

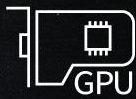


**QNAP**

# TS-x83XU

**25GbE & Fibre Channel**

**Ready**



- Built-in Mellanox ConnectX<sup>®</sup>-4 Lx 10GbE Controller
- iSER supported
- All models support ECC RAM

The QNAP logo is displayed in a bold, white, sans-serif font. The letter 'Q' is stylized with a white swoosh that extends from the top of the letter and curves under the 'N'. The logo is set against a black background within a red-bordered box.

**QNAP**

The model name 'TS-x83XU' is written in a white, sans-serif font and is enclosed within a white rectangular border. It is positioned below the QNAP logo within the same red-bordered box.

**TS-x83XU**

The words 'Product Overview' are written in a large, white, sans-serif font, stacked vertically. They are centered within the red-bordered box.

**Product  
Overview**



# 10GbE NAS with Intel Xeon E CPU

## TS-x83XU NAS Series



TS-983XU-E2124-8G  
TS-983XU-RP-E2124-8G

E-2124  
4-core



TS-1283XU-RP-E2124-8G

E-2124  
4-core



TS-2483XU-RP-E2136-16G

E-2136  
6-core



TS-883XU-E2124-8G  
TS-883XU-RP-E2124-8G

E-2124  
4-core



TS-1683XU-RP-E2124-16G

E-2124  
4-core



# Revamped QNAP Extended Warranty

3 year standard + 2 year extended warranty =  
**Up to 5-year warranty**

<https://www.qnap.com/service/product-warranty/>



QNAP Warranty Service

Standard Warranty   Extended Warranty   Advanced Replacement   Check NAS Warranty


## Product Registration and Extended Warranty

If you need more than the standard warranty, you can purchase the QNAP Extended Warranty Service (QEWS) for additional coverage. Register your QNAP NAS within 60 days of purchase, and automatically be eligible to purchase a warranty extension that stretches your coverage to up to 5 years.

» View the QNAP product warranty extension terms and conditions

[Sign in QID](#)   [Check Available Warranty Extension Plans](#)

Note: A QNAP ID is required to purchase extended warranty.



The badge features the QNAP logo at the top, a large yellow '5' with two stars on either side, the word 'YEARS' below it, and a white banner at the bottom with the word 'WARRANTY' in blue. The entire badge is set against a blue background with decorative floral patterns.

- ✓ Sign in
- ✓ Product registration
- ✓ Purchase extended warranty

# Enterprise Processor - Xeon

## INTEL® XEON® E Processors



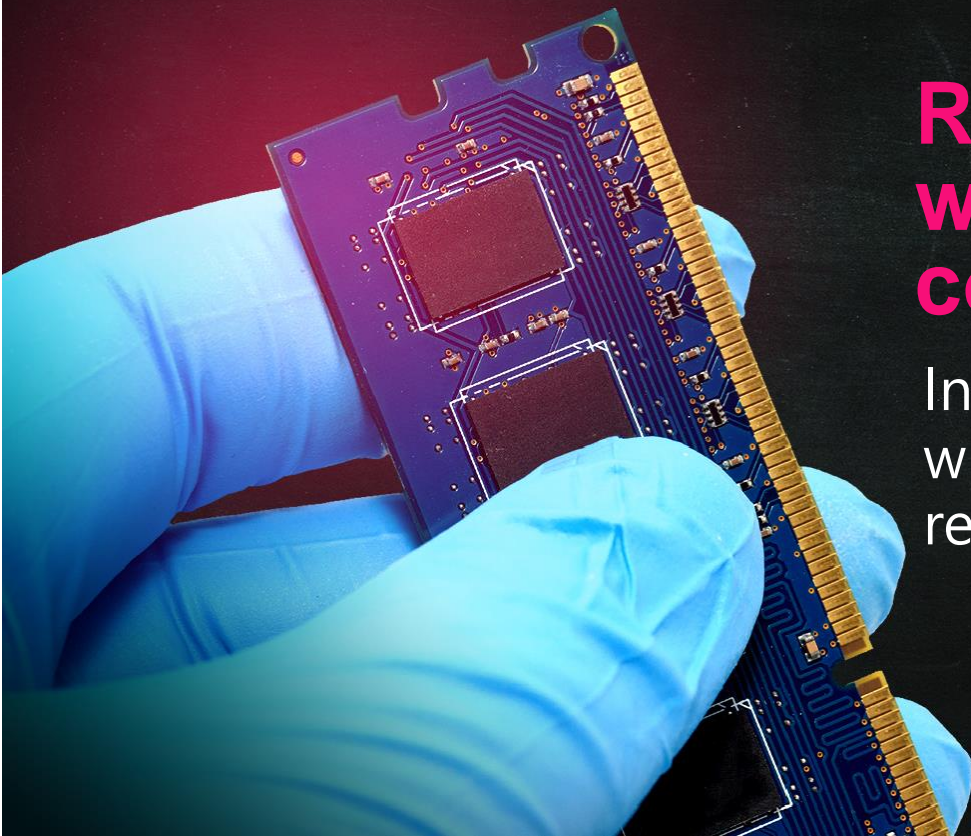
Intel® Turbo Boost  
Technology

# ECC Memory (Error Correcting Code)

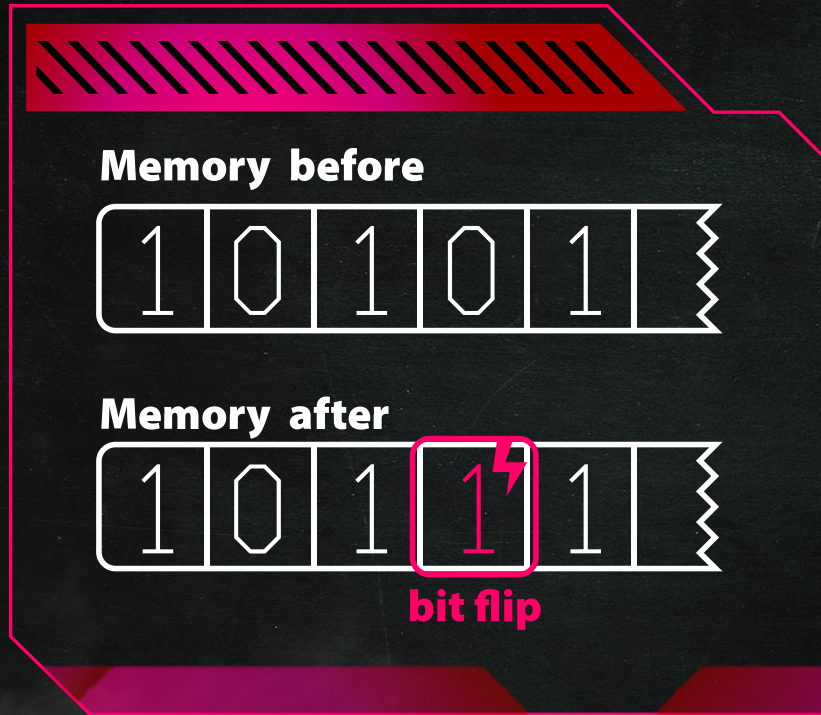
Running reliably  
without data  
corruption



Intel Xeon processors support ECC which can automatically detect and repair single-bit error on-the-fly.

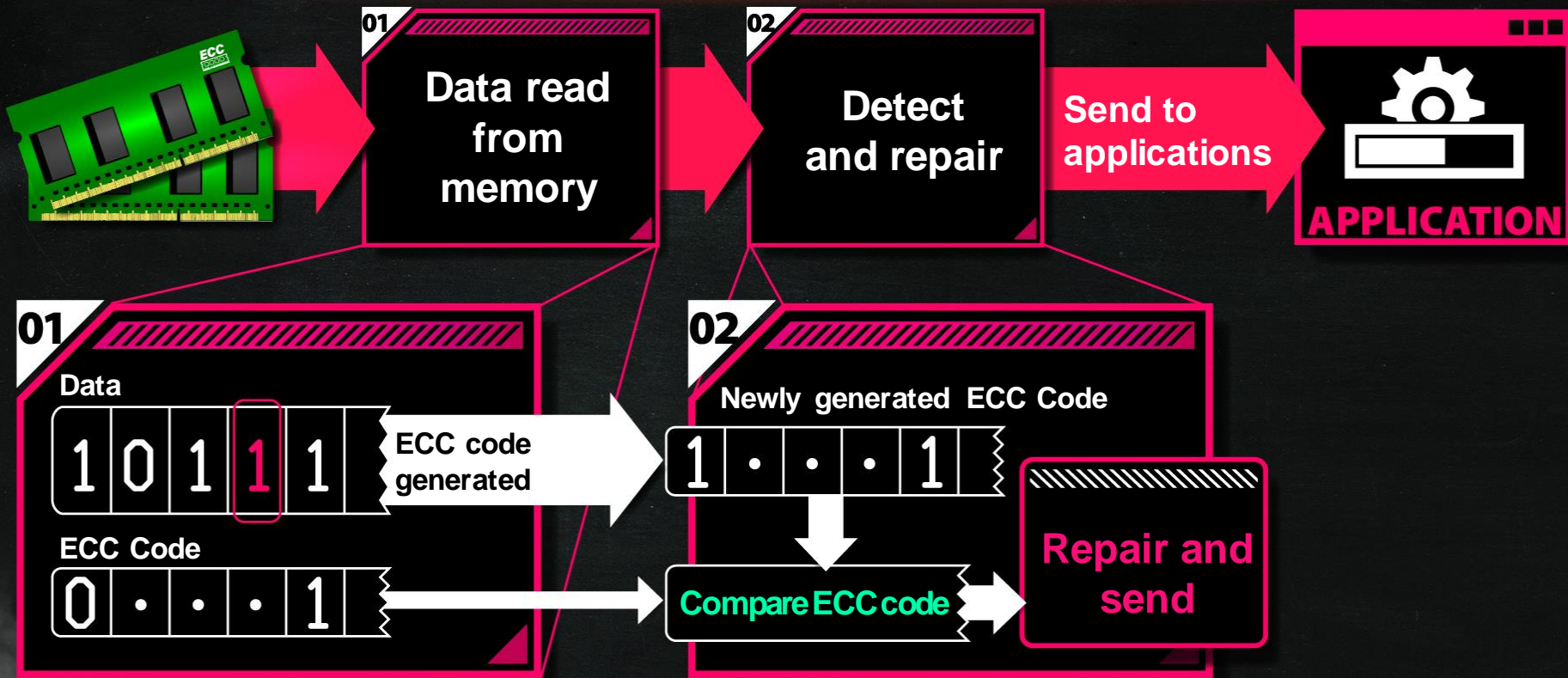


# The majority of single-event errors in memory chips



- Electrostatic discharge
- Electromagnetic interference (EMI)
- Lowering voltage
- Background radiation

