QNAP

TS-h1290FX

12-bay all-flash tower NAS

with an AMD EPYC 7002 8C / 16C server CPU,
supports U.2 NVMe / SATA SSD, 25GbE/2.5GbE
and PCIe Gen 4 expandability

AMD EPYC | 2.5" SSD | PCIe Gen4 x4 | 25 GbE | 100 GbE FC Ready | reddot winner 2022

How to find a high-performance storage device for multi-client 8K/4K video editing solution

1 hour of 8K Redcode Raw video

~7 TB

1 hour of 8K 24p ProRes 444XQ video

~3 TB

1 hour of 4K 24p ProRes 444XQ video

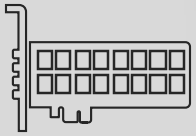
~0.8 TB

8K video bandwidth

566MB/s

- Content creators
- Film companies & studios
- TV stations & live broadcasts

Must use SSD to get the highest performance. How to choose SSDs?

	Form factor	Interface	Major dimension
	2.5 inch (hot swappable)	SATA	• Height 7~9.5 mm
		SAS	• Height 15 mm
		NVMe (U.2/U.3)	• Height 7 mm • Height 15 mm
	M.2	SATA	• 2230 (22 x 30 mm) • 2280 (22 x 80 mm) • 22110 (22 x 110 mm)
		NVMe	
	PCIe card (AIC)	NVMe	• Full height / half height • Full length / half length

Each SSD model has different sequential / random read/write performance, TBW, and DWPD life expectancy. Choose wisely depends on your applications.

Micron 7400 SSD Key Specifications

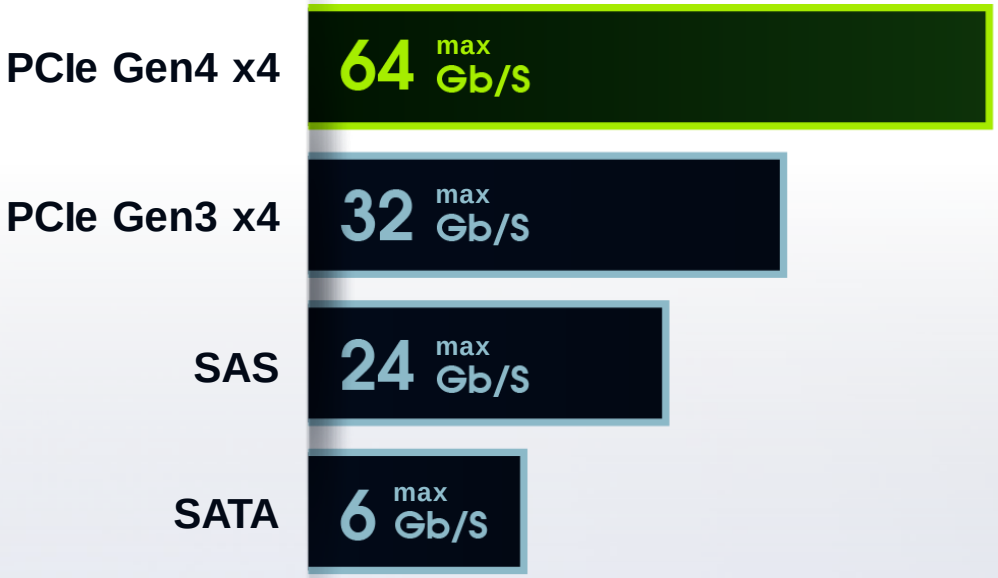
U.3		7400 PRO: U.3 Read-Intensive, 1 Drive Write per Day				7400 MAX: U.3 Mixed-Use, 3 Drive Writes per Day			
Capacity		960GB	1.92TB	3.84TB	7.68TB	800GB	1.6TB	3.2TB	6.4TB
Performance[8,9]	Seq. Read (MB/s)	6,500	6,500	6,600	6,600	6,500	6,500	6,600	6,600
	Seq. Write (MB/s)	1,000	2,200	3,500	5,400[10]	1,000	2,200	3,500	5,400[10]
	Rand. Read (IOPS)	240,000	430,000	800,000	1,000,000	240,000	430,000	800,000	1,000,000
	Rand. Write (IOPS)	60,000	95,000	150,000	190,000	122,000	224,000	347,000	363,000
	70/30 Rand. Read/Write (IOPS)	105,000	174,000	275,000	400,000	159,000	276,000	455,000	610,000
	Latency (TYP, µs)	75 (read) 15 (write)	75 (read) 15 (write)	75 (read) 15 (write)	75 (read) 15 (write)	75 (read) 15 (write)	75 (read) 15 (write)	75 (read) 15 (write)	75 (read) 15 (write)
Endurance (total bytes written in TB)[11]		1,700 6,700	3,500 14,400	7,000 25,700	14,000 48,900	4,300 8,000	8,700 16,400	17,500 31,800	35,000 62,800

Endurance (TBW): the upper number is random write, the lower number is sequential write

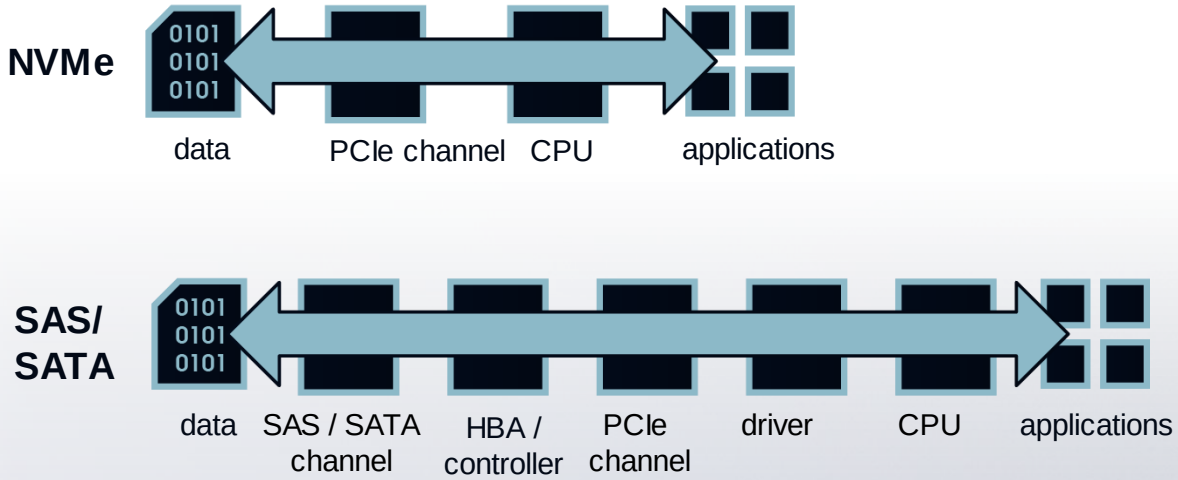
Source: https://www.micron.com

Why the future mainstream SSD market will be PCIe NVMe SSD and not be SAS or SATA SSD?

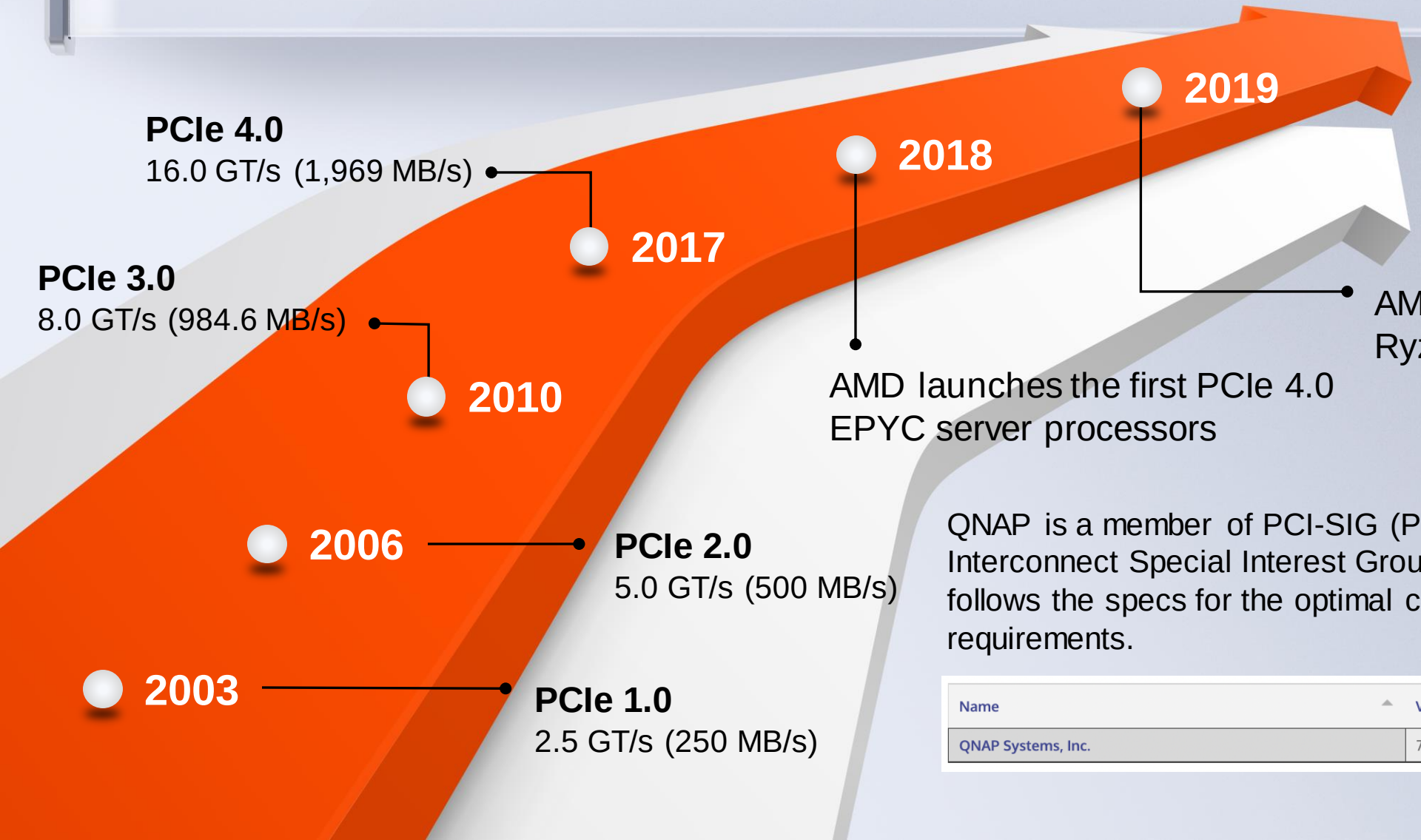
Maximum bandwidth 64 Gb/s (8GB/s)



Low latency, Super short data path



800+ members in PCI-SIG community for PCIe standards since 1992 establishment



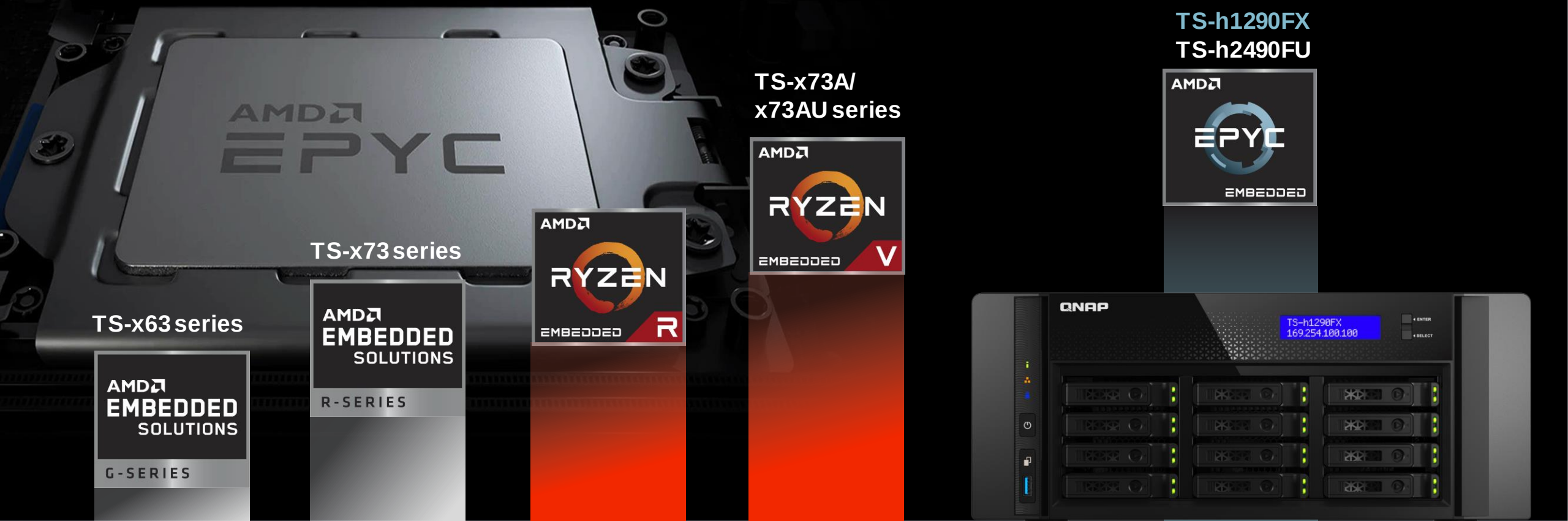
QNAP is a member of PCI-SIG (Peripheral Component Interconnect Special Interest Group) for PCIe standards. QNAP follows the specs for the optimal compatibility and performance requirements.

Name	Vendor ID
QNAP Systems, Inc.	7082 (1BAA Hex)

Source https://pcisig.com/specifications

All flash NVMe desktop NAS with AMD EPYC 7002 series 8/16-core server CPU & PCIe Gen4

Followed by the 2020 Sept. all flash NVMe rackmount TS-h2490FU 24-bay NAS, QNAP is launching its first ever 12-bay all flash NVMe desktop NAS TS-h1290FX.



AMD EPYC 7002 (Rome) server-grade processor for the data center

The 2nd gen AMD EPYC is designed for data center for the intensive workload. With its 7nm manufacturing technology, up to 64 cores, and better efficiency, it provides 4X the performance of floating points operations and 2X the CPU socket performance.

- TS-h1290FX with 8 or 16 core options
- 8-channel 8 ECC RDIMM DDR4 memory slots
- CPU supports 128 PCIe Gen4 lanes

Build high-performance storage infrastructure for demanding applications

Virtualization

Eliminates storage bottlenecks for unstructured data and I/O intensive workloads; ideal for server virtualization and virtual desktop infrastructure (VDI).

Data Centers

Delivers ultra-low latency and high IOPS performance, providing response times within microseconds for data centers that host significant business-critical systems and data.

Media & Entertainment

Satisfies smooth 4K/8K media streaming and post-production, empowering multimedia workflows with faster data transfer, access, and backup for boosted efficiency.

TS-h1290FX front view

SSD status (Status LED)

SSD I/O activity (ACT LED)

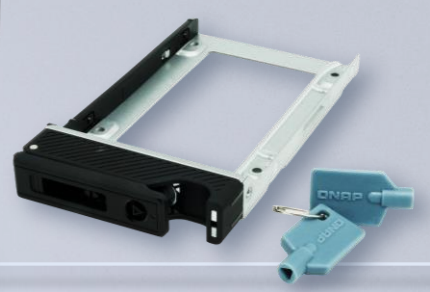
LCD status display with Enter & Select buttons

LED:
System status, LED, USB

Power button

USB-A 3.2 Gen1 + copy button

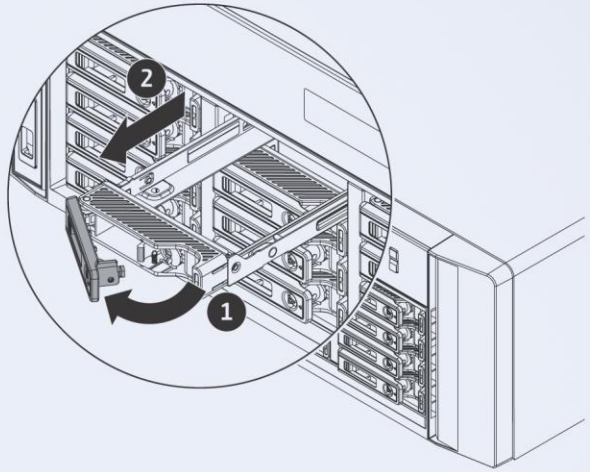
Key lockable SSD trays
(2 keys included)

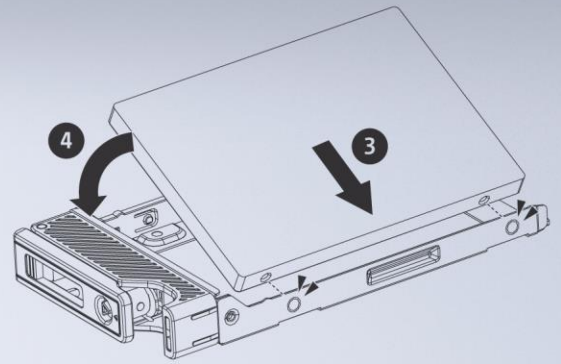


12 x 2.5-inch SSD bay, support U.2 NVMe PCIe Gen4/Gen3 x4 or SATA 6Gbps SSDs

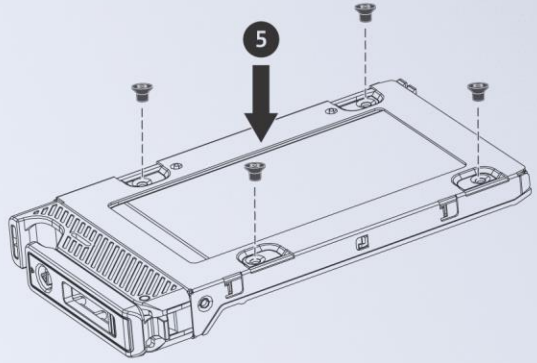
Easily install 2.5-inch U.2 PCIe Gen4/Gen3 NVMe or SATA 6Gbps SSDs

1. Remove the tray

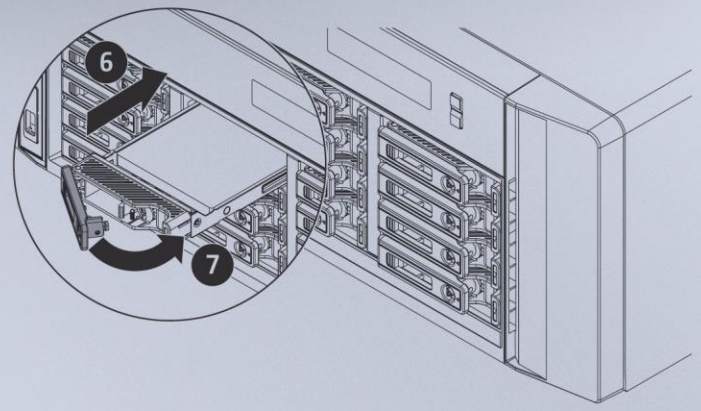




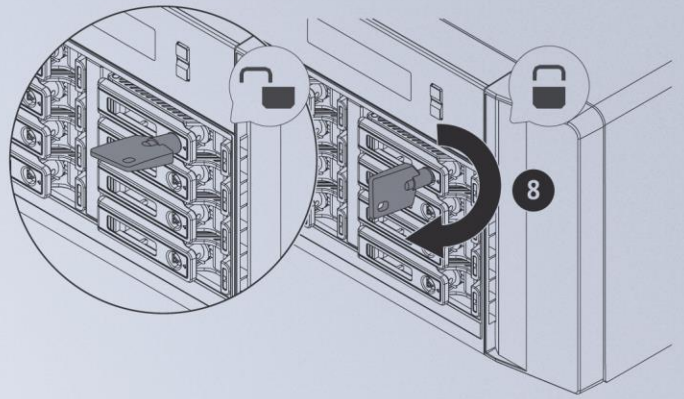
2. Install the SSD



3. Tighten the screws



4. Lock the tray with a key (optional)



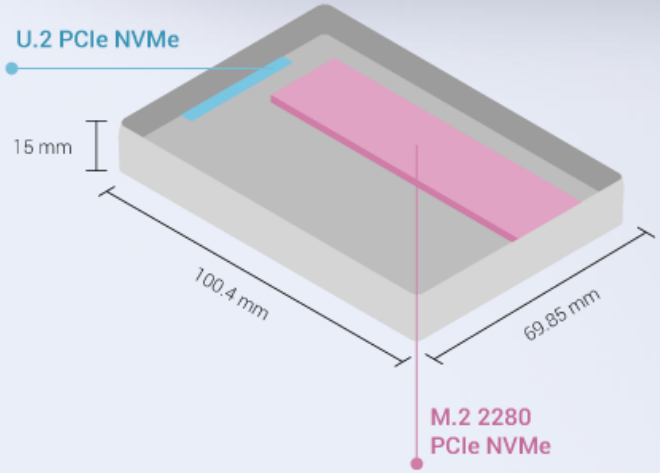
What if the U.2 NVMe SSDs are over your IT budget or low availability in your region?

