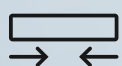
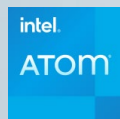


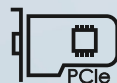


TS-h1655XeU-RP

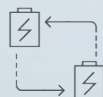
3U 12 x 3.5" HDD & 4 x E1.S/M.2 NVMe SSD Hybrid
Short-Depth 12-inch Rackmount NAS with Intel Atom®
8-Core 2.8GHz Processor



10GbE
2.5GbE



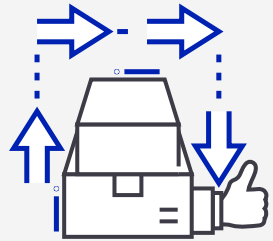
QTS
QuTS hero



2025/08

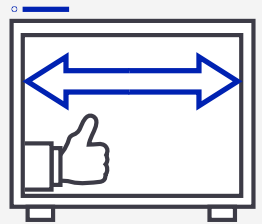
Adapting server solutions: The rise of short racks for diverse needs

In today's fast-paced tech landscape, traditional server rooms and data centers often come with significant space and design constraints. In recent years, manufacturers such as Supermicro, ASRock, Dell... and more have also been continuously releasing short-depth server products.



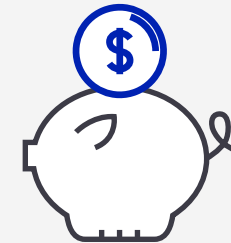
Space Efficiency

Short racks offer a compact solution, making them ideal for environments where space is limited, such as small offices or studio settings.



Flexibility

They provide the necessary infrastructure without occupying excessive floor area, accommodating various types of equipment in constrained spaces.



Cost-Effective

By reducing the amount of physical space needed, short racks can also help lower setup and operational costs

Perfect for space-limited edge environments



Network Cabinets/Racks

Media studios, campuses, or small offices can conveniently store short-depth NAS along with network devices in compact cabinets.
(The rails can only be secured if the back of the cabinets can be opened.)



Wall-mounted Network Cabinets

In limited space environments like laboratories or factories, short-depth NAS can be placed in wall-mounted cabinets close to computers or servers, facilitating easier access.



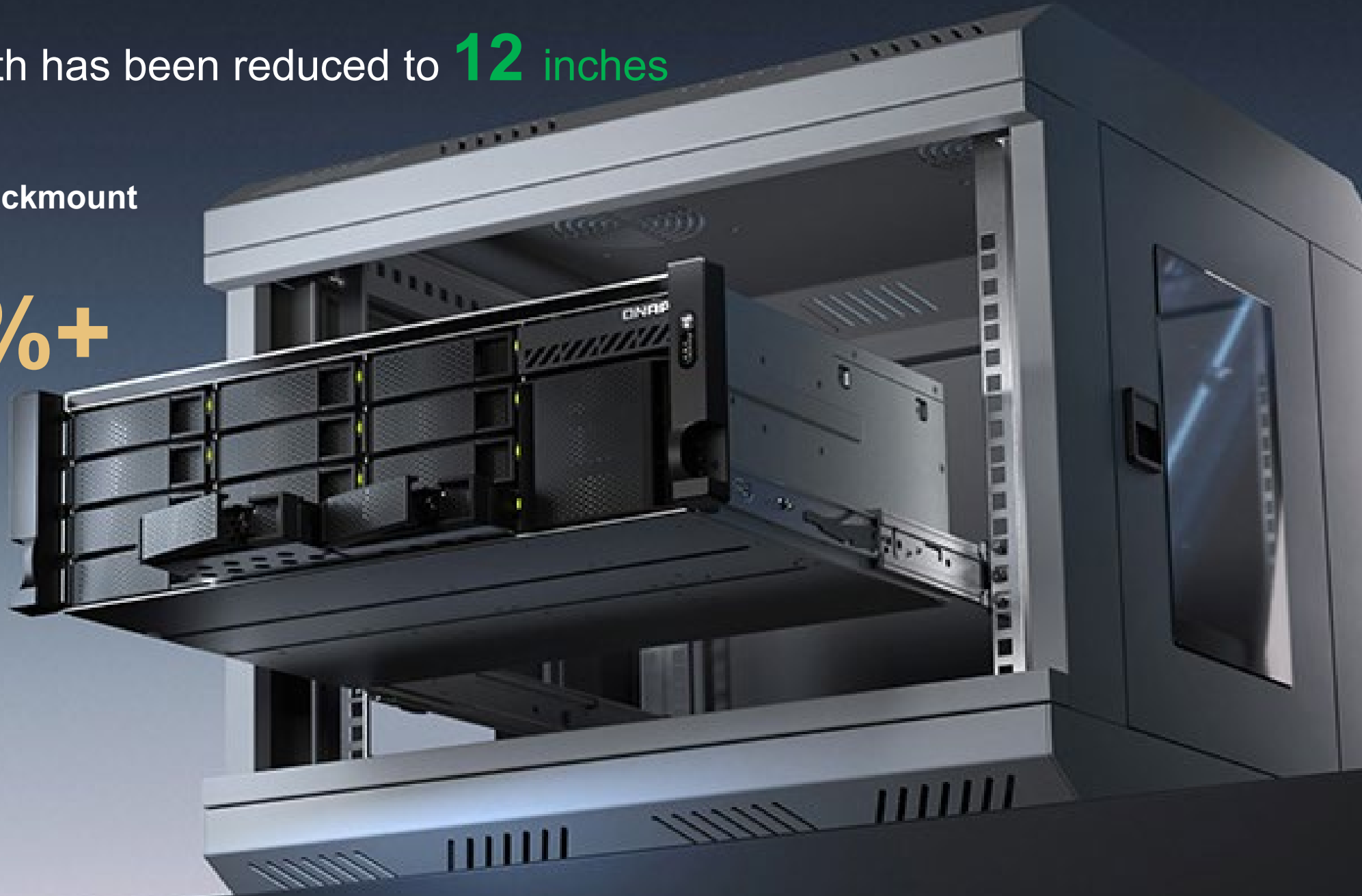
Server Racks

Short-depth NAS can also be placed inside standard server racks in the server room, with the saved space used for cable management.

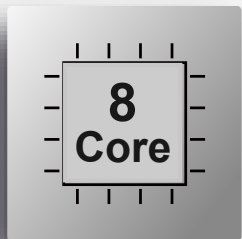
The chassis depth has been reduced to **12 inches**

Compared with 3U rackmount
NAS in the market

Reduced by **50%+**

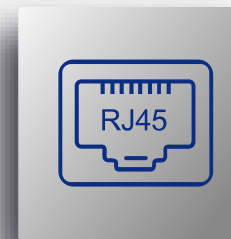


Powered by Intel Atom® 8-core processor, 12-inch short-depth rackmount NAS



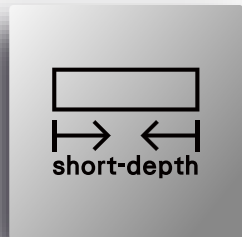
Intel 8-core CPU

Powered by Intel Atom C5125 8-core processor 2.8GHz, providing powerful performance



1 x 10GBASE-T & 2 x 2.5GbE Multi-Gig LAN Ports

Sufficient network bandwidth provides smooth data transmission experience



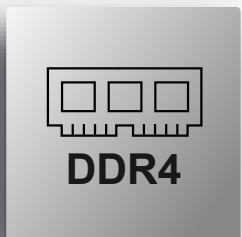
12-inch short-depth rackmount NAS

30-cm / 12-inch short chassis supports most of the cabinet on the market



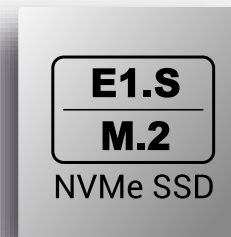
Dual PCIe Gen3 x4 slots

Provide a variety of expansions including 5/10/25GbE network card, M.2, HBA and other expansion cards



