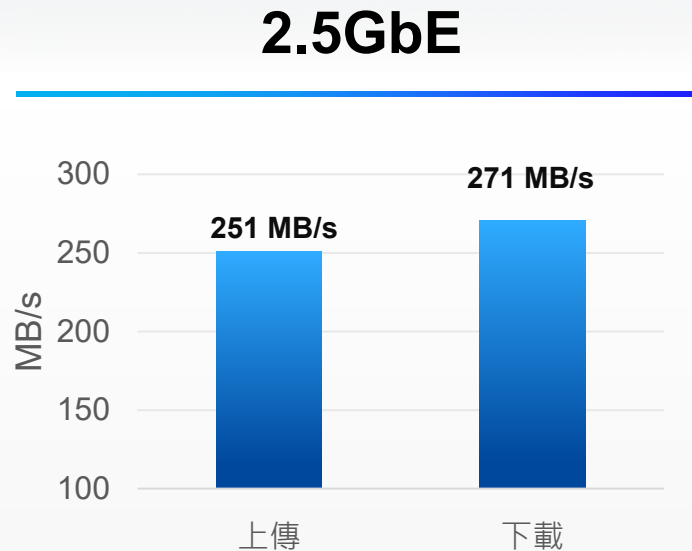
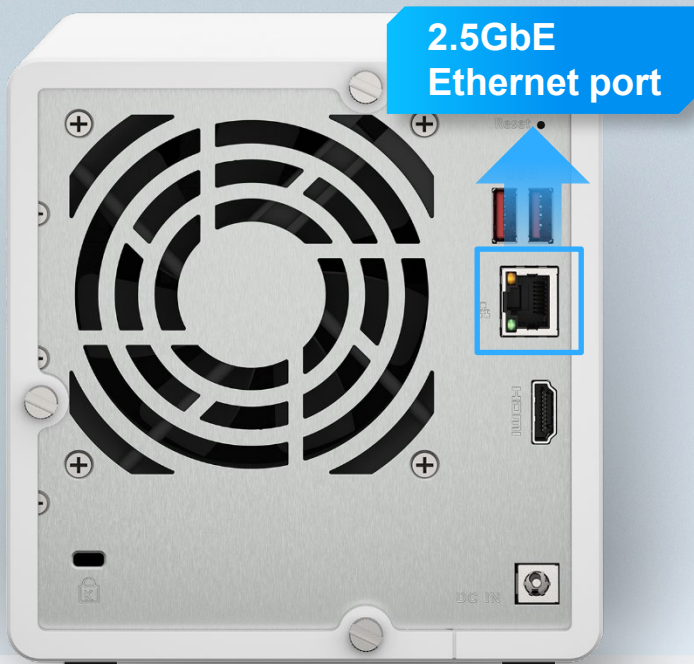
PCIe Gen 3 x 2



PCIe Gen 3 provides up to 8Gbps bandwidth, it is double of PCIe Gen 2 providing 4Gbps



# 2.5GbE boost performance



### Testing environment:

TS-364, QTS 5.0, 4GB RAM

3 x Samsung 850 Pro 512GB SSD (RAID 5)

Client PC: Windows Server 2019, Intel Core i7-6700, 64GB RAM, Intel X550 NIC



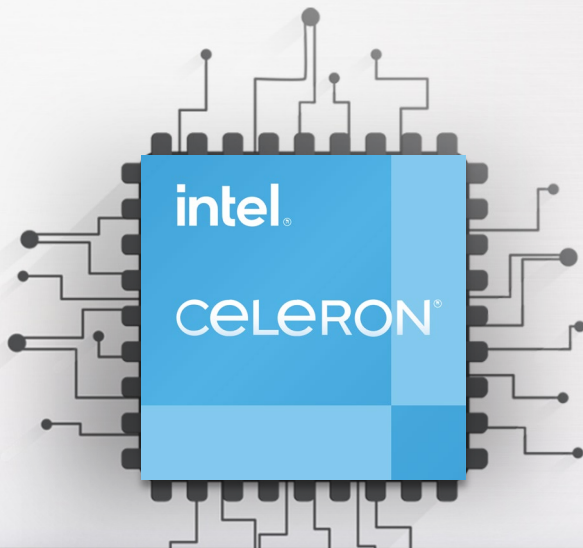
# QTS 5.0 + Linux 核心 5.10

To provide the best performance of Intel® Celeron® N5105/N5095, TS-364 is shipped with QTS 5.0, using the new Linux kernel 5.10. QTS 5.0 optimizes overall system performance and NVMe SSD over-provisioning & cache performance to enhance TS-364 functionality.