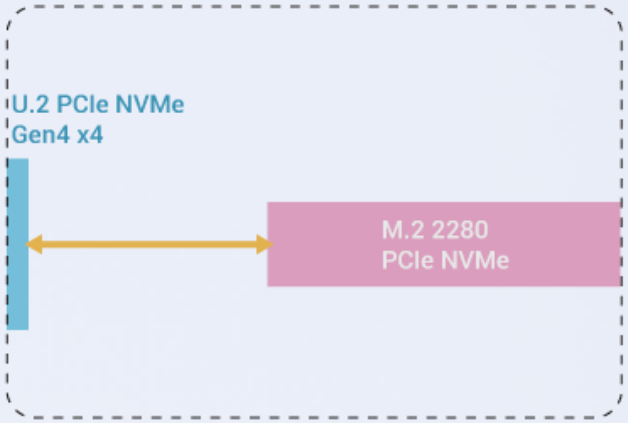
12 x U.2 NVMe SSDs for the TS-h1290FX

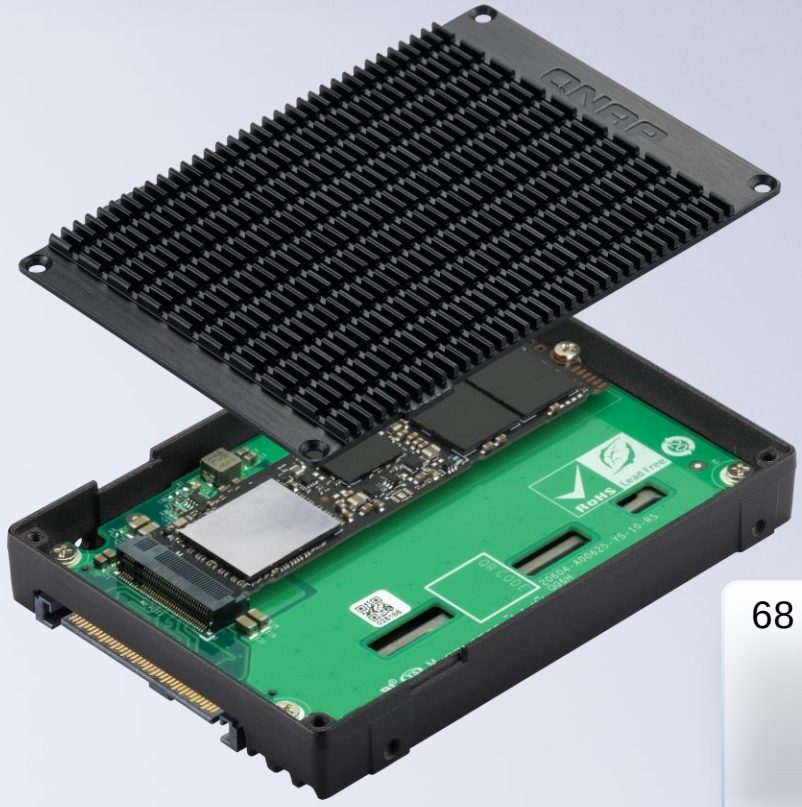
Not available or long lead time?

Cost too much?

Economically use M.2 NVMe SSDs with QNAP QDA-UMP4 U.2 to M.2 SSD adapter





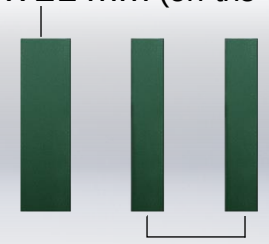


QNAP-UMP4:

U.2 NVMe to M.2 NVMe PCIe adapter, PCIe Gen4 version

- Use readily available and more affordable M.2 NVMe PCIe Gen4/Gen3 SSDs instead of U.2 NVMe SSDs
- Excellent heat-conductive metal design with thermal pads so that M.2 SSDs do not overheat. Keep the optimal performance and prolong the life.

68 x 21 mm (on the top side of M.2 SSD)

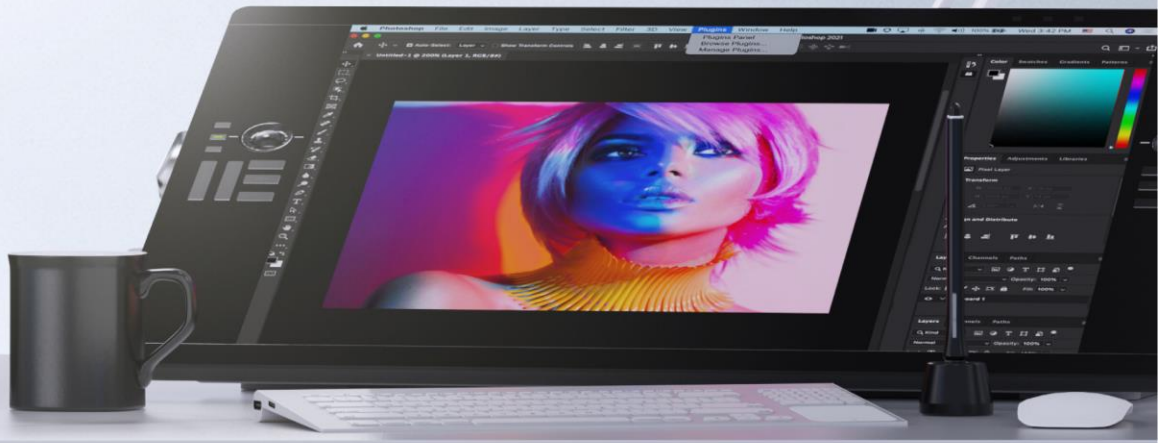


68 x 15 mm
(on the bottom side of SSD. Use 2 for single sided SSDs)

Micron®

See Ghee Tan

Director of Micron Solutions Architecture, Asia

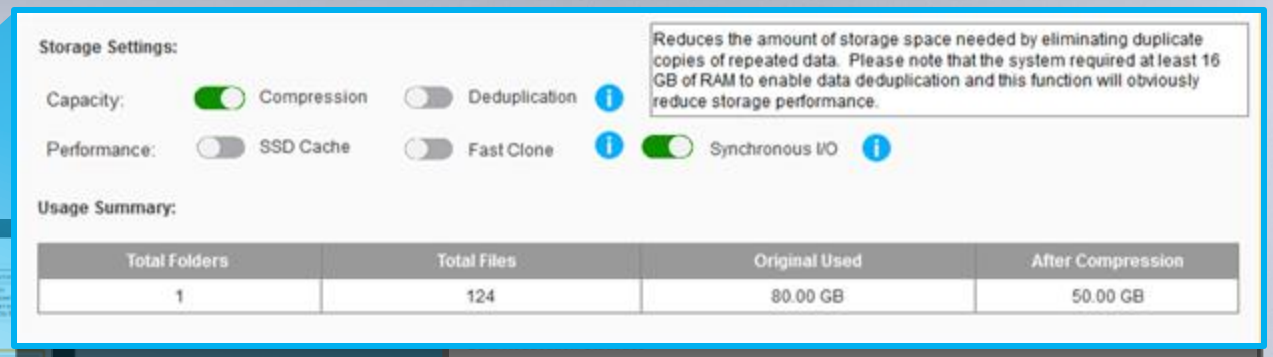


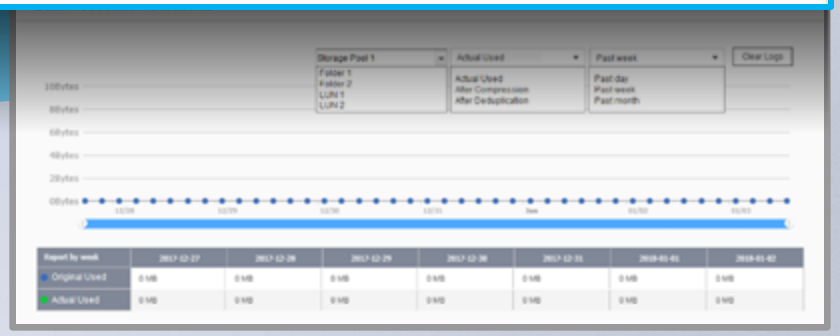
TS-h1290FX with powerful data reduction technologies to extend SSD endurance

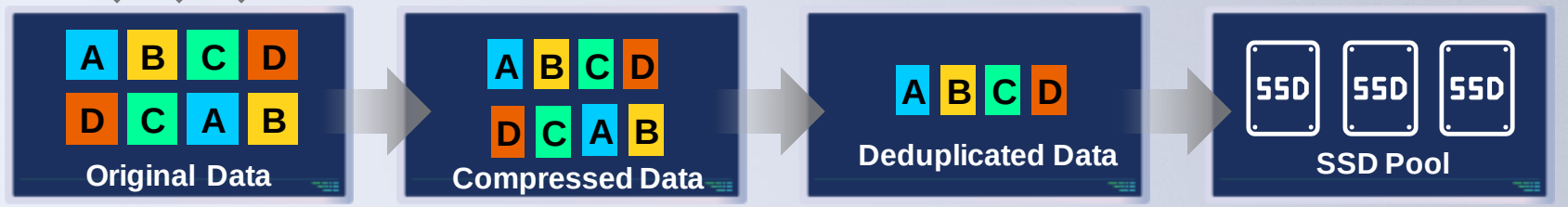
Only available when during inline data process before writing

ZFS file system with inline deduplications and compression feature

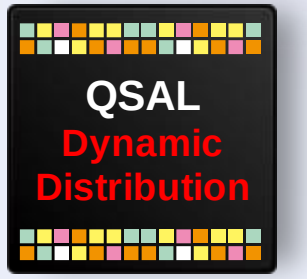
It's the best choice to pair with the all-flash and SSD storage because it reduces the data size and pattern that need to be written to the SSD directly.

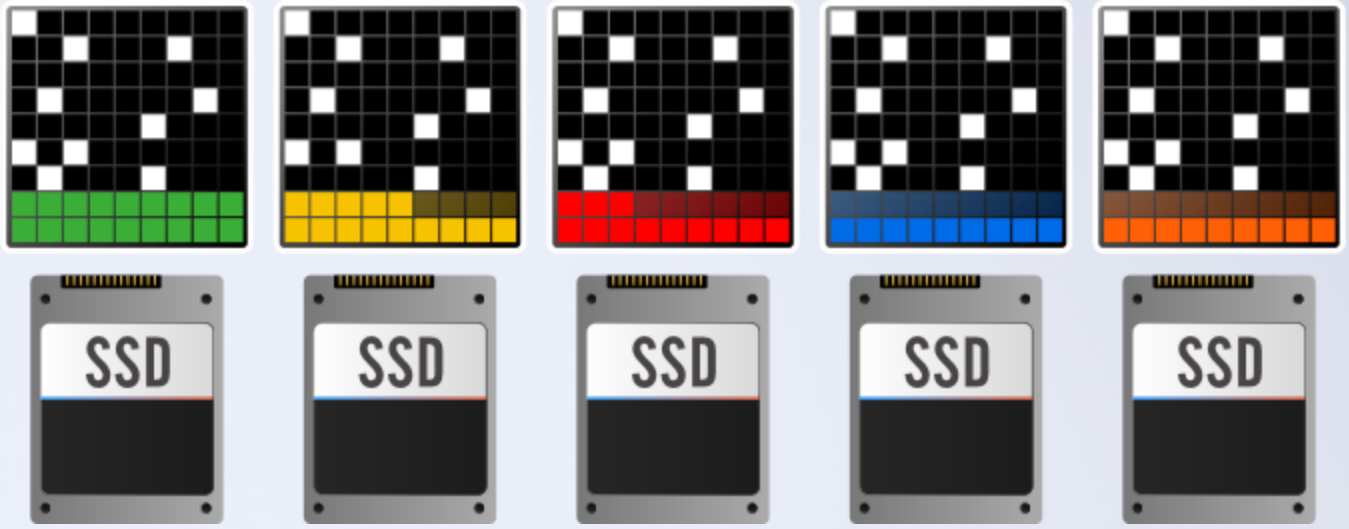






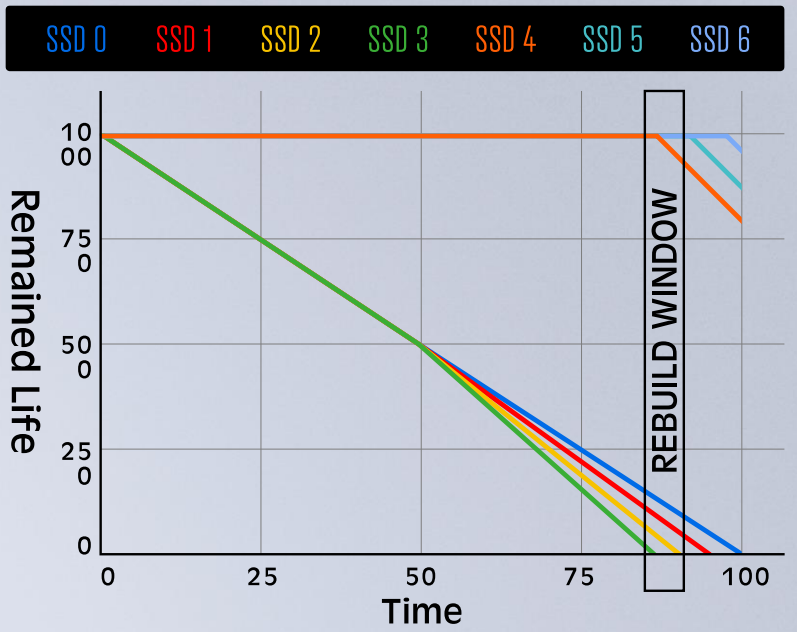
Patented QSAL technology: preventing multiple SSD malfunctioning at the same time





For SSD RAID 5 / 6 / 50 / 60 / TP(Triple Parity)

Note: QSAL can be activated at any time and is compatible with SSD Parity RAID that has not been configured before. It is recommended to enable QSAL before the SSD lifespan reaches 50% to prevent the risk of damage to the SSD RAID due to insufficient rebuild time.

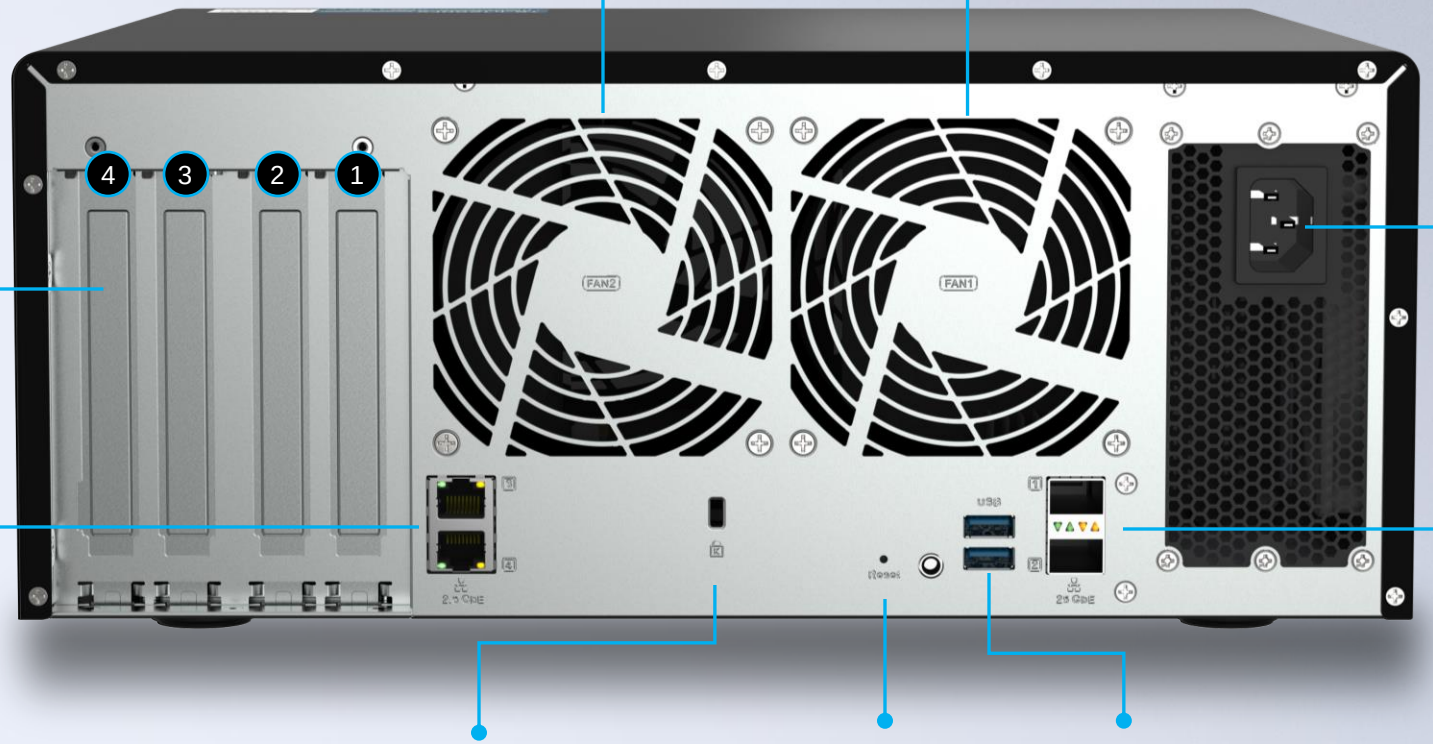


TS-h1290FX rear view

2 x 92mm smart system fans

3 x PCIe Gen4 x16
+ 1 x PCIe Gen4 x8

1 : Gen4 x16
2 : Gen4 x16
3 : Gen4 x8
4 : Gen4 x16)