Maximum 64 GB Memory

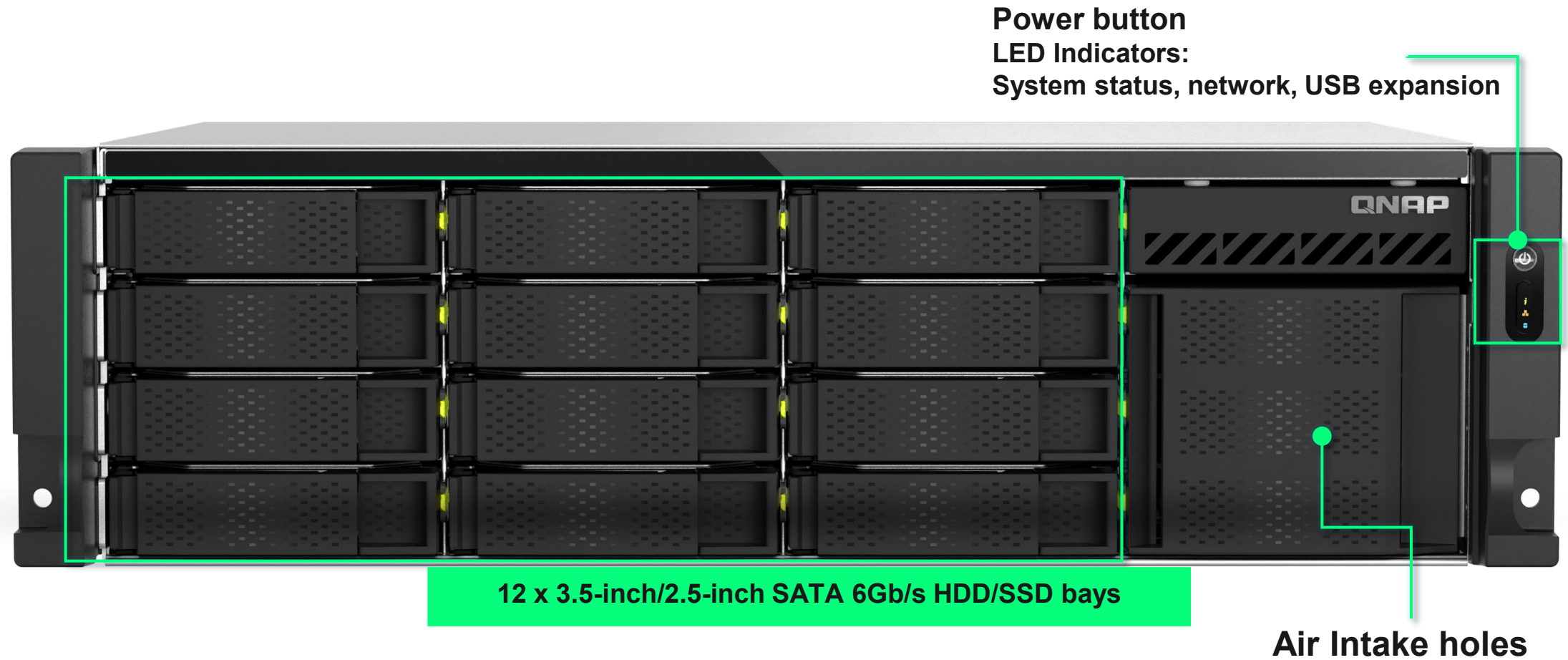
Pre-installed 1 x 8G DDR4 SODIMM RAM, support up to 64GB memory (2 x 32GB). Also support ECC memory



4 x E1.S PCIe Gen3 x2 (pre-installed M.2 adapter) slots

Provides 4 x E1.S SSD slots, supporting up to 15mm E1.S. Also comes standard with M.2 adapter to support M.2 2280 NVMe SSD

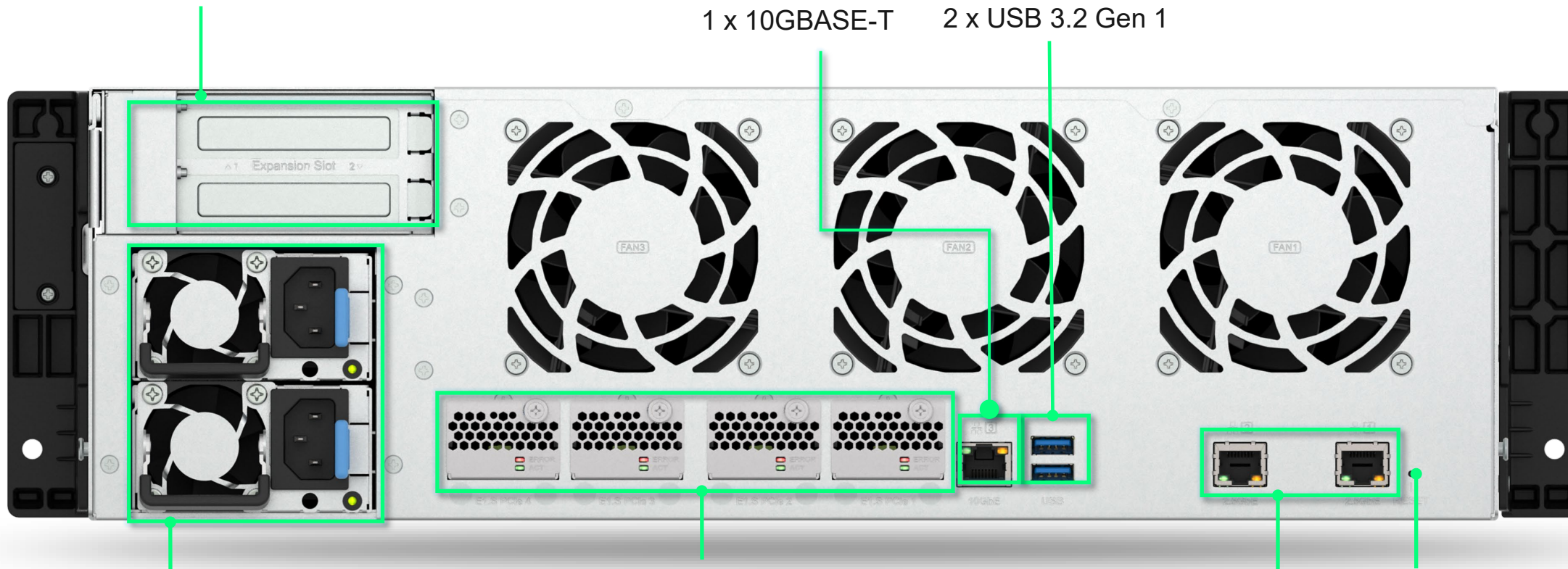
TS-h1655XeU-RP front views



TS-h1655XeU-RP rear views

2 x PCIe Gen3 x4 slots
slot 1 & slot 2
77 x 20 x 220 mm (H x W x D)

1 x 10GBASE-T 2 x USB 3.2 Gen 1



2 x 300W PSU

4 x E1.S / M.2 2280 PCIe Gen3 x2 slots, support
NVMe SSDs, or 10GBASE-T network port through
QXG-ES10G1T accessory

2 x 2.5G RJ45 ports K-Lock

Powerful expansion with E1.S / M.2 PCIe NVMe slots

- **Enhance SSD caching**
Install E1.S / M.2 PCIe NVMe drives for SSD caching to accelerate random read/write efficiency (IOPS) and reduce latency, especially beneficial for handling numerous small files.*
- **Setup SSD high-speed storage pool**
Create a data storage pool with E1.S / M.2 PCIe NVMe SSDs to expedite intensive data transfers and access efficiency.
- **Upgrade to 10GbE high-speed connectivity**
Install the QXG-ES10G1T 10GbE network module for immediate access to faster connection capabilities.
(Additional purchase)

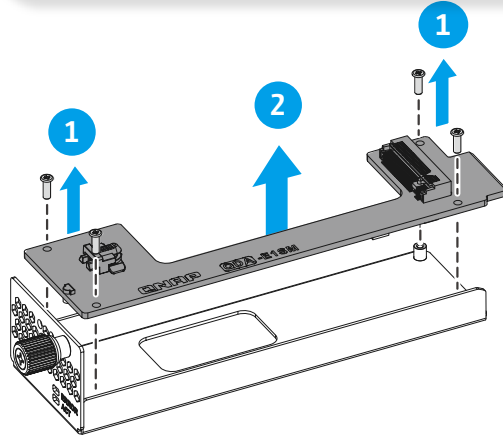
*Note :

1. Installing a 5.9mm E1.S SSD, please remove the built-in E1.S to M.2 adapter in the slot.
2. Installing a 9.5/15mm E1.S SSD, a QNAP tray TRAY-E1S-01 is required.

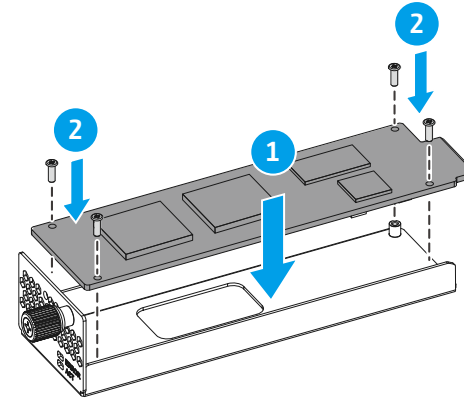


Installing E1.S solid-state drives into TS-h1655XeU-RP

Installing 5.9 mm E1.S solid-state drives

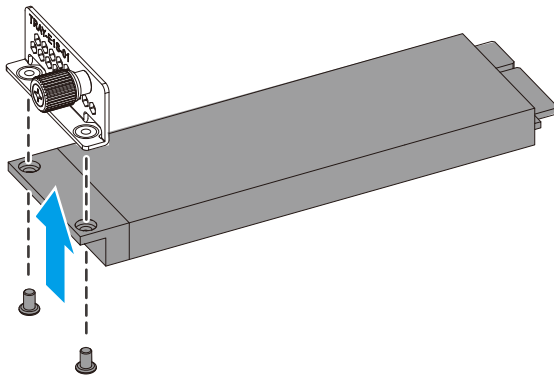


Remove the M.2 SSD adapter.

