

QNAP

TS-h1886XU-RP R2

Cost-effective 10GbE-ready ZFS NAS solution with
4x 2.5GbE ports for virtualization applications

QuTS hero
edition



Upgrade
4 x 2.5GbE



2.5" SATA
SSD support



10GbE
SFP+

32GB
ECC RAM



Enterprise & SMB storage with performance and security requirements

According to the data on the official website of the upcoming 3/31 "World Backup Day". We know that 113 mobile phones are lost every minute globally, 29% of data are lost due to accidental disasters, and 1 in 10 equipment got a computer virus every month, but 30% of users never made a backup. The company data is critical for daily operations. The TS-h1886XU-RP R2 NAS is designed by QNAP with 12 x 3.5-inch/2.5-inch SATA drive bays, 10GbE SFP+ / 2.5GbE network ports, redundant power supplies, and the support of six 2.5" SATA SSD cache bays at the same time. It perfectly fits the data backup security, stability, and high-performance requirements in modern businesses.



**Cybersecurity
Threat**



**Hardware
Failure**



**Human
Error**



**Natural
Disasters**

TS-h1886XU-RP R2 features



Intel® Xeon® D-1622 4 core processor and 32GB DDR4 ECC memory, server-grade performance design

↑ 250%
4 x 2.5 GbE

The new R2 version upgrades the network ports from 4 x 1 GbE in the previous generation to new 4 x 2.5 GbE



Pre-installed 2-port 10GbE SFP+ SmartNIC high-speed network card



Dual operating systems QuTS hero (pre-installed) & QTS for flexible configuration

Cost-effective enterprise rackmount NAS



* Ordering information: TS-h1886XU-RP-R2-D1622-32G

Intel® Xeon D enterprise server processor



Intel® Xeon® D-1622 4 cores /
8 threads processor · burst up to 3.2 GHz

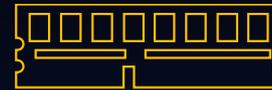
Intel® Xeon® D processor is a system-on-a-chip (SoC) purpose-built for the enterprise, with security features, advanced I/O, and can provide the intensive computing needs of business users with high data throughput.

Supports ECC memory (Error Correcting Code)



Reliable memory
and avoiding data
corruption

ECC



- TS-h1886XU-RP R2 supports QNAP ECC memory that automatically detects and timely corrects single-bit errors
- 4 UDIMM slots supporting up to 128GB memory (4 x 32GB)
- TS-h1886XU-RP R2 is pre-installed with 32GB (2 x 16GB) of ECC memory

* 32GB ECC RAM Accessory P/N: RAM-16GDR4ECT0-UD-2666

Note: ECC and non-ECC memory modules cannot be used together.

Six 2.5-inch SATA 6Gb/s SSD cache bays on the back side for performance boost



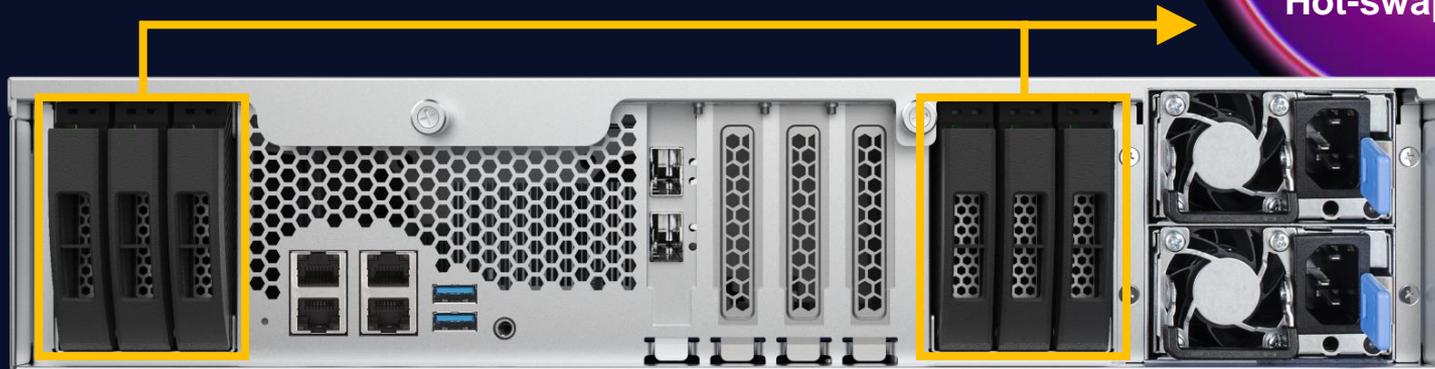
x6

6 dedicated 2.5" SATA SSD cache bays

SSD caching has already become mainstream in enterprise storage, so the TS-h1886XU-RP R2 NAS is equipped with 6 dedicated 2.5" SATA SSD cache bays as standard. This provides stability and efficient performance and expansion capabilities.



**6 x 2.5-inch SATA SSD
Hot-swappable trays**

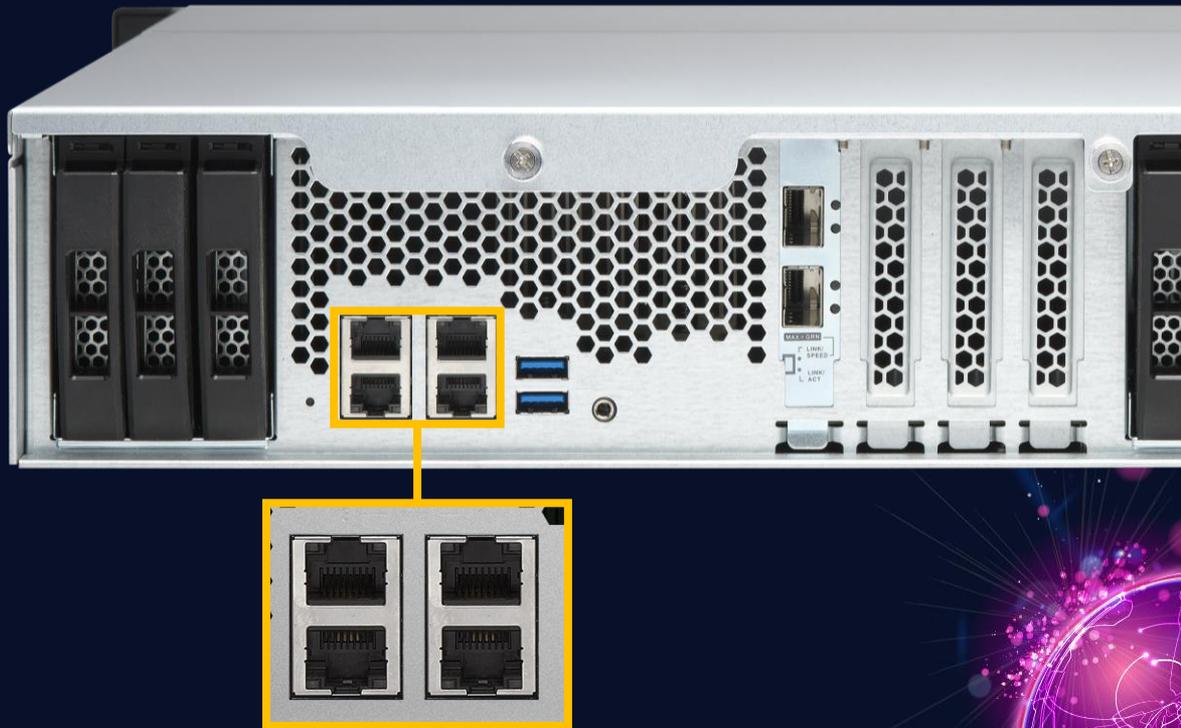


4-ports of 2.5GbE, supporting future high-speed network growth in the enterprise economy



4 x 2.5GbE high-speed network ports

The previous generation's (TS-1886XU-RP & TS-h1886XU-RP) 1GbE network speed can no longer fit the basic storage needs of today's large enterprises. Therefore, the new TS-h1886XU-RP R2 NAS is equipped with 4 2.5GbE (1GbE compatible) network ports as standard. Through Port Trunking network link aggregation, the NAS can provide up to 10Gbps data transmission capacity in a multi-client environment.