750W quiet & high efficiency power supply

2 x 2.5GbE ports
(2.5G/1G/100M)

2 x 25GbE SFP28 ports

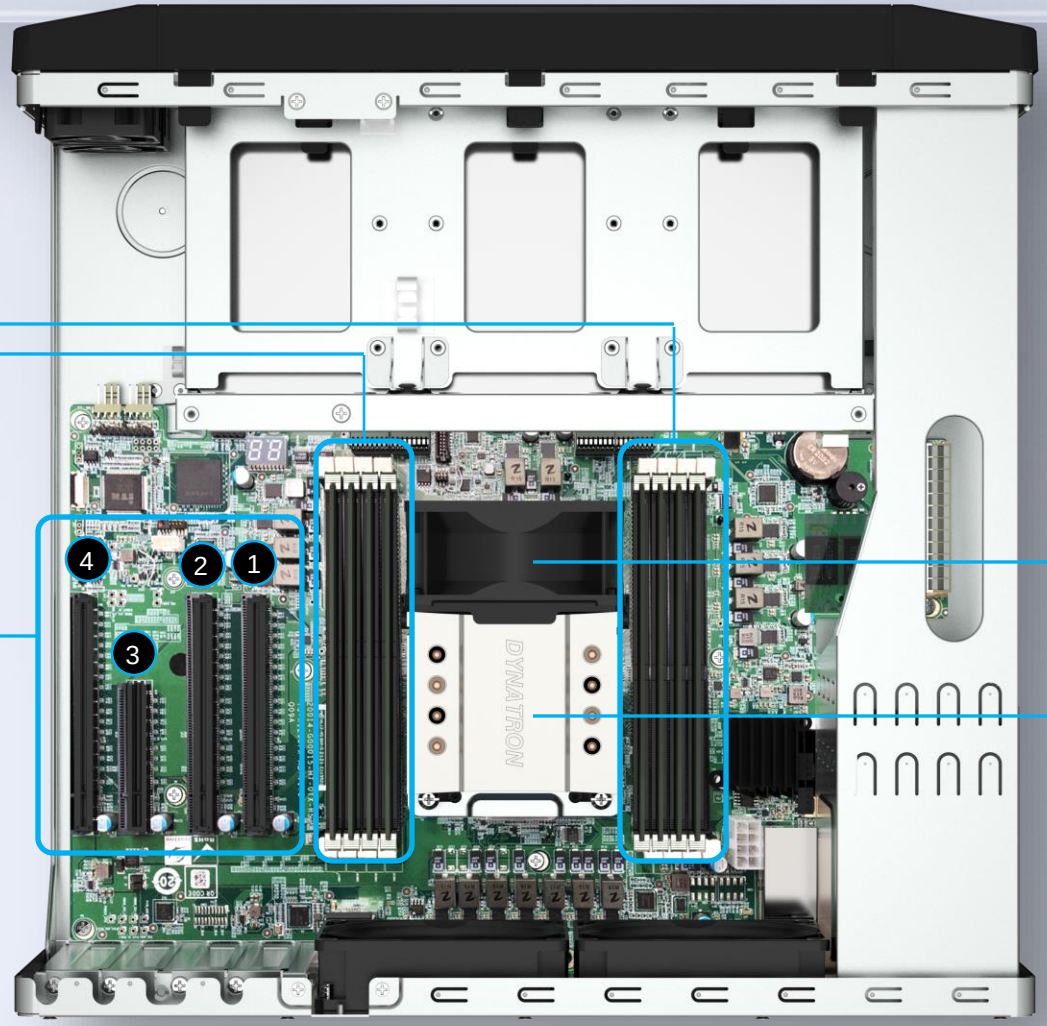
Kensington security slot

Reset button

2 x USB 3.2 Gen1 type-A ports

TS-h1290FX internal view

8 x DDR4 ECC RDIMM memory slots with 8-channel support, up to 1TB total RAM capacity



3 x PCIe Gen4 x16 + 1 x PCIe Gen4 x8

1 : Gen4 x16

2 : Gen4 x16

3 : Gen4 x8

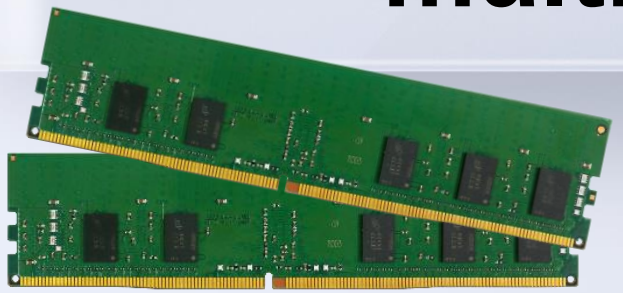
4 : Gen4 x16)

80 mm cool & quiet smart CPU fan

AMD EPYC 7002 (Rome) server processor

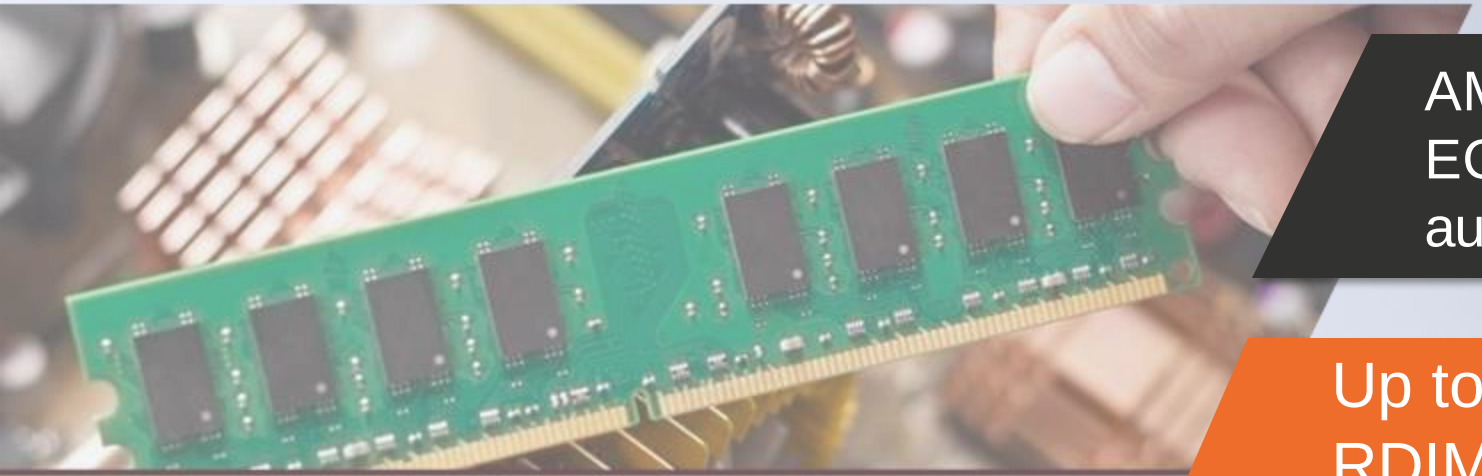
- **7302P 16C / 32T up to 3.3 GHz**
- **7232P 8C /16T to to 3.2 GHz**

Up to 1 TB ECC DDR4 RDIMM memory for multiple intensive applications



ECC

High reliability & data consistency



AMD EPYC 7002 CPUs support ECC registered memory for automatic bit error correction.

Up to **8-channel**, **1 TB** ECC RDIMM memory support

TS-h1290FX Ordering Info:

- **TS-h1290FX-7232P-64G**
  AMD 8C/16T 7232P, 64GB RDIMM (8 x 8GB)
- **TS-h1290FX-7302P-128G**
  AMD 16C/32T 7302P, 128GB RDIMM (8 x 16GB)
- **TS-h1290FX-7302P-256G** (made by order)
  AMD 16C/32T 7302P, 256GB RDIMM (8 x 32GB)

QNAP RAM modules:

- 8GB RDIMM DDR4 3200：RAM-8GDR4ECT0-RD-3200
- 16GB RDIMM DDR4 3200：RAM-16GDR4ECT0-RD-3200
- 32GB RDIMM DDR4 3200：RAM-32GDR4ECT0-RD-3200

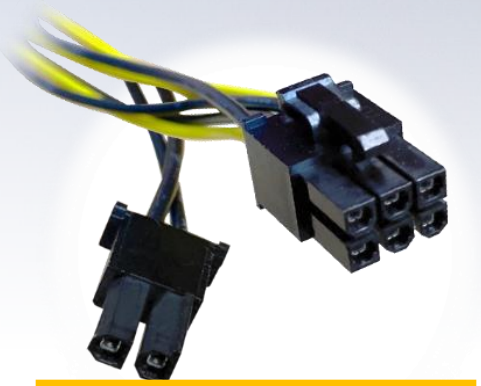
Supports a NVIDIA® graphics card for video processing or GPU-passthrough to VMs

- Install a graphics card to supercharge your video editing and transcoding. Enable GPU pass-through to virtual machines.
- Install a graphics card with HDMI output for greater application potential—use TS-h1290FX as a mini PC and output the Microsoft® Windows VM/Linux® Station desktop or monitor surveillance feeds with QNAP HybridDesk Station.

Note:

1. Maximum graphics card dimension: 266 x 137 x 45 mm (with the power cable)
2. QuTS hero h5.0.1+ & QTS 5.0.1+ supports the graphics card in any PCIe slot location. Earlier versions can only support GPU passthrough in the PCIe slot #2.

- 750W power supply provides 1 x 6-pin and 1 x 8-pin (6-pin + 2-pin) power cables for a graphics card with ample power.



8-pin
(1 x 6-pin + 1 x 2-pin)

1 x 6-pin

Caffe Caffe2 TensorFlow Microsoft CNTK

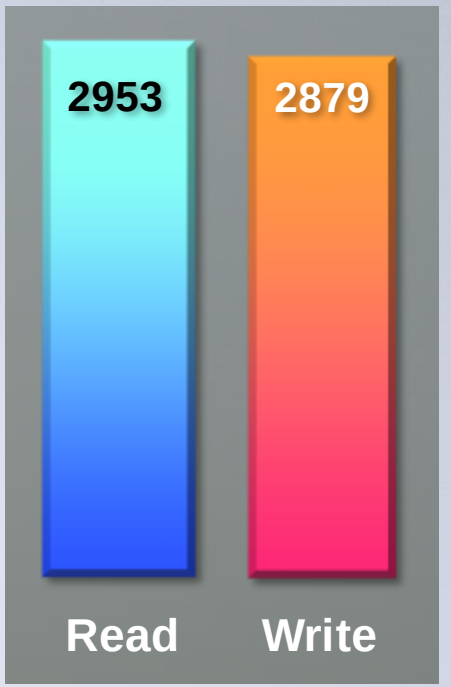
mxnet PYTORCH

Bring out the best of All Flash NAS performance with integrated dual-port 25GbE & 2.5GbE

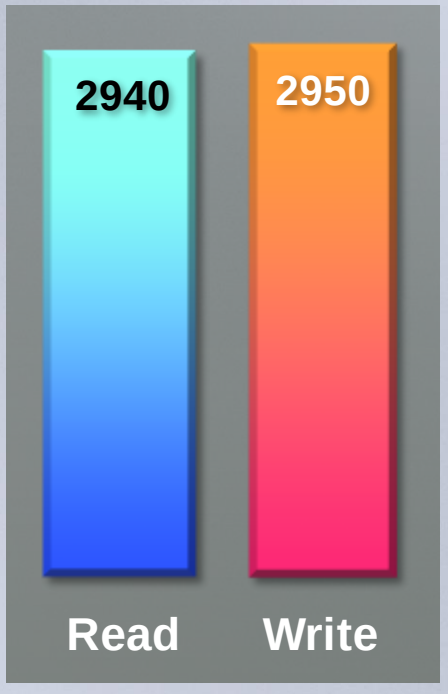
2 x 2.5GbE RJ45 ports
(2.5Gb/1Gb/100Mb)

2 x 25GbE SFP28 ports
(25Gb/10Gb/1Gb)

1 x 25GbE Windows SMB Seq. transfer



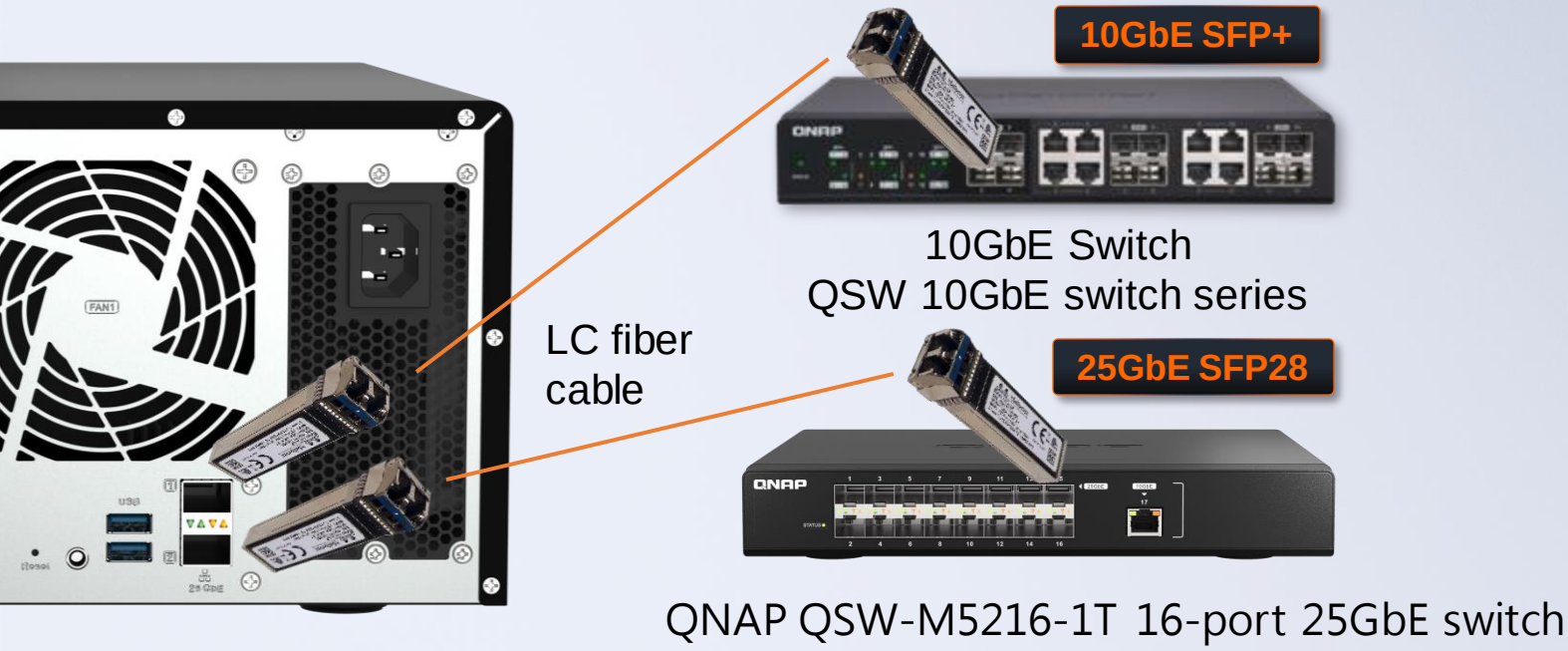
1 x 25GbE Windows SMB Seq. transfer, encrypted volume



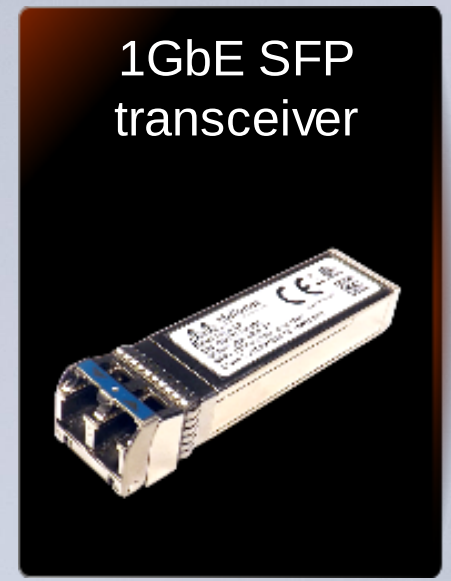
Tested in QNAP Labs. Figures may vary by environment.
Test Environment:
NAS: TS-h1290FX-7302P-128G with QuTS hero 5.0
Volume type: Micron 7400 Pro U.3 NVMe PCIe Gen4 1.92TB SSD x12 (RAID 5);
Client workstations : Iometer, Intel Core™ i7-7700 4.20GHz CPU, 32GB DDR4 RAM, QXG-25G2SF-CX4, Windows® Server 2016, QXG-25G2SF-CX4, Windows® Server 2016

Flexible Ethernet speed configuration
25GbE also supports 10GbE/1GbE

- Built-in 25GbE ports support 25GbE SFP28 transceivers
- Support 1GbE & 10GbE Ethernet with SFP/SFP+ transceivers
- Auto-negotiation speed



QNAP QSW-M5216-1T 16-port 25GbE switch



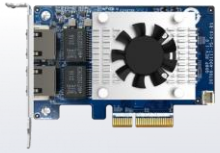
Abundant high-speed network cards with plug and use support