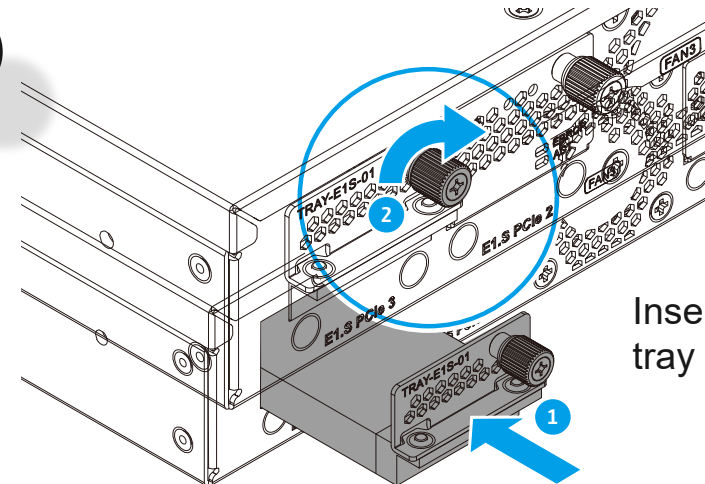


Attach the screws that secure the drive to the tray frame.

Installing 9.5 mm and 15 mm E1.S solid-state drives



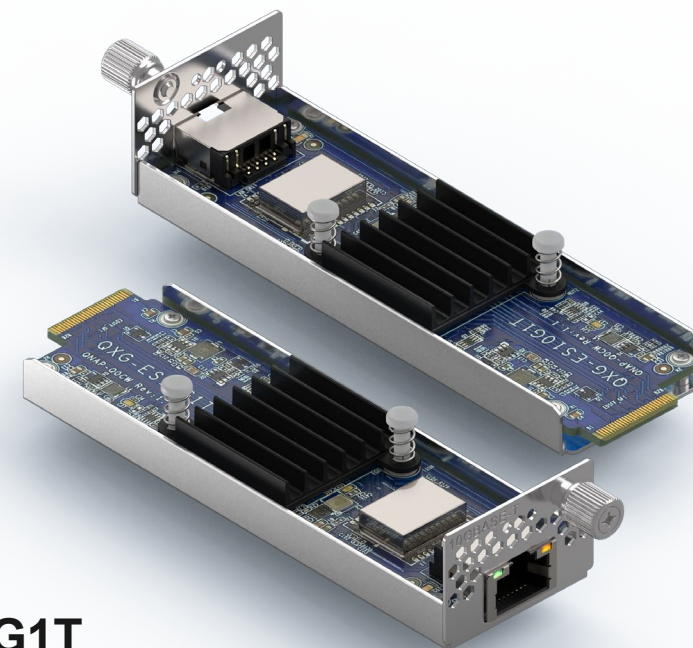
Place the drive on the TRAY-E1S-01 tray base so that the holes on the drive align with the holes on the tray base. Then attach the screws that secure the drive to the tray base.



Insert and tighten the tray into the bay

QXG-ES10G1T, upgrade your NAS to 10GbE with E1.S slots

(Additional purchase required)



QXG-ES10G1T

Multi-Gig 10GBASE-T Network adapter
Support 10G/5G/2.5G/1G/100M network connectivity.

QNAP®

Supports ECC memory (Error Correcting Code)

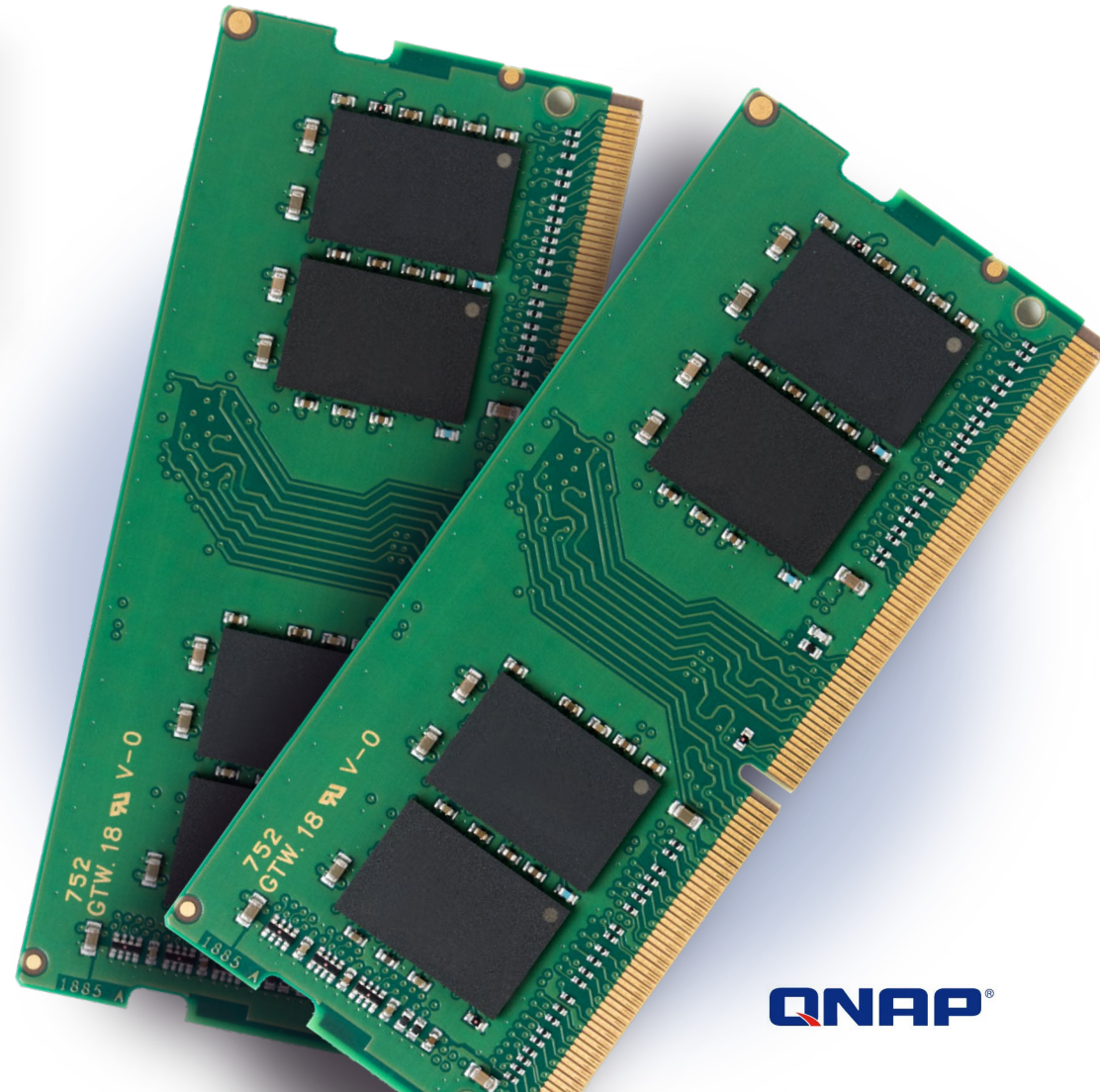
Reliable memory and
avoiding data corruption



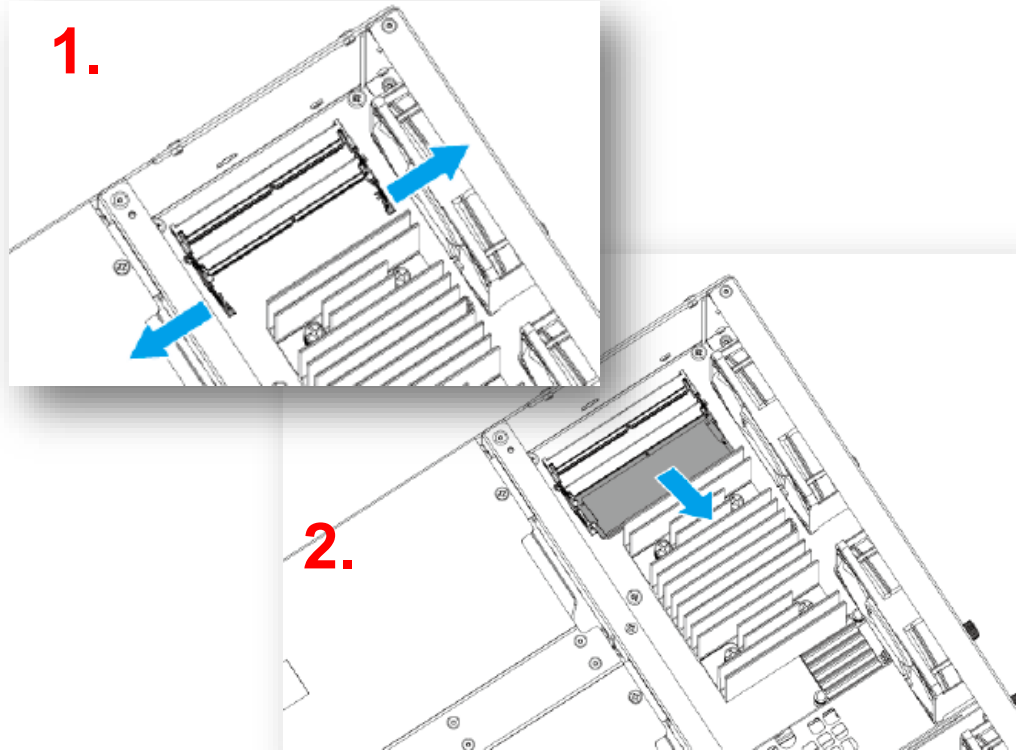
TS-h1655XeU-RP supports ECC memory, automatically detecting and timely correcting single-bit errors