**AES-NI** encryption  
Volume & folder support

**N5105/ N5095**  
Jasper Lake

**2.9GHz**  
Burst



**GPU** up to 800 MHz  
UHD Graphics

**4-core**  
4-thread

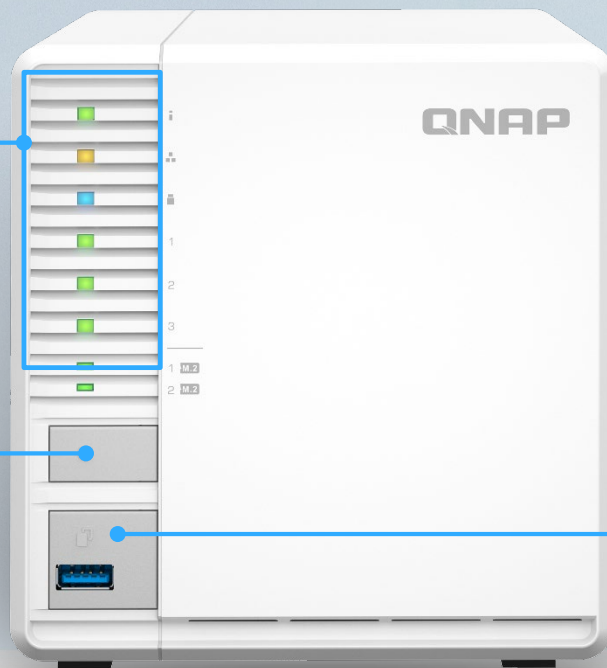
# Front view

## LED indicator :

Status, LAN,  
USB, HDD 1~3,  
M.2 slot 1~2

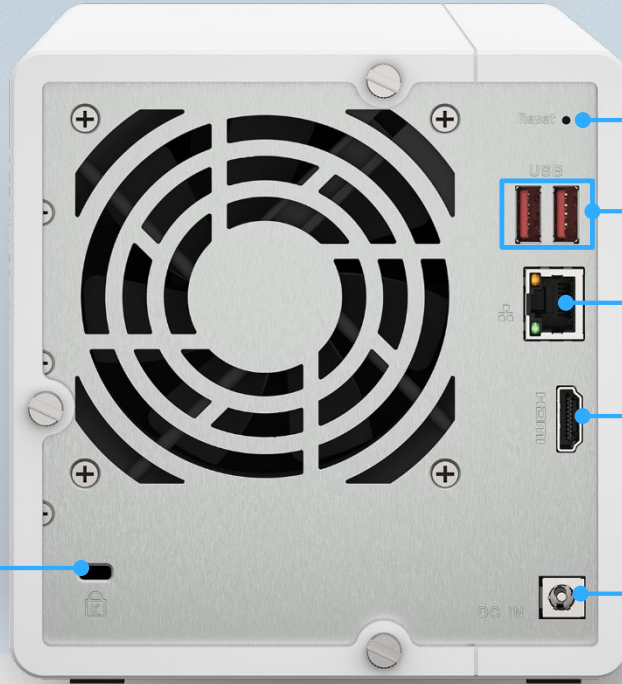
## Power on button

USB3.2 Gen 1  
One Touch  
Copy button



# Rear view

Security lock



Reset

2 x USB3.2 Gen 2 ports

2.5GbE RJ-45 port

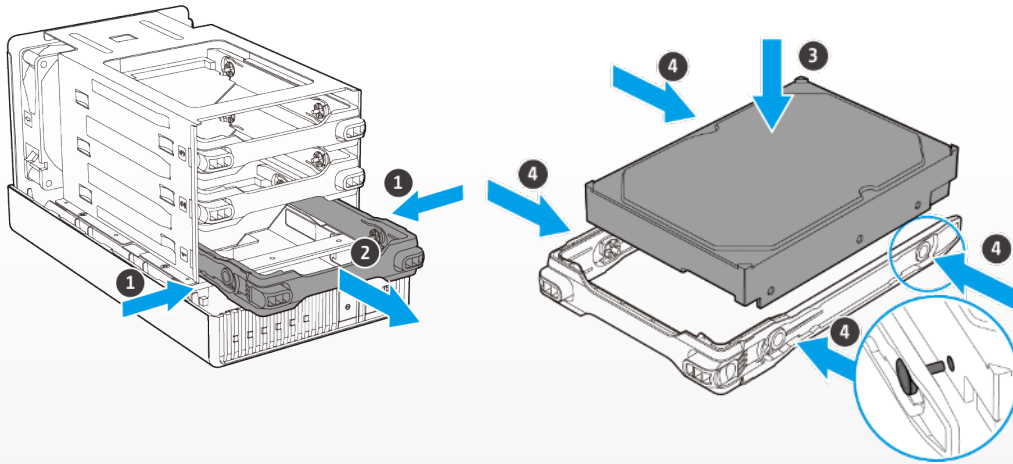
HDMI 1.4b output

Power input

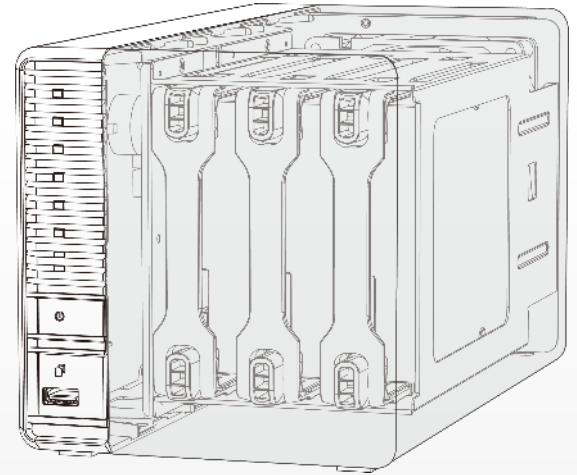