10GbE NIC

2 x RJ45

LAN-10G2T-X710

2 x RJ45



QXG-10G2TB

1 x RJ45

QXG-10G1T

5GbE NIC

1/2/4 x RJ45

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

40/25GbE NIC

2 x QSFP+ 40Gb/s

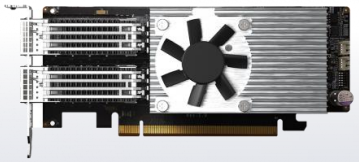
LAN-40G2SF-MLX

2 x SFP28 25Gb/s

QXG-25G2SF-CX6

100GbE NIC

2 x QSFP28



QXG-100G2SF-E810

2.5GbE NIC

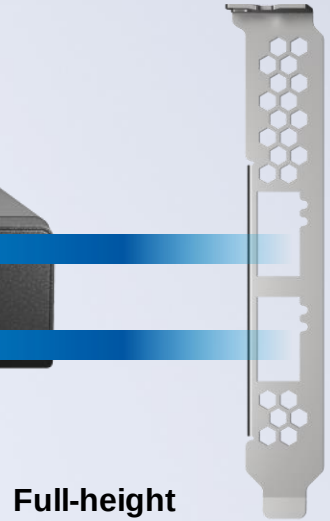
1/2/4 x RJ45

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

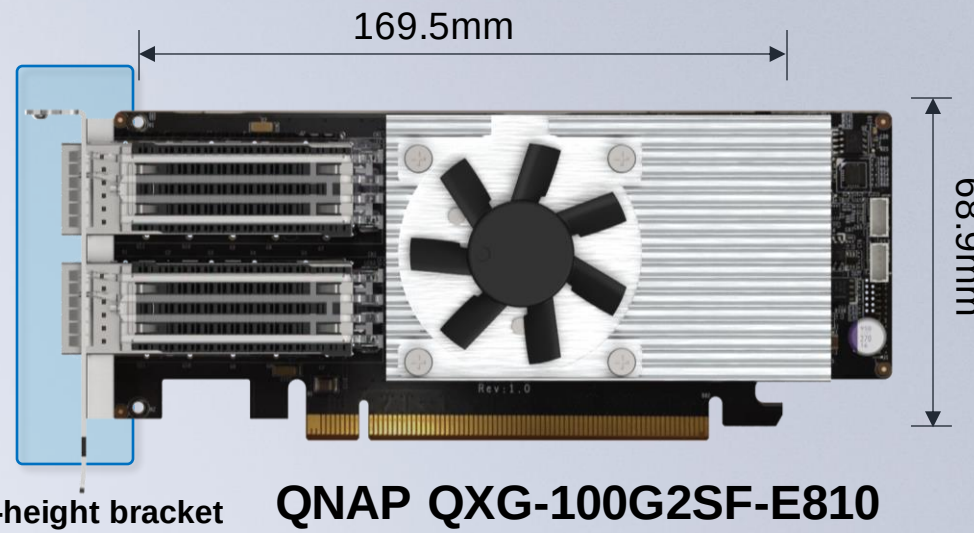
Supercharge the transfer speed with with a QNAP 100GbE network card

- Install the QNAP QXG-100G2SF-E810 NIC to achieve the best performance
- TS-h1290FX QuTS hero NAS O.S. can split the 100GbE port speed into 4 x 25GbE or 8 x 10GbE for the flexible deployment

QSW-M5216 25GbE Managed Switch

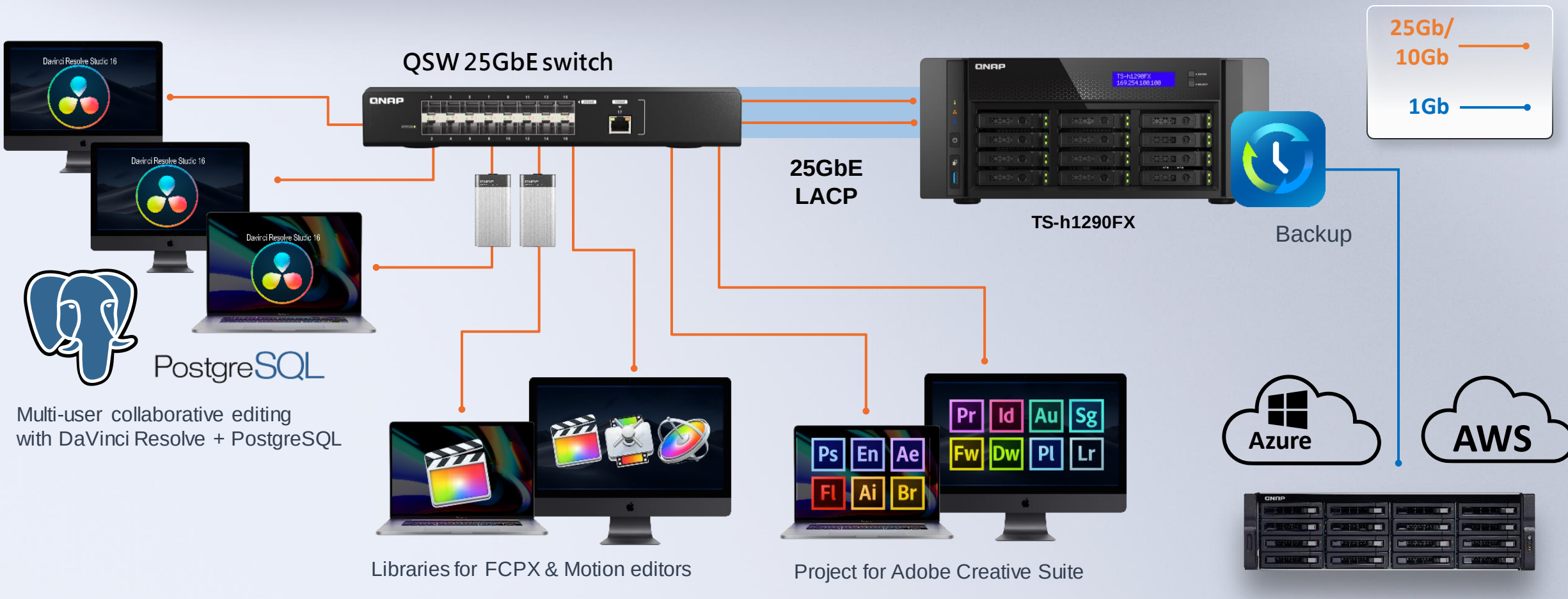


Full-height bracket included



QNAP QXG-100G2SF-E810

Works perfectly with mainstream editing software and multi-user collaboration



Adobe Premiere & Davinci Resolve support multi-user collaborative editing with QNAP NAS

MANAGE MULTI-PROJECT WORKFLOWS

DESIGNED FOR COLLABORATION

QNAP NAS is the official partner of Adobe.

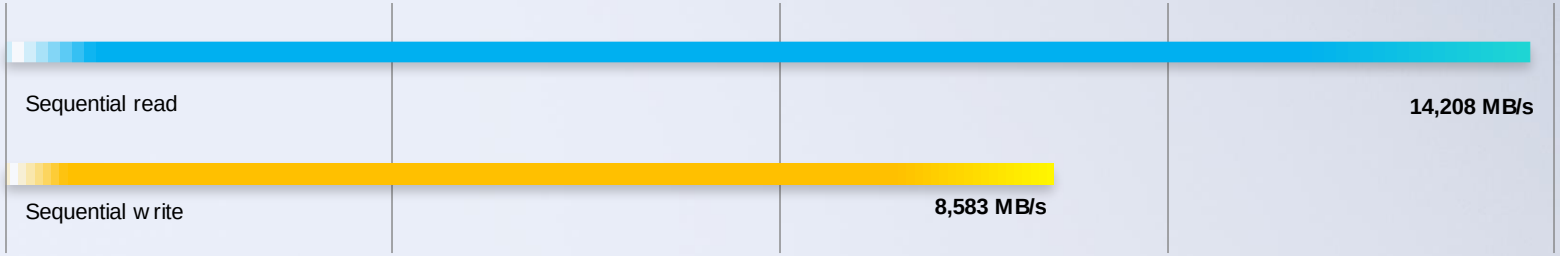
TS-h1290FX-7302P-128G

6 workstations with 25GbE can reach up to 14,208 MB/s aggregated NAS network throughput

- Up to **816,051** iSCSI random read IOPS!
- **14,208 MB/s** SMB seq. read and **8,583 MB/s** SMB seq. write!

6 x 25GbE iSCSI, Random IOPS (4KB), Compression On, Dedupe Off

6 x 25GbE SAMBA, Sequential Throughout (1MB), Compression On, Dedupe Off



6 x 25GbE clients concurrent access

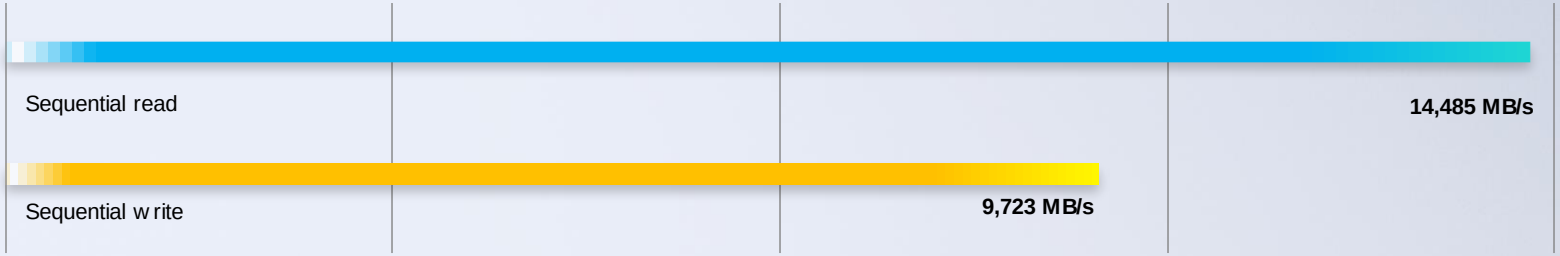
Tested in QNAP Labs. Figures may vary by environment.
Test Environment:
NAS: TS-h1290FX-7302P-128G with QuTS hero 5.0
Volume type: Micron 7400 Pro U.3 NVMe PCIe Gen4 1.92TB SSD x12 (RAID 5); 2 x QNAP QXG-25G2SF-CX4
Client workstations : 6 x Client workstations simultaneously read and write 16GB file (= 96GB totally)
Intel Core™ i7-7700 4.20GHz CPU, 32GB DDR4 RAM, QXG-25G2SF-CX4, Windows® Server 2016, and Intel Core™ i3-8100 3.60GHz CPU, 4GB DDR4 RAM, QXG-25G2SF-CX4, Windows® Server 2016

TS-h1290FX-7232P-64G

6 workstations with 25GbE can reach up to 14,485 MB/s aggregated NAS network throughput

6 x 25GbE iSCSI, Random IOPS (4KB), Compression On, Dedupe Off

6 x 25GbE SAMBA, Sequential Throughout (512K), Compression On, Dedupe Off



- Up to **355,868** iSCSI random read IOPS!
- **14,485 MB/s** SMB seq. read and **9,723 MB/s** SMB seq. write!

6 x 25GbE clients concurrent access

Tested in QNAP Labs. Figures may vary by environment.
Test Environment:
NAS: TS-h1290FX-7232P-64G with QuTS hero 5.0
Volume type: Micron 7300 U.2 NVMe PCIe Gen3 3.84TB SSD x12 (RAID 5); 2 x QNAP QXG-25G2SF-CX4
Client workstations : 6 x Client workstations simultaneously read and write 16GB file (= 96GB totally)
Intel Core™ i7-7700 4.20GHz CPU, 32GB DDR4 RAM, QXG-25G2SF-CX4, Windows® Server 2016, and Intel Core™ i3-8100 3.60GHz CPU, 4GB DDR4 RAM, QXG-25G2SF-CX4, Windows® Server 2016

Fibre Channel SAN
32Gb & 16Gb storage solution

QXP-32G2FC

2-port 32Gbps FC adapter

QXP-16G2FC

2-port 16Gbps FC adapter

Optimized for QNAP NAS , high-speed and economical QNAP FC adapters

Bundled with Optical FC transceivers

- TRX-32GFCSFP-SR 32Gb/16Gb/8Gb
- TRX-16GFCSFP-SR 16Gb/8Gb/4Gb

Note: LC cables are not included.

TS-h1290FX 12-bay SSD elite design resulted in smaller size and space saving

Dimensions:

Width: 368 mm / 14.49 inches

Height: 157.2 mm / 6.19 inches

Depth: 362 mm / 14.26 inches

Weight:

Net weight: 8.89 kg / 19.60 lbs

reddot winner 2022

Professionally crafted to optimize the air flow and keep system and SSD cool

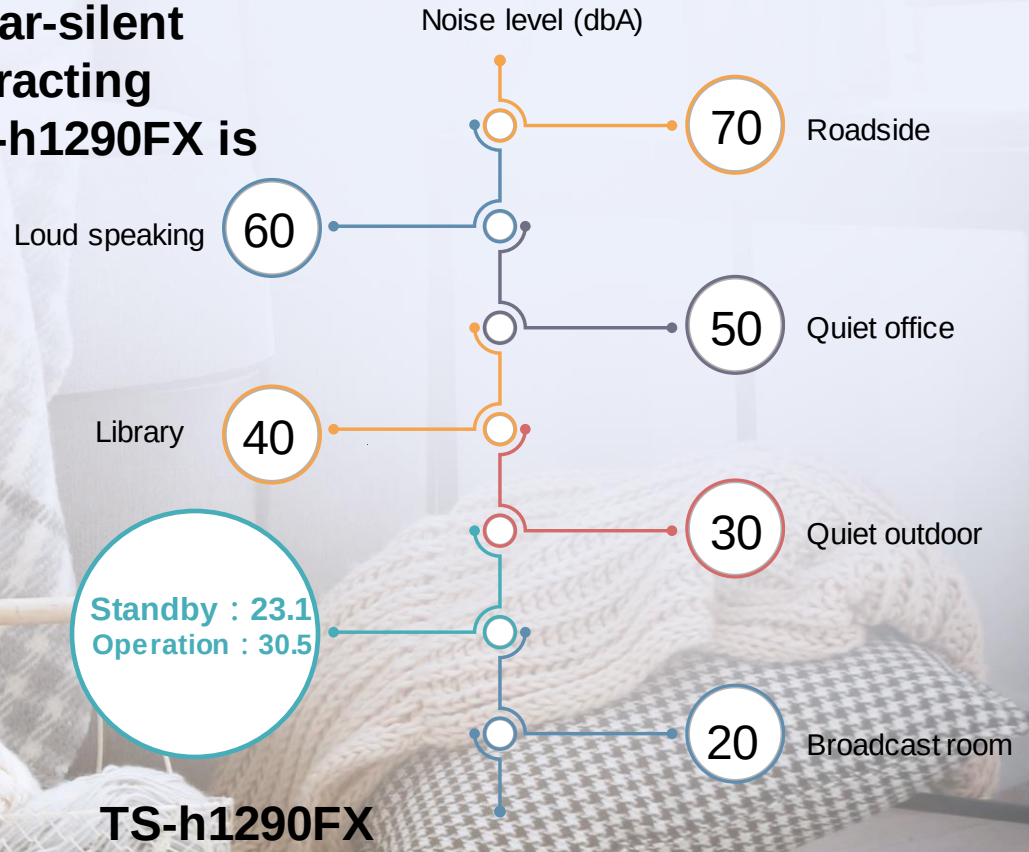
- Dual rear 90mm large & smart system fans
- Air duct to cool down the PSU
- Side air ducts for system cooling
- SSD air flow
- 9 air ducts for the SSD cooling

Quieter in your office, easier to set up and stay powered on all the time and around

Silence is golden, especially in small studios and offices where creative minds are at work. The TS-h1290FX all-flash NAS features a high-quality CPU cooler and two 90mm near-silent system fans to provide effective cooling without distracting noises. With a lightweight and stylish design, the TS-h1290FX is a perfect fit for modern work environments.

Noise level test:

- Sound pressure is measured at the front bystander position with idle and 50% duty cycle.



LIVE
TS-h1290FX
DEMO

TS-h1290FX

Versatile capacity and feature expansions

Capacity expansion with TL SATA JBOD for 24Gbps+ high performance transfer

- TL SATA includes a SATA HBA PCIe card can cables to expand TS-h1290FX NAS capacity
- A single SFF-8088 can provide up to 4 x SATA 6Gb/s = 24 Gb/s transfer speed. By combining multiple cables to reach up to 64 Gb/s performance between the NAS and JBOD via PCIe interface.

TL-D400S

TL-D800S

TL-D1600S

QXP SATA HBA and cables are included in the TL SATA JBOD enclosures

TL-D400S

1 x QXP-400eS-A1164
PCIe 4-port SATA HBA

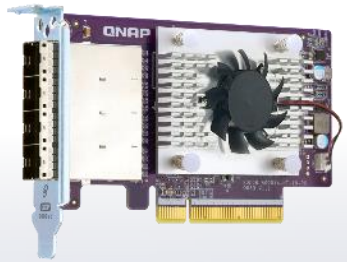
1 x 1M SFF-8088 cable

TL-D800S

1 x QXP-800eS-A1164
8-port SATA HBA

2 x 1M SFF-8088 cables

TL-D1600S



1 x QXP-1600eS-A1164
PCIe 16-port SATA HBA

4 x 1M SFF-8088 to SFF-8644 cables

Affordable capacity expansion with TL-D800C USB JBOD enclosure

- NAS through USB port to access TL USB JBOD enclosure
- USB Type-C for up to USB 3.2 Gen2 10Gb/s performance

TL-D800C

Included

USB 3.2 Gen2 10Gbps
Type-C to Type-A cable

Optional

Type-C to Type-C cable

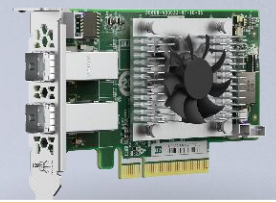
Reach PB storage capacity with QNAP SAS 12Gb/s 12-bay & 16-bay JBOD units

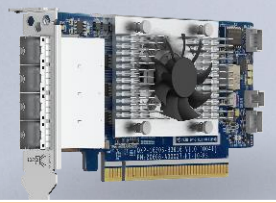
TL-R1620Sep-RP TL-R1620Sep-

NAS supports up to **16** QNAP SAS JBOD enclosures

- 12-bay TL-R1220Sep-RP or 16-bay TL-R1620Sep-RP
- Each NAS with **hundreds of HDDs**，**1~3PB** raw HDD capacity
- SAS JBOD can expand NAS existing storage pools

SAS HBA (optional purchase)





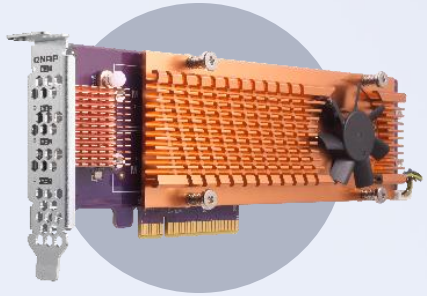
	QXP-820S-B3408	QXP-1620S-B3616W
SAS IC	Broadcom SAS3408	Broadcom SAS3616W
PCIe bus	PCIe3 x8	PCIe3 x16
IOPS	1.2X	1.8X
Bandwidth	6,850 MBs	13,700 MBs
Ports	External 8 ports	External 16 ports
Connectors	2 x SFF8644	4 x SFF8644

*The above data is for reference only based on IC vendor's data sheets. Actual performance could be different due to host, expansion unit or drives.