System supports up to 64GB (2 x 32GB) memory

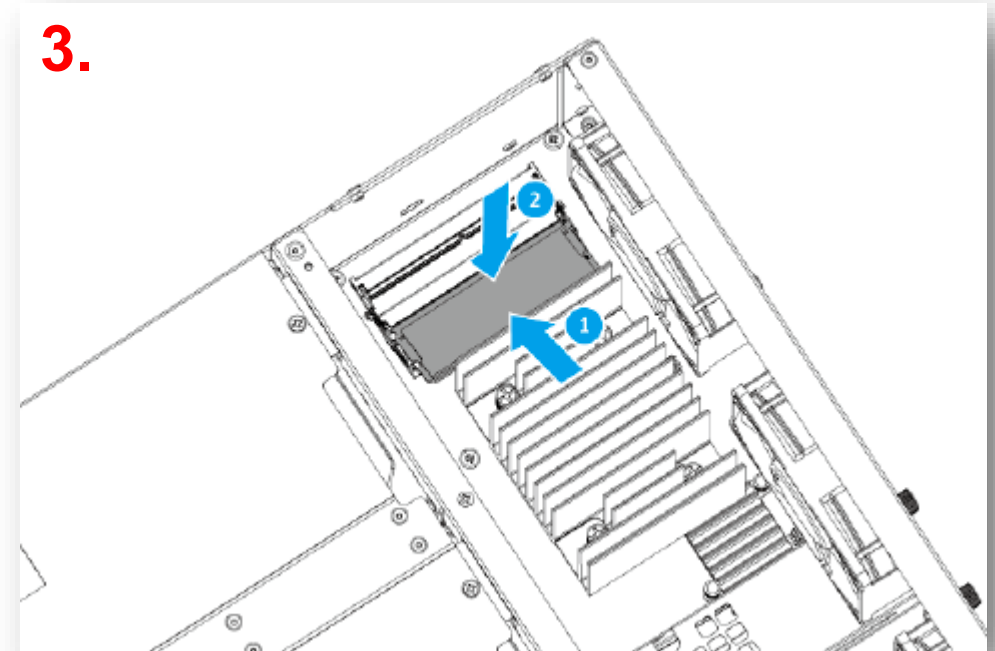
- The NAS is pre-installed with a 8GB DDR4 SO-DIMM non-ECC memory by default.
- ECC memory and non-ECC memory modules cannot be installed together



Replacing TS-h1655XeU-RP DDR4-SODIMM RAM



Push the retention clips outward simultaneously to release the module.
Then carefully slide the module out of the slot.

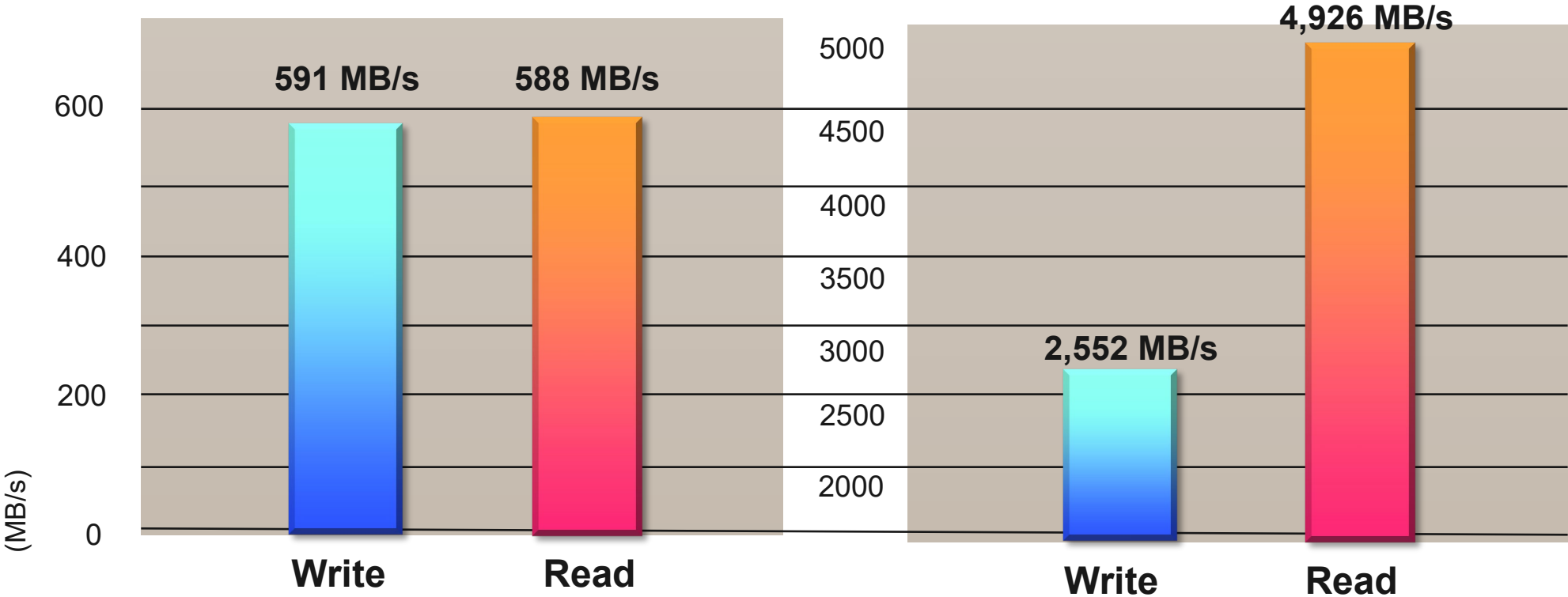


Verify that the metal connectors are completely inserted into the slot.
Then press down on the module until the retention clips lock the module into place.

Integrated 2 x 2.5 GbE and 1 x 10GBASE-T, expand to 4 x 25GbE via QNAP PCIe network interface cards

2 x 2.5 SMB Sequential Throughput (1MB)

4 x 25 GbE SMB Sequential Throughput , 3 Host (1MB)



Environment:
NAS | TS-h1655XeU-RP, Hero h5.2.4, 12 x Samsung 870 EVO 1TB, RAID 5, thick volume
PC | 3 host with QNAP QXG-25G2SF-CX4, 32G RAM, Windows Server 2019
IOmeter : RAM*4, 30-sec ramp up time, 3-min seq. run time, 1 workers, 32-outstanding
Tested in QNAP Labs. Figures may vary by environment.



Comprehensive 12-inch(30cm) Short-Depth Solution

High-capacity storage architecture in a limited space. QNAP launches a 3U dual-power solution with a depth of only 30 cm — a model that competitors cannot offer.

	TS-h1655XeU-RP-8G	TS-855eU-RP	RS1221+
CPU	Intel® Atom® C5125 8-core processor, 2.8GHz	Intel® Atom® C5125 8-core processor, 2.8GHz	AMD Ryzen V1500B 4-core 2.2 GHz
Memory	8 GB non-ECC SODIMM DDR4 (1 x 8 GB)	8 GB non-ECC SODIMM DDR4 (1 x 8 GB)	4 GB DDR4 ECC UDIMM
Max. Memory	64 GB (2 x 32 GB)	64 GB (2 x 32 GB)	32 GB (16 GB x 2)
Drive	12 x 3.5" SATA 6Gb/s + 4 x E1.S/M.2	8 x 3.5" SATA 6Gb/s	8 x 3.5" SATA 6Gb/s
M.2	(4 x E1.S/M.2)	2 x M.2 2280 (PCIe Gen 3 x 4)	-
GbE	-	-	4 x 1GbE
2.5 GbE	2	2	-
10 GbE	1 x 10GBASE-T	-	-
PCIe	2 x PCIe Gen 3 x4	2 x PCIe Gen3 x4	1 x PCIe Gen3 x8
USB	2 x USB 3.2 Gen 1	4 x USB3.2 Gen 1	2 x USB3.2 Gen 1
PSU	2 x 300W Redundant PSU	2 x 300W Redundant PSU	1 x 250W PSU
Dimensions (H x W x D)	3U Short-depth 133 mm x 432.4 mm x 296 mm	2U Short-depth 88.6 mm x 432 mm x 296 mm	2U Short-depth 88 mm x 482 mm x 306 mm



Rail Kit :

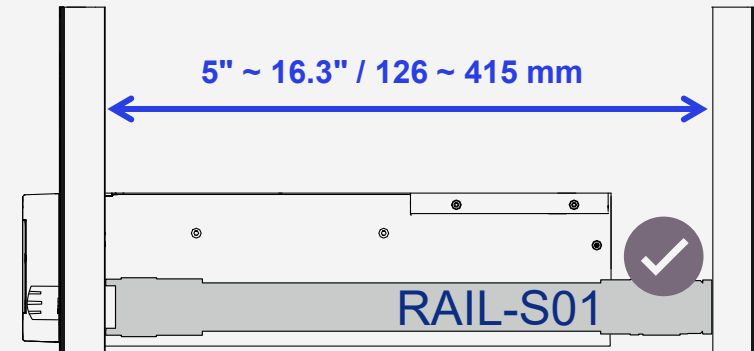
NAS installation and maintenance made convenient



Whether for compact racks or standard racks, QNAP offers corresponding rail kits to choose from.