# How ECC Works





# Complete Product Lines- 1U 9-bay

▶ Redundant PSU  
2x300W



▶ Single PSU  
250W



## TS-983XU-RP-E2124-8G

- Intel® Xeon® E-2124 4-core 3.3 GHz processor, max boost to 4.3 GHz
- 8GB DDR4 ECC RAM (2x 4GB)

## TS-983XU-E2124-8G

- Intel® Xeon® E-2124 4-core 3.3 GHz processor, max boost to 4.3 GHz
- 8GB DDR4 ECC RAM (2x 4GB)

9-bay



5 x 2.5-in ports (inside)  
4 x 3.5-in ports



# Complete Product Lines- 2U 8-bay



## TS-883XU-RP-E2124-8G

- Intel® Xeon® E-2124 4-core 3.3 GHz processor, max boost to 4.3 GHz
- 8GB DDR4 ECC RAM (2x 4GB)



## TS-883XU-E2124-8G

- Intel® Xeon® E-2124 4-core 3.3 GHz processor, max boost to 4.3 GHz
- 8GB DDR4 ECC RAM (2x 4GB)



# Complete Product Lines- 2U 12-bay

▶ Redundant PSU  
2x300W



## TS-1283XU-RP-E2124-8G

- Intel® Xeon® E-2124 4-core 3.3 GHz processor, max boost to 4.3 GHz
- 8GB DDR4 ECC RAM (2x 4GB)

12-bay



# Complete Product Lines- 3U 16-bay

▶ Redundant PSU  
2x500W



## TS-1683XU-RP-E2124-16G

- Intel® Xeon® E-2124 4-core 3.3 GHz processor, max boost to 4.3 GHz
- 16GB DDR4 ECC RAM (2x 8GB)

16-bay



# Complete Product Lines- 4U 24-bay

▶ Redundant PSU  
2x800W



## TS-2483XU-RP-E2136-16G

- Intel® Xeon® E-2136 6-core 3.3 GHz processor, max boost to 4.5 GHz
- 16GB DDR4 ECC RAM (2x 8GB)

24-bay



The QNAP logo is displayed in a bold, white, sans-serif font. The letter 'Q' is stylized with a white swoosh that extends from the top left and curves under the letter. The logo is set against a black background within a red-bordered box.

**QNAP**

The model name 'TS-x83XU' is written in a white, sans-serif font and is enclosed within a white rectangular border. It is positioned below the QNAP logo within the same red-bordered box.

**TS-x83XU**

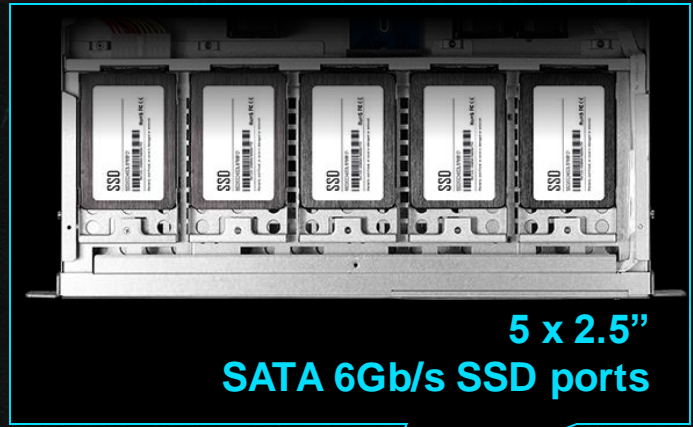
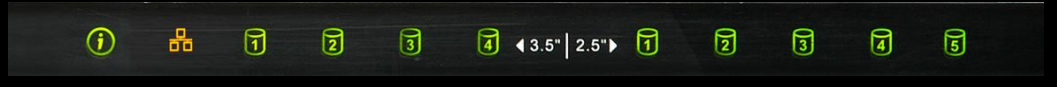
The words 'Hardware Introduction' are written in a white, sans-serif font, stacked vertically. They are located at the bottom of the red-bordered box.

**Hardware  
Introduction**

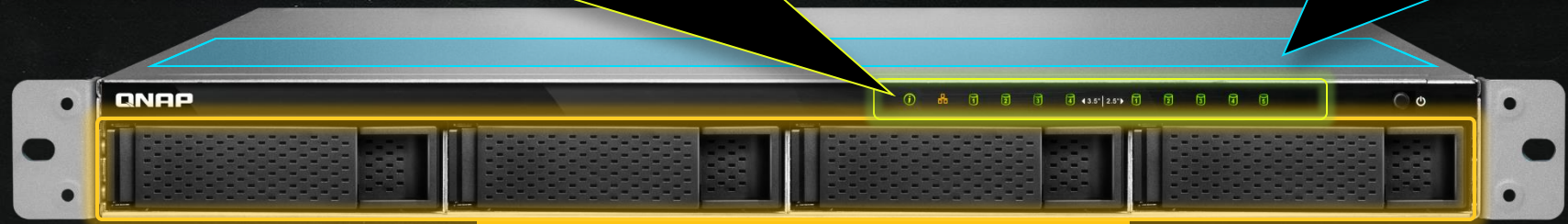


# Enjoy Qtier and SSD cache in a 1U NAS

**LED indicators:  
System status, network, disks**



**5 x 2.5"  
SATA 6Gb/s SSD ports**



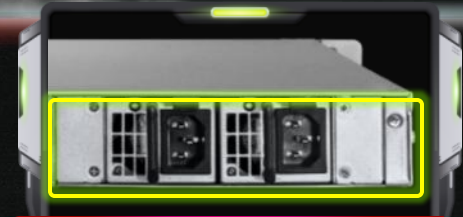
**4 x 3.5" SATA 6Gb/s HDD/SSD ports**

# TS-983XU/TS-983XU-RP Rear View

2 x 10GbE SFP+ ports

2 x GbE RJ45 ports

1 x low profile PCIe slot  
\*PCIe 3.0 x16



Redundant PSU

250W  
2 x 300W

4 x USB 3.1 Gen 1 ports

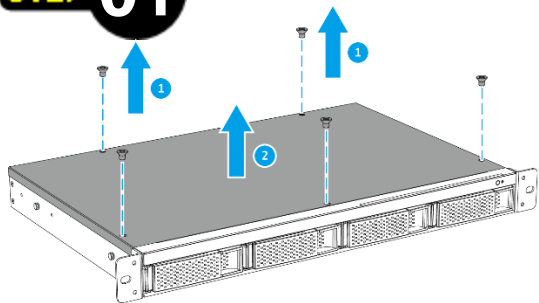
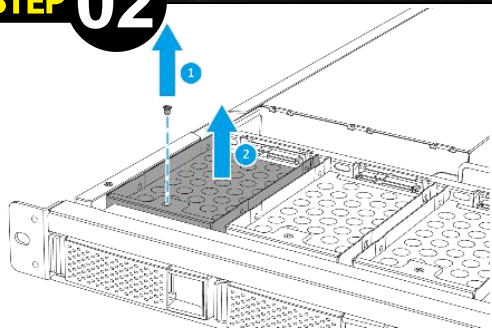
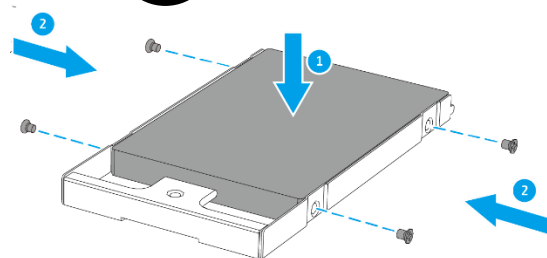
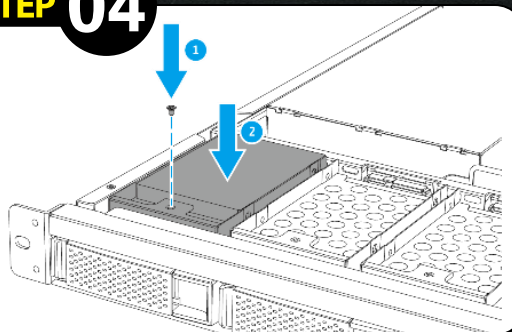
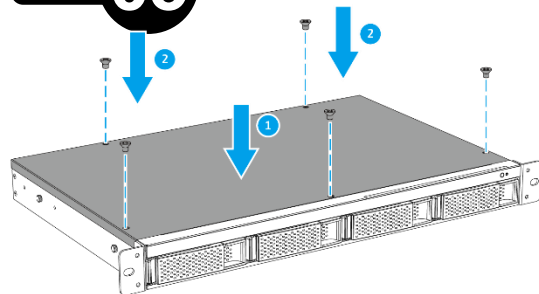
2 x USB 3.1 Gen2 (10G) ports

Single PSU





# TS-983XU SSD Installation

**STEP 01****STEP 02****STEP 03****STEP 04****STEP 05**

# 2U/3U TS-x83XU Front View

24/ 16/ 12/ 8 x 3.5" SATA 6Gb/s HDD/SSD ports

TS-1283XU-RP



TS-883XU / TS-883XU-RP



TS-1683XU-RP



TS-2483XU-RP



# 2U/3U/4U TS-x83XU Front View

**2U**

Power switch  
LED indicators: system  
status, network, external  
expansion enclosures,  
disks