Expand M.2 NVMe SSD slots with QM2

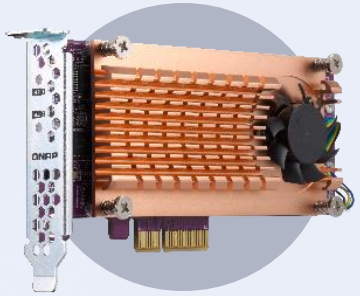
A QM2 card can add more M.2 NVMe SSD slots via PCIe

Keep your original storage architecture



QM2-4P-384 (Gen 3 x8 card)

4 x M.2 2280 PCIe Gen 3 x4 NVMe SSD port



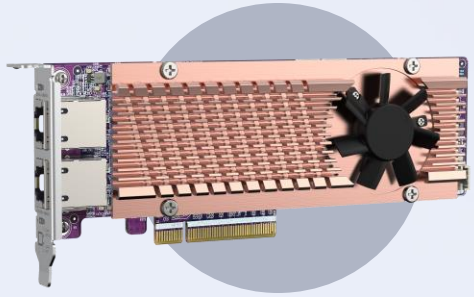
QM2-2P-384 (Gen 3 x8 card)

2 x M.2 22110/2280 PCIe Gen 3 x4 NVMe SSD port

Expand 10GbE and M.2 SSD slots with QM2

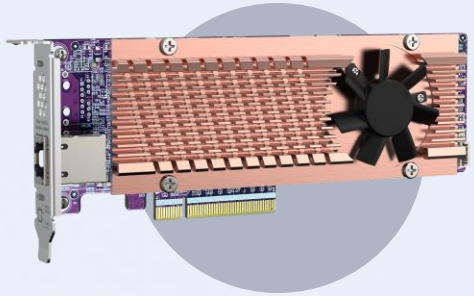
Add both 10GbE and M.2 PCIe Gen4 NVMe SSD slots with the new PCIe 4.0 QM2 series

PCIe 4.0 high speed interface



QM2-2P410G2T (Gen 4 x8 card)

2 x M.2 2280 PCIe Gen 4 x4 NVMe SSD slots
+ 2 x 10GbE RJ45 LAN ports



QM2-2P410G1T (Gen 4 x8 card)

2 x M.2 2280 PCIe Gen 4 x4 NVMe SSD slots
+ 1 x 10GbE RJ45 LAN ports

TS-h1290FX

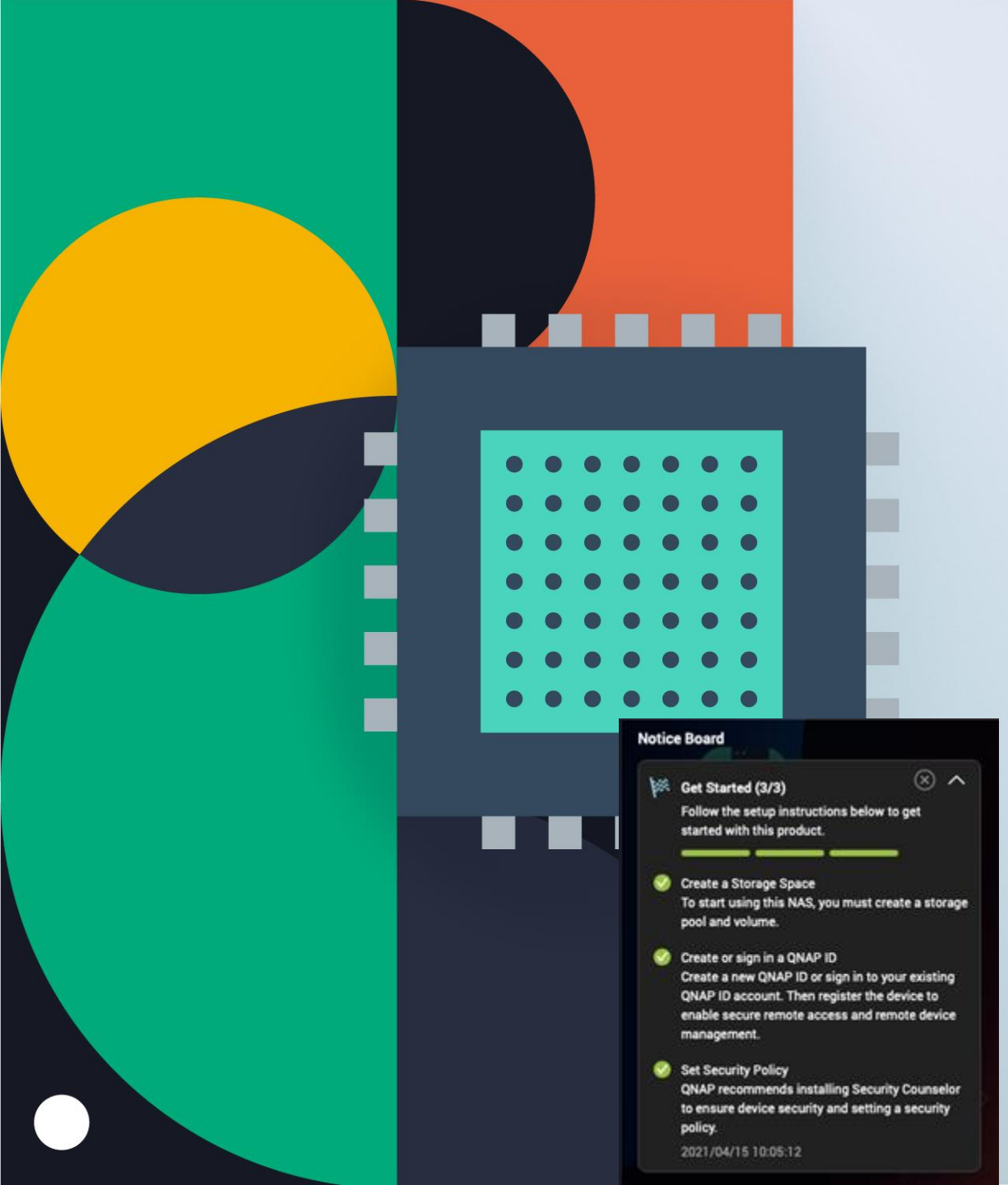
QuTS hero h5.0
The Enterprise NAS O.S.

Kernel 5.10 LTS

ZFS-based QuTS hero ensures performance, security, and data integrity

Fast, smooth, and easy-to-use!

Whether clicking buttons, switching between apps, expanding/collapsing windows – every action is much smoother. The search bar in the main menu also assists in quickly finding desired apps.

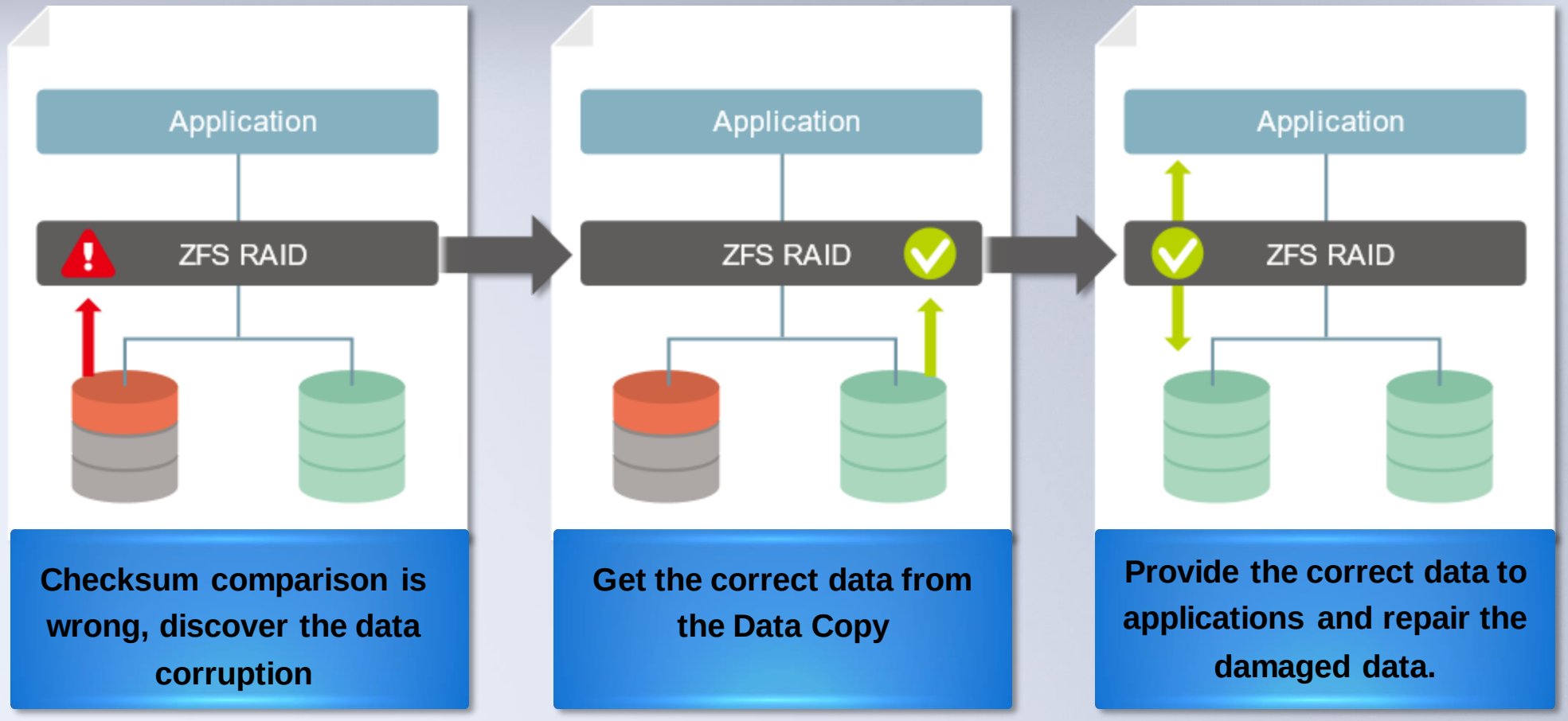


Big Data Storage

Security and performance are priority

- Supports TLS 1.3 to improve security and performance.
- You can also use SSH keys for authentication to secure access to your NAS, preventing password breaches or similar potential attacks.
- The new kernel improves PCIe performance, which enhances NVMe SSD performance and utilization.

Silent data corruption & self-healing with the advanced QuTS hero NAS O.S.



Checksum comparison is wrong, discover the data corruption

Get the correct data from the Data Copy

Provide the correct data to applications and repair the damaged data.

Avoid silent data corruption that occurred on the running system.

License-free backup solutions to provide the most complete data backup protection

RPO : daily / scheduled

HBS 3 (Hybrid Backup Sync 3):
File level, multi-version management: RTRR, Rsync, FTP, WebDAV, and CIFS/SMB protocols.

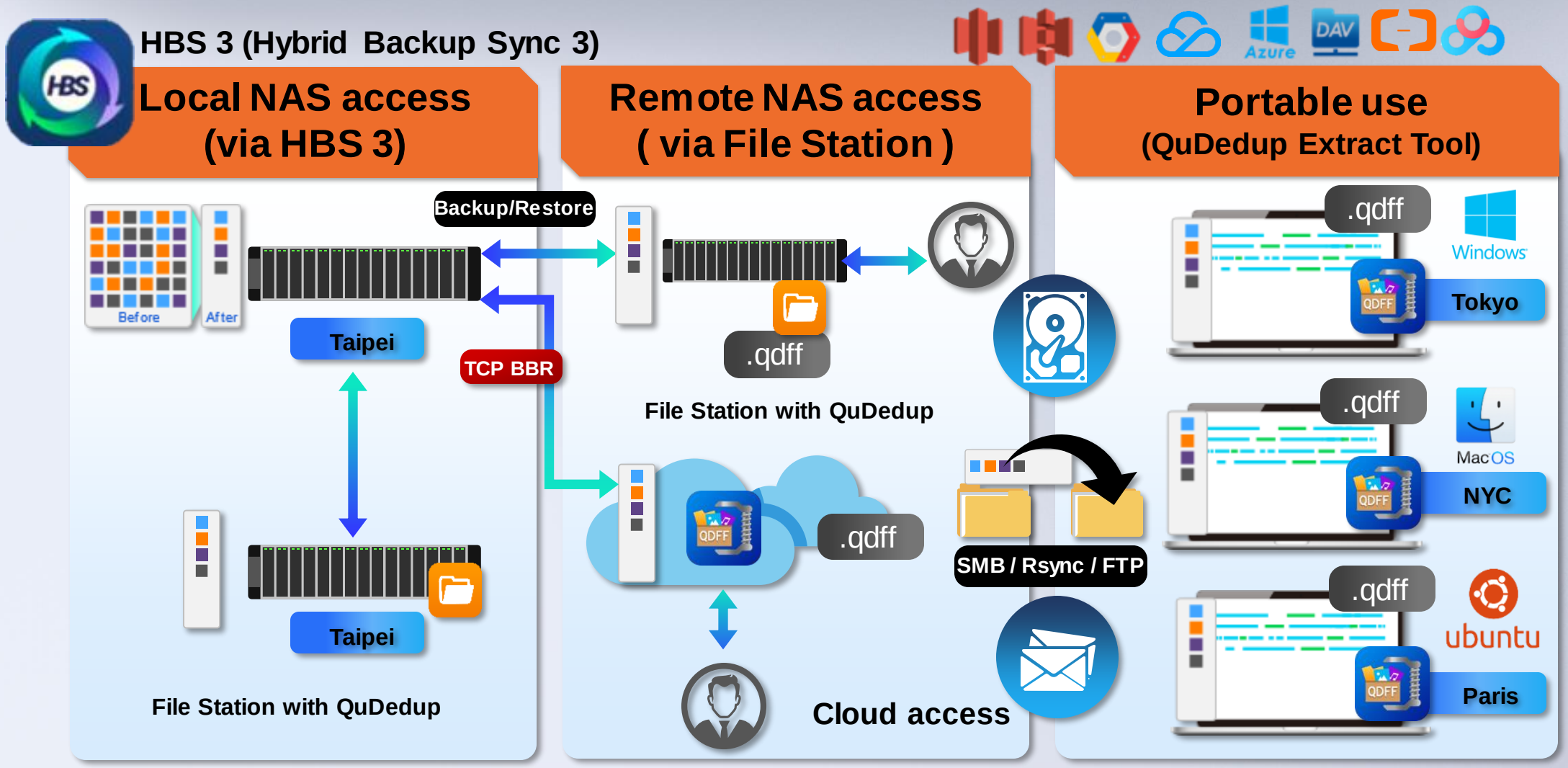
RPO : hourly / daily / yearly

Snapshot & Replica:
File level, multi-version management.
Lightweight snapshot w/o performance impact.

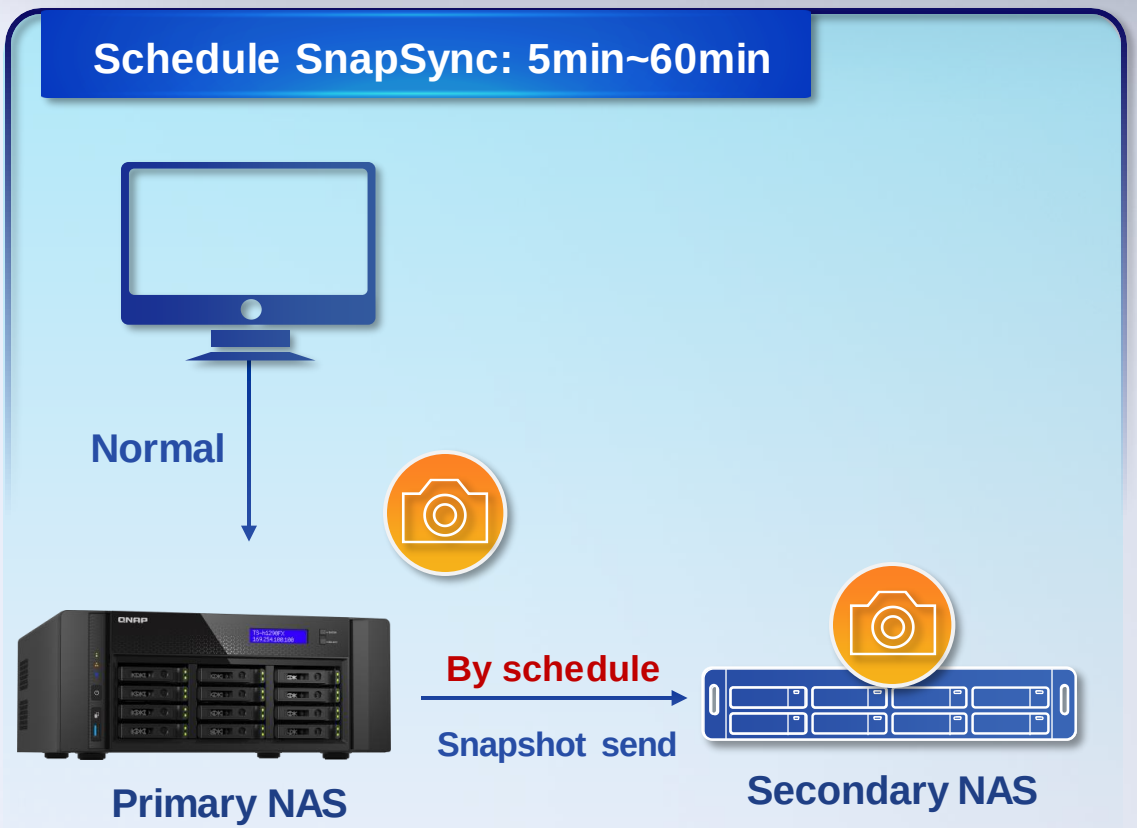
RPO : real-time

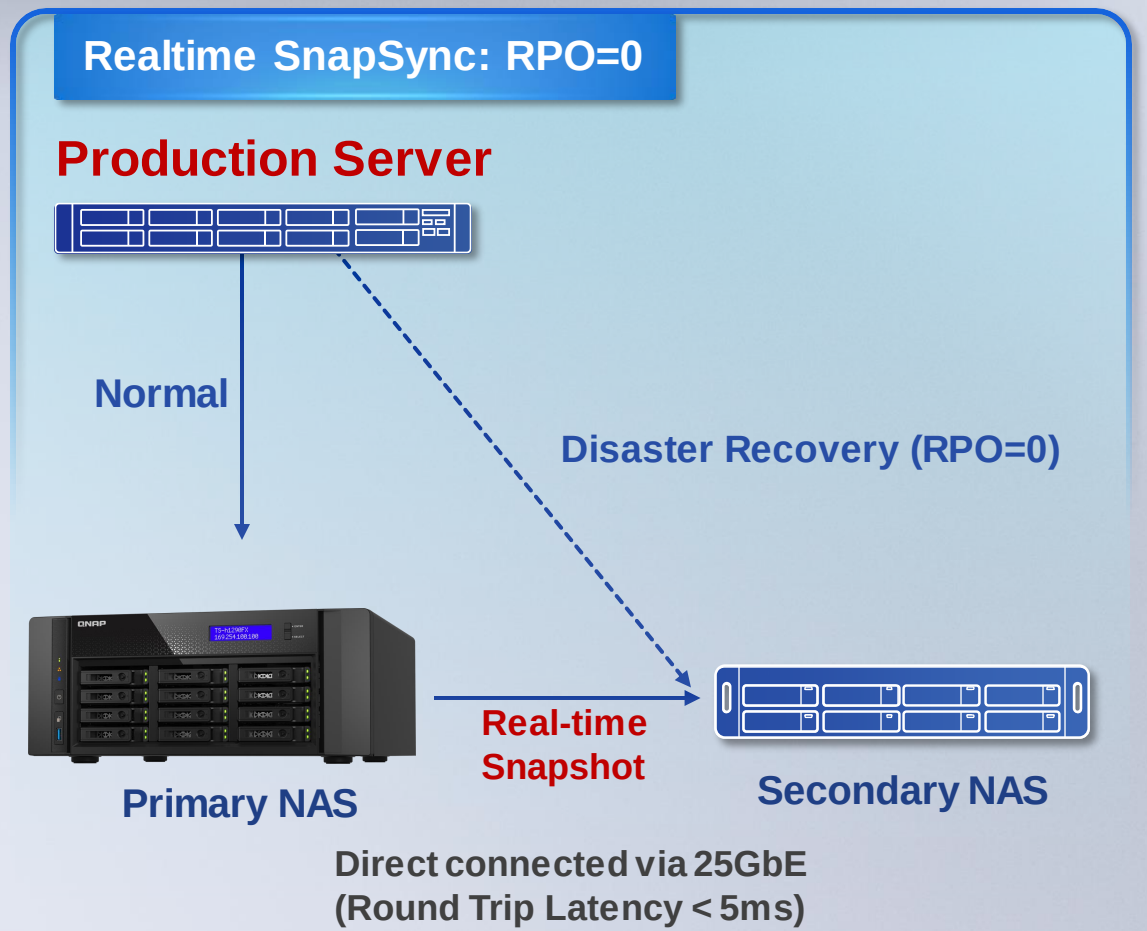
SnapSync:
Block level, Mirror the data copy and always kept up to date.