# Hot swappable and invisible slots

Tool less installation



Prevent HDD mishandling  
Anti-theft



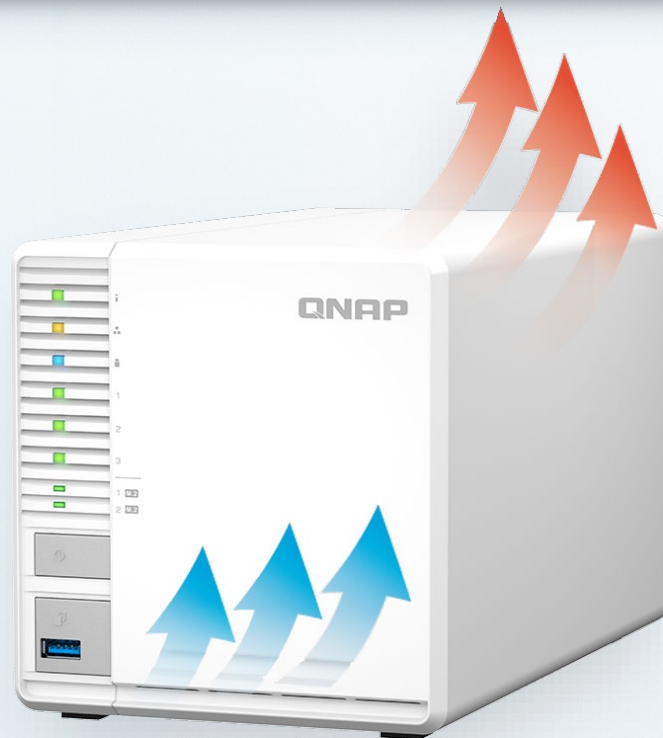
# Elegant, quiet and energy saving

**Standby : 26.3 W**

**Operating : 32.8 W**

**Quiet cooling fan**

**Noise level : 20.5 dB**



# Data Backup

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## Snapshot

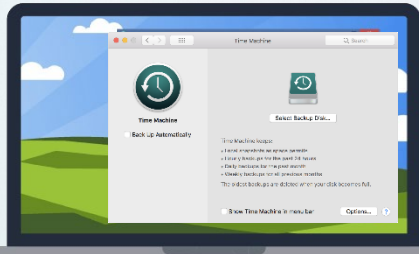
Provides a complete data backup solution



# A complete backup solution

Data backup is the most effective way against ransomware

Mac O.S.