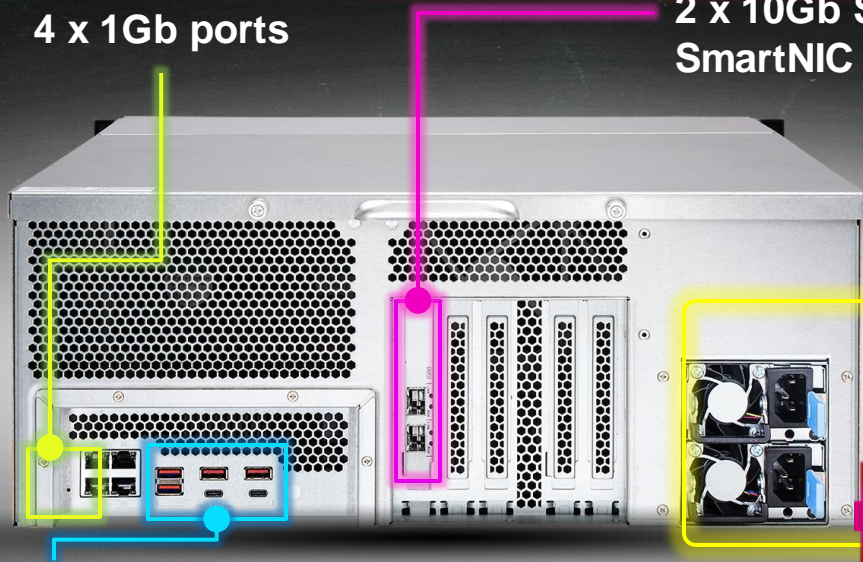
**3U****4U**

# 2U/3U/4U TS-x83XU Rear View

4 x 1Gb ports

2 x 10Gb SFP+  
SmartNIC ports

▷ Single PSU ⚡



▷ Redundant PSU ⚡

USB 3.1 Gen2 (10G) Type-A & Type-C port

8-bay  
12-bay  
Single  
PSU



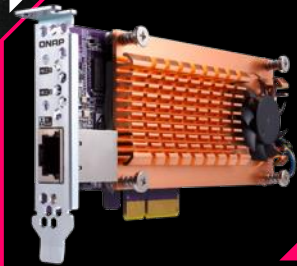
Redundant PSU

24-bay  
Redundant  
PSU



# Industry-leading PCIe expansion options

QM2 provides 10GBASE-T port and/or M.2 SSD slots for SSD cache or Qtier tiered storage for optimized storage performance.



40/25/10GbE and wireless network expansion cards provide high bandwidth, low latency, or wireless AP functionality.



USB 3.1 Gen 2 expansion cards provide 10Gb/s for external USB devices. Type-A port is also backward compatible with USB 3.0/2.0 devices.



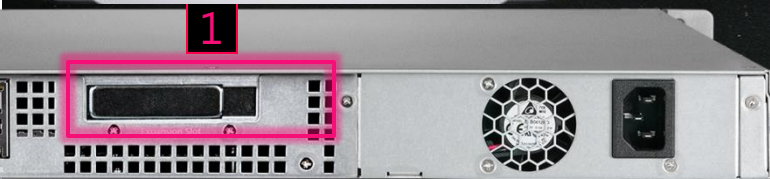
SAS expansion card is for adding support of REXP expansion units for up to 40 additional SAS/SATA drives.



# TS-x83XU PCIe Slots

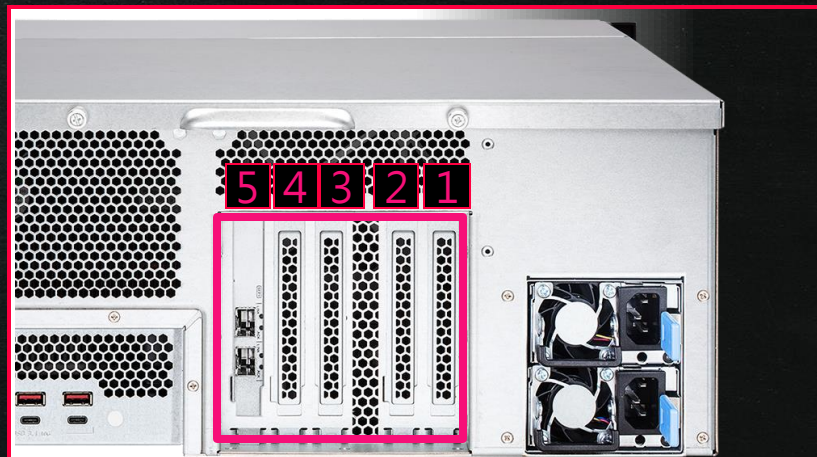
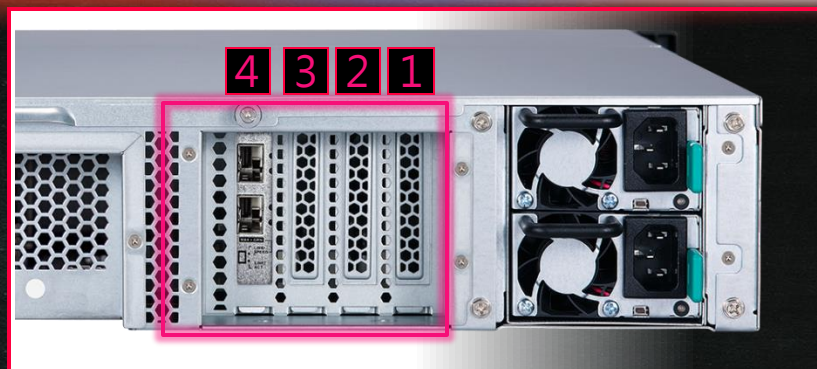
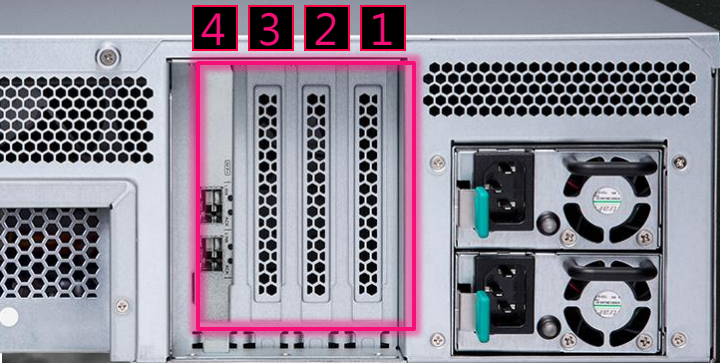
1U/2U: low profile

1

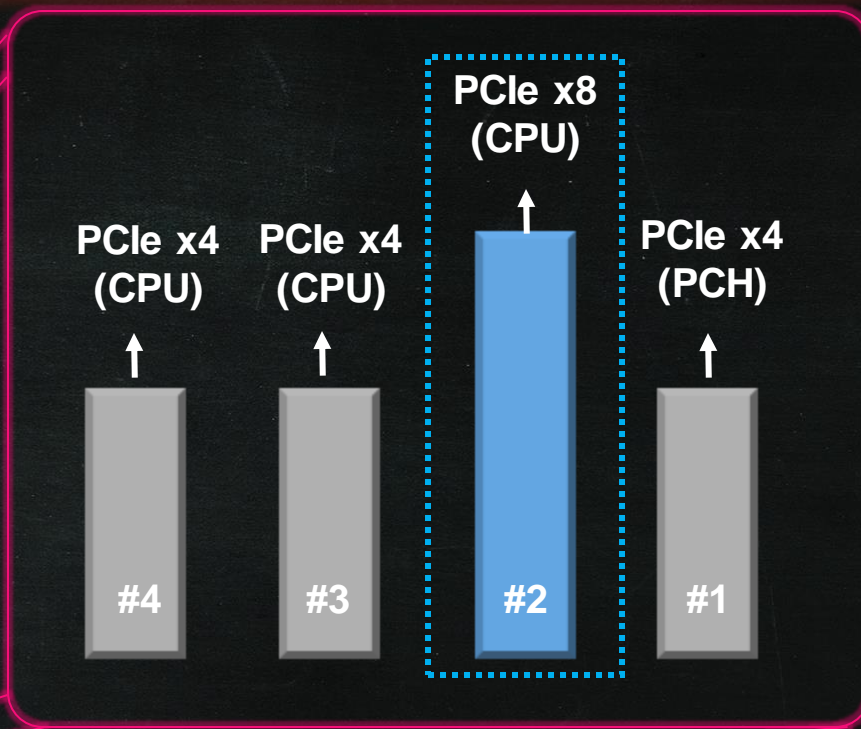


3U/4U: full height

4 3 2 1

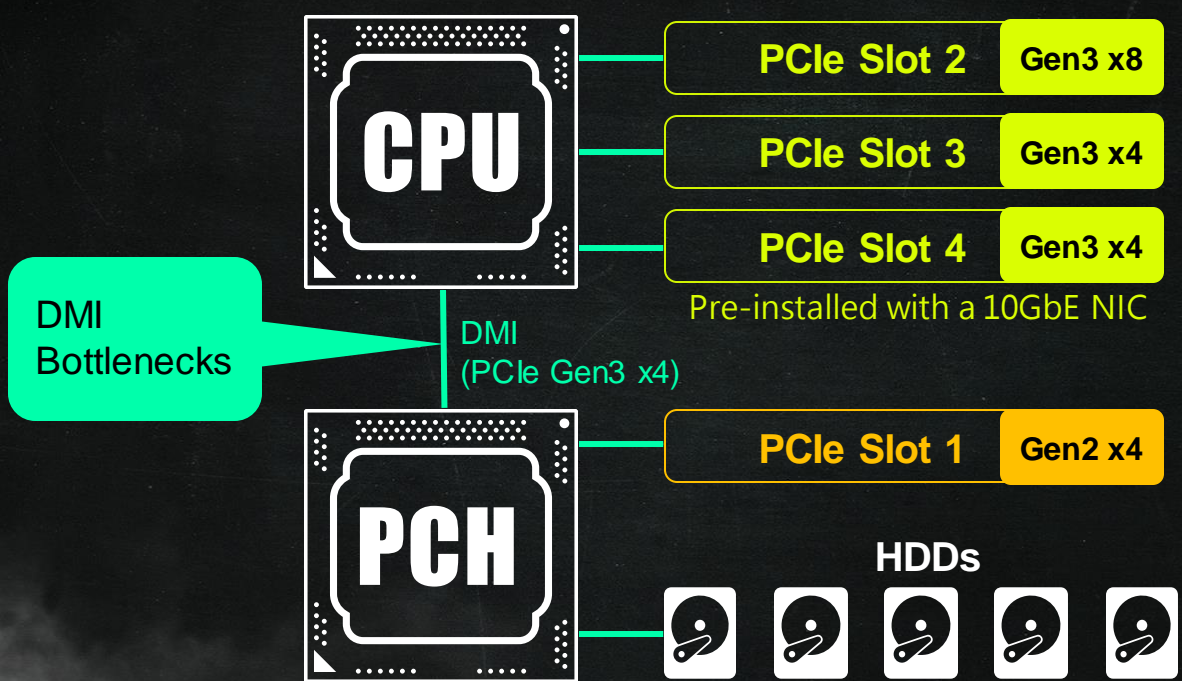


# PCIe Slot Configuration (2U/3U)



# 2U/3U NAS PCIe Slot Suggestion

To ensure that the SATA drives have sufficient bandwidth, **slot #1** is PCIe Gen2 x4