2 x 550W redundant power supplies



Redundant power supply design w/ ample 550W power budget

When one of the two power supplies fails, the NAS can continue running with a single power supply, so that services will not be interrupted. The failed power supply can be hot-swapped with a replacement one without any system or service downtime.



Single & quad 2.5GbE ports with good performance for the daily operations

1 x 2.5GbE SMB Sequential Throughput (512K)

4 x 2.5GbE SMB Sequential Throughput (512K)



Environment:
NAS | TS-h1886XU-RP R2, QuTS hero 5.0, 18 x Samsung 860 EVO Pro 1TB, RAID 50(9x2)
PC | Windows Server 2019, Intel Xeon E3-W1250 3.3GHz, 32GB RAM
IOmeter | RAM 512MB, 30-sec ramp up time, 3-min seq. run time, 16 workers, 4-outstanding, 1MB

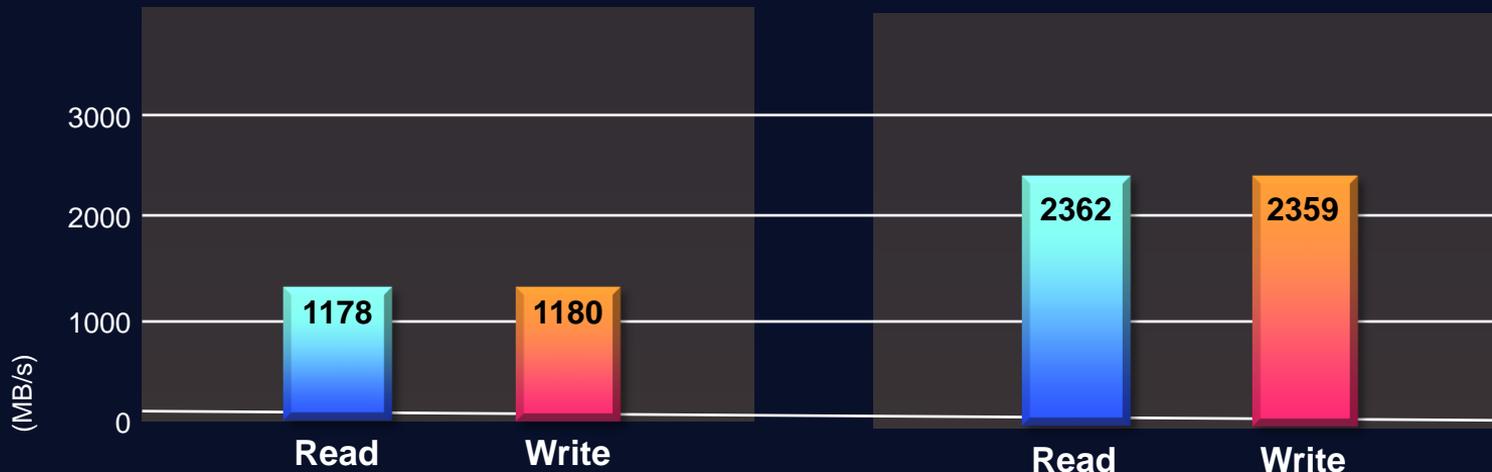
Tested in QNAP Labs. Figures may vary by environment.



Built-in 2-port 10GbE to provide excellent performance for enterprises

1 x 10GbE SMB Sequential Throughput
(512K)

2 x 10GbE SMB Sequential Throughput
(512K)



Environment:

NAS | TS-h1886XU-RP R2, QuTS hero 5.0, 18 x Samsung 860 EVO Pro 1TB, RAID 50(9x2)

PC | Windows Server 2019, Intel Xeon E3-W1250 3.3GHz, 32GB RAM

IOmeter | RAM 512MB, 30-sec ramp up time, 3-min seq. run time, 16 workers, 4-outstanding, 1MB

Tested in QNAP Labs. Figures may vary by environment.

Equipped with QuTS hero 5, a reliable and secure operating system

QuTS hero integrates a powerful 128-bit ZFS file system, combines the advantages of ultra-flexible capacity management, perfect data protection mechanism, and performance optimization, and can better adapt to increasingly large and complex business-critical applications.



Increased security level

Supports TLS 1.3 to improve security and performance, and SSH keys for authentication that help secure access to your NAS, preventing password breaches or similar potential attacks.



Inline Compression

Compress data to reduce storage I/O workloads for improved performance. In VDI, deduplicated virtual desktops are easily cached to achieve optimal virtual desktop performance.



Inline Data Deduplication

Inline deduplication is block-based and is carried out before data is written to storage. This greatly optimizes storage usage while significantly decreasing storage capacity requirements.



Self-Healing Capabilities

Checksum verification is performed on all data blocks, automatically repairing wrong blocks to ensure that the data is complete and correct.



QuTS hero / QTS dual systems, switch according to your needs

Default with reliable QuTS hero operating system. Users can switch to the friendly QTS operating system according to different application requirements and use the familiar operating system to start with enterprise-level NAS painlessly.



Notice :

1. QTS and QuTS hero use different file systems, and NAS cannot be pre-installed disks during system switching. Therefore, after the switching is complete, you can migrate the system.
2. When using QuTS hero operating system, it is recommended to use SSD as system for better performance.
 - a. It is recommended to install the 2.5" SATA SSD in two 3.5" slots for hot swapping
 - b. The motherboard M.2 NVMe SSD slot does not support hot swapping



Flexible initialization of QTS 5.0 NAS operating system



Supports WireGuard VPN

Safe and convenient connection



Upgraded Linux Kernel 5

Strengthen data security to protect your assets



Accelerates NVMe SSD cache performance

Enhance cache performance



Brand new UI

Simple and smooth user experience



QuTS hero 5 requires higher data security and protection mechanisms

	QuTS hero	QTS
File System	ZFS	Ext4
SSD Cache	Read Cache	Read/Write Cache, Read Cache, Write Cache
Inline Compression	Yes (LZ4 compression, ideal for RAW files and document files)	No
Inline Deduplication	Yes (At least 16 GB RAM required)	No
HBS with QuDedup for Remote Backup	Yes	Yes
Power Failure Protection (Hardware)	supports UPS	supports UPS
Power Failure Protection (Software)	ZIL Copy-On-Write (Service continues after power recovery)	No (Risk of filesystem-level corruption on power-loss and system downtime required for <u>"Check File System"</u>)
Permission Management	Rich ACLs (14 types)	POSIX ACLs (3 types) + certain special permissions
Data Security	Better (Self-Healing & Copy-on-Write)	Standard
Overall Performance	Requires higher-performance CPU and more memory	Better

