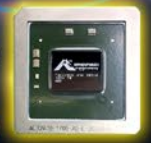
QNAP

SMB 8-bay NAS

TS-832X

Upgrade from TS-831X
Dual PCIe slots for expansion
2 x 10GbE SFP+

powered by annapurnalabs an amazon company



Powered by Annapurna

New AL324 64-bit quad-core Cortex-A57 NAS

A step up from TS-831X

powered by annapurnalabs an amazon company

	TS-831X	TS-832X
Processor	Quad-core AL314	Quad-core AL324
CPU architecture	ARMv7 Cortex-A15 32 bit	ARMv8 Cortex-A57 64 bit
CPU frequency	Up to 1.7 GHz	1.7 GHz
Memory	DDR3	DDR4
LAN port	2 x GbE & 2 x 10GbE SFP+	
PCIe slot	1 x Gen2 x2	1 x Gen2 x1 & 1 x Gen2 x2
Audio output		speaker + line-out
Computing power	24K DIMPS	32K DMIPS

NEW

Performance Upgrade!

QNAP

Quad-core 64-bit Cortex-A57

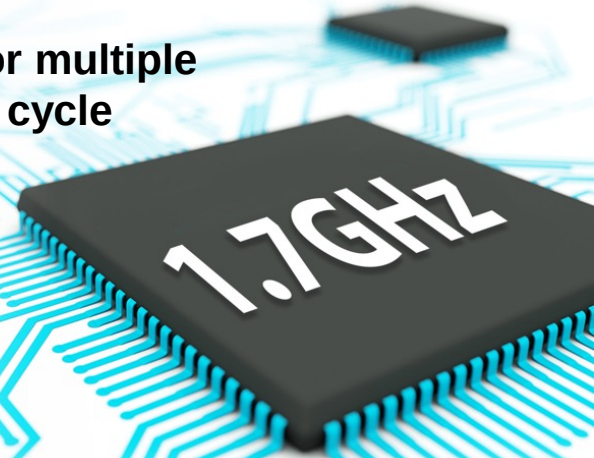
Integrated I/O — 10GbE, SATA 6Gbps, PCIe lanes in 27 x 27 mm BGA size

AARCH64 arch. — Newly designed 64-bit instruction set for efficient process and energy saving

Higher performance — Enhanced floating point operations and 31 64-bit registers for reduced redundant data access

Cryptography — Operates with 128 bit SIMD registers for multiple encryption/decryption instructions per cycle