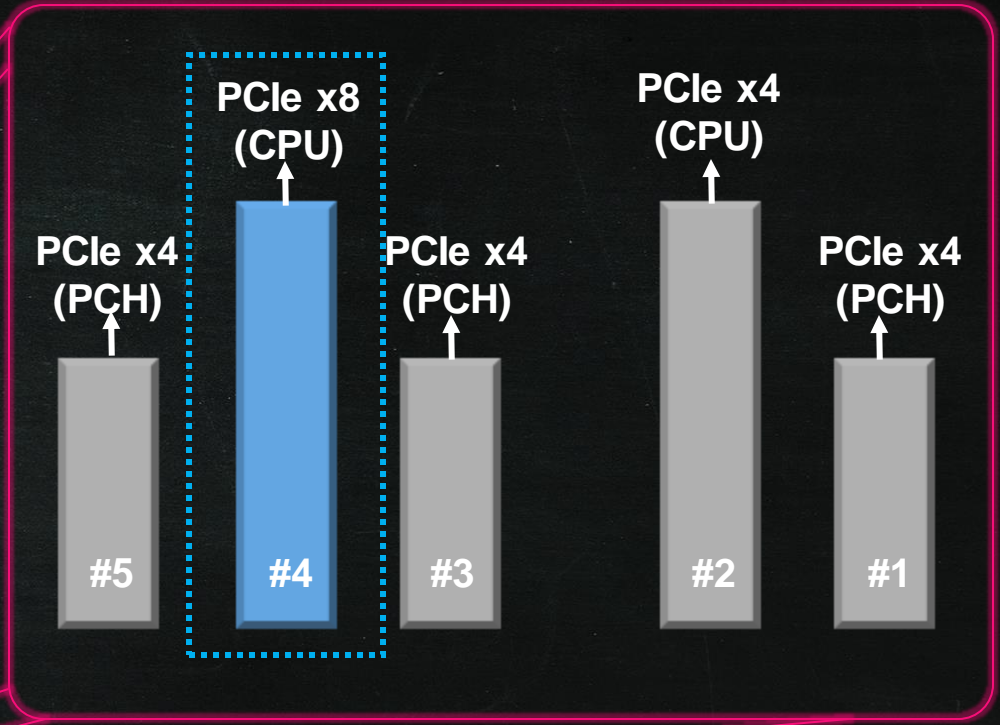


High-speed expansion card (such as 10/40GbE NIC, SAS expansion card & GPU card)

Low-speed card (such as a 1GbE NIC, USB adapter)



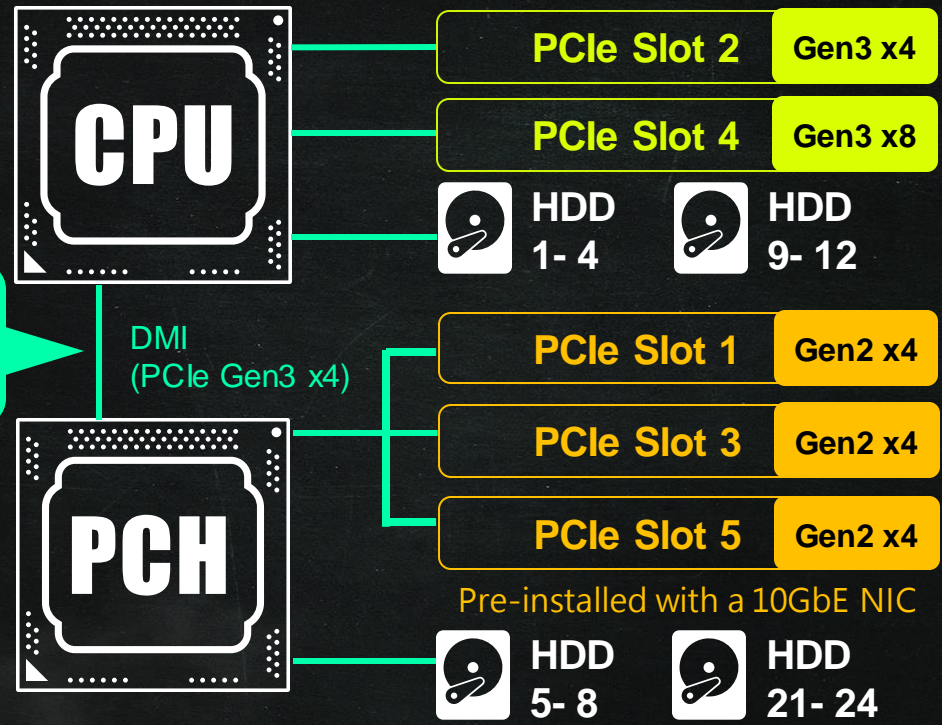
# PCIe Slot Specifications (4U)



# 4U NAS PCIe Slot

To ensure that the SATA drives have sufficient bandwidth,  
**Slot #1, #3 & #5 is PCIe Gen2 x4**

DMI Bottlenecks



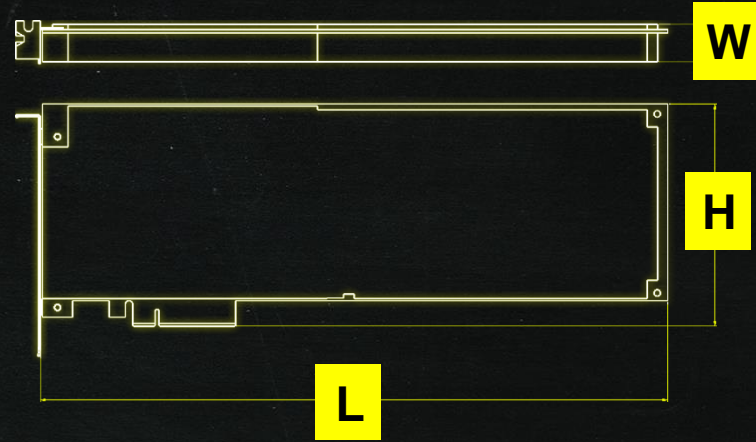
High-speed expansion card (such as 10/40GbE NIC, SAS expansion card, GPU card)

Low-speed card (such as a 1GbE NIC, USB adapter)

Pre-installed with a 10GbE NIC

# GPU card slots and supported dimensions

NAS	Slot	Dimension W x H x L (mm)
TS-983XU TS-983XU-RP	Slot 1	19 x 68.9 x 257
TS-883XU TS-883XU-RP	Slot 2	37 x 68.9 x 214
	Slot 4	37 x 68.9 x 214
TS-1283XU-RP	Slot 2	37 x 68.9 x 214
	Slot 4	37 x 68.9 x 214
TS-1683XU-RP	Slot 2	38.5 x 111 x 214
	Slot 4	38.5 x 111 x 214
TS-2483XU-RP	Slot 2	55 x 138 x 312
	Slot 4	55 x 138 x 312

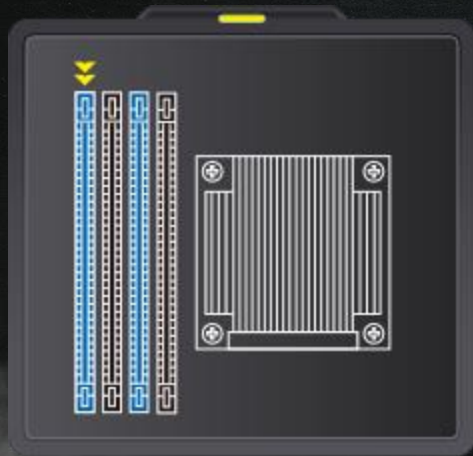


# Supports up to 64 GB Memory

- Supports Dual-channel and Long-DIMM x4
- Installing memory in pair to take advantage of dual-channel

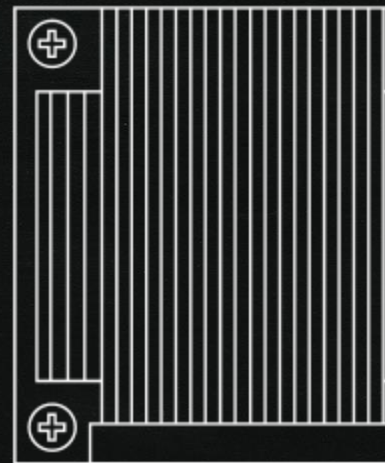
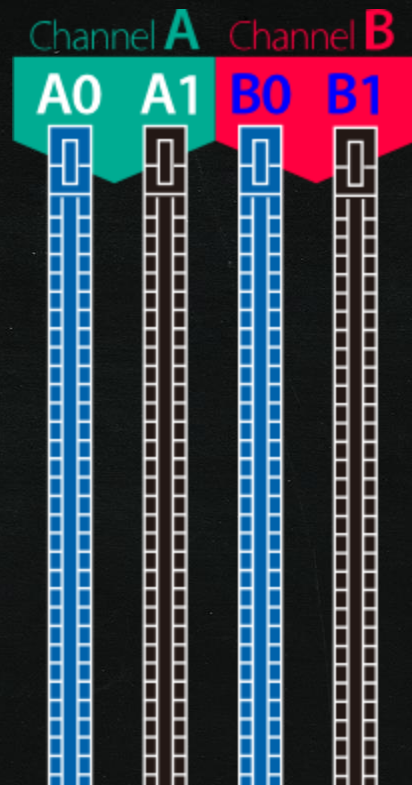
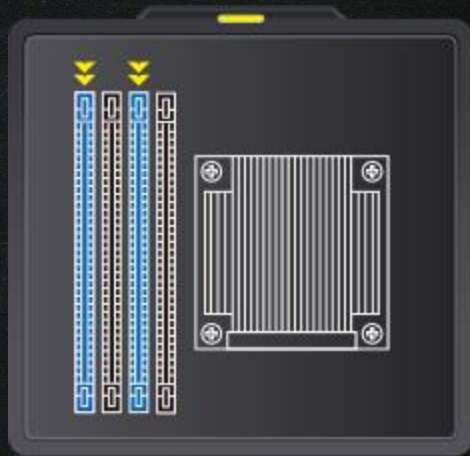
## One module