Front view: TS-h1886XU-RP R2

12 x 3.5-inch/ 2.5-inch SATA 6Gb/s HDD bays

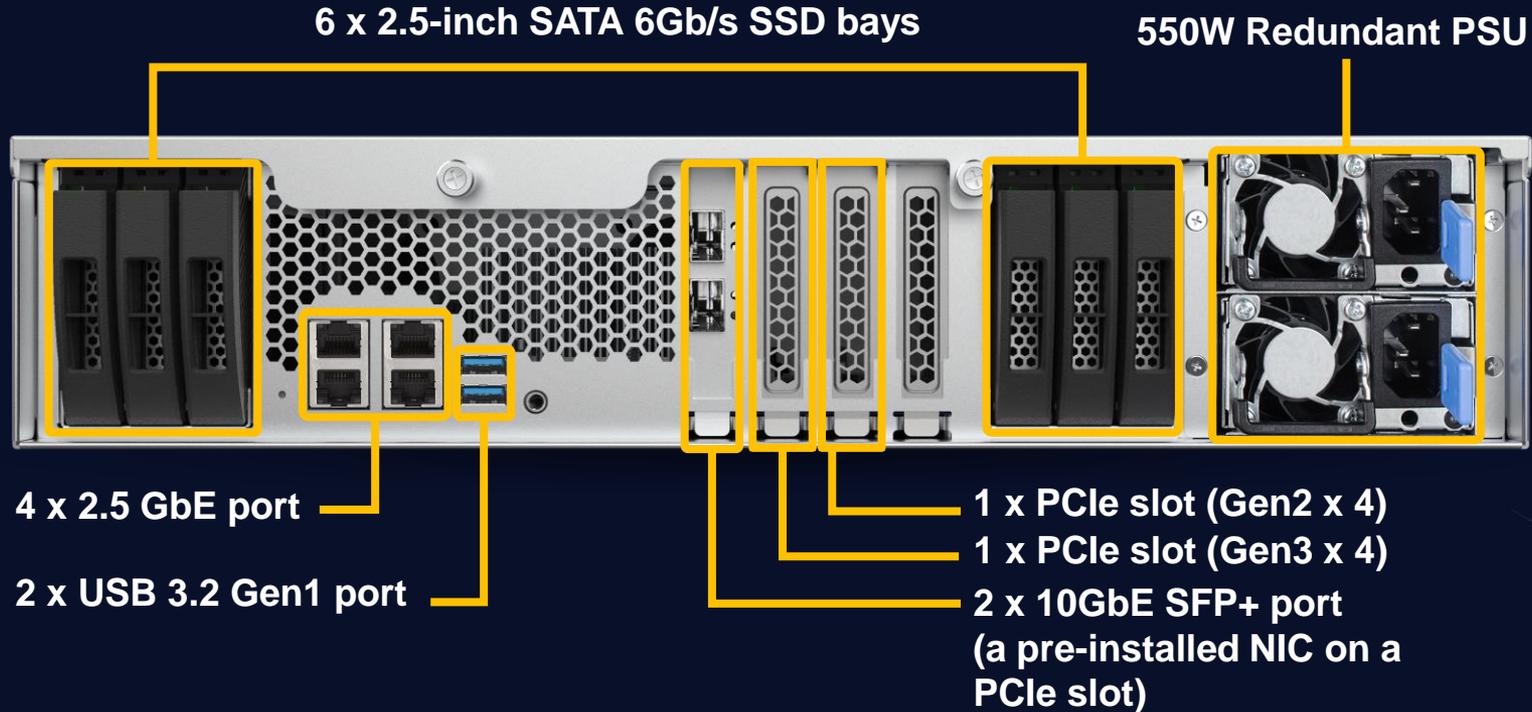


Power Button

LED indicators:

System status, network, storage expansion, and HDDs

Rear view and I/O: TS-h1886XU-RP R2



TS-(h)1886XU comparison

NEW

	TS-1886XU-RP	TS-h1886XU-RP	TS-h1886XU-RP R2
OS	Pre-installed QTS	Pre-installed QuTS hero	
CPU	Intel Xeon D-1622 4C up to 3.2Ghz (Hewitt Lake)		
RAM	8GB ECC (support 4 slots, maximum 128GB)	32GB ECC (support 4 slots, maximum 128GB)	
USB 3.2 Gen 1	2		
1 GbE	4	0	
2.5 GbE	0	4	
10 GbE	2 x 10GbE SFP+ SmartNIC port		
PCIe Slot 1	PCIe Gen 3 x 4 (if used, Slot 2 will decrease speed to Gen 3 x 4)	PCIe Gen 2 x4 (x8 slot)	
PCIe Slot 2	PCIe Gen 3 x 8 or Gen 3 x 4 (x8 slot)	PCIe Gen 3 x 4 (if used, Slot 3 speed will be decreased to Gen 3 x 4)	
PCIe Slot 3	PCIe Gen 3 x 4 (if used, Slot 4 will decrease speed to Gen 3 x 4)	PCIe Gen 3 x 8 or Gen 3 x 4 (x8 slot) (Slot 3 is preinstalled with a 2-port 10GbE SFP+ network adapter)	
PCIe Slot 4	PCIe Gen 3 x 8 or Gen 3 x 4 (x8 slot) (Slot 4 is preinstalled with a 10GbE network adapter)	0	
Dimensions (HxWxD)	88.3 x 482 x 549.7 mm		

Optional JBOD storage expansion units and rail kit



TL-R400S

4-bay Short-depth
Rackmount SATA 6Gb/s JBOD



TL-R1200S-RP

12-bay
Rackmount SATA 6Gb/s JBOD
Redundant power supply



TL-R1200C-RP

12-bay
Rackmount USB 3.2 Gen 2 JBOD
Redundant power supply



TL-R1220Sep-RP

12-bay
Rackmount SAS 12Gb/s JBOD
Redundant power supply



TL-R1620Sep-RP

16-bay
Rackmount SAS 12Gb/s JBOD
Redundant power supply



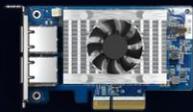
RAIL-B02

Compatible with ANSI/EIA-RS-310-D
standard rail kit

* To support the SAS JBOD, the NAS must install an optional QXP-1620S-B3616W or QXP-820S-B3408 SAS expansion card.

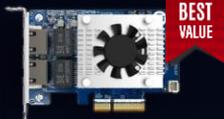
Support various QNAP network expansion cards, from 2.5 GbE to 25 GbE

10 GbE Network Cards



LAN-10G2T-X710

2 x RJ45



QXG-10G2TB

2 x RJ45



QXG-10G1T

1 x RJ45

5 GbE Network Card



QXG-5G1T-111C
QXG-5G2T-111C
QXG-5G4T-111C

1/2/4 x RJ45

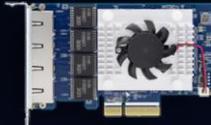
25 GbE Network Card



QXG-25G2SF-CX6
(Support 25GbE
SFP28, 10GbE SFP+,
1GbE SFP)

2 x SFP28 25Gb/s

2.5 GbE Network Card



QXG-2G1T-I225
QXG-2G2T-I225
QXG-2G4T-I225

1/2/4 x RJ45

more...