TS-832X



QNAP

Up to 16GB DDR4 RAM

1 x DDR4 SODIMM memory slot

Upgradable to **16GB**

QNAP RAM Accessories

4GB、8GB、16GB modules

TS-832X-2G: 1 x 2GB DDR4 SODIMM
TS-832X-8G: 1 x 8GB DDR4 SODIMM

QNAP

TS-832X front view

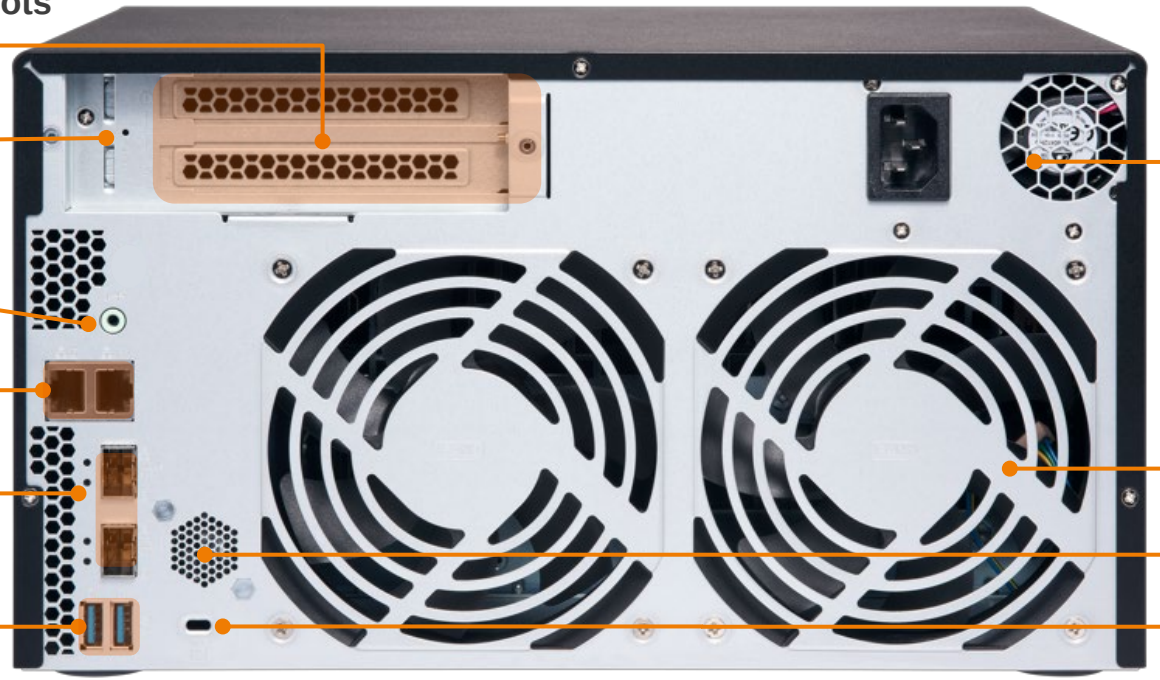
LEDs :
Status
LAN
USB

HDD status:
HDD1~8

Power button

USB 3.0
One-touch-
copy button

TS-832X rear view



Full height PCIe slots
Top: Gen.2 x1
Bottom: Gen.2 x2

Reset

3.5 mm
line out

2 x 1GbE
RJ45 LAN port

2 x 10GbE
SFP+ LAN port

2 x USB 3.0

250W power
supply unit

2 x 12 cm fan

speaker

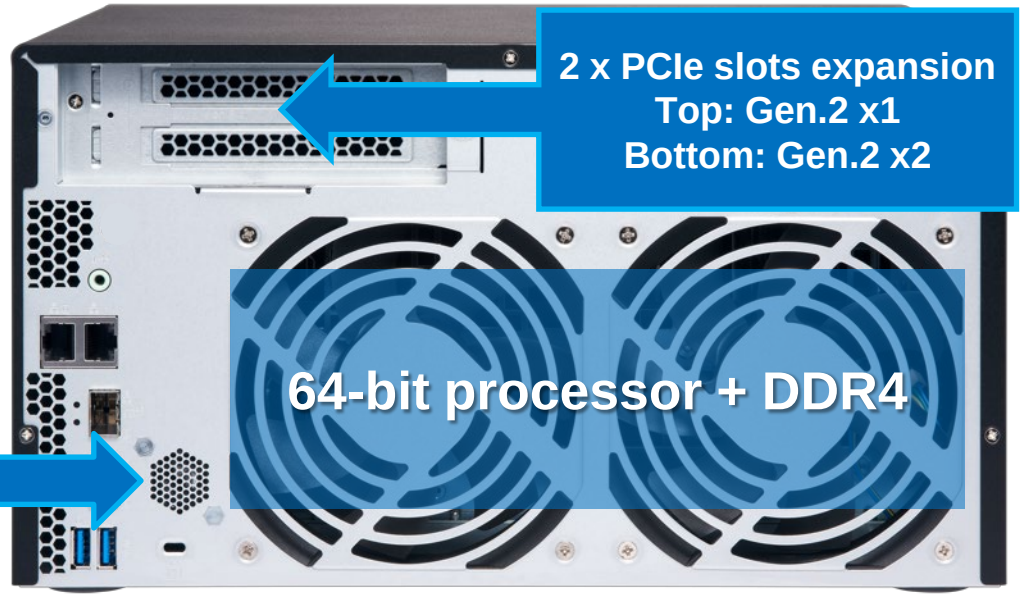
Kensington
security slot

QNAP

Enhancements over TS-831X

TS-831X

Speaker :
- System alert
- Music playback



TS-832X

Two built-in 10GbE SFP+ ports

Fully support 10GbE high-speed networks, delivering a major speed increase for fast backup & restoration, large-data applications, and container application tasks.