Install in **A0** slot



## Two modules

Install in **A0** and **B0** slots



# TS-x83XU Memory Accessories

Ordering number	Specification
RAM-4GDR4ECA0-UD-2666	DDR type: ECC DDR4(288PIN) Capacity: 4GB Manufacturer: Apacer Frequency: DDR4-2666 Manufacturer P/N: 78.B1GSB.4050B
RAM-8GDR4ECA0-UD-2666	DDR type: ECC DDR4(288PIN) Capacity: 8GB Manufacturer: Apacer Frequency: DDR4-2666 Manufacturer P/N: 78.C1GSC.4050B
RAM-16GDR4ECA0-UD-2666	DDR type: ECC DDR4(288PIN) Capacity: 16GB Manufacturer: Apacer Frequency: DDR4-2666 Manufacturer P/N: 78.D1GSC.4010B

# Tool-less Rail Kit

## RAIL-B02



Supported NAS:  
TS-883XU/1283XU

Max. Load: **20** kg

## RAIL-A03-57



Supported NAS:  
TS-1683XU

Max. Load: **57** kg

## RAIL-A02-90



Supported NAS:  
TS-2483XU

Max. Load: **90** kg

# Hardware upgrade made easy

Pull it out and lift  
up the cover



The QNAP logo is displayed in a bold, white, sans-serif font. The letter 'Q' features a stylized white swoosh that curves under the letter and extends to the left. The logo is set against a black background within a red-bordered box.

**QNAP**

The model name 'TS-x83XU' is presented in a white, sans-serif font, enclosed within a white rectangular border. This text is also contained within the red-bordered box.

**TS-x83XU**

The words 'Versatile' and 'Application' are stacked vertically in a white, sans-serif font. They are positioned below the model name and are also enclosed within the red-bordered box.

Versatile  
Application

A small, white, sans-serif letter 'S' is located at the bottom center of the red-bordered box.

S





# More Efficient Backup with USB 3.1 Gen 2

**2X** USB 3.0  
SPEED UP

10Gb/s

5Gb/s

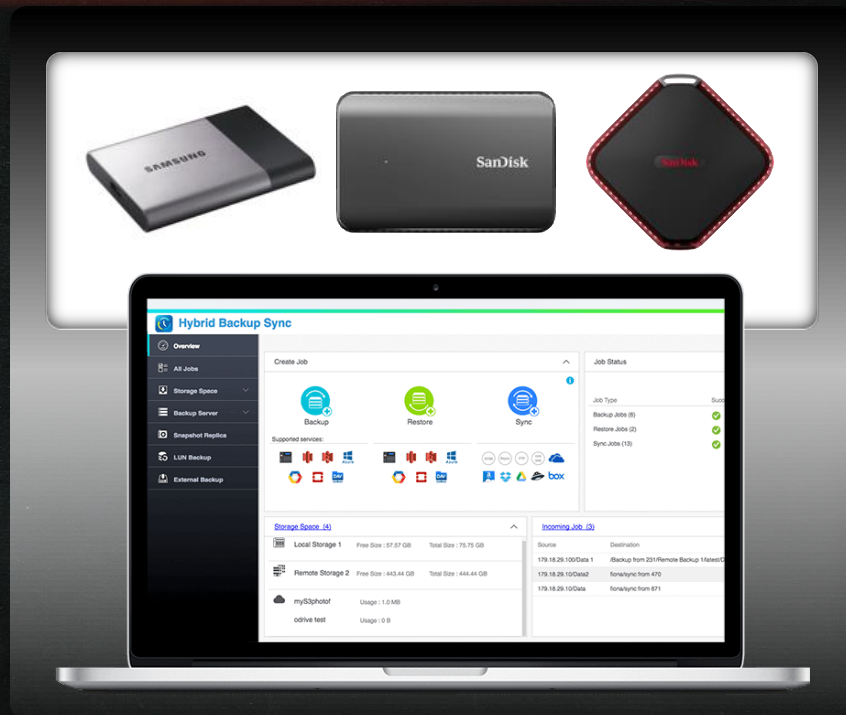
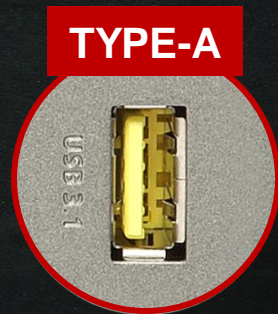
USB 3.0

USB 3.1

TYPE-C



TYPE-A



# Do more with graphics cards

**3U/4U NAS** 500W+ power supply »

Support full-height GPU cards & GPU cards requiring external power

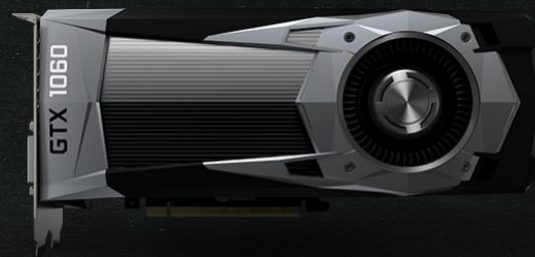


**TS-1683XU-RP**

**HDMI**™  
HIGH-DEFINITION MULTIMEDIA INTERFACE



**QuAI**



**2U NAS** 350W/300W power supply »

Support half-height GPU cards that require no external power: NVIDIA GT1030, etc.

# Add-on GPU Card Applications

TS-x83XU

DESIGN

▶ A002

▶ A001

▶ A003



**AI**  
Computing  
Acceleration



**QTS**  
Transcoding  
Acceleration



**Virtualization  
Station**  
GPU Passthrough

# Ride the AI wave with "QuAI"

QNAP QuAI

## ▶▶ AI Developer Package



QuAI is intended for data scientists and developers to quickly build, train, and optimize their AI models on QNAP NAS.



AI

+



QNAP NAS

+



GPU accelerated  
computing

=



QuAI



# Smooth Video Experience

- Virtualization Station
- HybridDesk Station, Linux Station
- QVR Pro Client (HD Station)
- Video Station
- Plex Media Server

The Plex logo is displayed in a 3D, metallic style with a glowing orange 'X'. It is set against a dark, textured background with a reflection effect below.

## QVR Pro

A Professional NVR on NAS

The QNAP logo is shown in a bold, black, sans-serif font.

## Video Station



# QTS & virtualization increase productivity

NEW

**QTS 4.3.5**  
Storage & Snapshot Manager, and new virtualization network functions

Supports Windows/Linux  
VMs and containers



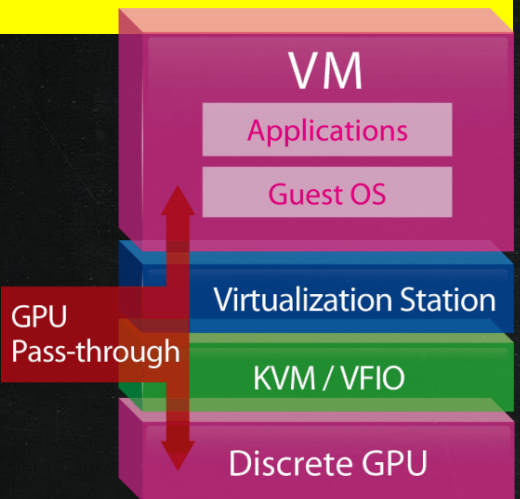
Virtualization  
Station



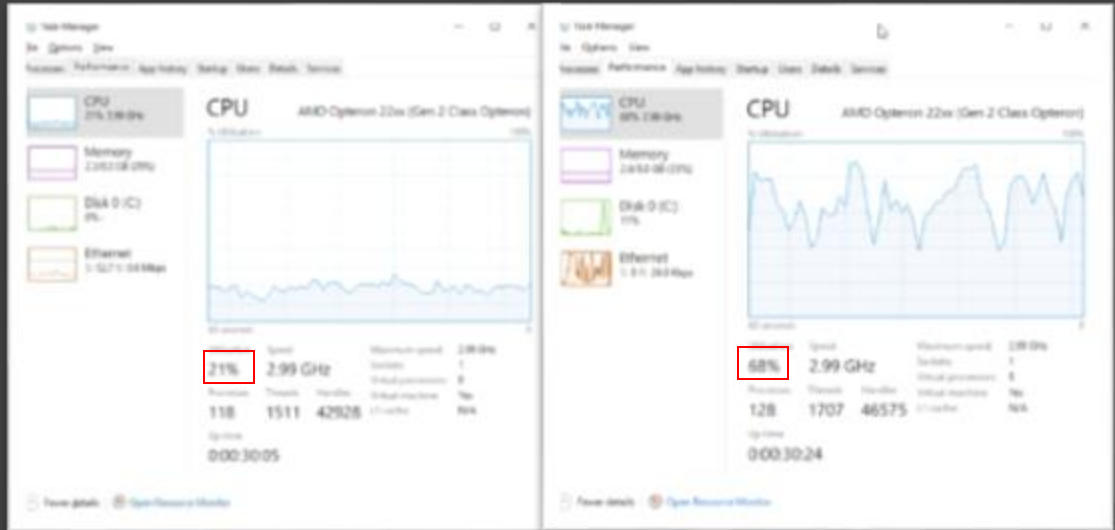
Container  
Station

# GPU boosts image/video processing

For OpenGL & DirectX applications



H/W accelerated with GPU to lower CPU usage.



w/ GPU



w/o GPU

# Super high capacity surveillance



## Surveillance Station 5.1

Default: **8 free channels**  
Max: 80 Ch. (optional license)



## QVR Pro

Default: **8 free channels**  
Max: 128 Ch. (optional license)



## QUSBCam2

Up to 1080p USB Webcam  
recording





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**QNAP**

The model name 'TS-x83XU' is written in white, bold, sans-serif font and is enclosed within a white rectangular border. It is positioned below the QNAP logo within the same red-bordered box.