Please refer to the compatibility list
<https://www.qnap.com/go/compatibility/>

Build an affordable Fibre Channel SAN environment

16Gb FC expansion card QXP-16G2FC

2 x SFP+ and transceiver



Common Fibre Channel Storage Area Networks (SAN) devices are often costly. By installing a QNAP 16Gb Fibre Channel card (QXP-16G2FC 16Gb) in the NAS, you can set a Fibre Channel Target using the iSCSI & Fibre Channel app. Moreover, the LUN Masking and Port Binding features provide an additional layer of data security.

iSCSI & Fibre Channel

- iSCSI
 - iSCSI Storage
 - Remote Disk
- Fibre Channel
 - FC Ports
 - FC Storage
 - FC WWPN Aliases
- Unmapped LUN
- LUN Import/Export

FC Port Groups

FC Port Groups	WWPN	Port	Action
Default	All FC ports		
16gport1	21:00:00:24:5e:be:00:06 (jauss882c16p1)	FC Adapter 2 Port 1	[Copy] [Delete]
My16gSAN	21:00:00:24:5e:be:00:06 (jauss882c16p1) 21:00:00:24:5e:be:00:07 (jauss882c16p2)	FC Adapter 2 Port 1 FC Adapter 2 Port 2	[Copy] [Delete]
My32gSAN	21:00:24:5e:be:00:00:06 (jauss882c32p1) 21:00:24:5e:be:00:00:07 (jauss882c32p2)	FC Adapter 1 Port 1 FC Adapter 1 Port 2	[Copy] [Delete]

FC Ports

Adapter	Manufa...	Status	Speed	WWPN	Alias	Initiators
FC Adapter 1 Port 1	QNAP	Disconnect...	0 Gbps	21:00:24:5e:be:00:00...	jauss882c...	0
FC Adapter 1 Port 2	QNAP	Disconnect...	0 Gbps	21:00:24:5e:be:00:00...	jauss882c...	0
FC Adapter 2 Port 1	QNAP	Connected	16 Gbps	21:00:00:24:5e:be:00...	jauss882c...	1
FC Adapter 2 Port 2	QNAP	Disconnect...	0 Gbps	21:00:00:24:5e:be:00...	jauss882c...	0

Combine the NAS with QNAP network switches for an efficient workflow

QSW-1108-8T (Unmanaged Switch)



8 x 2.5G
RJ45 Multi-Gig

**Fanless and
metal shell**

**Upgraded 2.5GbE
without replacing
existing cable**



QSW-1208-8C (Unmanaged)

8 x 10G/5G/2.5G
RJ45 Multi-Gig



QSW-308-1C (Unmanaged)

1 x 10G/5G/2.5G
RJ45 Multi-Gig



QSW-M408-4C (Managed)

4 x 10G/5G/2.5G
RJ45 Multi-Gig



**QSW-M2108R-2C
(Managed Half-Width Rackmount)**

2 x 10G/5G/2.5G
RJ45 Multi-Gig

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



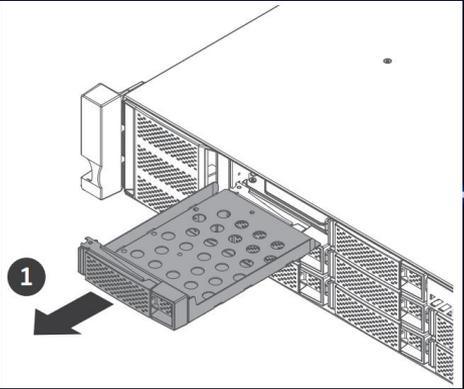
LIVE DEMO



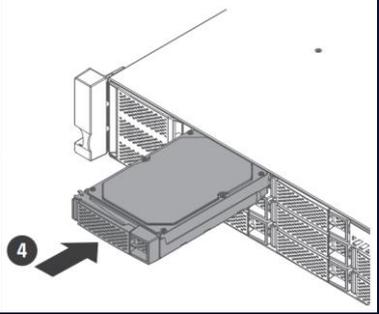
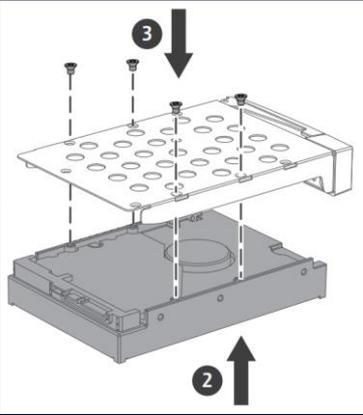
NAS installation and initialization



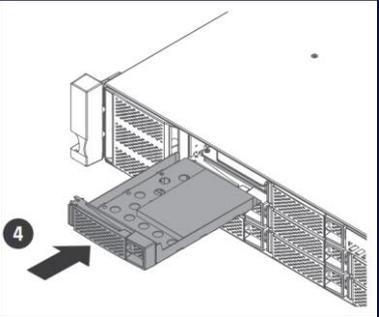
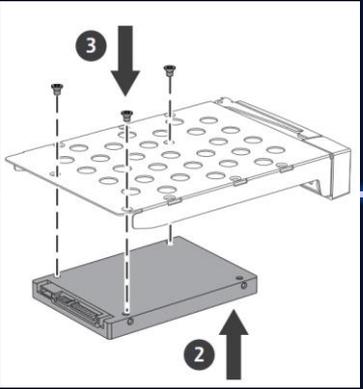
HDD & SSD drive installation



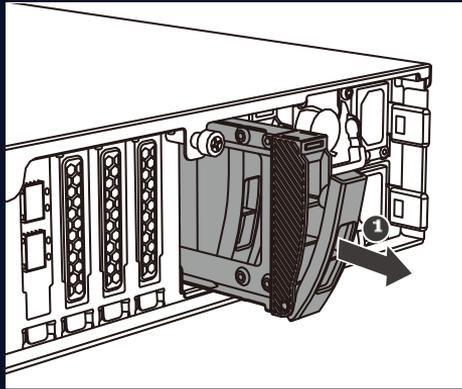
3.5"



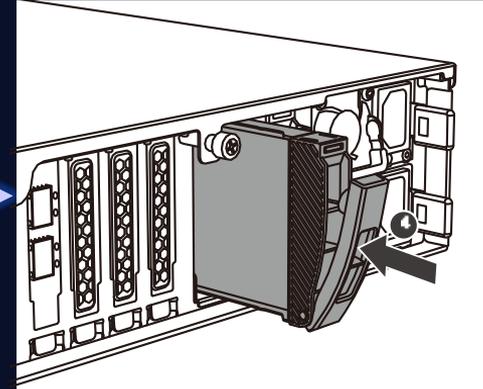
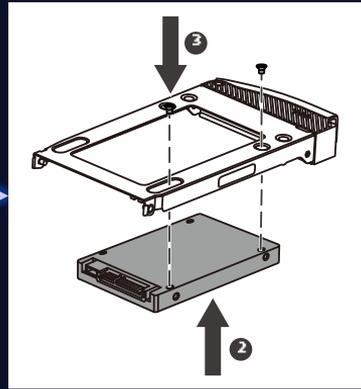
2.5"