QNAP

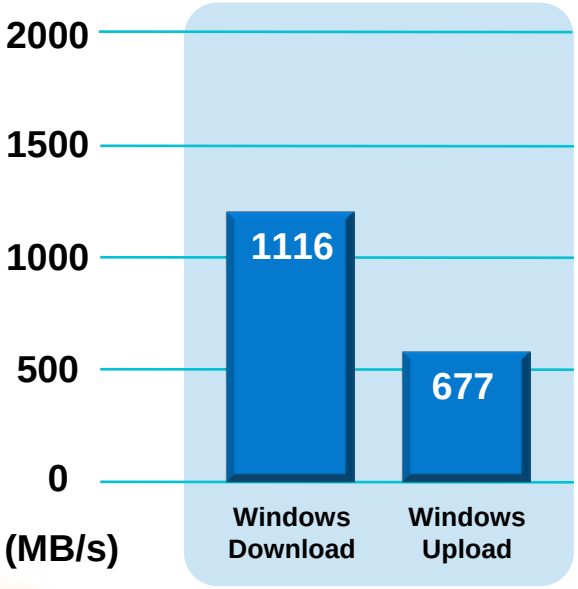
Demo

1 x 10GbE performance test

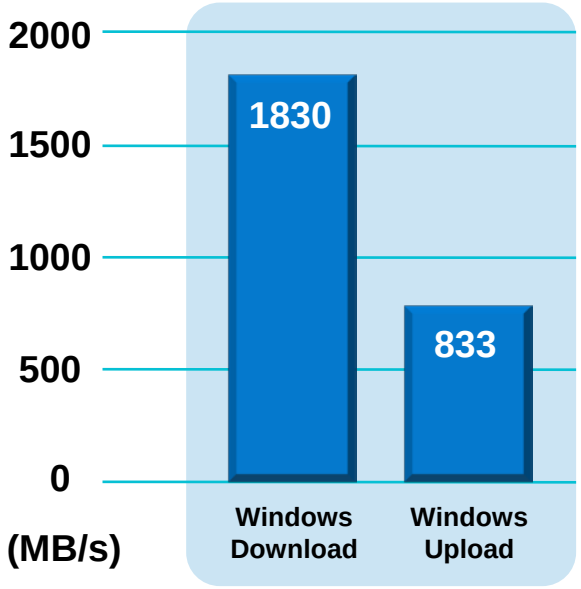
All ready for 10GbE workloads

Windows File Transfer (10GB file)

1 x 10GbE



2 x 10GbE



Tested in QNAP Labs. Figures may vary by environments.
2 x 10GbE transfer:
NAS: TS-832X (QTS 4.3.4)
Volume type: RAID 5; 8 x Intel SSDSC2BB240G4 SSD

Client PC: Windows 10, Intel Core i7-6700 3.4 GHz, 32GB RAM, Mellanox ConnectX-3 NICs, Windows 10GbE Robocopy

Dual PCIe slots for high expandability

TS-832X is the first ARM-based NAS with dual PCIe expansion slots for versatile functional expansion