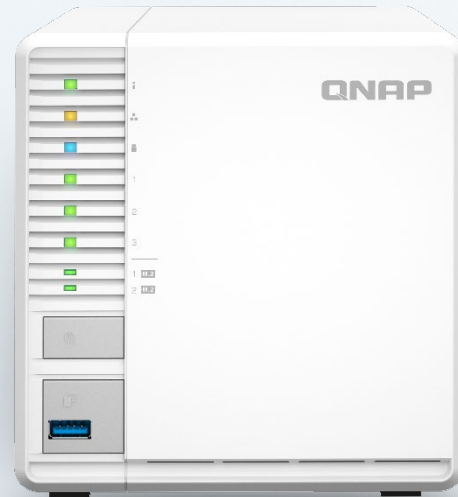
Time Machine



Windows



NetBak Replicator



Real-time or  
scheduled back  
up to the TS-364  
easily.

# Protect your backup with QNAP Snapshot

Whole NAS

1024

Single  
Volume/Lun

256



Best  
option



File Station

FileStation 5

T1277sh

DataVol1

Snapshot

DataVol1 Snapshot

- GMT+08\_2017-08-31\_09
- GMT+08\_2017-08-31\_09
- GMT+08\_2017-08-31\_09
- GMT+08\_2017-08-31\_10
- GMT+08\_2017-08-31\_11
- GMT+08\_2017-08-31\_12
- GMT+08\_2017-08-31\_13
- GMT+08\_2017-08-31\_14
- GMT+08\_2017-08-31\_15
- GMT+08\_2017-08-31\_16
- GMT+08\_2017-08-31\_17
- GMT+08\_2017-08-31\_18
- GMT+08\_2017-08-31\_19
- GMT+08\_2017-08-31\_20
- GMT+08\_2017-08-31\_21
- GMT+08\_2017-08-31\_22

snapshot:home > DataVol1 Snapshot

	Name	Modified Date	Type	Size
<input type="checkbox"/>	GMT+08_2017-09-06_1308	2017/09/02 09:56:20	Folder	
<input type="checkbox"/>	GMT+08_2017-09-06_1208	2017/09/02 09:56:20	Folder	
<input type="checkbox"/>	GMT+08_2017-09-06_1108	2017/09/02 09:56:20	Folder	
<input type="checkbox"/>	GMT+08_2017-09-06_1008	2017/09/02 09:56:20	Folder	
<input type="checkbox"/>	GMT+08_2017-09-06_0908	2017/09/02 09:56:20	Folder	
<input type="checkbox"/>	GMT+08_2017-09-06_0708	2017/09/02 09:56:20	Folder	
<input type="checkbox"/>	GMT+08_2017-09-06_0608	2017/09/02 09:56:20	Folder	
<input type="checkbox"/>	GMT+08_2017-09-06_0508	2017/09/02 09:56:20	Folder	
<input type="checkbox"/>	GMT+08_2017-09-06_0408	2017/09/02 09:56:20	Folder	
<input type="checkbox"/>	GMT+08_2017-09-06_0308	2017/09/02 09:56:20	Folder	
<input type="checkbox"/>	GMT+08_2017-09-06_0208	2017/09/02 09:56:20	Folder	
<input type="checkbox"/>	GMT+08_2017-09-06_0108	2017/09/02 09:56:20	Folder	
<input type="checkbox"/>	GMT+08_2017-09-06_0008	2017/09/02 09:56:20	Folder	