Easy to use HBS 3.0 app fulfilling backup 3-2-1 practice with deduplication



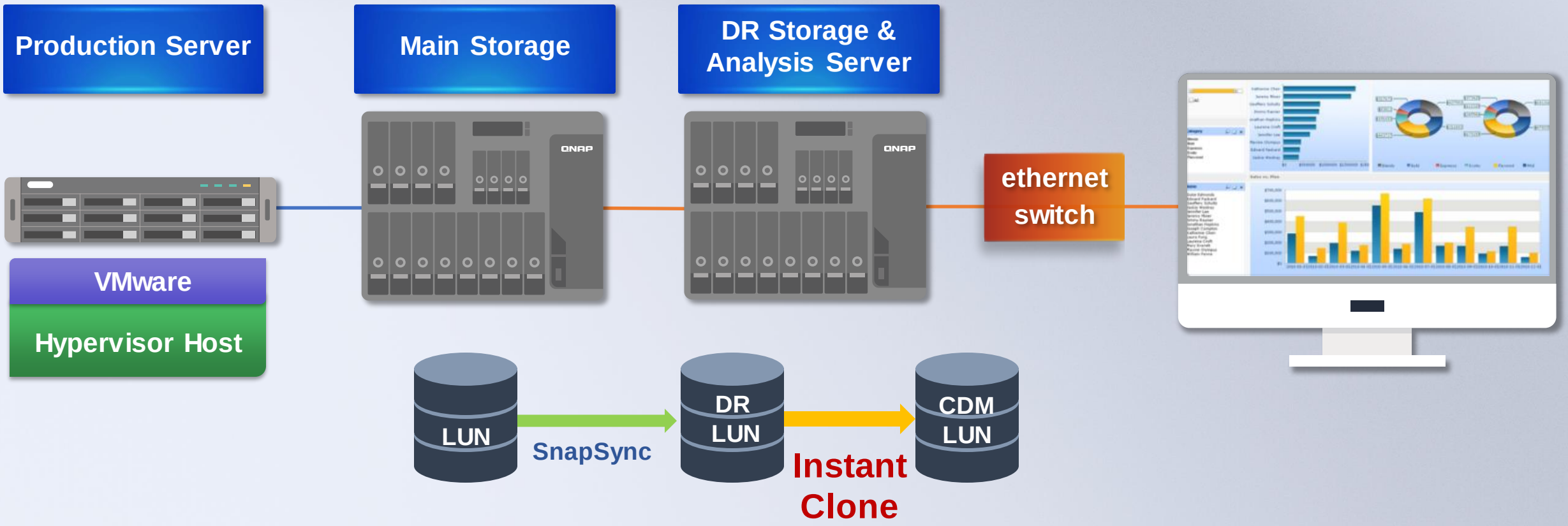
Real-time SnapSync ensures minimal RPO with real-time disaster recovery





SnapSync + Instant Clone

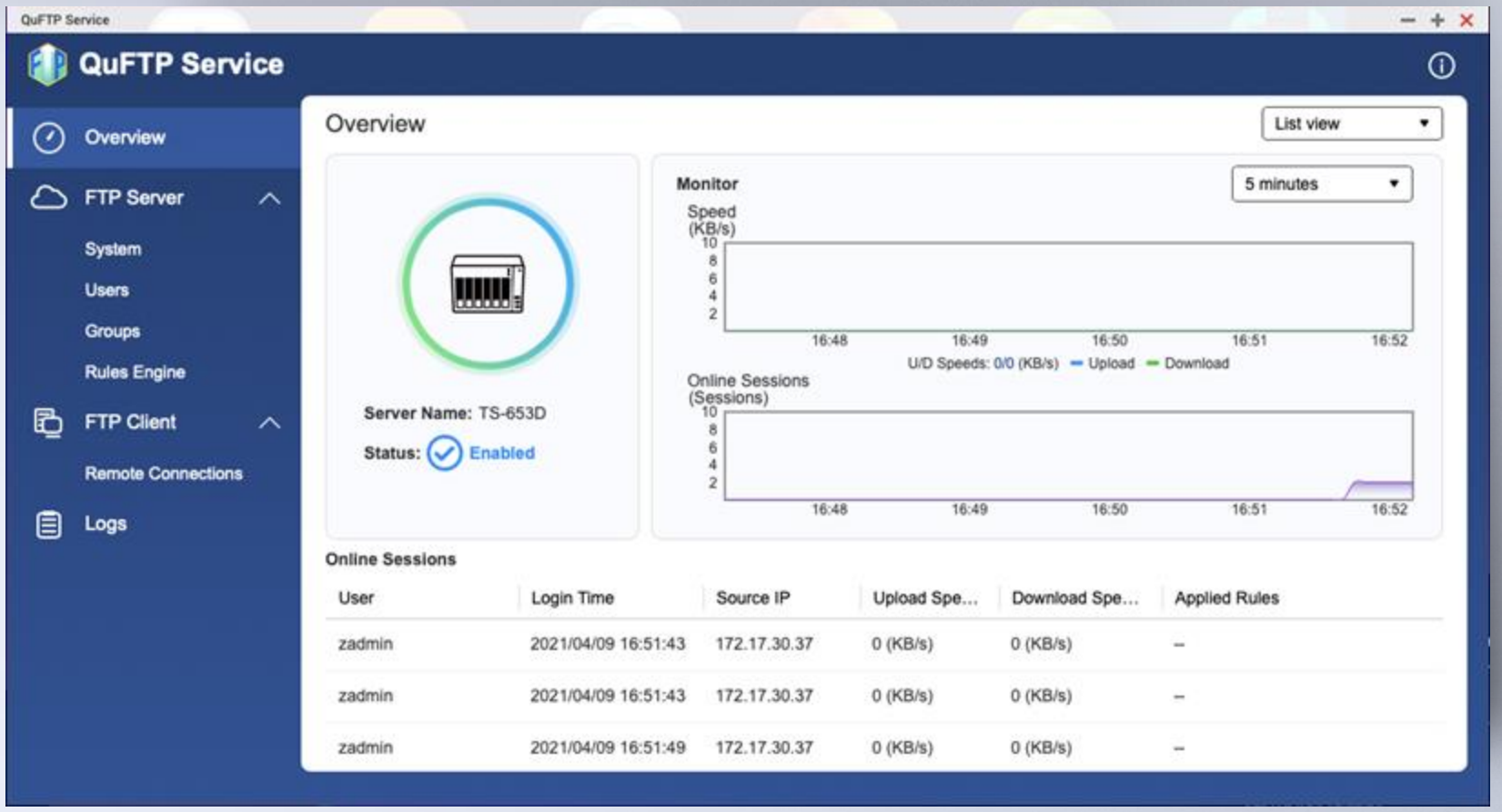
Economical & efficient CDM (Copy Data Management) solution



QNAP QuFTP: set up a secure FTP server for file sharing and exchange

QuFTP Service consolidates all FTP related activities into a single App. With its user-friendly interface and detailed permissions settings, QuFTP Service leverages FTP's efficiency with high security and easy management.

- Folder-level permissions
- QoS (Quality of Service) settings
- Instant event notifications
- Access time restrictions
- Limit access to only the FTP root folder
- Watermark for images & videos
- Detailed logs
- Remotely connect to other NAS



QVPN Service with WireGuard: easier VPN tunnels for remote workers

- WireGuard is an open-source VPN protocol that uses User Datagram Protocol (UDP) for network communication. The protocol uses several cryptography tools to implement secure VPN tunneling.
- The built-in WireGuard® provides faster and stable VPN connections. With a user-friendly interface, non-IT professional remote workers can easily set up VPN tunnels to access office-based QNAP devices with simplified connection methods.

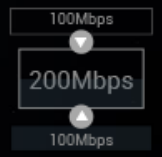
WIREGUARD
FAST, MODERN, SECURE VPN TUNNEL

QuWAN

SD-WAN Solution for Resilient IT Infrastructure

QNAP's QuWAN SD-WAN solution features Auto Mesh VPN, IPsec encryption, cloud-centric management and QVPN Service for multi-site network. Compatible with a wide range of QNAP products and Hypervisor Platforms such as VMware ESXi, QuWAN enables SMBs to efficiently build a dependable network at a cost-effective price, and to facilitate digital transformation, multi-site expansion and remote working.

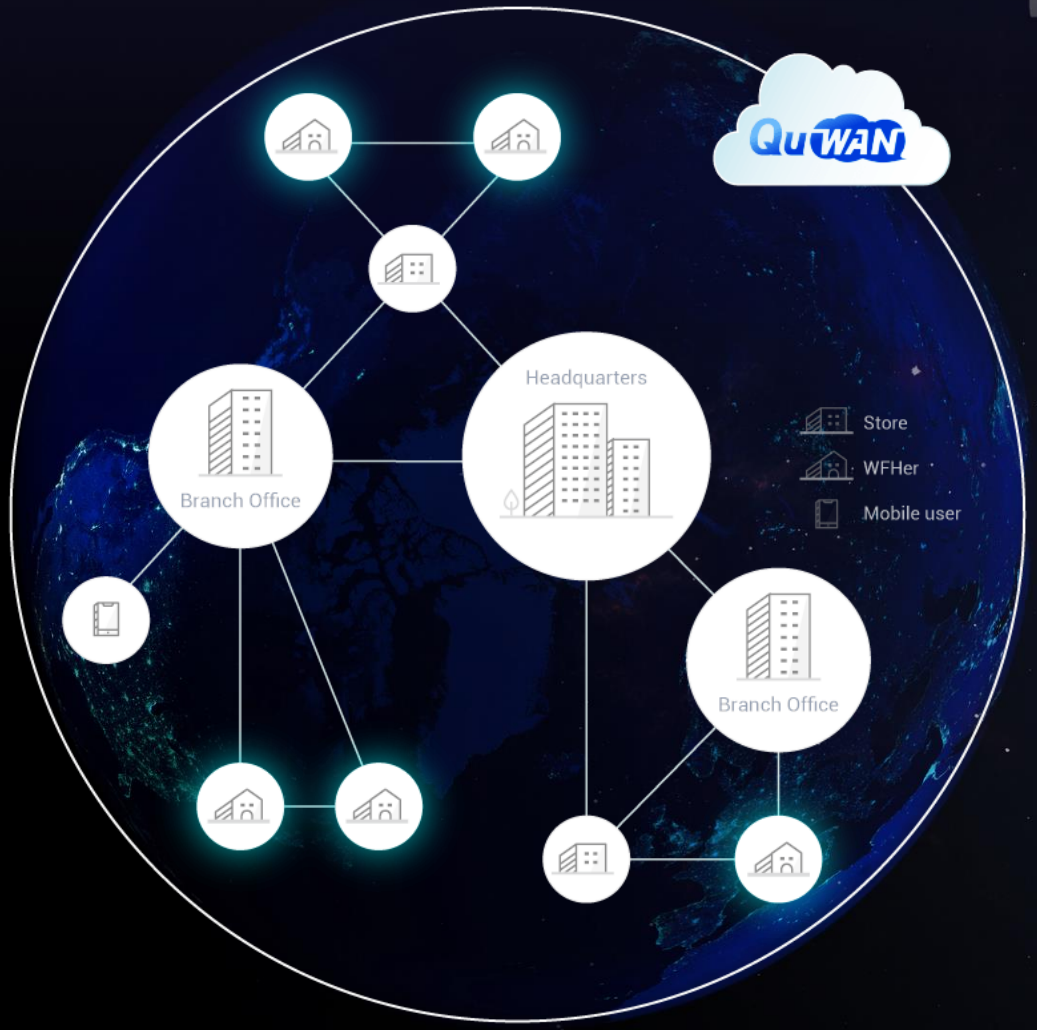
Automated VPN Deployment



Smart Bandwidth Prioritization

Centralized Cloud Management

Secure Network Protection



Hyper Data Protector is a license-free VMware® and Hyper-V backup appliance

With only one QNAP NAS required and with no license fees to pay, you can backup unlimited VMware® and Hyper-V environments. Hyper Data Protector provides you with a cost-effective and reliable disaster recovery plan, ensuring 24/7 operation of your services.

Win10 / Server2016/ Server2019

COMING SOON

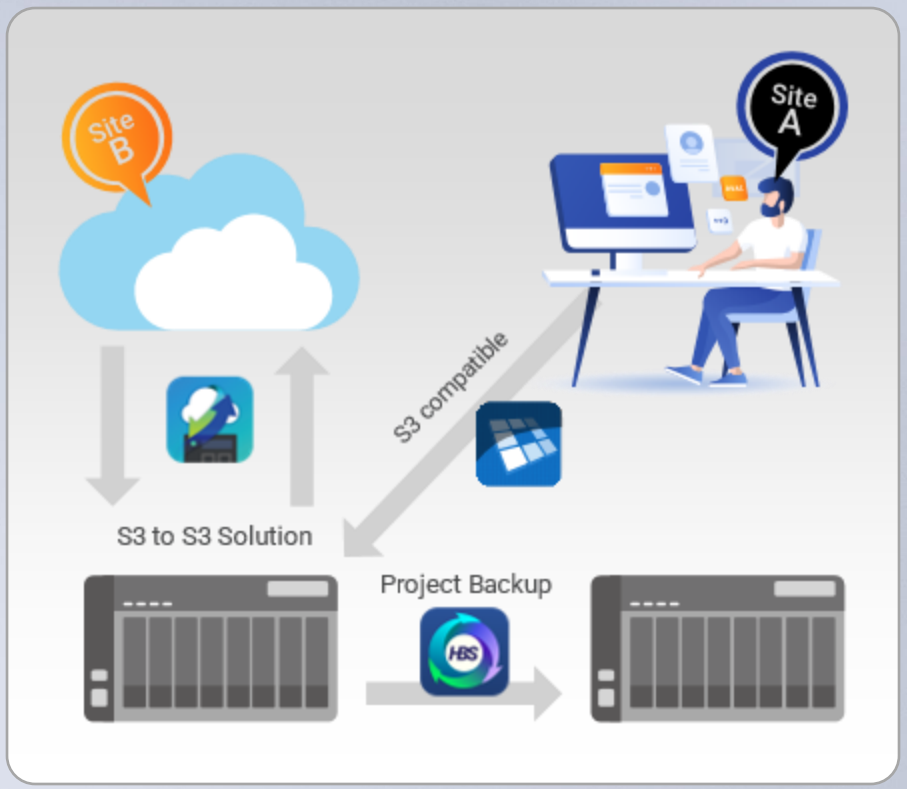
QuObjects is perfect for object storage development & testing, and backing up cold data from the cloud