PCIe 1 : Gen2 x1 Up to 5Gb/s theoretical speed

- GbE port
- USB 3.1 port

PCIe 2 : Gen2 x2 Up to 10Gb/s theoretical speed

- 10 GbE port
- M.2 SSD port

Abundant QNAP accessories

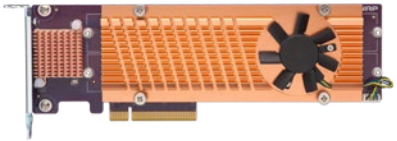
10GbE / 1GbE LAN port

QXG-10G1T

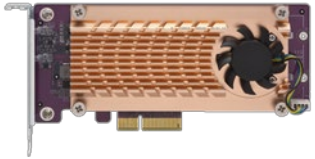
LAN-10G1TA

LAN-1G2T-I210

M.2 SSD port

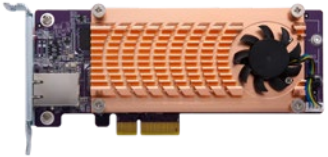


QM2-4S-240, QM2-4P-284



QM2-2S, QM2-2P,
QM2-2S-220A, QM2-2P-244A

10GbE /SSD combo



QM2-2S10G1T
QM2-2P10G1T

USB 3.1 Gen2 port

USB-U31A2P01

PCIe #1 slot scenario

2-port Type-A USB 3.1 Gen2 10Gbps card

USB-U31A2P01

2-port 1GbE RJ-45 LAN card

LAN-1G2T-I210

1-port 10GBASE-T Multi-Gigabit LAN card

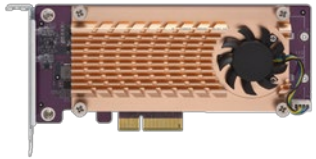
QXG-10G1T (Gen3 x4)
LAN-10G1TA (Gen2 x4)

PCIe #1 slot：Gen2 x1
Up to 5Gb/s speed

PCIe #2 slot scenario

QM2 M.2 SSD card

QM2-2S (2 x M.2 SATA SSD port)
QM2-4S-240 (4 x M.2 SATA SSD port)

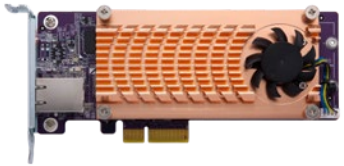


1-port 10GBASE-T Multi-Gigabit LAN card

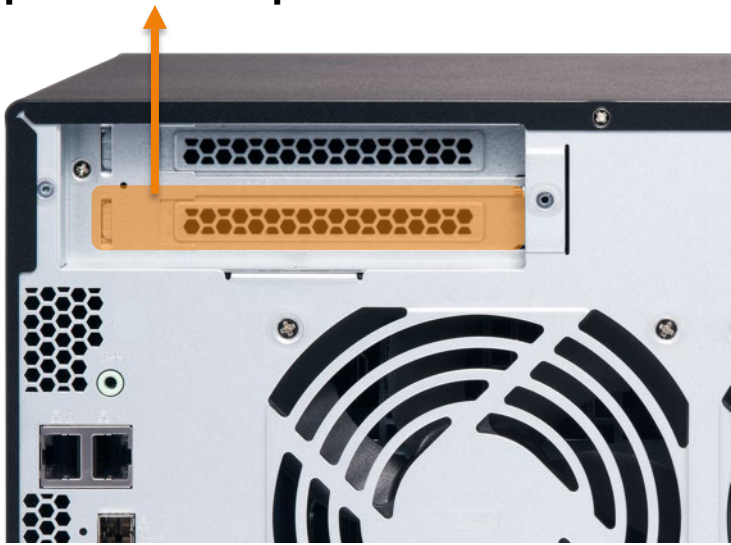
QXG-10G1T (Gen3 x4)
LAN-10G1TA (Gen2 x4)

QM2 10GbE /M.2 SSD card

QM2-2S10G1T (2 x M.2 SATA SSD port + 10GBASE-T)
QM2-2P10G1T 2 x M.2 PCIe SSD port + 10GBASE-T)