SSD drive installation

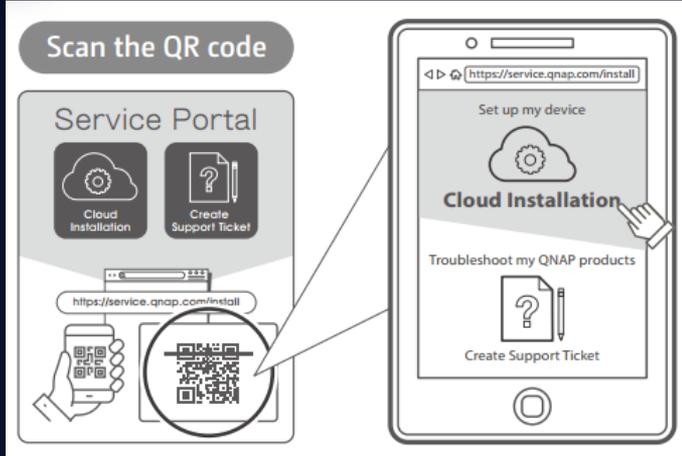


2.5"



NAS initialization

- 1 Scan the QR code with your mobile phone for installation

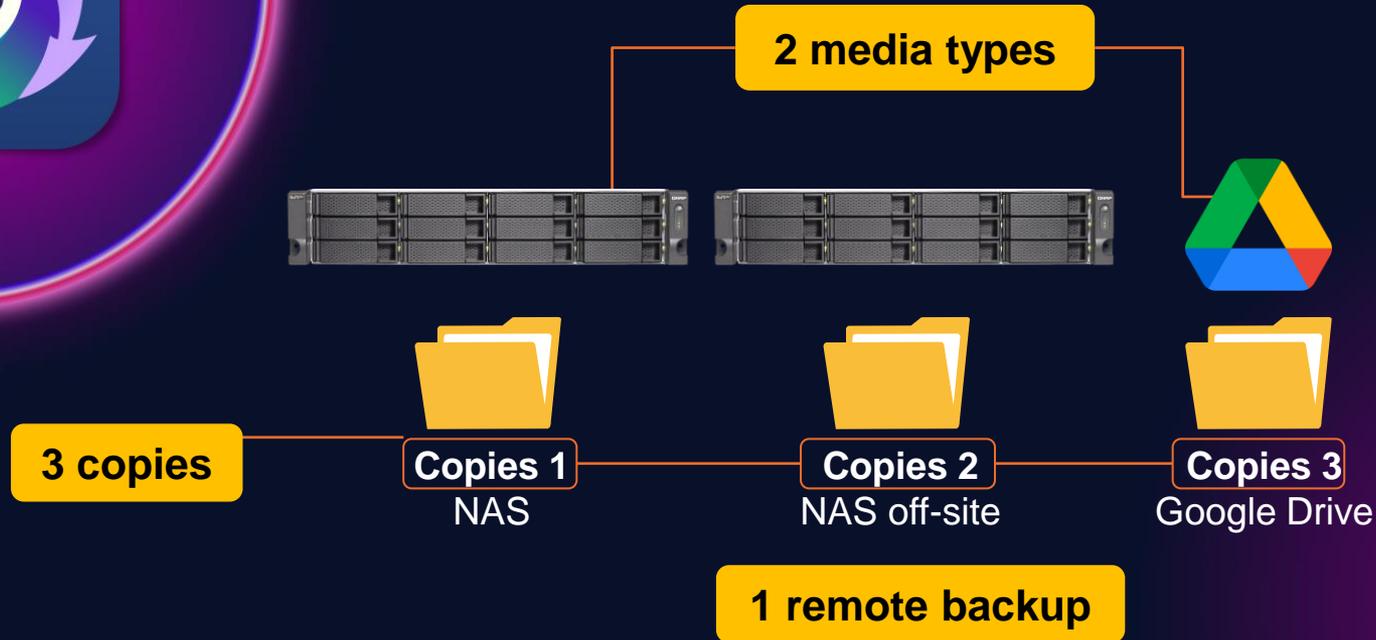


- 2 Download the Qfinder Pro program on your computer for installation



HBS 3 (Hybrid Backup Sync 3) for a 3-2-1 backup strategy

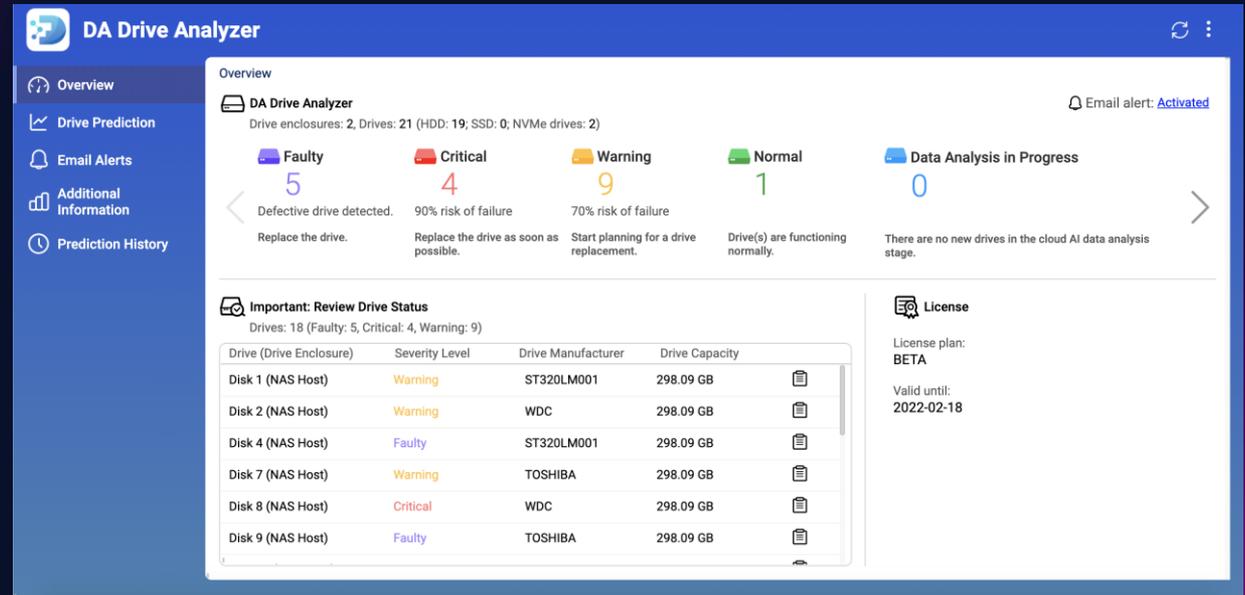
3-2-1 backup strategy and recovery plan for your important data:
3 copies \ 2 media type \ 1 remote backup



DA Drive Analyzer for disk failure prediction

Disk health analysis and failure prediction

DA Drive Analyzer integrates ULINK AI prediction technology which can warn you before disk failure and help you protect valuable data.



The screenshot displays the DA Drive Analyzer interface. The top navigation bar includes 'Overview', 'Drive Prediction', 'Email Alerts', 'Additional Information', and 'Prediction History'. The main content area shows an overview of drive enclosures and drives, with a summary of health status: 5 Faulty, 4 Critical, 9 Warning, and 1 Normal. A 'Data Analysis in Progress' section shows 0 drives. Below this, an 'Important: Review Drive Status' section provides a table of drive details.