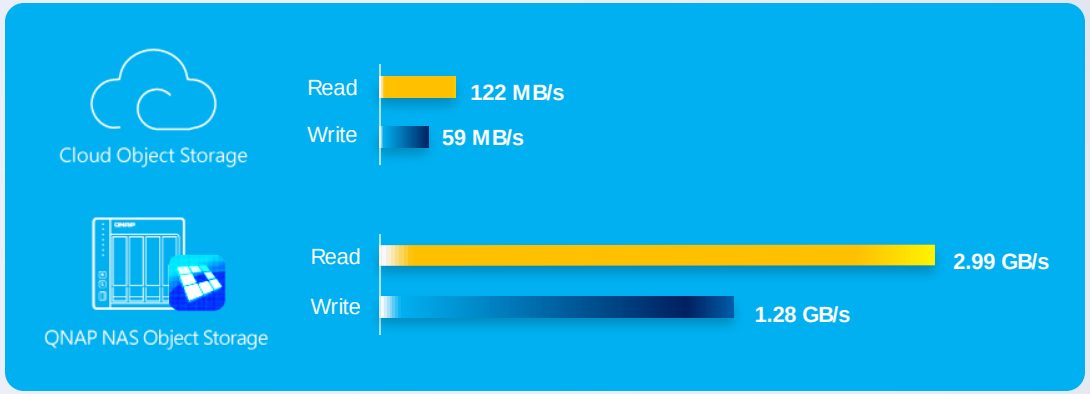
Object example

https://alvin1.s3.ap-east-1.amazonaws.com/test1/292557.jpg

bucket Cloud provider **Folder** **File name**

QuObjects

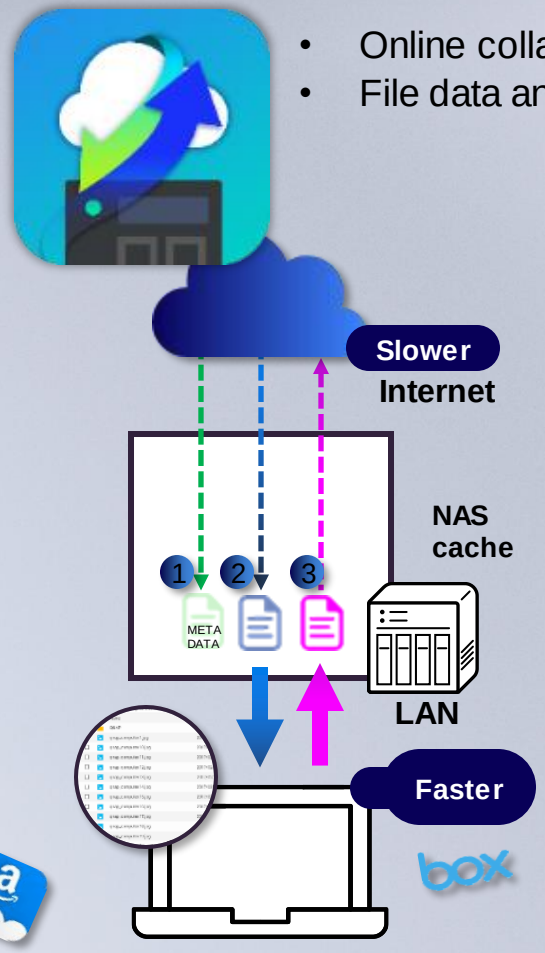




HybridMount provides two modes for file-based cloud storage gateway

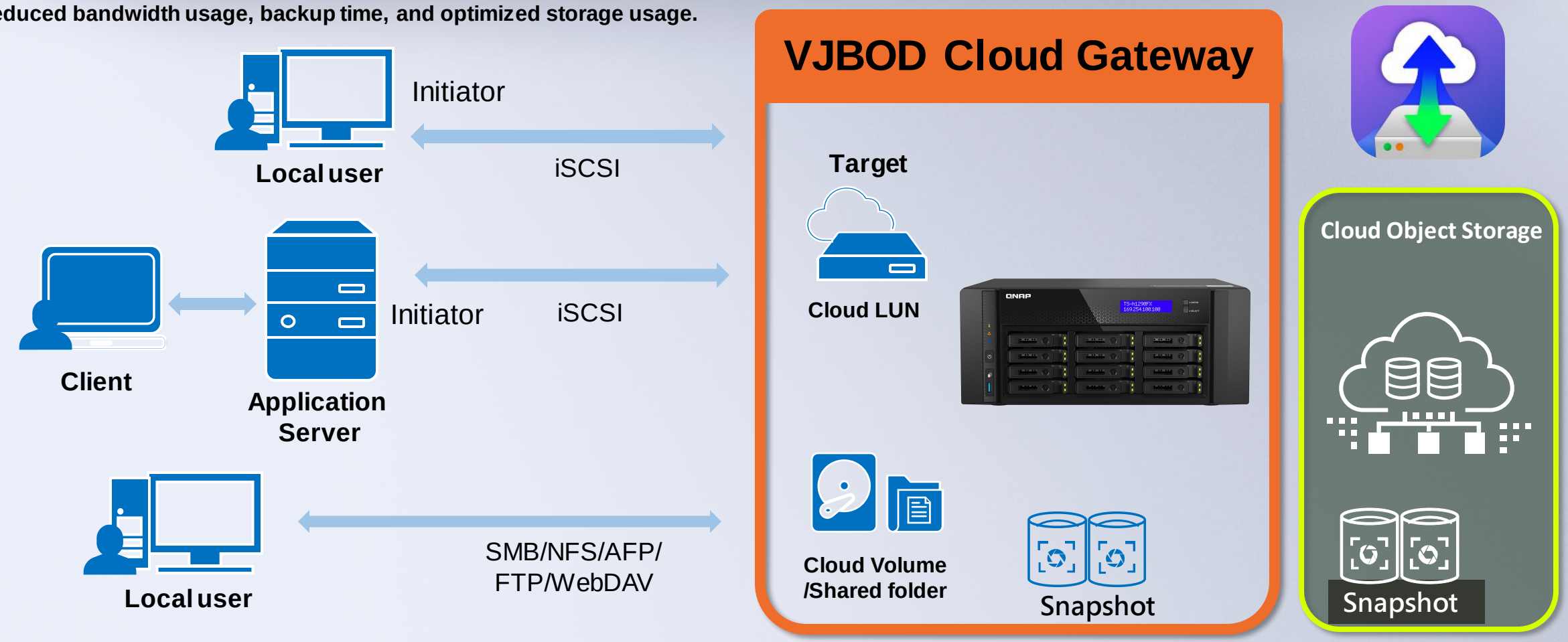
	Network Drive Mount	File Cloud Gateway
Setup Method	Mount cloud drives	Select “File Cloud Gateway” mode and create a dedicated cache space
Connections	No limit	2 free and perpetual connections. Purchase license for more connections
Access Performance	Depends on network speed	High performance thanks to 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

- Online collaboration
- File data analysis



Back up business data to the cloud. Flexible, economical, and safe with VJBOD Cloud

Connect your QNAP NAS with cloud object storage and back up business data to the cloud with reduced bandwidth usage, backup time, and optimized storage usage.



Boxafe

Google™ Workspace and Microsoft 365® total backup solution

With Boxafe, you do not need to worry about data loss. You can backup files, emails, calendars and contacts from Google™ Workspace and Microsoft 365® into the QNAP NAS.

Google™ 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

SharePoint & OneDrive
Backup your SharePoint and OneDrive files including OneNote.

All-in-one solution for hosting virtual machines and containers

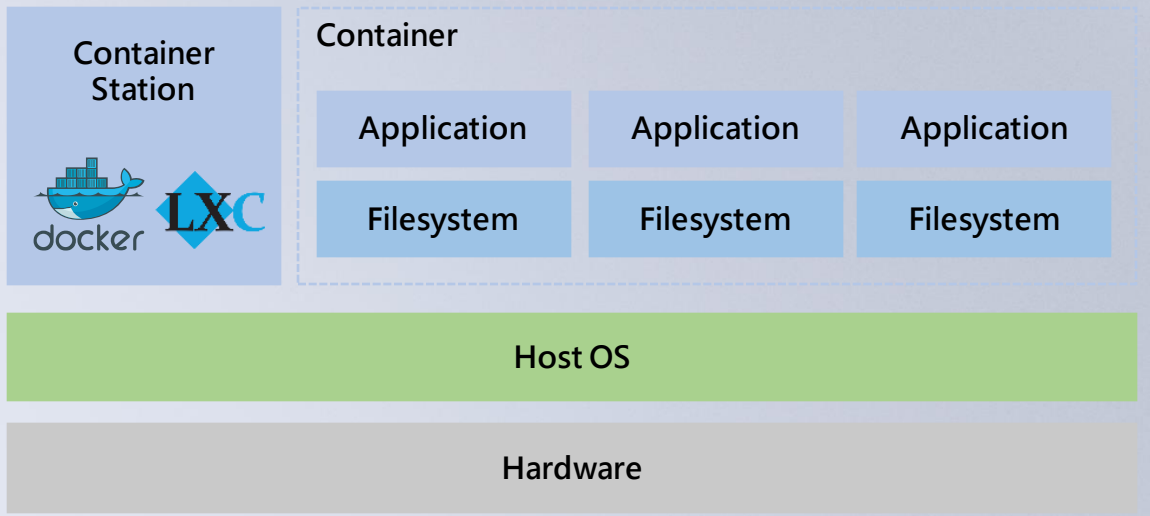
Virtualization Station

Virtualization Station allows you to create virtual machines (VM) on Turbo NAS, supporting Windows、Linux®、UNIX®、Android、QuTScloud operating systems.

With the QNAP Virtualized Personal Computer (QvPC) technology, you can use your NAS as a PC simply by installing a graphics card, a keyboard, mouse, and HDMI display to the NAS. You can then directly access multiple virtual machines and data stored on the NAS and flexibly switch between virtual machines as if you were using multiple PCs.

Container Station

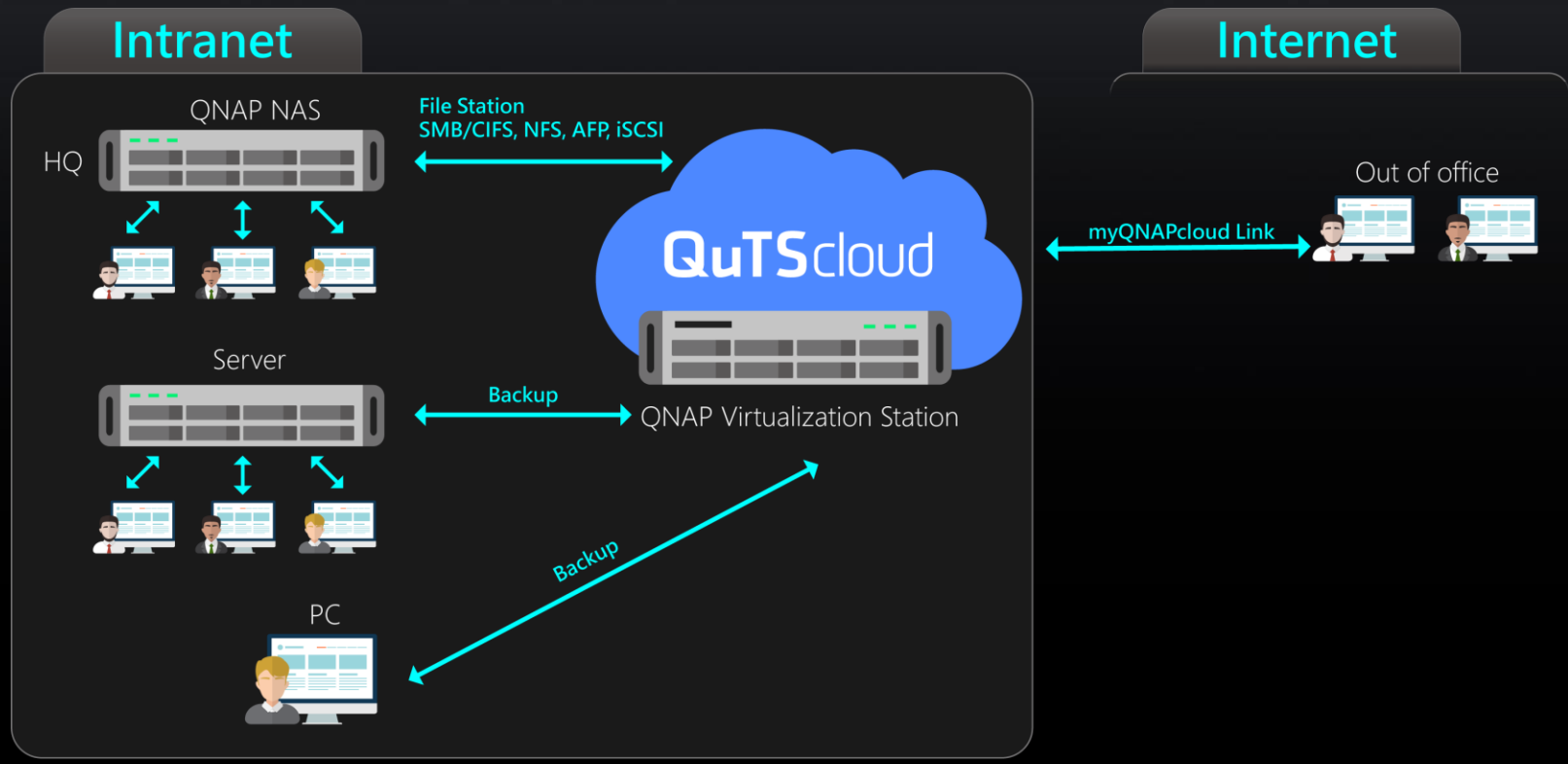
Experience LXD and Docker® lightweight virtualization technologies, download apps from the Docker Hub Registry®, import/export containers, and create abundant microservices.



A virtual NAS solution suited for Enterprises and Workgroups

QuTScloud is a virtual appliance based on QNAP's QTS Operating system, can be quickly launched on QNAP Virtualization Station.

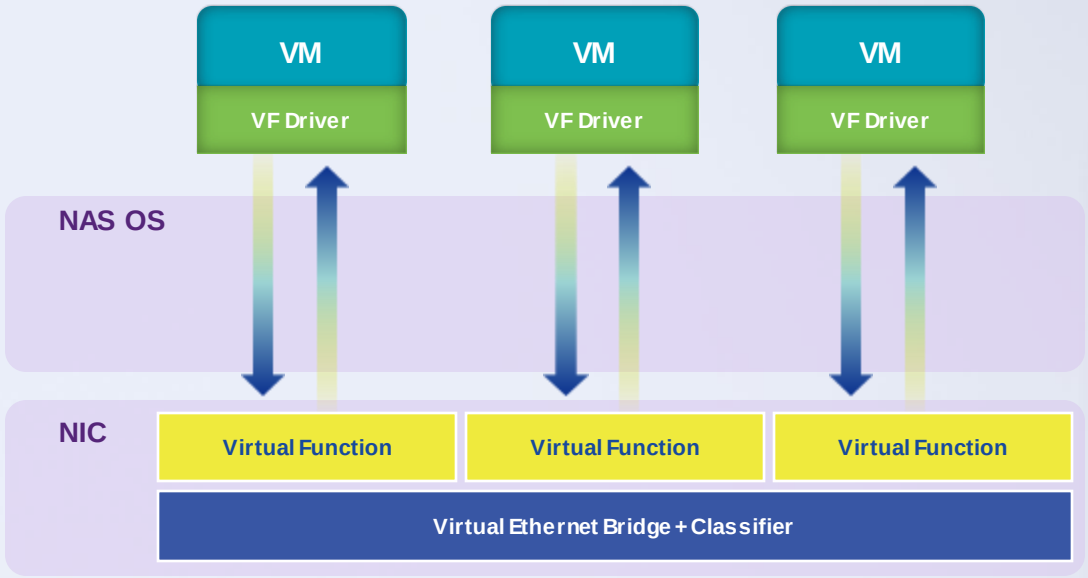
Organizations can increase their budget flexibility by using existing virtual environments, saving hardware space and additional maintenance efforts, and by leveraging the application advantages of the app-ware QuTScloud operating system.

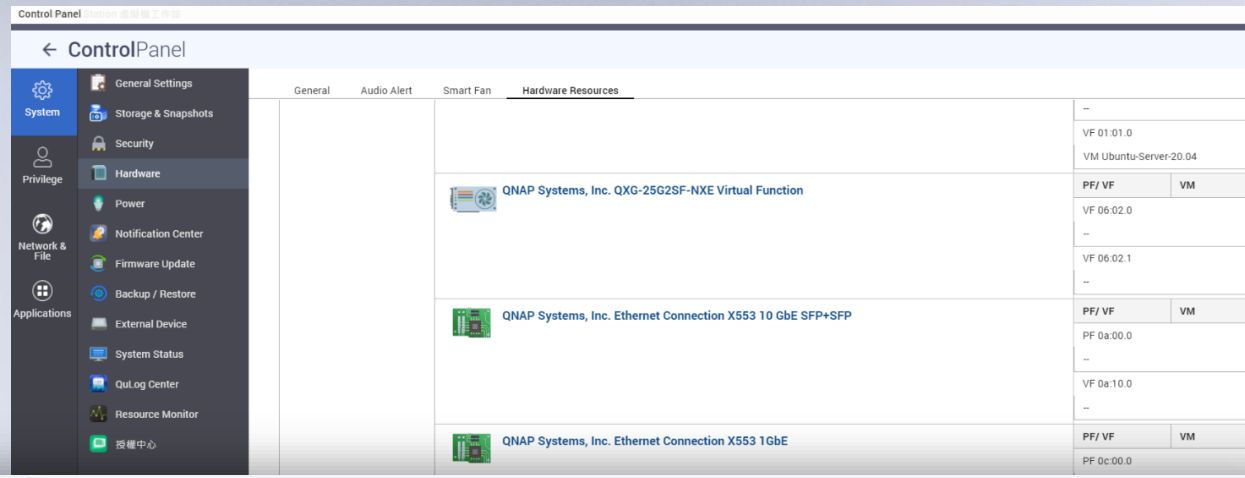


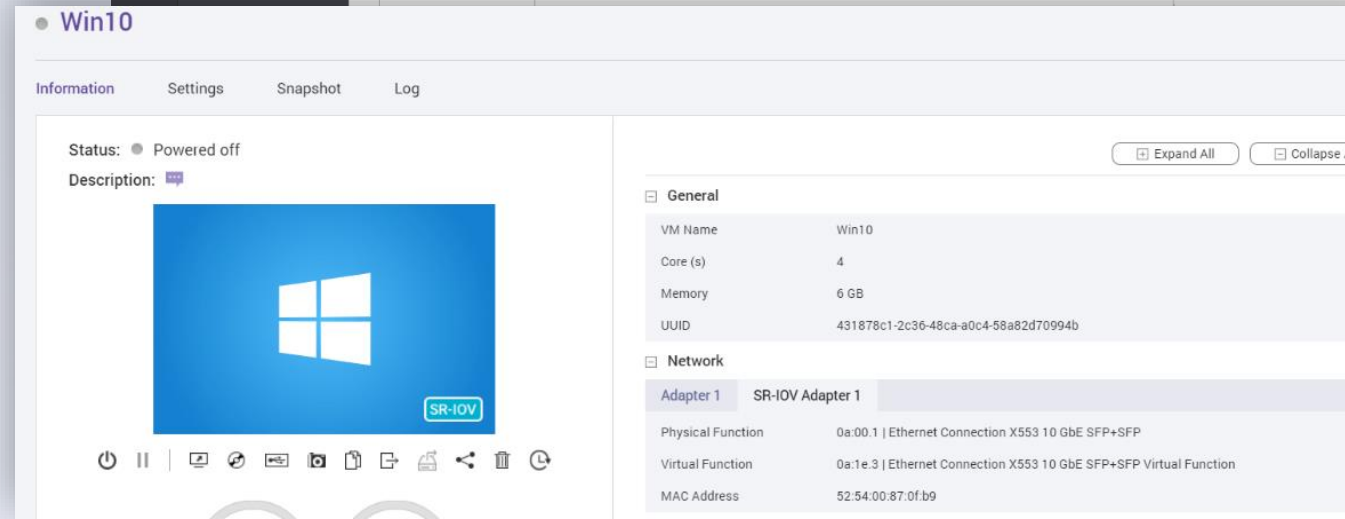
SR-IOV improves the network performance of virtual machines by 20% with HW acceleration

SR-IOV (Single-Root Input/Output Virtualization) let the services on your virtual machine enjoy the physical network speed.