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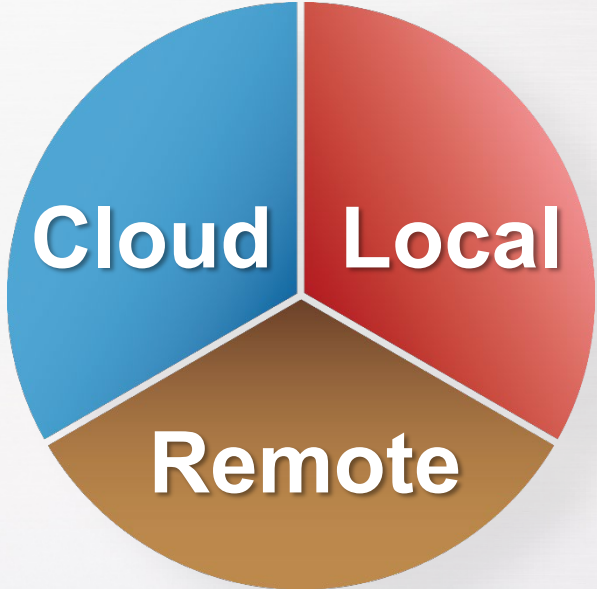
Display item: 1-50, Total: 149 | Show 50 | Item



# Multi-layer protection for the backup



## Hybrid Backup Sync



# HDMI application

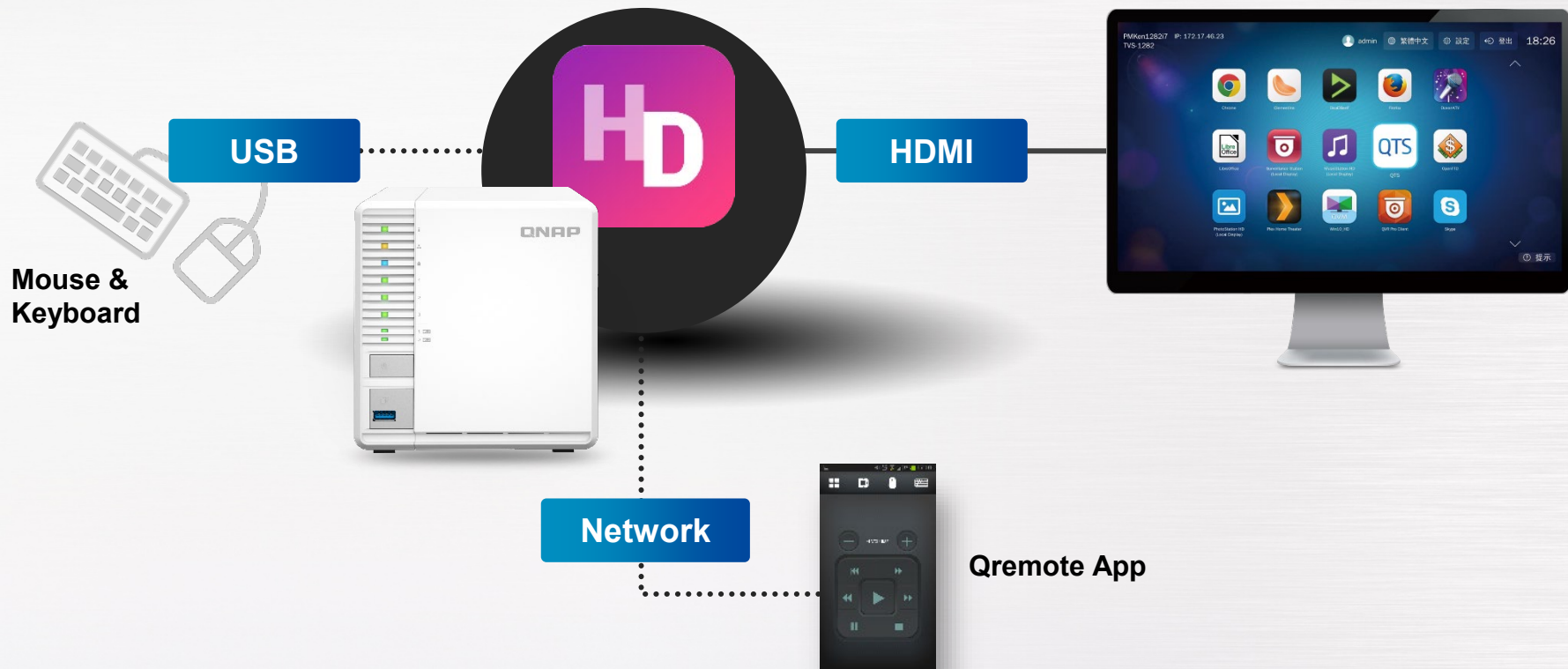
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Hardware transcoding &  
streaming