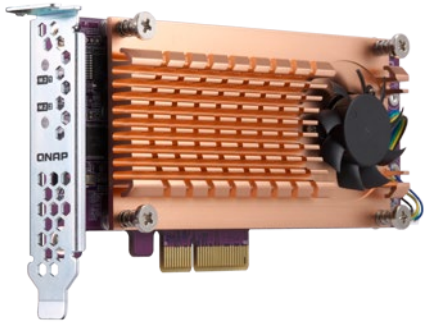


PCIe #2 slot：Gen2 x2
Up to 10Gb/s speed



Create M.2 SSD Qtier speedy tier

RAID 0/1 M.2 SSD



QM2-2S, QM2-2P
QM2-2S-220A, QM2-2P-244A

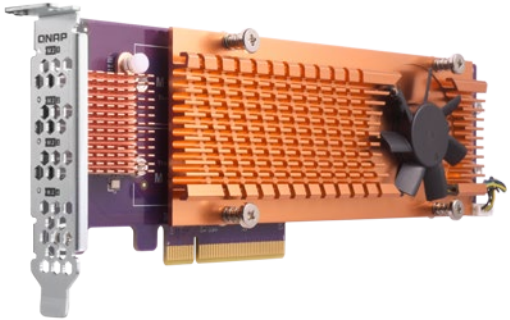
RAID 0/1 M.2 SSD/10GbE

10GbE upgraded version

QM2-2S10G1T
QM2-2P10G1T

RAID 5/6/10 4 x M.2 SSD

Just 1 PCIe slot for adding up to four M.2 SSDs



QM2-4S-240, QM2-4P-284

QNAP

Max. capacity with optimal performacne

8 x 3.5-inch HDDs
for large capacity

Install a QM2 card with M.2 SSDs
for Qtier

Enhanced sequential & random read/write performance!

Upgrade to Qtier for boosted performance

Scenario

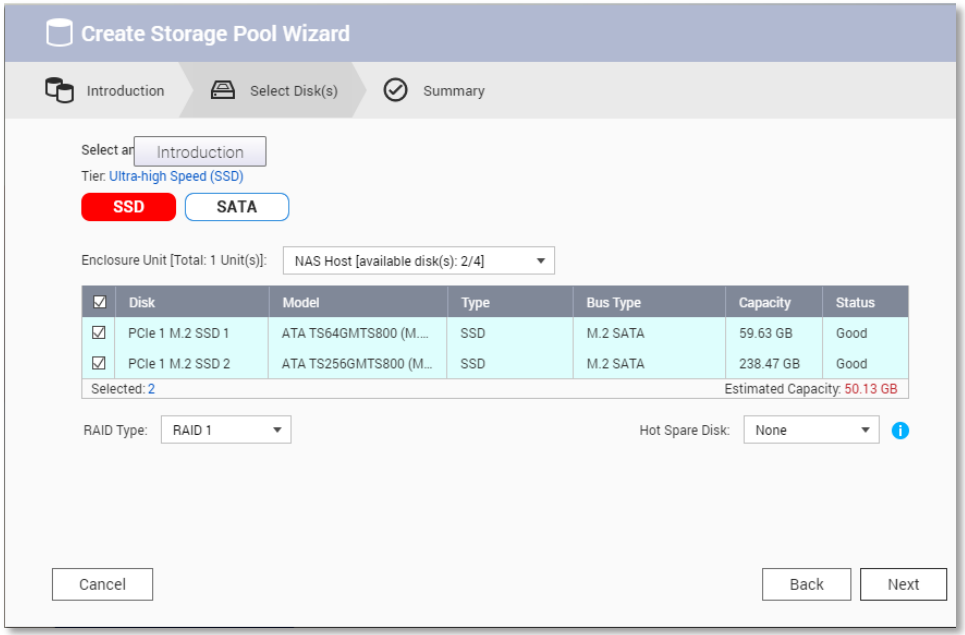
When the HDD storage pool cannot provide enough performance…