- If you need real-time service needs, such as ticket booking service, cash flow service, audio-visual service, you can directly enjoy the speed of the hardware network card, reducing network delay.
- Reduce the usage of the host's CPU.
- Increase network efficiency by at least 20%







Streaming and playback platform for 4K media with a graphics card and transcoding

Install a graphics card for 4K HDMI output

Plex Server media streaming

CAYIN MediaSign Player HEVC (H.265) transcoding

Use Cinema28 for multi-room Streaming and playback

Support Coral Edge M.2 PCIe and USB TPU for AI enhanced image recognition

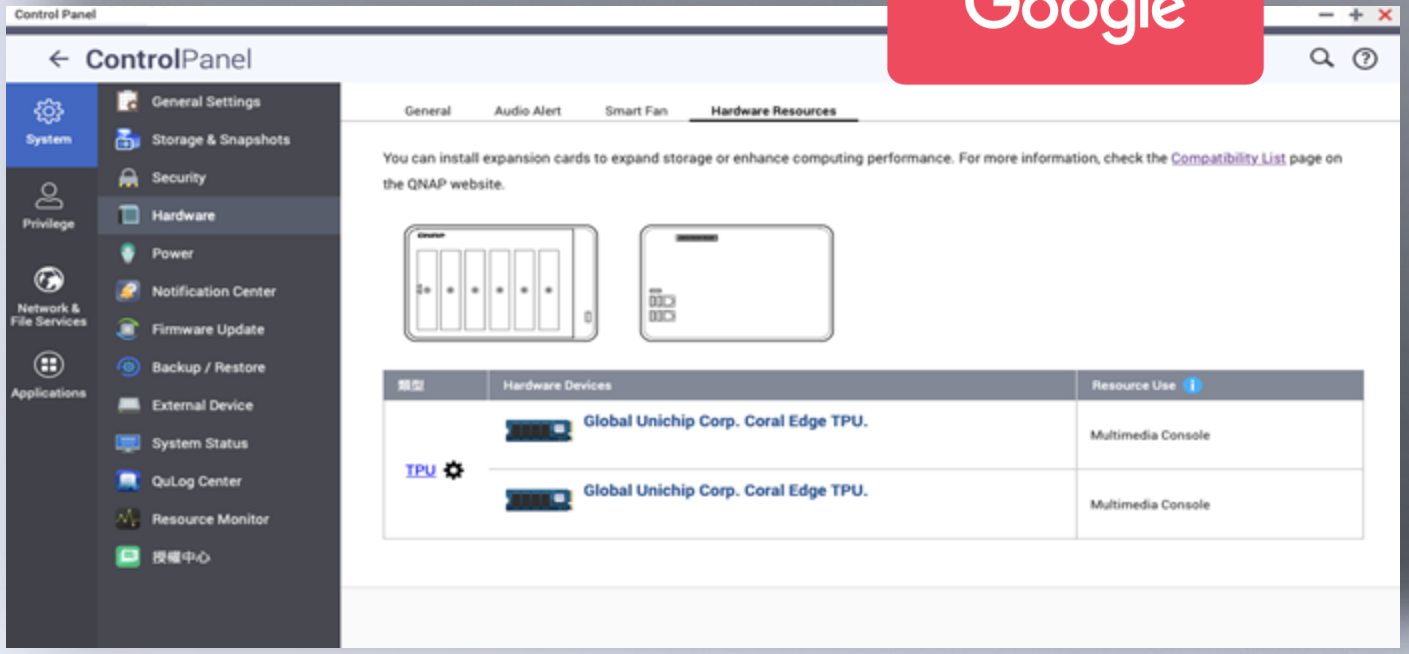
- Official certification by Google to support Coral M.2 PCIe* & USB TPU devices
- Up to 4 TPU devices per NAS

https://coral.ai/products/

Works with Coral

With Coral intelligence

Google

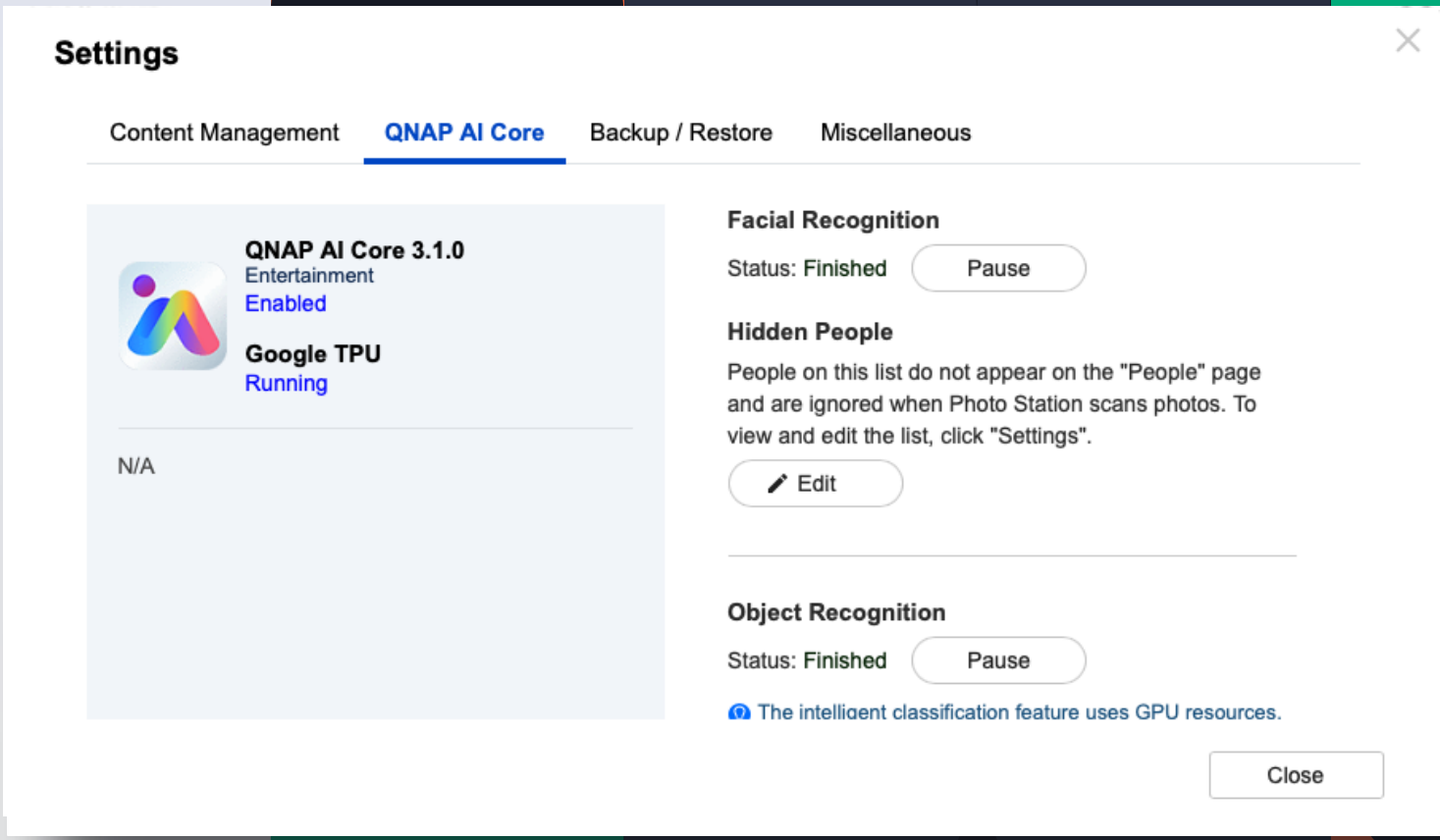


*M.2 PCIe TPU support via the QNAP QM2 PCIe card or QDA-UMP4.

QuMagie

AI acceleration w/ TPU

QNAP AI Core supports leveraging Edge TPU, which helps quickly process thousands of photos with high-speed AI image recognition. When importing massive amounts of photos to QuMagie, the affordable Edge TPU significantly reduces the waiting time for image recognition and classification. No matter whether you are organizing personal photos, home activities, travel, or professional photo shoots, the AI-powered QuMagie organizes your photos intelligently and quickly!



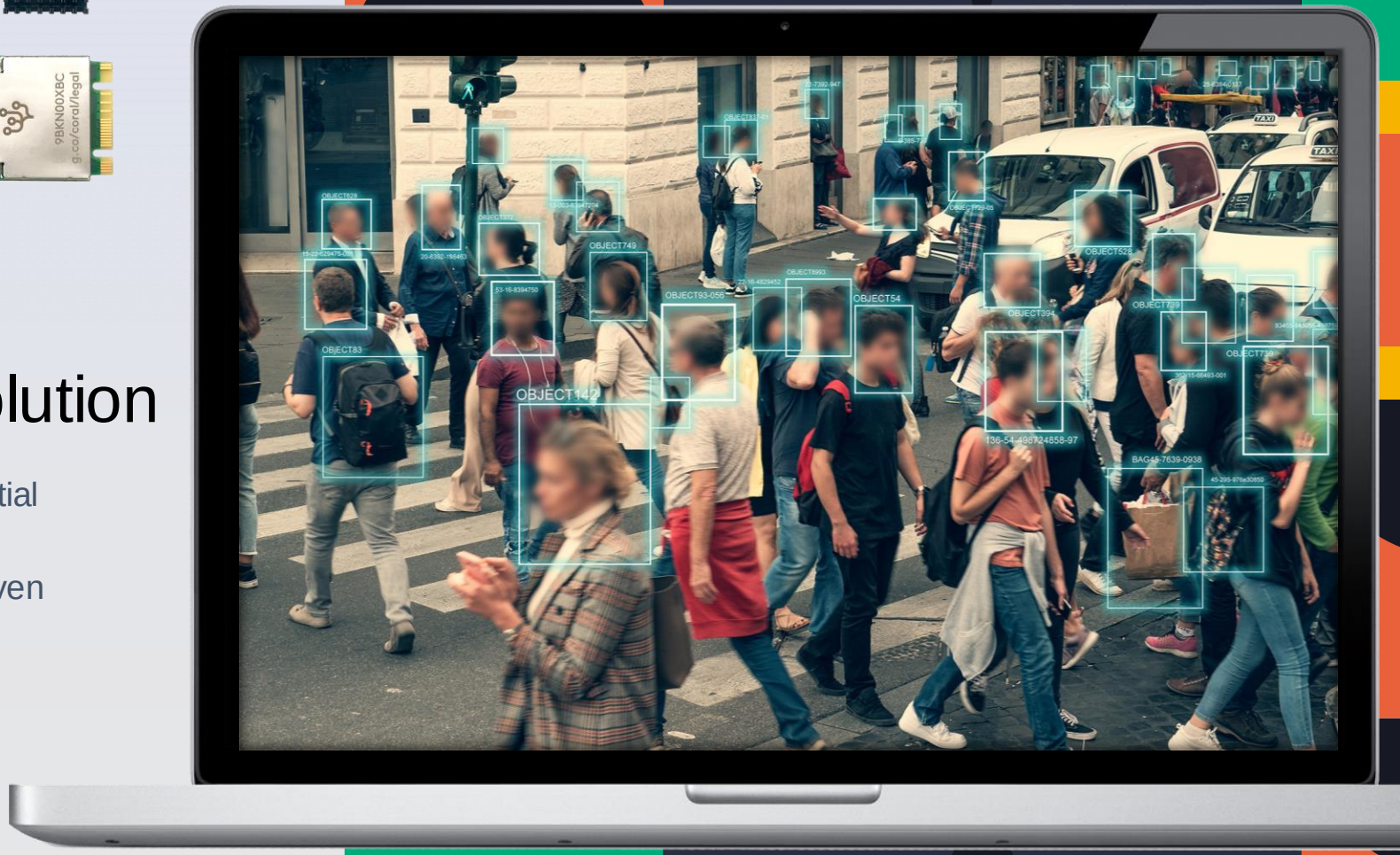
Works with Coral

QVR Face Insight

Smart Facial Recognition Solution

A facial recognition solution for small offices and residential communities that enables instant and accurate facial recognition with live AI-powered video analytics that is even capable of recognizing masked people.

- Real-Time Facial Recognition and Analytics
- Mask detection and facial recognition in one solution
- Build A Smart Facial Recognition System with One NAS
- Identity Authentication Made Easy with Profile Database
- Enhance your face recognition speed with an Edge TPU
- Empowered surveillance feeds with QVR Pro integration



Build a comprehensive surveillance system with a QNAP NAS, QVR Elite, and IP cameras

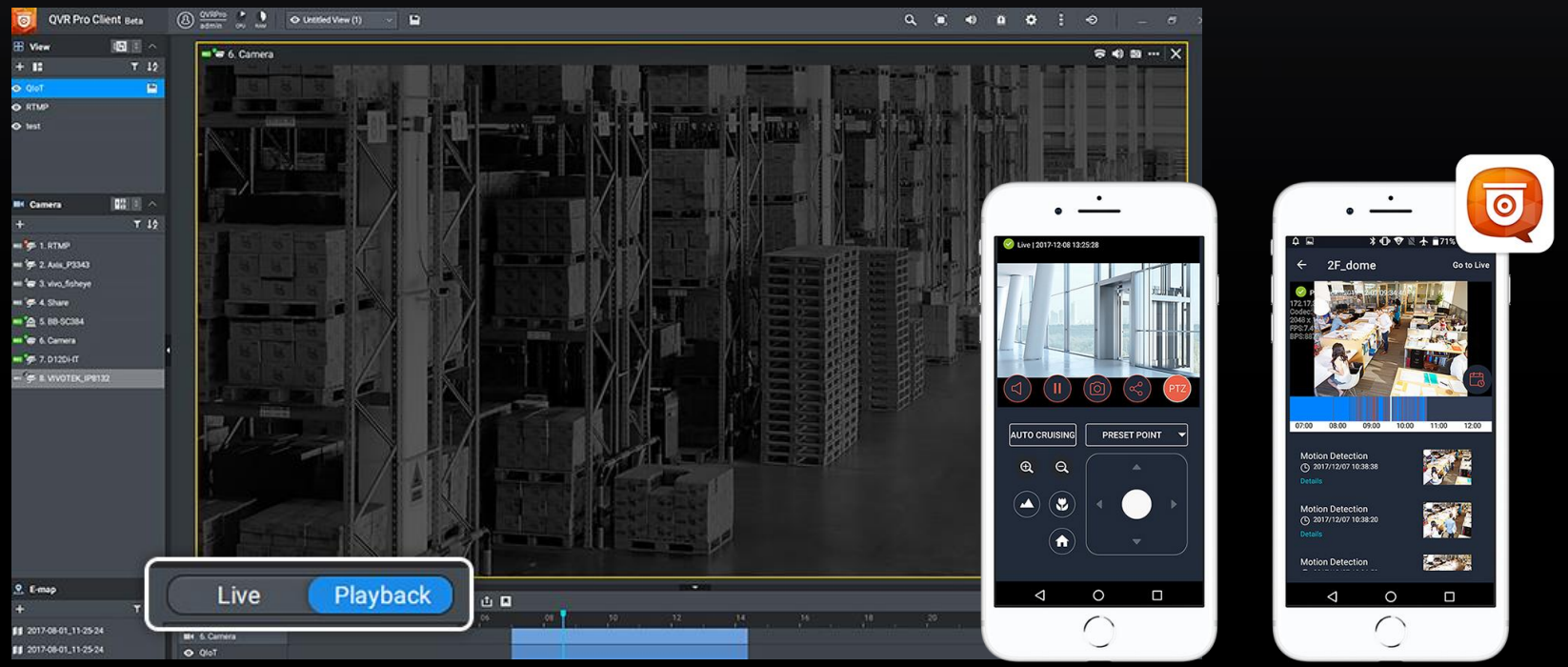
NAP QVR Elite is a subscription-based smart surveillance solution, allowing you to easily build a surveillance system with lower TCO (subscriptions starting from only US $1.99 per month) and higher scalability. It also integrates multiple QNAP AI-based video analytics solutions to build smart facial recognition for retail and door access systems with QNAP NAS.

Real-time Monitoring

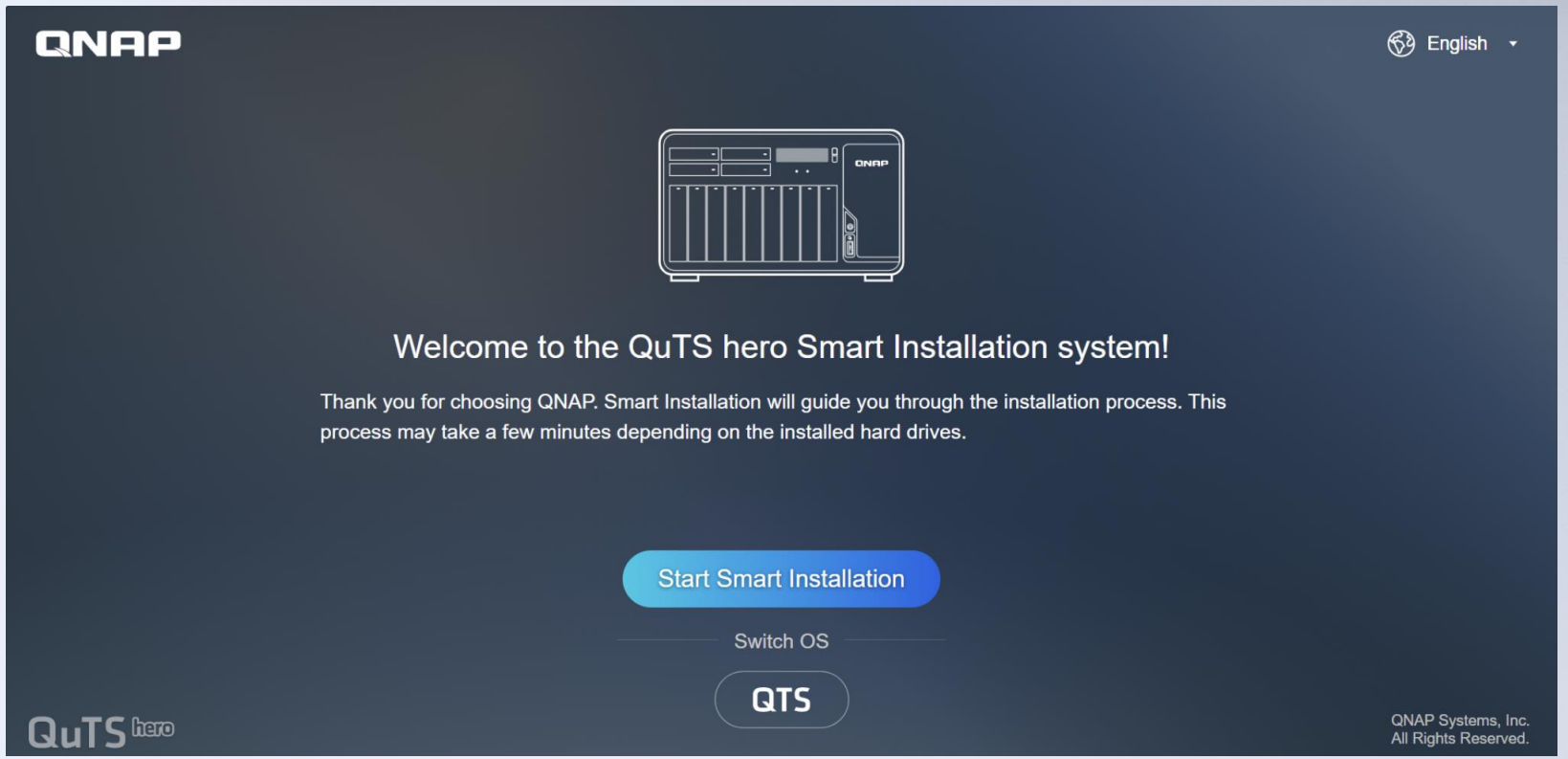
Expandable Capacity

Value-added AI Applications

- Windows / macOS/ iOS / Android QVR Pro client



Switch operating systems for higher everyday performance



The TS-h1290FX also supports QTS - QNAP's standard NAS operating system – that provides greater everyday performance, efficient memory utilization, and the advantage of Qtier auto-tiering. You can also migrate drives from your current QTS-based NAS to the TS-h1290FX.

Note:
•QTS and QuTS hero use different file systems. You must remove all the drives from the TS-h1290FX before switching from QuTS hero to QTS.

5-year hardware warranty and technical support as standard

The TS-h1290FX is backed by a 5-year warranty at no extra cost. This premier warranty demonstrates QNAP's dedication to your essential business needs for continuous operations and non-interrupted services.

AMD EPYC 7002

25 GbE 2.5 GbE X2

PCIe Gen4 X4

2.5" SSD X12

QUIET

PB JBOD

VM

TS-h1290FX Ordering SKUs:

- TS-h1290FX-7232P-64G
  AMD 8C/16T 7232P, 64GB RDIMM
- TS-h1290FX-7302P-128G
  AMD 16C/32T 7302P, 128GB RDIMM
- TS-h1290FX-7302P-256G (by order)
  AMD 16C/32T 7302P, 128GB RDIMM

TS-h1290FX

Supercharged for teams & content creators.

The most powerful all flash 12-bay NVMe/SATA SSD desktop NAS w/ 25GbE & PCIe Gen4 has arrived.

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