**TS-x83XU**

The words 'Network Interface' are written in a large, bold, red, sans-serif font. They are centered within the red-bordered box, positioned below the model name.

**Network  
Interface**



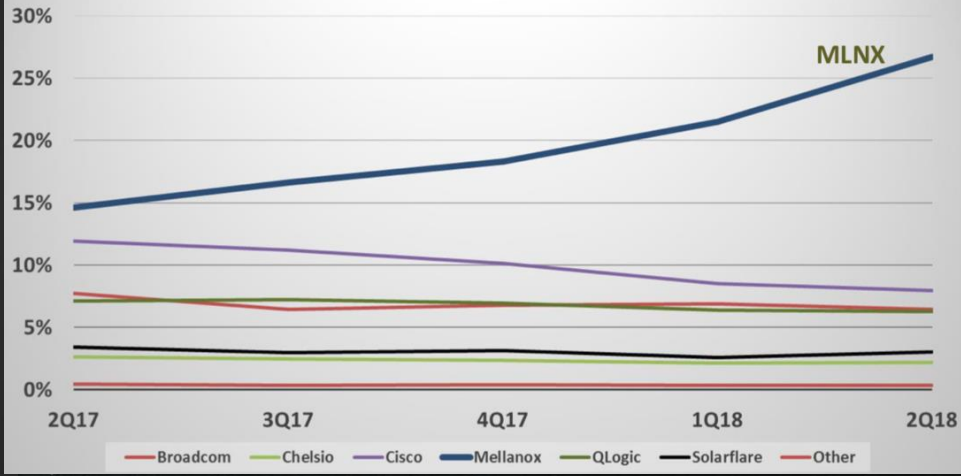
# High-Speed Connectivity Supported by Mellanox

## 2Q'18 Ethernet 10G+ Adapter Market Share



■ Broadcom ■ Chelsio ■ Cisco ■ Intel ■ Mellanox ■ QLogic ■ Solarflare ■ Other

## 10G & Above Ethernet Adapter Share of Market (x Intel)



Storage

POWERED BY ROCE

Machine Learning

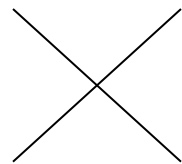
Big Data

Efficient Data Transport

SDN/Security

# 10/25/40 GbE SmartNIC with offload function

QNAP

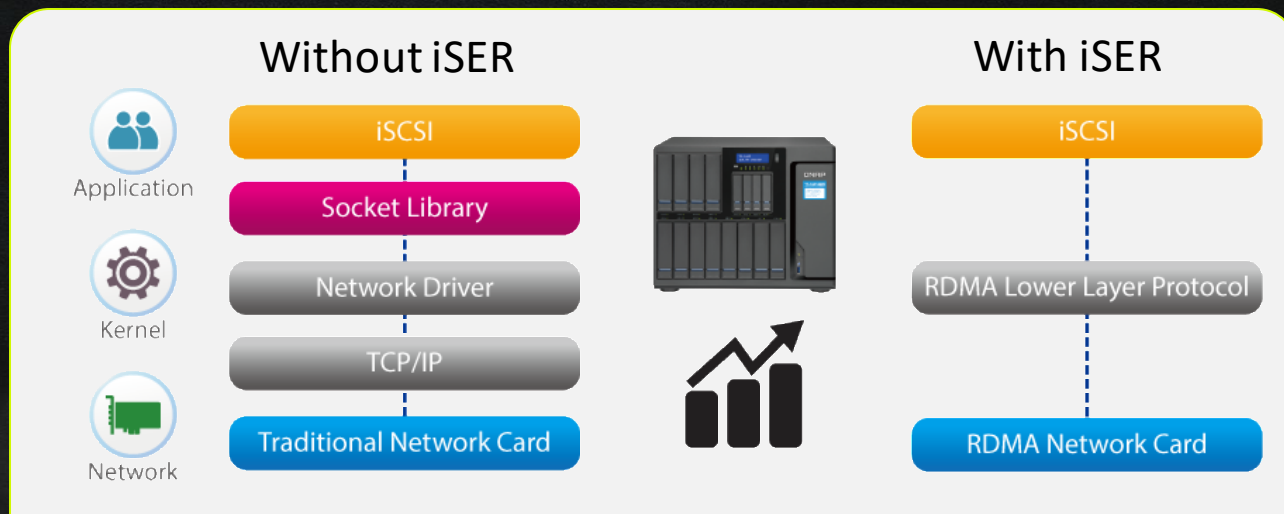
The QNAP logo is displayed in a large, blue, stylized font. The letter 'Q' is unique, featuring a red and white swoosh that extends from the bottom left of the letter.

- **Built-in Mellanox ConnectX-4 Lx 10GbE SmartNIC**
- **Supports 25/40GbE expansion**
- **Supports iSER**



# Offload tasks from CPU with iSER

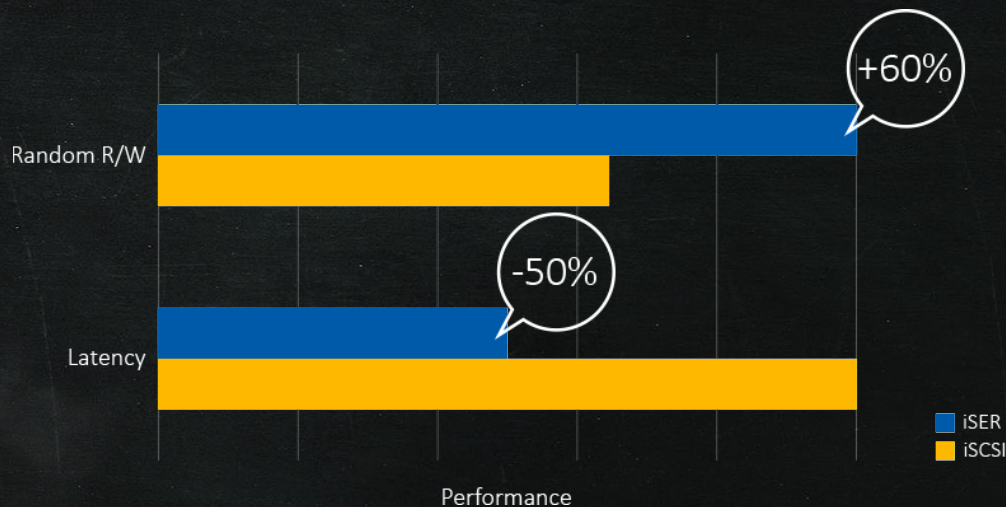
- iSER allows data to **bypass general network drivers, the socket layer,** and to directly enter memory buffers of the server and storage.
- Increasing performance, lower CPU loading



# iSER makes VMware Faster

When VMware Server and NAS are iSER ready:

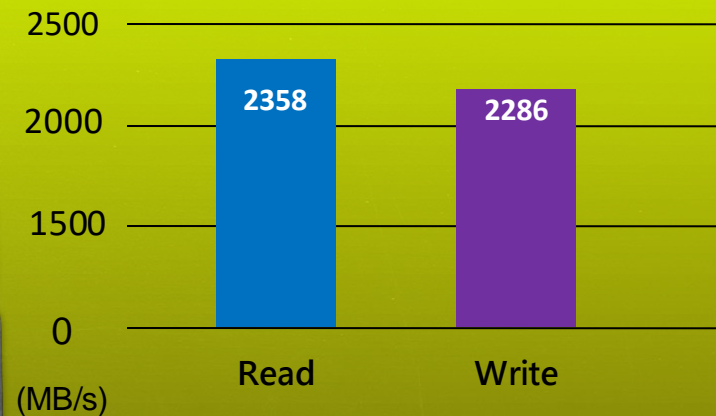
- Random read/write performance is **60% higher** than iSCSI
- Latency is **50% lower** than iSCSI



# Built-in dual 10GbE SFP+ ports



## 10GbE x 2 (Throughput)



Tested in QNAP Labs. Figures may vary by environments.

**Test environment:**

NAS: TS-1283XU-RP-E2124-4G with QTS 4.3.5

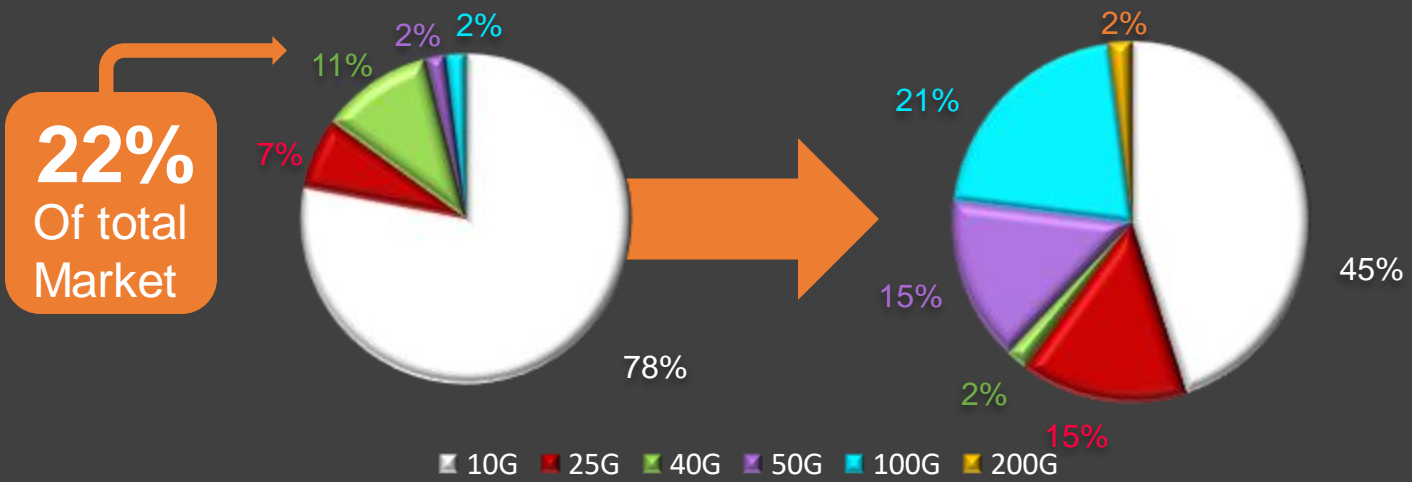
Volume type: RAID 5; 16 x Intel S3500 240GB SSDs (SSDSC2BB240G4)

# >25GbE Market Moves Faster Than Ever

- The estimated market share of >25GbE will be doubled to nearly 55% (after 2018) from 22% (2017)
- High speed adapters are expected to grow rapidly in Cloud, Big Data, High speed storage, Virtualization and A.I. segments.