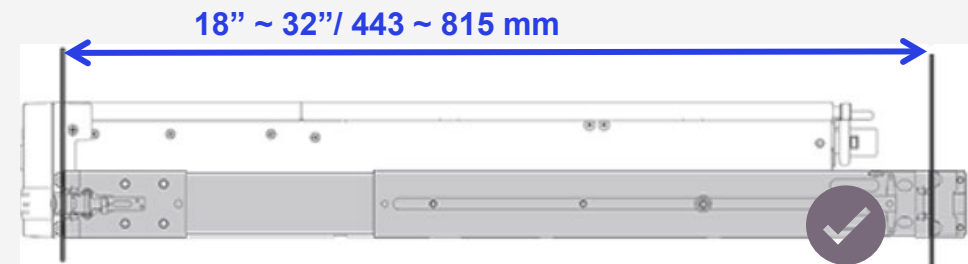
Rail-S01

- Mounting post depth: 5" ~ 16.3" / 126 ~ 415 mm



RAIL-B02 (normal rail kits)

- Mounting post depth: 18" ~ 32" / 443 ~ 815 mm
- Cannot setup in small cabinet



RAIL-B02

Choose between QTS and ZFS based QuTS hero

TS-h1655XeU-RP is shipped with the QuTS hero operating system, which has powerful data transmission performance and more efficient memory usage, and WORM. You can also change to the QTS operating system according to your needs

	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 (Software)	ZIL Copy-on-Write	No
Permission Management	Rich ACL (14 types)	POSIX ACLs (3 types) + certain special permissions
Capacity Expansion	Upgrade RAID capacity Change higher capacity disk drives Attach expansion enclosures/JBODs	Add a disk drive to a RAID group Upgrade RAID capacity Change higher capacity disk drives Attach expansion enclosures/JBODs
Data Security	Better (Self-Healing & Copy-on-Write)	Standard
Recommendation SSD Configuration for Video Editing Applications	Use SSD Pools Note: Set the block size 128K when creating Folders/LUNs	Editing (from original/RAW files): Use SSD Pools Post production: Enable Read/Write cache Note: Set the block size to 32K or 64K when creating Volumes, and choose "All I/O" for cache mode.

WORM (Write Once Read Many times)

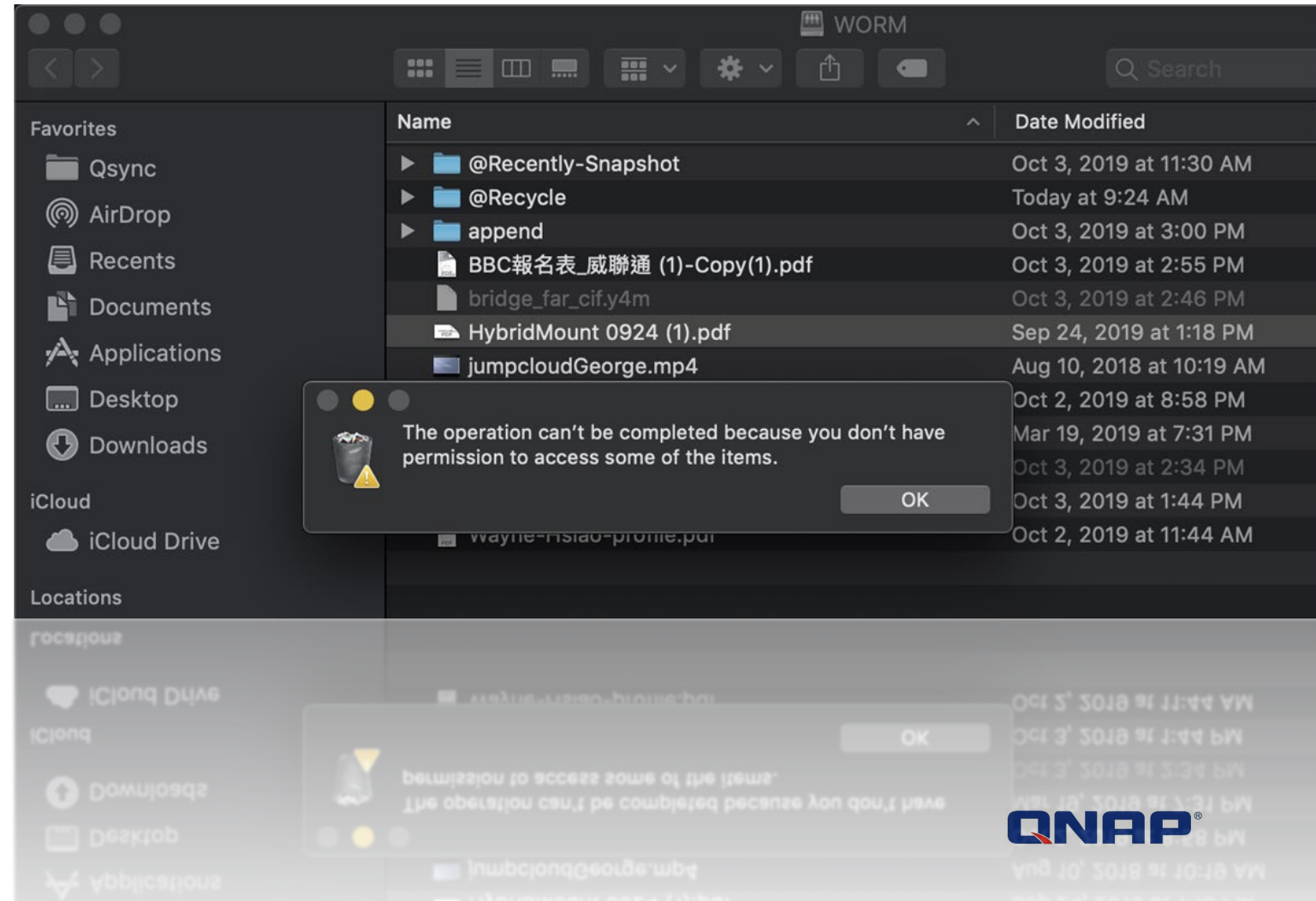
WORM is used to avoid modification of saved data. Once this feature is enabled, data in shared folders can only be read and cannot be deleted or modified to ensure data integrity.

Enterprise Mode

remove the shared folder through QuTS hero UI or SSH commands (QCLI).

Compliance Mode

Have to take the Storage Pool offline and remove the Pool if want to destroy data.



Value-Added solutions for short-depth NAS



myQNAPcloud Storage

QNAP-Hosted cloud storage. Free 16GB storage space available for NAS data backup



HybridMount

Allows users to integrate cloud storage into the NAS system, enabling seamless collaboration between cloud and local storage.



VJBOD (Virtual JBOD)

Allows users to use other QNAP storage devices as virtual drives, extending the storage capacity

Build a comprehensive surveillance system with a TS-h1655XeU-RP, QVR Pro/Elite, and IP cameras



QVR Pro

- 6,000+ Compatible cameras
- 8 embedded monitoring channels
- expand up to 128 channels by purchasing QVR Pro licenses*
- View USB camera images through QUSBCam2

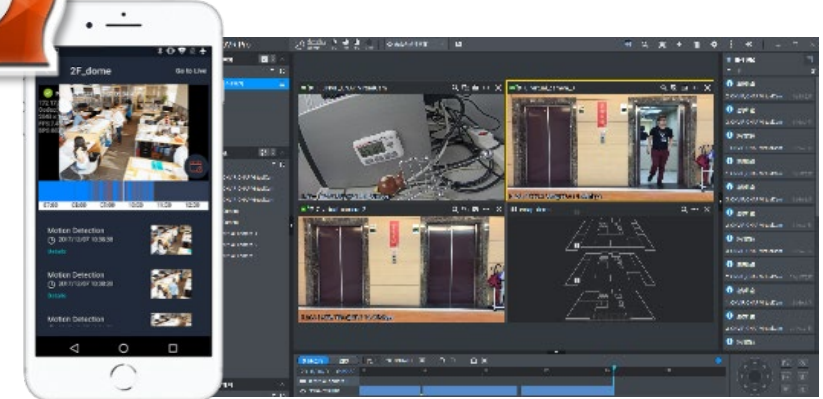


QVR Elite

The flexible subscription QVR Elite can be expanded to a maximum of 192 channels by purchasing licenses*



QVR Pro Client



- iOS & Android mobile devices
- Support cross-platform : Windows, Mac, Ubuntu
- Use HDMI output and USB keyboard and mouse to control the NAS through installing Graphic card

*The maximum number of channels supported varies by NAS model, network configuration, and camera settings

1-year+ of continuous surveillance recording storage with 288TB raw capacity in 1 single NAS



24TB x 12 = 288TB raw capacity



QVR Pro
8-channel included
Support up to 128ch*

8 channels, footage preserved for 365+ days

8 cameras; reserved for 365 days; 1920x1080(h.264/medium quality;30FPS); total 182TB required

Smart and automatic file management



Virtualization Station

Virtualization Station is a fast and reliable hypervisor on QNAP NAS and appliances. You can run multiple virtual machines on Virtualization Station to meet versatile virtualization needs.