4K

A collage of various images displayed on a grid of screens, including people, nature, technology, and abstract scenes. A large, 3D gold '4K' logo is prominently displayed in the foreground.

# HybridDesk Station for various A/V needs



# Versatile HybridDesk Station apps

## System Mgmt.

- QTS
- FileStation HD

## Surveillance

- QVR Pro Client

## Comm. & Social

- Skype
- Facebook

## Multimedia

- HD Player
- Clementine
- Spotify
- TuneIn Radio

## Multimedia Mgmt.

- PhotoStation HD
- VideoStation HD
- MusicStation HD

## Browser & Productivity

- Chrome
- Firefox
- LibreOffice





# Linux Station turns NAS into a Ubuntu PC



**1**

HDMI output from NAS to a monitor



**Multi-version Ubuntu**

- Ubuntu 18.04
- Ubuntu 20.04

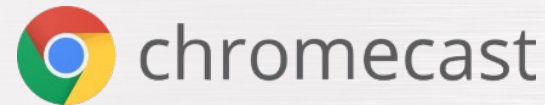
**2**

Connect a USB keyboard and a mouse to the NAS to start using Ubuntu



# Streaming & accelerated transcoding

- 4K H.264 decoding & encoding for real-time or offline 4K video transcoding on various client players for smooth playback and support more clients
- HDMI output for 4K content
- Stream content through DLNA, AirPlay, Chromecast and Plex



# QVR Elite Smart Surveillance Solution

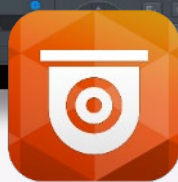
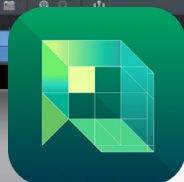


**6,000+ IP cameras**

**2 embedded channels**

**Subscription-based BYOD license**

**Support QVR Face AI qpkg**



Please go to the [QVR NAS Selector](#) to calculate the supported recording channels.

# Data management

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**Qsirch**

Full text search



**Qfiling**

Smart filing





# QNAP meets all needs for an office



File Station



OCR Converter



Qsirch



Qfiling



Store and backup

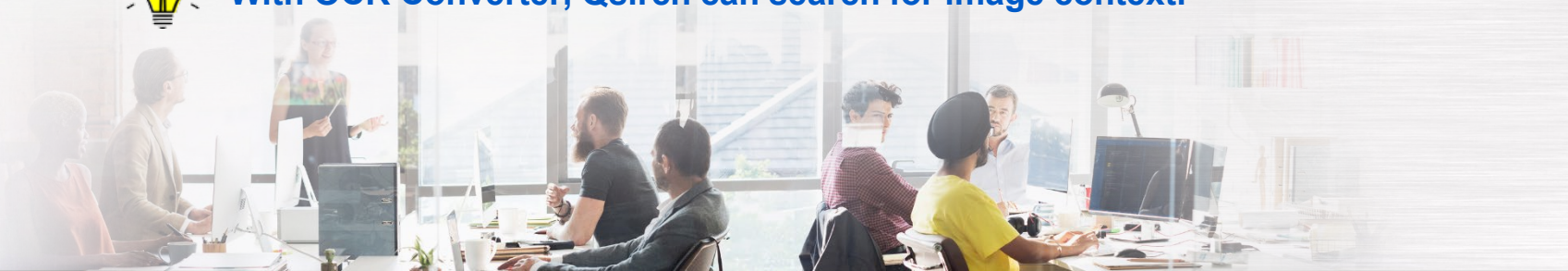
File Digitization

Search

Archive



With OCR Converter, Qsirch can search for image context.