High Speed Adapters 2017 (\$1.3B)

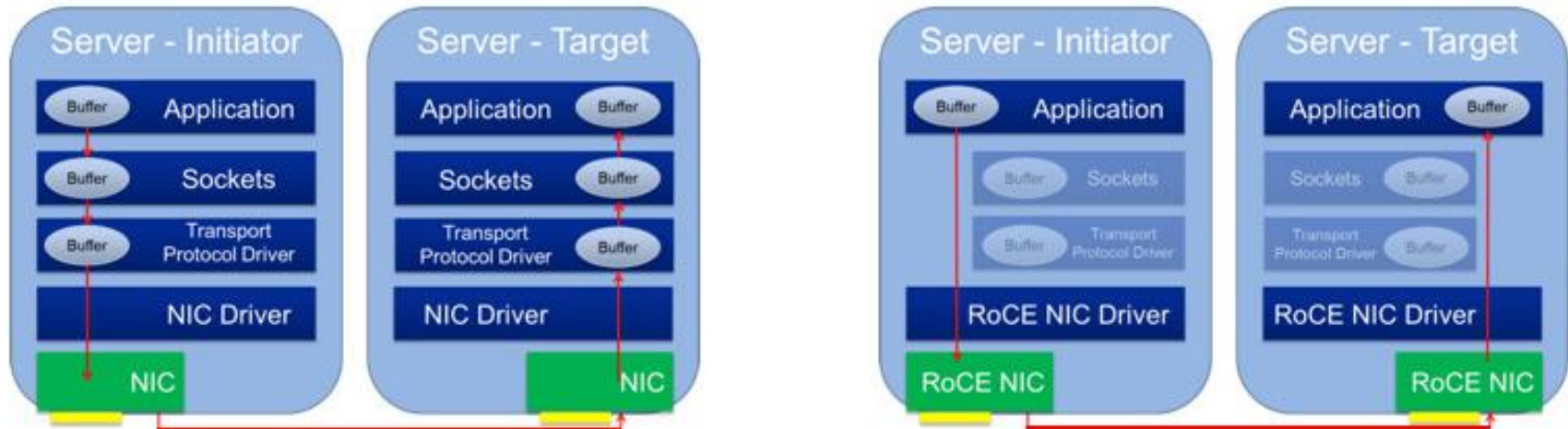
25G+ Segment Growing at 38% CAGR



# Mellanox ConnectX®-4 Lx NIC

Supports RDMA Over Converged Ethernet (RoCE)

RoCE (L2) and RoCEv2 (L3) hardware offload  
Ideal for low latency and high speed big data transferring



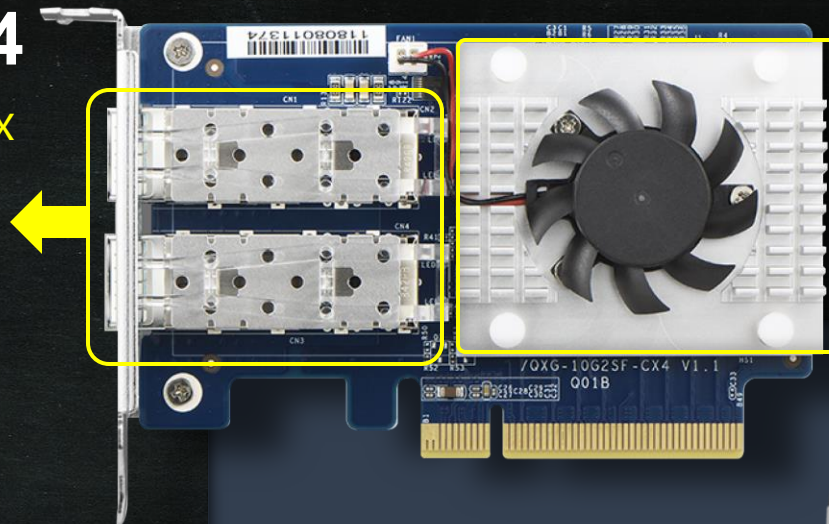


# QNAP Dual-port 25GbE NIC

2019  
January  
on the  
market

## QXG-25G2SF-CX4

- Mellanox ConnectX®-4 Lx NIC
- 2 x SFP28 ports
- Supports 25GbE/10GbE
- Supports iSER/RoCE hardware offload



Cooling system



Compatible cable  
SFP28 25/10GbE  
DAC cable



# Mellanox SN2010 10/25GbE and 40/100GbE switch

QNAP

- Build 25GbE Ready high speed ethernet
- 18 x 10/25GbE SFP28 port
- 4 x 40/100GbE QSFP28 port

QNAP® X

Mellanox  
TECHNOLOGIES

18x 10/25GbE  
SFP+28 ports

4x 40/100GbE  
QSFP28 ports

Management  
ports



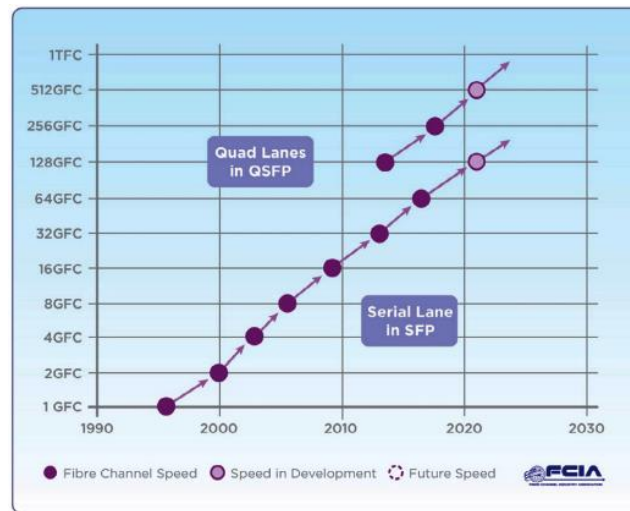
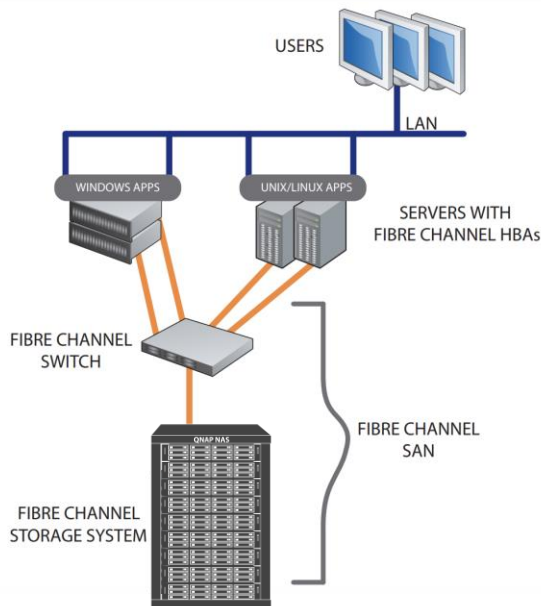
Spectrum™

SN2010

← 1/2 19" →

# Fibre Channel SAN

- Use Fibre channel protocol with SCSI command to transmit block-level data
- 32Gbps FC is now commercial and moving to a faster speed. Its **speed** and **lower latency** are suitable for high density computing and storage



# Fibre Channel applications

## Bank transactions

- Need low-latency storage
- Higher security for data segregation between FC and Ethernet



## Databases

- Small in size but huge in numbers data packets transfers
- FC SAN provides high IOPS and lower latency



## 4K & 8K media storage & editing

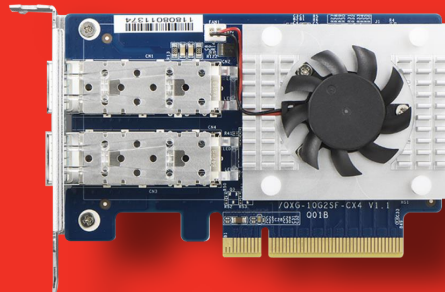
- Huge storage space demand for TV programs and footage
- FC environment for longer distance video access and real-time editing



# Integrating Fibre Channel SAN services

\*\*\*\*\*  
Soon to  
market  
\*\*\*\*\*

- **QTS 4.4.1** will support FC SAN: single NAS to provide SAN, NAS and cloud storage for unified storage solution
- Partnering with FC card vendor Marvell & ATTO for the most economical FC SAN storage solution



Support Marvell  
Qlogic 32Gb/16Gb/8Gb FC card

The ATTO logo, featuring the word 'ATTO' in a white, sans-serif font inside a red-bordered rectangular box.

ATTO



Support ATTO  
Celerity 32Gb/16Gb/8Gb FC card

The QNAP logo is displayed in a bold, white, sans-serif font. The letter 'Q' is stylized with a white swoosh that extends from the top left and curves under the letter.The model name 'TS-x83XU' is presented in a white, sans-serif font, enclosed within a white rectangular border.