Container Station

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

The brand new UI

- Recreate containers with ease
- Save the frequently used container commands for efficiency
- Upload Image and YAML files from cloud or local devices
- Multiple network modes

Snapshots help you fight with Ransomware Threats

TS-h1655XeU-RP supports Snapshot , like taking a photo - within seconds the complete status of your NAS system and data is recorded

Mitigate the growing threat of ransomware

Step 1

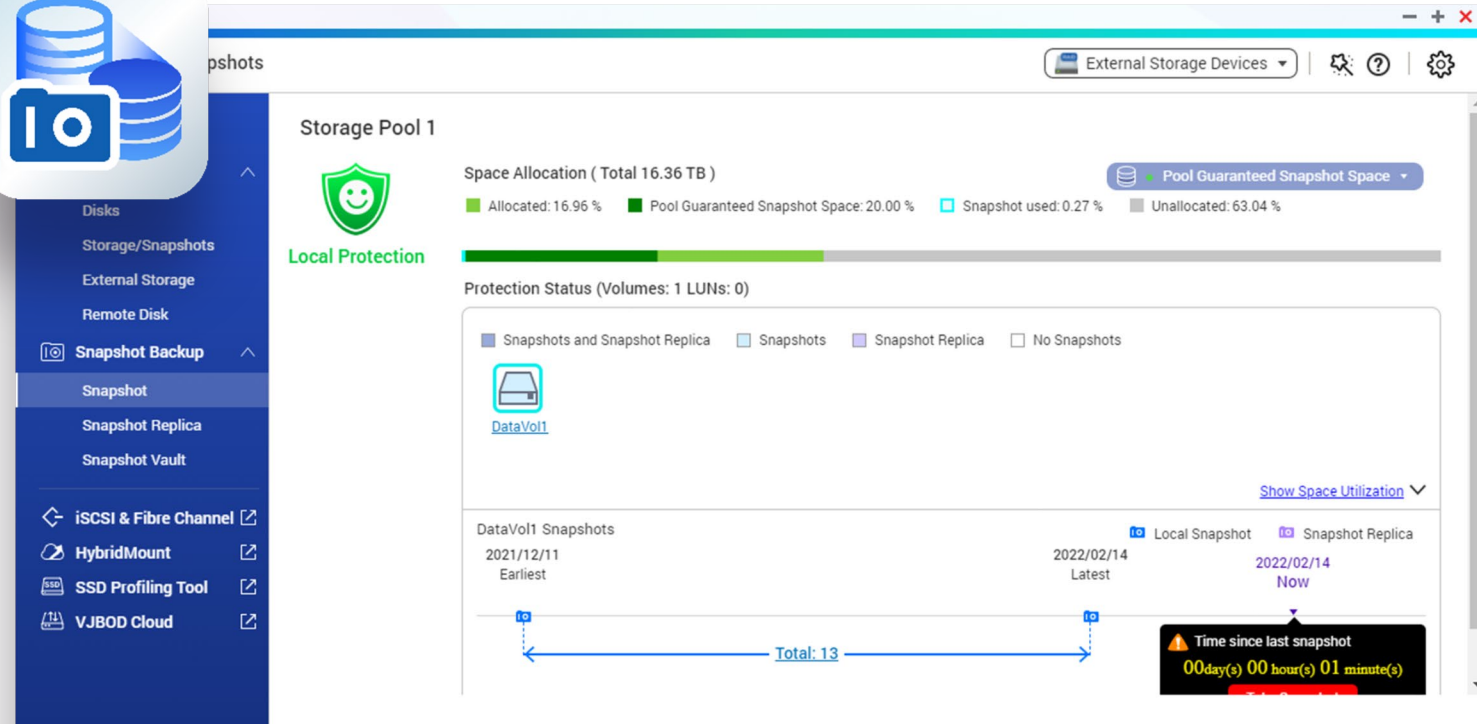
Regularly update,
and use Malware Remover

Step 2

Routinely back up to your NAS, and create multi-version snapshots

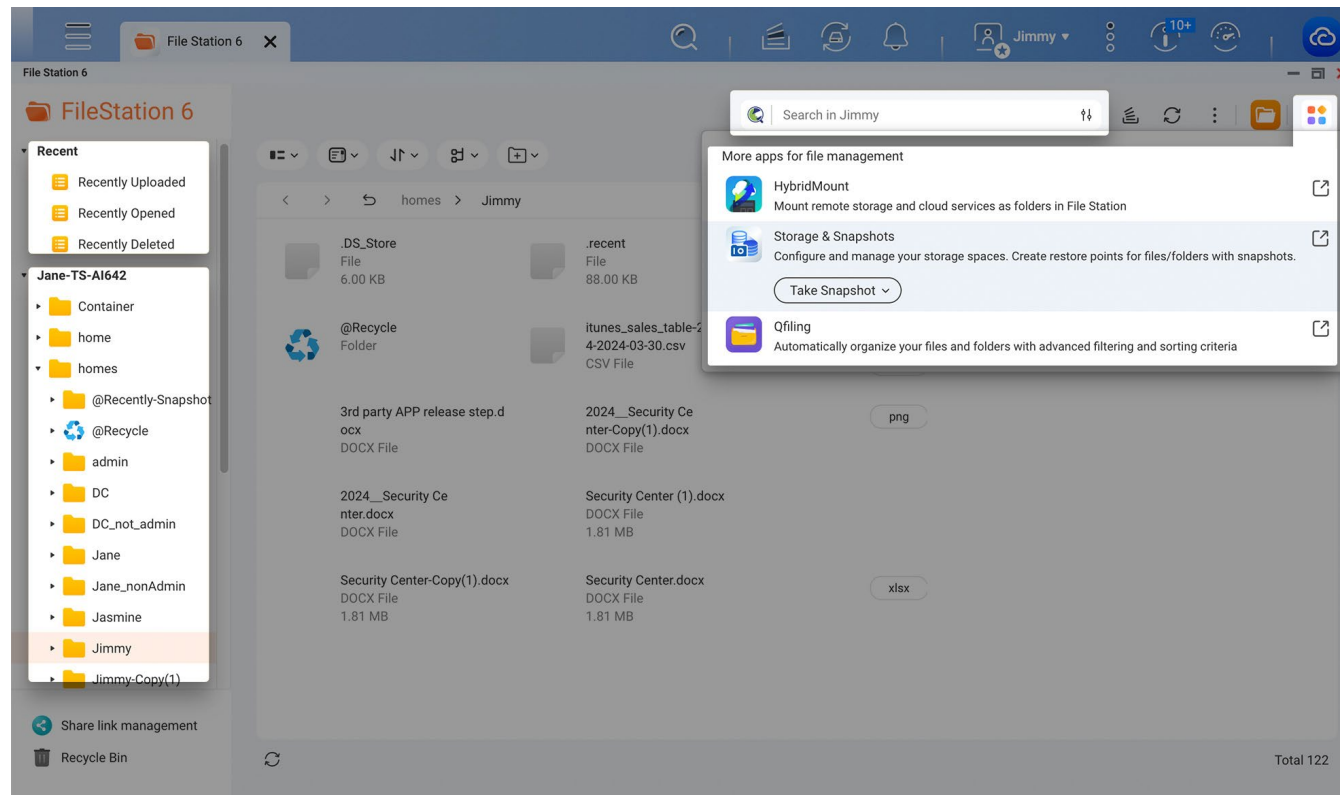
Step 3

Back up snapshots to another QNAP NAS



File Station : Easy to use, easy to find

All the files and folders stored on your NAS and connected storage spaces are accessible through a familiar interface, and rich search/sort functions are available to help find files.



“Recently” sections

NEW

File Station displays files that have been recently uploaded, accessed, and deleted in the left panel, allowing you to quickly find desired files.

Search bar

NEW

The full-text search engine Qsirch is now supported! You can find files by filename and text in documents.

Smart and automatic file management



Qsirch

The AI-powered search engine for your NAS

- RAG Search **BETA**
- AI Semantic Search
- Keyword Search

Using an intuitive interface, you can easily switch between general search (Keyword / AI semantic search) or RAG search to quickly find files stored on your NAS and gain an advanced data analysis experience.