Step 1

Install a QM2 card with M.2 SSDs

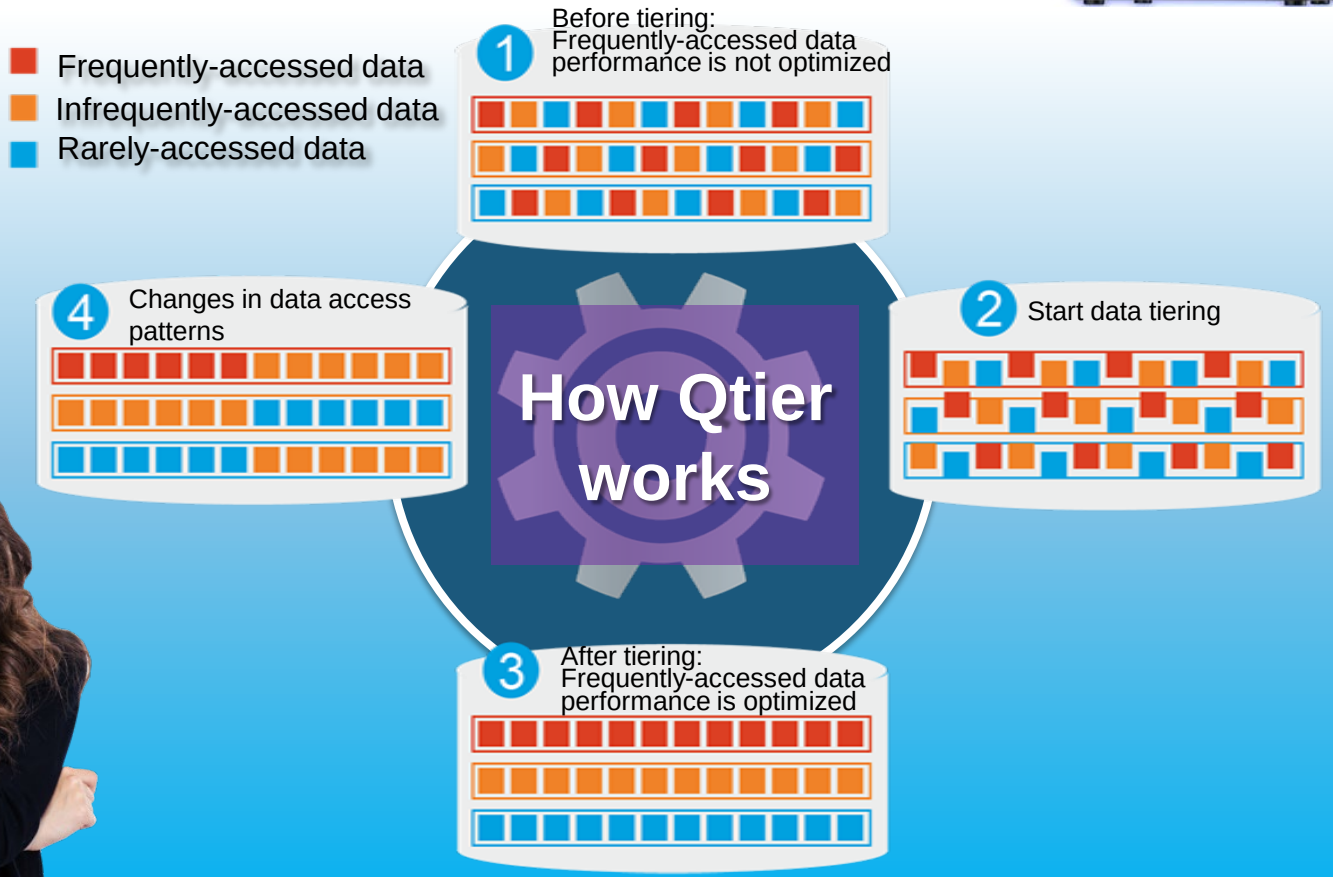
Step 2

Select SSDs and upgrade to Qtier pool



Upgrade to Qtier for boosted performance

- **Automatically moves data between different tiers**
- **SSD tier capacity will not be limited by RAM size**



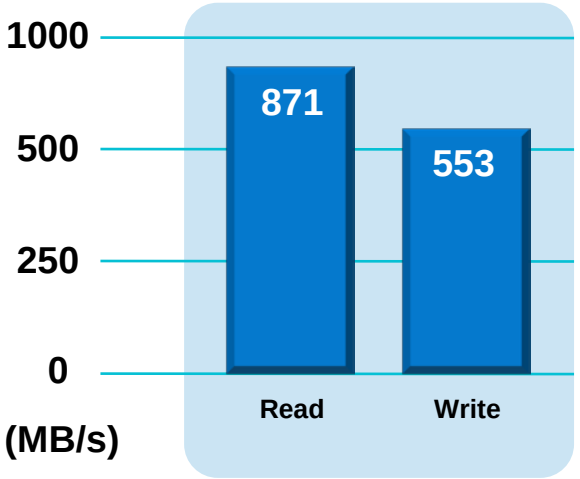
QNAP

Demo

1. Upgrade memory
2. Install QM2-4S-240 card
3. Qtier performance test

Upgrade to Qtier for boosted performance

AJA Test (1 x 10GbE)