Drive (Drive Enclosure)	Severity Level	Drive Manufacturer	Drive Capacity
Disk 1 (NAS Host)	Warning	ST320LM001	298.09 GB
Disk 2 (NAS Host)	Warning	WDC	298.09 GB
Disk 4 (NAS Host)	Faulty	ST320LM001	298.09 GB
Disk 7 (NAS Host)	Warning	TOSHIBA	298.09 GB
Disk 8 (NAS Host)	Critical	WDC	298.09 GB
Disk 9 (NAS Host)	Faulty	TOSHIBA	298.09 GB

License information: License plan: BETA, Valid until: 2022-02-18.

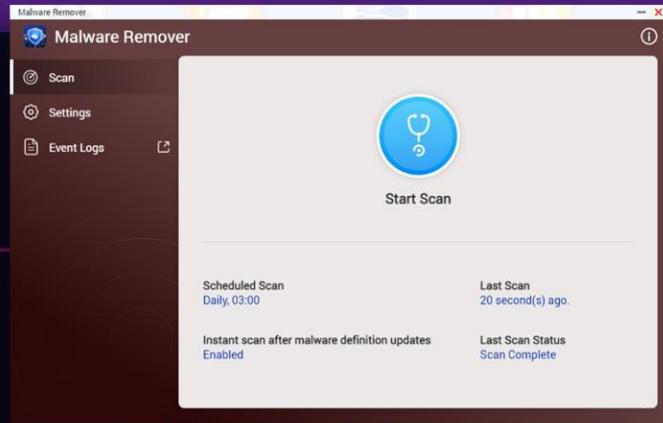
Each NAS can support one disk prediction for free, and you can also have a paid subscription to support all disks.

Data security: safeguard your NAS data



Malware Remover

Regularly scan your NAS check for and download the latest malware definitions. Then, when attacked, the infected files can be excluded in real-time, helping to improve the level of NAS data security.



QuFirewall

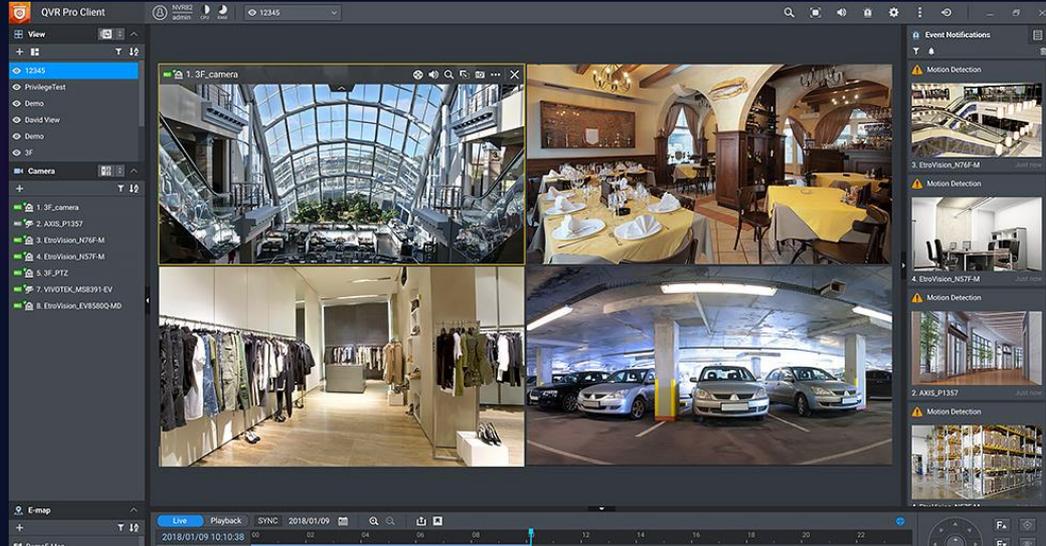
You can allow/deny IP addresses and regions to prevent unauthorized access and brute force attacks for safeguarding data and service security.



QVR Elite - Surveillance System



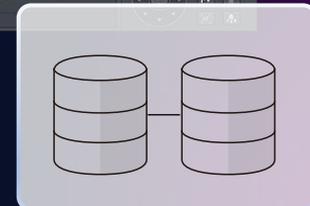
Base embedded channels
(Flexible expansion)



MP4 Recording Format



Flexible Subscription



Expandable Capacity

Compatible with a huge amount of camera models

Over 180 Brands

 GeoVision

 VIVOTEK
BUILT WITH RELIABILITY

 Panasonic

 AXIS
COMMUNICATIONS

 MOBOTIX

 Canon

 HIKVISION

 aHua
TECHNOLOGY

 Honeywell

 Brickcom

Over 6,700 Models



ONVIF Profile Supported

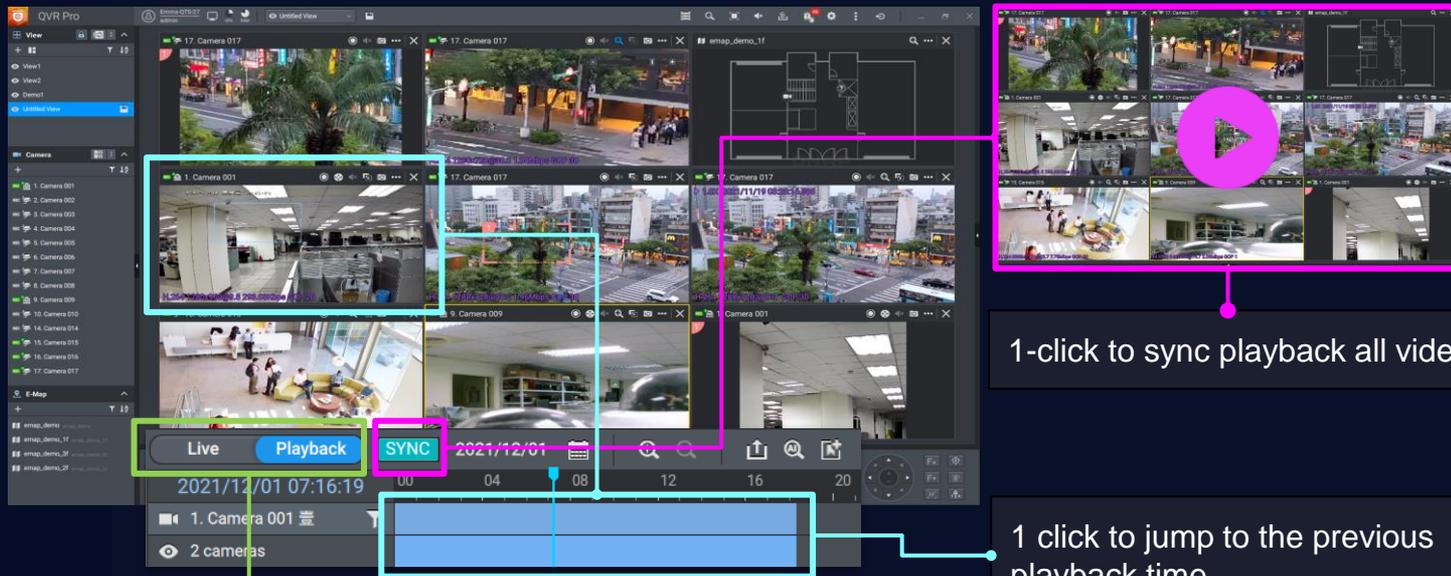
 ONVIF® | S

RTSP Stream
Input / Output

RTMP Stream
Input

Unified interface for live view & playback, anywhere with a PC or mobile device

Monitor the live view of multiple channels and playback on 1 single interface.