Qfiling

Automatically filing and archiving



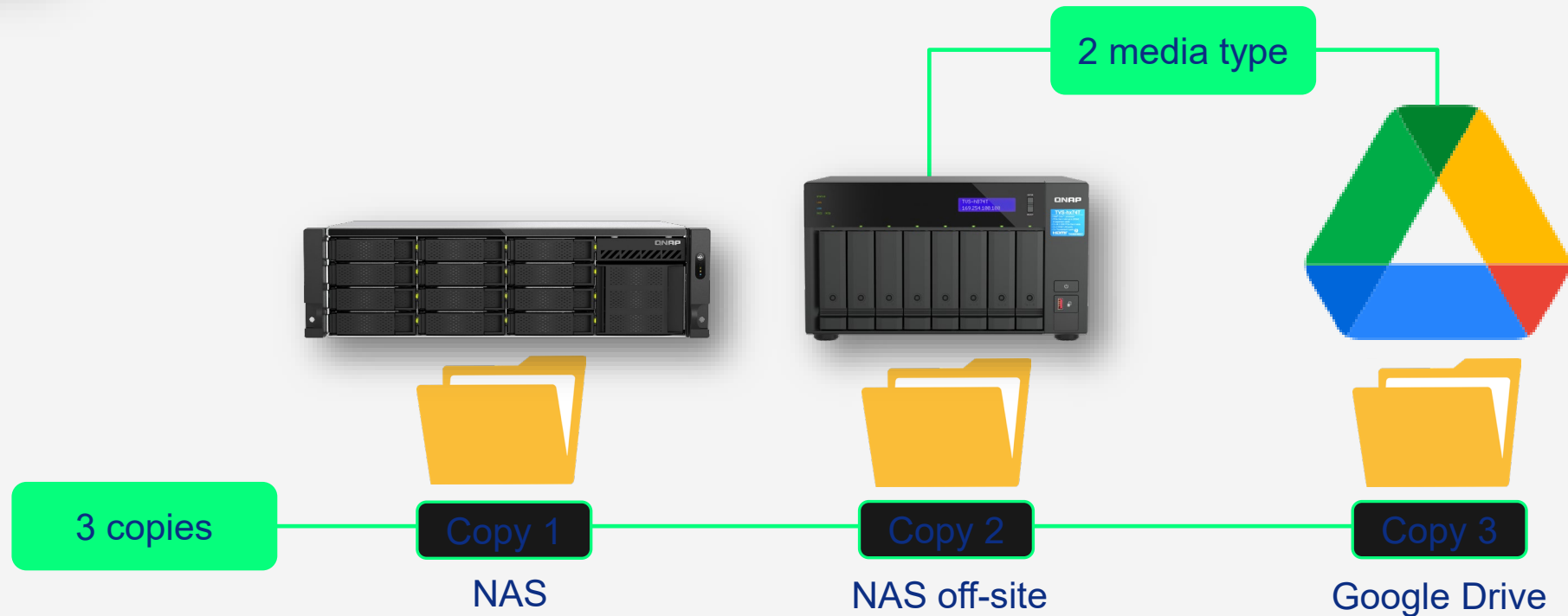
- 2 type of task: filing task, recycling task
- 3 type of scheduling rule: one-time, scheduling, real-time
- 9 editing module: AI face blur, encryption and decryption, video transcoding and so on

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



HBS (Hybrid Backup Sync)

Complete 3-2-1 backup strategy and recovery plan: 3 copies 、 2 media type 、 1 remote backup

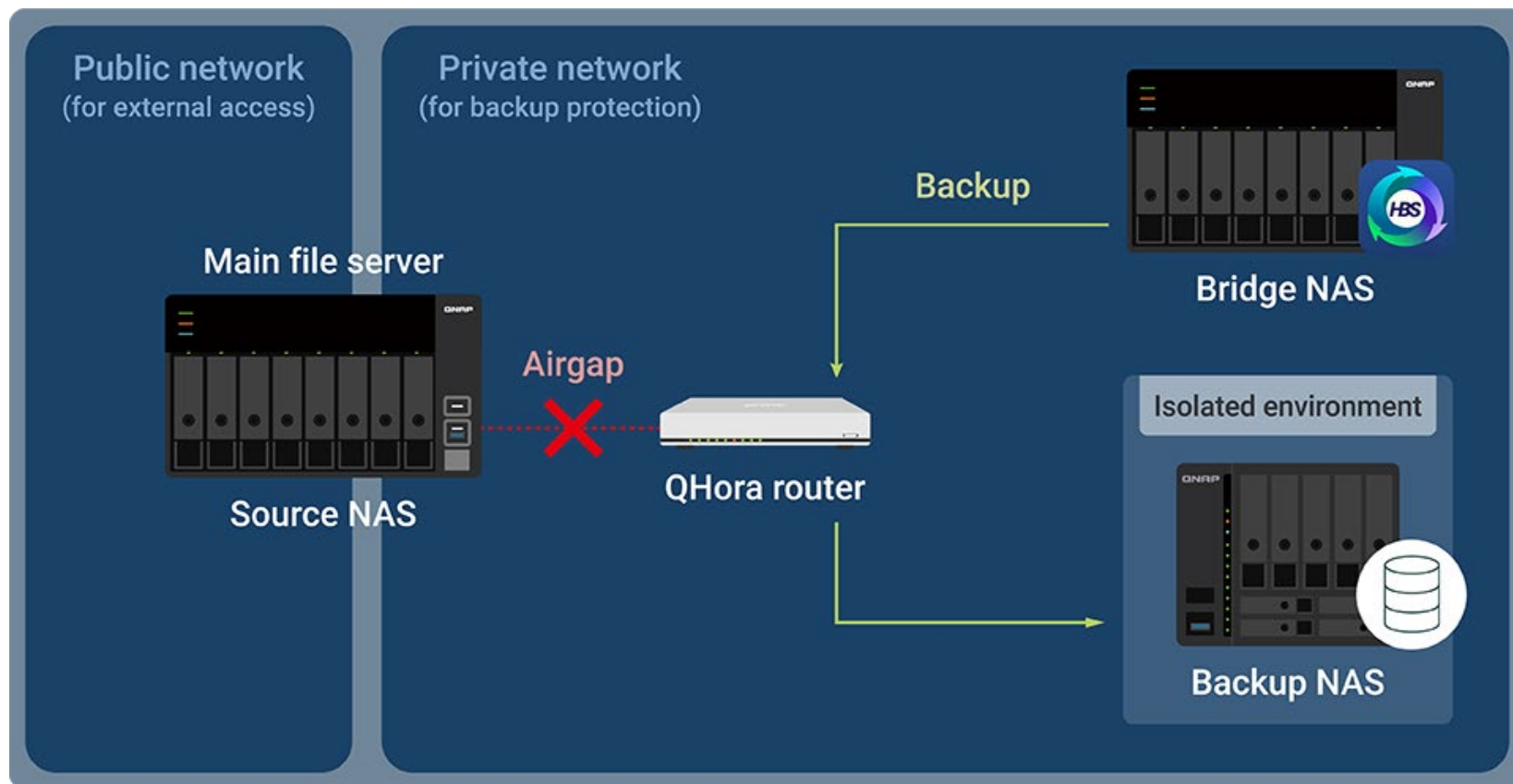


Secure NAS data with air-gapped network isolation for backups

Airgap+. NEW

Safeguard business data against ransomware.

QNAP's next-generation Airgap+ feature uses a logically isolated network to achieve efficient, convenient, and secure backups for enterprises and the media and entertainment (M&E) industry.