# OCR: Best solution for document digitization

Picture with text

Searchable documents



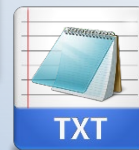
Search



Edit



Archive



◆ PCIe expandability for additional NAS functionality

The TS-x53B series comes with a PCIe slot, offering extreme flexibility for users to install a QM2 card, 10GbE network card, or wireless network card for greater application potential.

◆ USB type C QuickAccess port for direct file access

The TS-x53B series features a USB-C QuickAccess port to simplify NAS setup and to allow direct access to files without needing a network connection.

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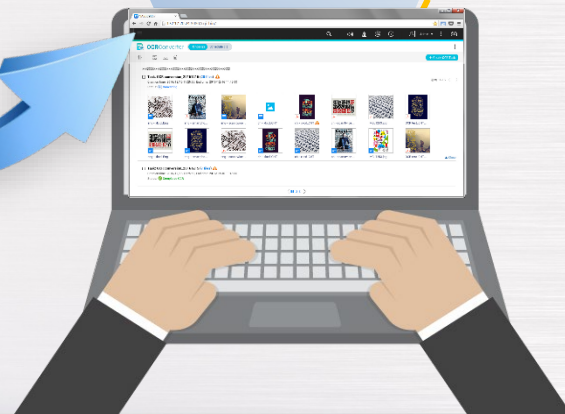
The TS-x53B series features a USB-C QuickAccess port to simplify NAS setup and to allow direct access to files without needing a network connection.

◆ Powerful transcoding and 4K HDMI output

The TS-x53B series supports 4K hardware decoding and 4K H.264 video transcoding for a high-quality audiovisual experience.

◆ QTS-Linux Combo NAS for centralized storage and IoT applications

The TS-x53B series integrates two operating systems to host an ideal IoT platform with near-limitless containerized apps to empower developers.