1 click to switch between Live & Playback

1-click to sync playback all video views

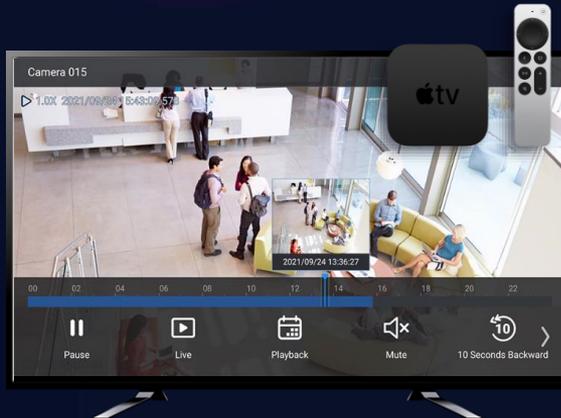
1 click to jump to the previous playback time

Surveillance Client for mobile and home environment



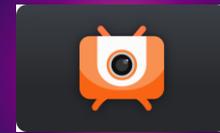
QVR Pro Client

Mobile device recording and playback protect important people, things, and objects anytime, anywhere.



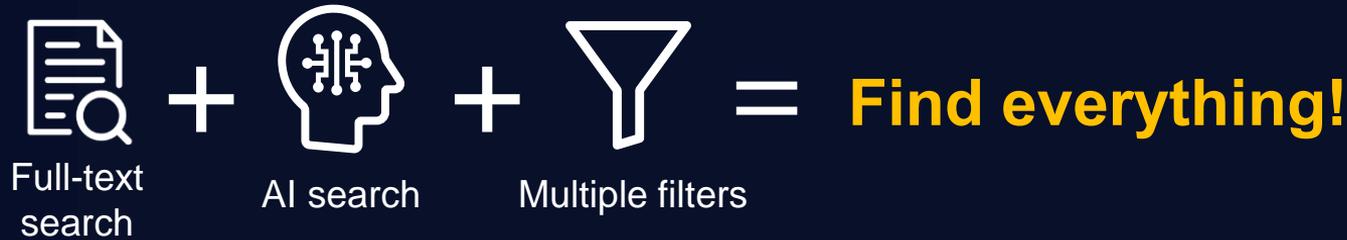
QVR Viewer

The new Apple TV monitoring application is a convenient APP installed on Apple TV for monitoring and playback.



Qsirch full-text search tool for browsers

Qsirch is a fast, full-text search engine that enables you to find files based on filename, content, and metadata. Qsirch's search functions are also available using a companion mobile app, browser extension, and Mac® Finder.



NAS Edition

Search massive data in the NAS.



PC Edition

The most powerful search engine that integrate with NAS and PC local search.

Qfiling auto archive and filing



Qfiling automates your file organization. All you need to do is categorize your files, set a schedule, and Qfiling will do the rest. It's easy, smart, and efficient!



Flexible

Customize the filing and batch editing rules.



Efficient

Scheduling for auto filing.



Total Control

With system logs, filing status is easily accessible.

The screenshot displays the Qfiling Premium interface. On the left is a navigation menu with 'Overview', 'Task List', 'Recipe Library', and 'System Logs'. The main area is titled 'Task Status' and features three circular progress indicators for 'One-time task', 'Scheduled task', and 'Real-time task'. Below this is a 'File Editing Modules' section with various icons for video transcoding, subtitle pairing, encryption, compression, watermarking, resizing, and conversion.

Task Type	Total	Completed	Running	Queued
One-time task	4	2	1	1
Scheduled task	3	1	1	1
Real-time task	1	0	0	1 (Monitoring)

File Editing Modules:

- Video Transcoding (For videos)
- Subtitle Pairing (For videos)
- Encryption & Decryption (For all files)
- Compression (For all files)
- Watermark (For images and videos)
- Resize (For images)
- Convert (For images)
- Face Blur (For images)
- Image For...

Virtualization Station



Virtualization Station is a powerful hypervisor software on your QNAP device that supports multiple operating systems, including Windows®, Linux®, and QuTScloud



Red Hat

fedora



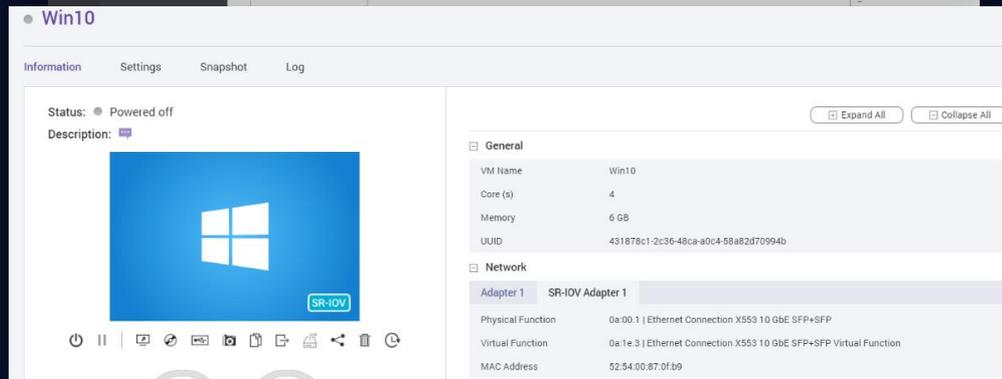
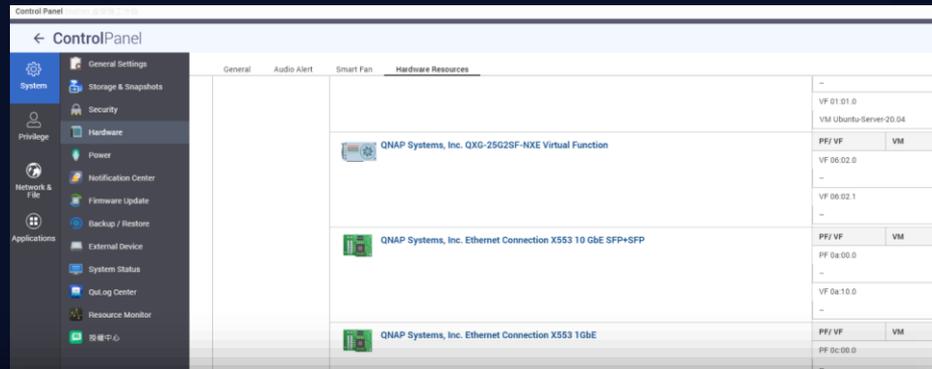
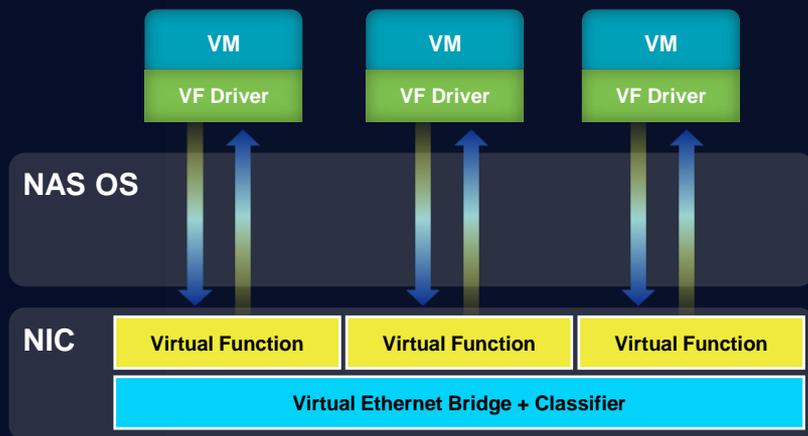
CentOS

ubuntu



SR-IOV allows virtual machines to use ethernet NIC hardware directly, improving network efficiency by more than 20%

Single-Root Input/Output Virtualization, SR-IOV
Improves network performance of virtual machines



Container Station



QNAP Container Station (software container workstation) supports LXD and Docker® lightweight virtualization technologies. You can run a full Linux® virtual machine on your QNAP NAS and download thousands of applications from around the world from the Docker® Hub/LXD image server online collection.