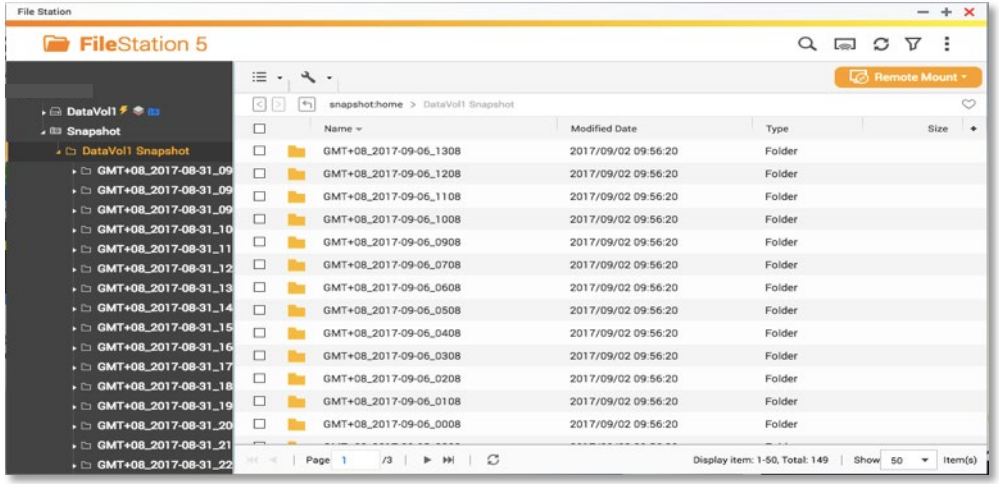


Tested in QNAP Labs. Figures may vary by environments

NAS: TS-832X & QM2-4S-240 (QTS 4.3.4)
RAID 5; 8 x Seagate ST1000NM0008, 4 x Kingston M.2 SSD RBU-SN815S3256GG2 Client PC: Windows 10, Intel Core i7-6700 3.4 GHz, 32GB RAM, Mellanox ConnectX-3 NICs, AJA test

Snapshots: A modern way to protect your data

	2GB RAM	8GB RAM
For whole NAS	64	256
For a single volume/LUN	32	64



Snapshots ensure data protection & restoration

QNAP

Expand other NAS capacity with VJBOD

Allocate unused space for other QNAP NAS

iSCSi

VJBOD

Expand TS-832X capacity flexibly

TS-832X

Connected with QNAP USB expansion units

Up to 2 QNAP 8-bay UX-800P or 5-bay UX-500P expansion units

UX-800P

UX-500P

QNAP

QVR Pro surveillance solution

- 5,000+ compatible IP cameras
- 8 free IP camera channels
- 16 max. IP camera channels
- QUSBCam2 for up to 1080P USB webcam live view & recording

The cost-effective 8-bay 10GbE NAS

NAS model	TS-832X	Synology DS1817
Processor	64-bit ARMv8 Cortex-A57 quad-core AL-324 1.7 GHz	32-bit ARMv7 Cortex-A15 quad-core AL-314 1.7 GHz
Memory	Up to 16GB DDR4	Up to 8GB DDR3
PCIe slot	2 (1 x Gen2 x1 、1 x Gen2 x2)	---
1GbE LAN port	2	2
10GbE LAN port	2	2
USB 3.0 port	3 (Front: 1, rear:2)	2
Audio output	Speaker + 3.5mm line out	---

QNAP

QNAP

SMB 8-bay NAS

TS-832X

Cost-effective 10GbE NAS with PCIe expandability

Your Best Choices!

- Dual 10GbE SFP+ ports
- 64-bit 4-core ARM 1.7GHz