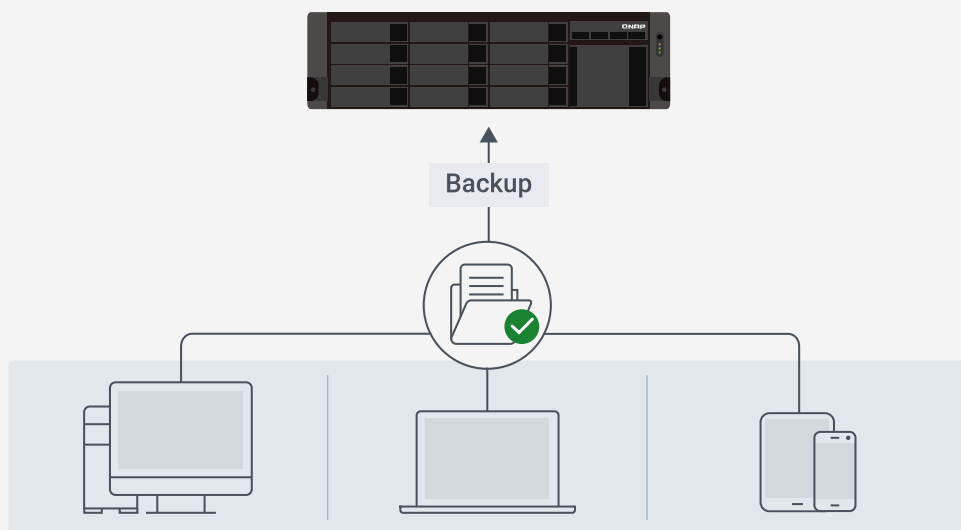


Qsync : Easily Backup or sync files and folders

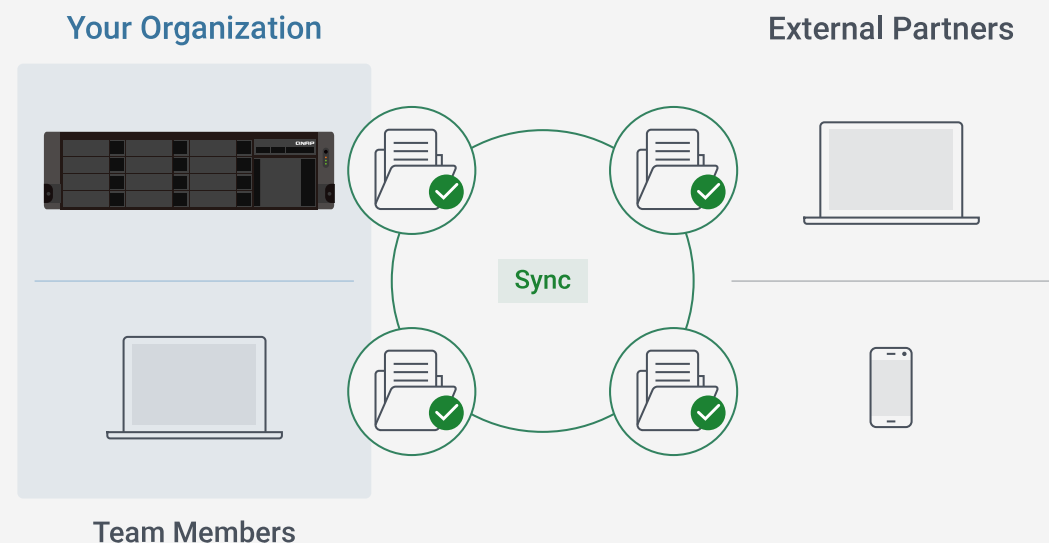


Qsync is more than just a sync tool — it also lets you back up files on Windows® / Mac® computers to your NAS, ensuring your data is always safe

Worry-free **backup** for data security



Real-time sync, Always up-to-date files

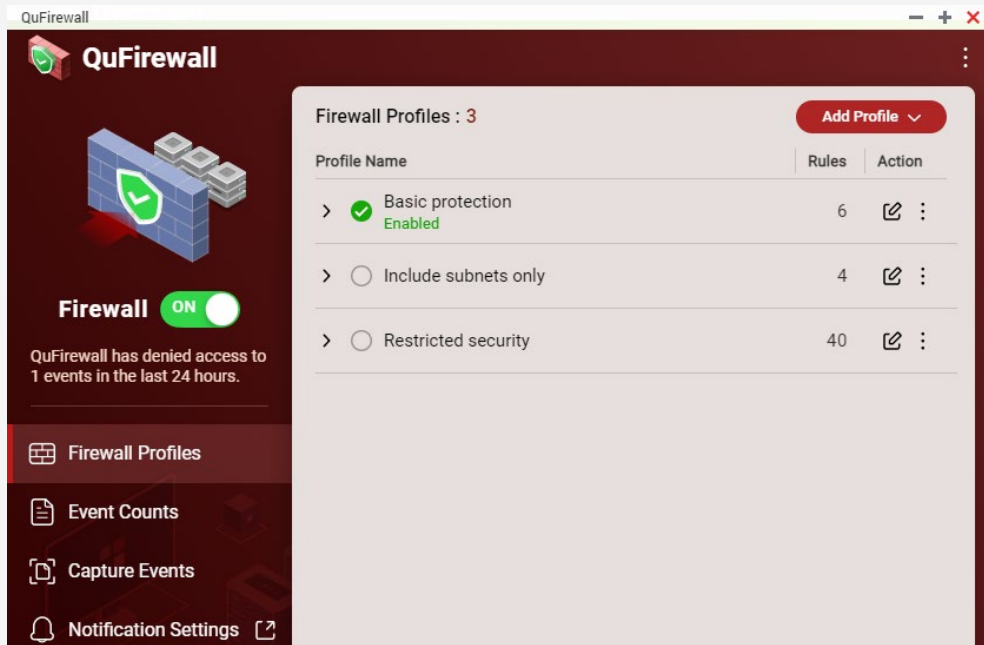


Data security



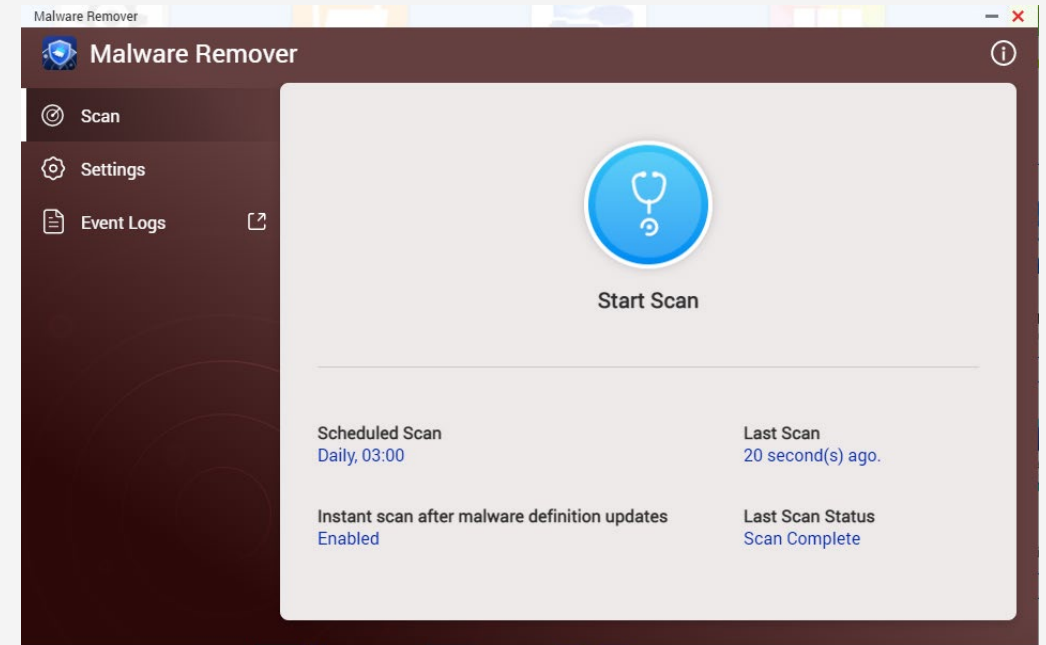
QuFirewall

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



Malware Remover

Regularly scan your NAS using the latest malware definitions. When under attack, infected files will be immediately removed to ensure NAS data security.



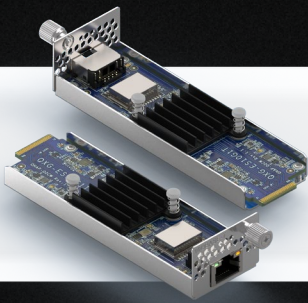
3-year standard warranty covering hardware repair and support services



TS-h1655XeU-RP is backed by a 3-year warranty at no additional cost.

You can also purchase a warranty extension that extends your warranty coverage up to 5 years total. (P/N: LIC-NAS-EXTW-BROWN-2Y-EI)

Support
10GBASE-T NIC,
QXG-ES10G1T



USB 3.2
Gen 1 port



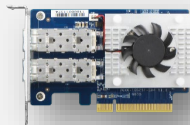
C5125 2.8GHz
8-Core
Processor

Support QNAP
E1.S SSD



4 x 25GbE
SMB Throughput 1MB, 3 Host

Write : 2,552 MB/s
Read : 4,926 MB/s



E1.S
M.2
NVMe SSD

4 x E1.S NVMe SSD slots,
supporting up to 15mm E1.S, and
pre-installed adapter to support M.2
2280 NVMe SSD



TS-h1655XeU-RP

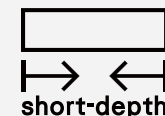


WORM Support in QuTS
hero (Write Once Read
Many times)



10GBASE-T

Short-depth
12-inch



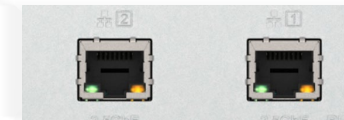
Supports both

QTS

QuTS hero
edition

Up to
64GB DDR4 RAM

ECC memory can also be
installed



2.5GbE X2



Up to 4 x M.2 2280
NVMe SSD, Support
hot-swapping

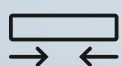
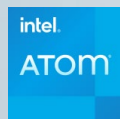


Up to
5-year
warranty

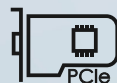


TS-h1655XeU-RP

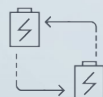
3U 12 x 3.5" HDD & 4 x E1.S/M.2 NVMe SSD Hybrid
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QTS
QuTS hero



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