At-a-glance dashboard

The dashboard provides a clear overview including the NAS CPU/memory and individual container resource usage.



Flexible user interface

You can enjoy flexible management using either a command line interface or a convenient web interface.



Permission settings

You can set user permissions to access shared folders on the NAS, other containers' data or NAS devices.

Boxafe

Google™ Workspace and Microsoft 365® backup solution

- Master the information of the company by hand
- Move essential data out of the cloud to save service costs.

Google™ Workspace



Gmail

Backup all emails and attachments



Google Drive

Backup all files, including all versions of files, support backup of My Drive and Shared Drive



Contacts

Backup all contact information



Calendar

Backup all calendar event and attachments

Microsoft 365®



Email

Backup all Outlook Email and attached files



Contacts

Backup all Outlook contact information



Calendar

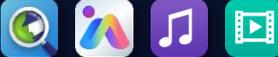
Backup all Outlook calendar event and attachments

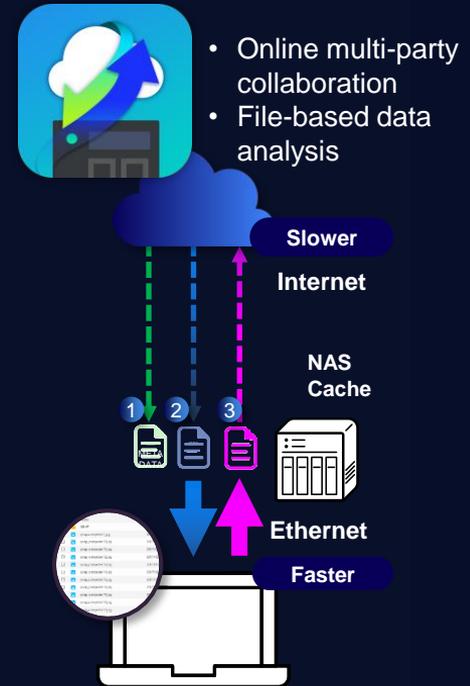


SharePoint & OneDrive

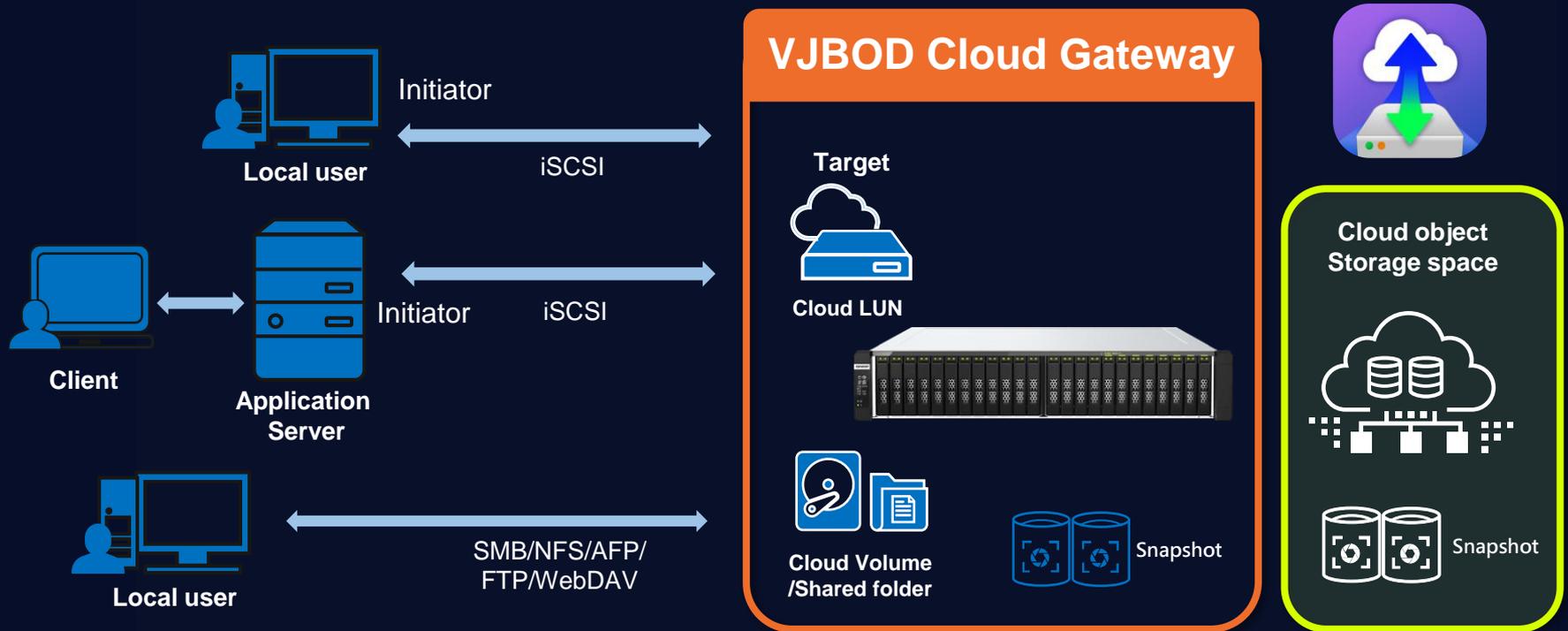
Backup all files, including OneNote

HybridMount smoothly mount two kinds of cloud space

	Network Drive Mount	Cloud Storage Gateway
Setting	Create File Station Cloud Mode	Select file-based cloud gateway and configure cache
Mount	Unlimited cloud services	2 free gateway licenses, additional licenses can be purchased on demand
Access experience	Access speed depends on internet speed	Cache mechanism reduces read and write time
Access from File Station	support	support
Access via SMB / NFS / AFP	not support	support
synchronization	Resync with cloud every time	Regular sync for quick browsing
QTS Apps file management	not support	support 



VJBOD Cloud: Cloud gateway which backs up business data to the cloud flexible, economical, and safe



3-year standard warranty that can be extended up to 5 years

TS-h1886XU-RP R2 comes with a 3-year free product warranty. However, you can still purchase the QNAP Extended Warranty Service Plan to enjoy a maximum of 5-year product warranty and excellent value protection.



QNAP

TS-h1886XU-RP R2

Integrated 2.5GbE/10GbE and dedicated 6 SSD bay NAS with a quad-core Intel Xeon processor to meet the future growth of businesses and enterprises.

QuTS hero edition