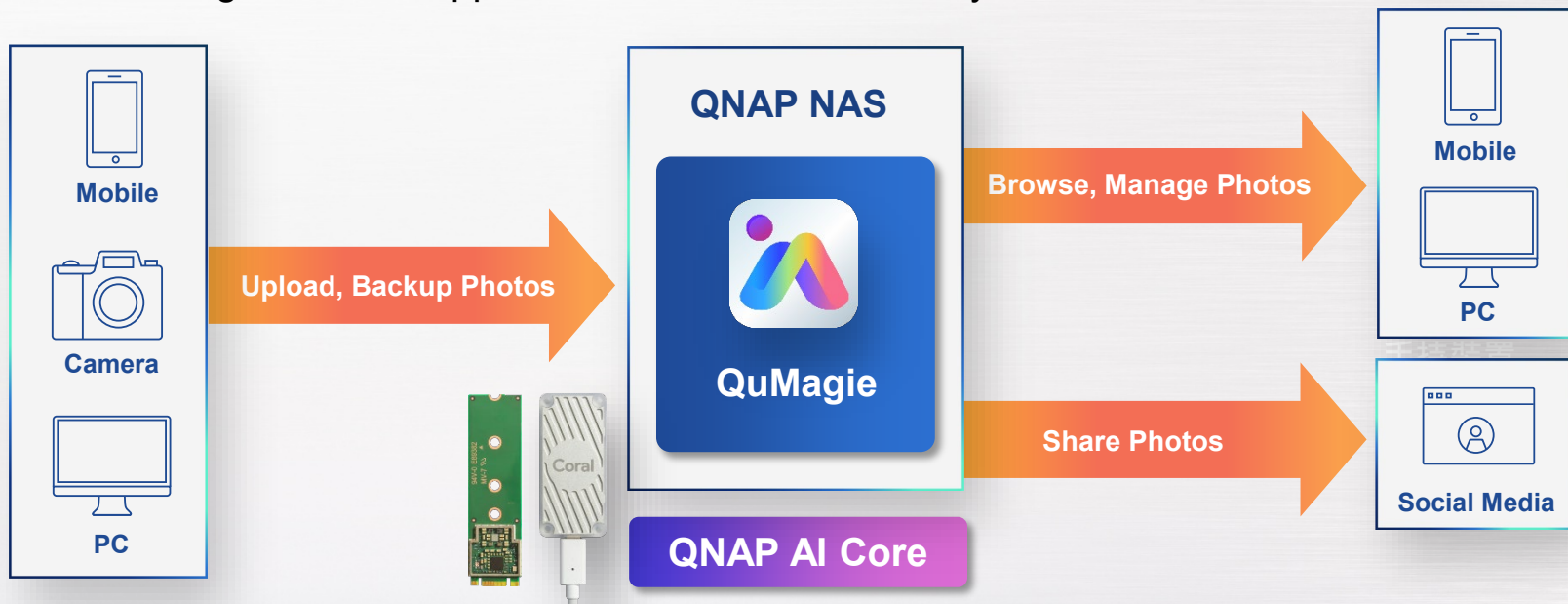




# QuMagie

## What is QuMagie?

- QuMagie is an AI-powered photo management solution with flexible storage space
- QuMagie is a free application within QNAP NAS system



# Coral M.2 Accelerator ( B+M key )

## Coral M.2 Accelerator B+M key

- Coral P/N: **G650-04686-01**
- 4 TOPS total peak performance (int8)
- 2 TOPS per watt (TOPS = trillion operations per second)
- M.2 2280 B+M key form factor
- PCIe Gen 2 x 1 interface

## QNAP P/N: **G650-04686-01-QNAP**

- Package contents
  - Coral M.2 Accelerator B+M key
  - QNAP Heatsink
  - NAS Installation guide



# Coral USB Accelerator

## Coral USB Accelerator

- Coral P/N: **G950-06809-01 & G950-01456-01**
- 4 TOPS total peak performance (int8)
- 2 TOPS per watt (TOPS = trillion operations per second)
- No extra power adapter needed
- USB 3.2 Gen 1 (USB 3.0) Type-C interface (data/power)

## QNAP P/N: **G950-06809-01-QNAP**

### Package contents

- USB Accelerator
- NAS installation guide



30 mm (1.18 inch)



65 mm  
(2.56 inch)



# QVR Face / Human



- QVR Face helps users build intelligent face recognition
- QVR Human proactively calculates the number of people passing through a specific region



# Improve NVMe SSD Performance

- With the new kernel, NVMe usage efficiency is greatly improved
- Optimized cache module, SSD space can be used more efficiently, and memory usage is less than before
- Improve the efficiency of multi-users access to the same folder

The screenshot displays the 'Storage & Snapshots' management console. The left sidebar contains navigation options: Overview, Storage (Diaks/VJBOD, Storage/Snapshots, Cache Acceleration, External Storage, Remote Disk), Snapshot Backup (Snapshot, Snapshot Replica, Snapshot Vault), iSCSI & Fibre Channel, HybridMount, SSD Profiling Tool, and VJBOD Cloud.

The main content area is titled 'Cache Acceleration' and includes an SSD icon, 'Cache Type: Read-Only', 'Cache Mode: All I/O', and a 'Service: ON' toggle switch. Below this is a 'Usage' section with a progress bar showing 'Allocated: 0%' and 'Free: 100%'. Status information includes 'Status: Ready', 'Capacity: 175.74 GB', and 'Over-provisioning: 19.53 GB(10%)'.

The 'Hit Rate History' section features a line graph showing a 100% hit rate at 10:15:03. Below the graph are two tables:

Cache RAID			
Name/Alias	Capacity	Type	Status
RAID Group2	192.67 GB	Single	Ready

Cached Storage		
Name/Alias	Capacity	Used/Allocated
Volume		
DataVol1	837.94 GB	20.23 GB



# Increase the level of security

- Support TLS 1.3
- The admin account is disabled by default
- Advanced encryption suite support
- adjusted safety settings and more stronger safety protection options
- SSH Key login
- Firmware automatic updates (recommended updates, automatic updates)
- App automatic updates (recommended updates, automatic updates)



# TS-364

Quad-core

Celeron 3-bay RAID 5 NAS supports 2.5GbE connectivity, M.2 NVMe SSD cache, 4K HDMI and AI analytics



2 x M.2 NVMe SSD



1 x 2.5G LAN



4GB DDR4 RAM