Release full  
potentials of SSD

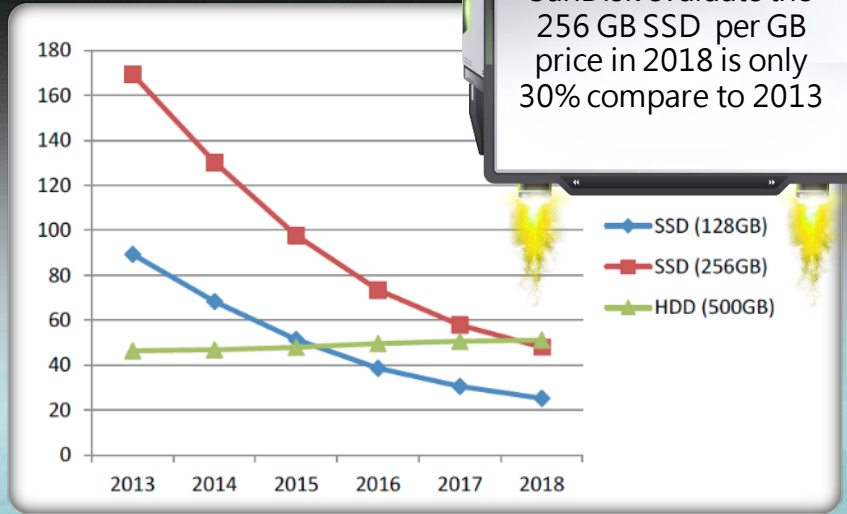
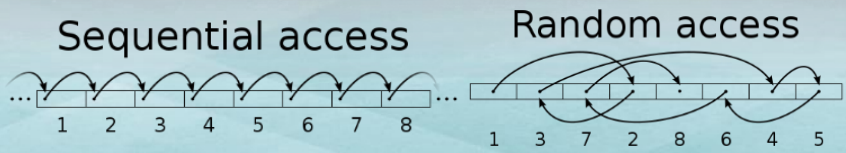
SSD Over-provisioning,  
Snapshot Remote Restore



# SSD Usage In Network Attach Storage

- SSD can provide high random IOPS for multi-clients sync and business applications that can not be achieved by HDD.
- In 2018, SSD price also comes close to the sweet spot.
- Besides choosing the right SSD, you should also choose right NAS!

Drive Type	Sequential Access (MB/s)	Random Access (IOPS)
HDD	100	350
SSD	300	60000

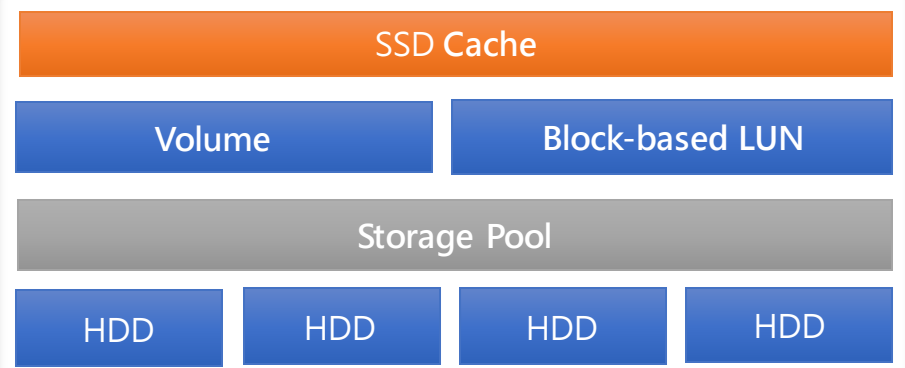


# QNAP SSD Global Cache and Qtier

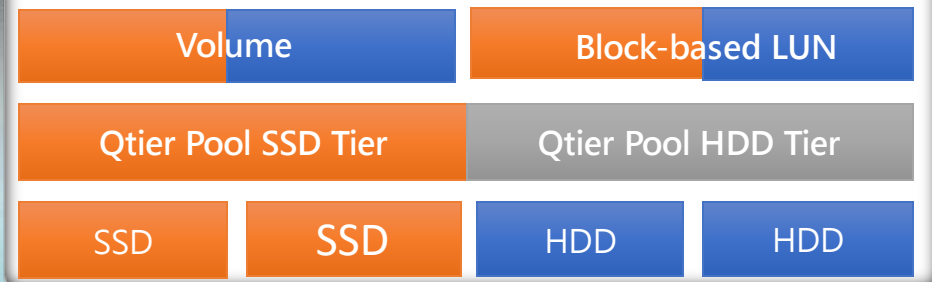
IT manager can have different SSD configurations with TS-x83XU

- For real-time performance boost, deploy SSD Global Cache or All flash storage
- For continued data tiering between hot and cold data, deploy the Hybrid Storage Qtier™ Auto Tiering

**SSD Cache let all data enter cache and read hot data from the storage in real time**



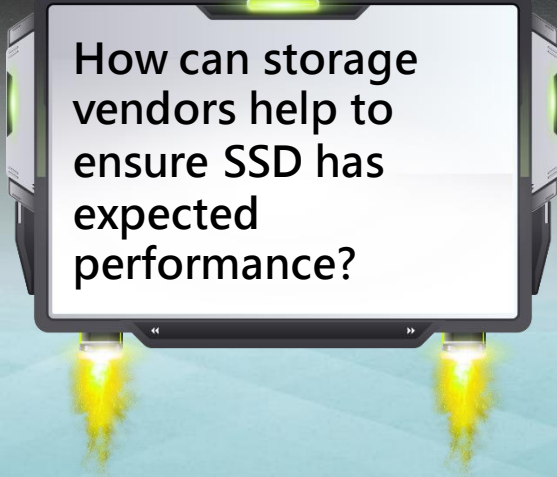
**Qtier utilizes SSD space and let data block be reallocated based on hot or cold in the storage**





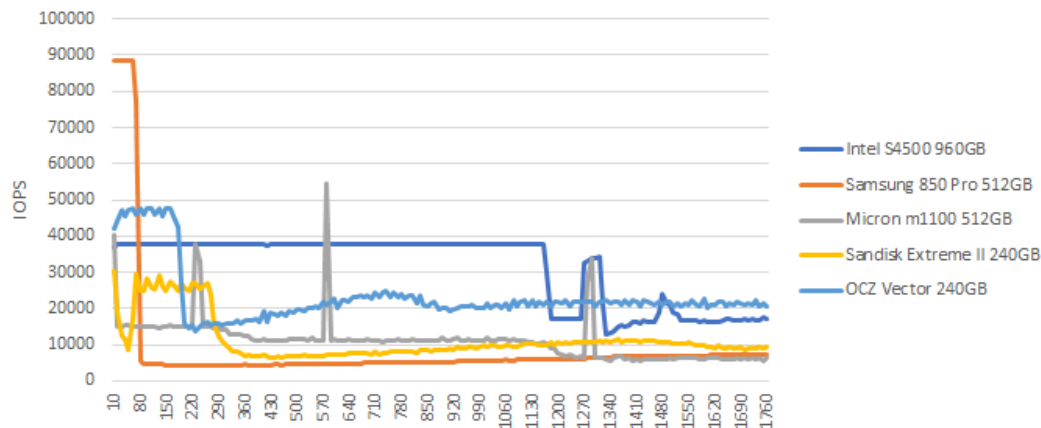
# Different SSD has Different Performance!

- SSD Write amplification cause performance degradation
- In QNAP Lab, engineer use FIO to test different SSD, and all SSD have showed consisted write performance degrade.
- Different SSD's controller and Garbage Collection Algorithm will effect the long term performance



How can storage vendors help to ensure SSD has expected performance?

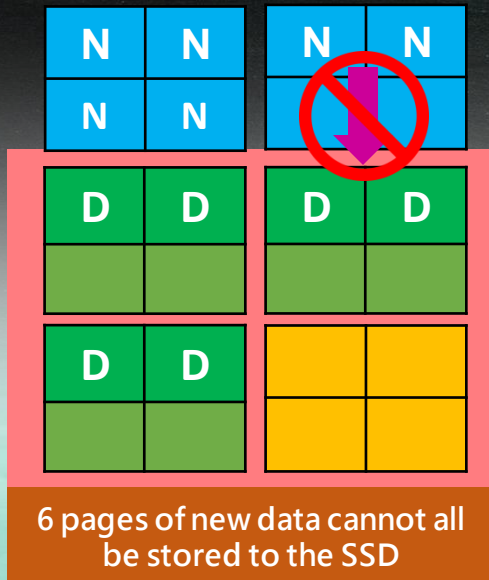
Different SSD in QNAP NAS's FIO consisted performance (IOpattern: RW-4K):



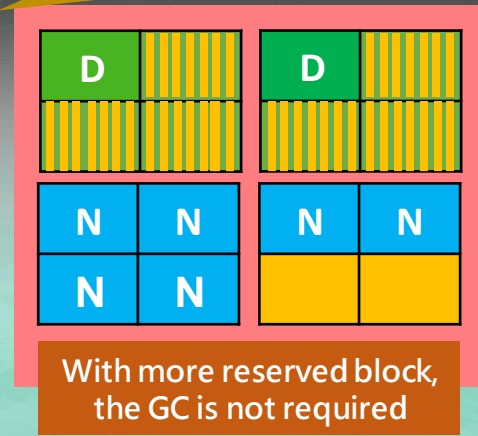
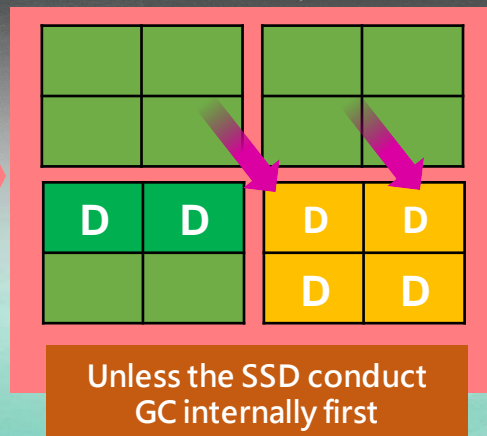
# What is SSD Over-provisioning

- SSD Over-provisioning reserves space in the SSD to decrease write amplification & increase consistent performance and endurance.
- Reason: to avoid Garbage Collection in any giving point of time

N	New D
D	Valid D
	Invalid D
	OP
	OP



With limited OP, 4 additional write is needed. With more OP the movement is not required.

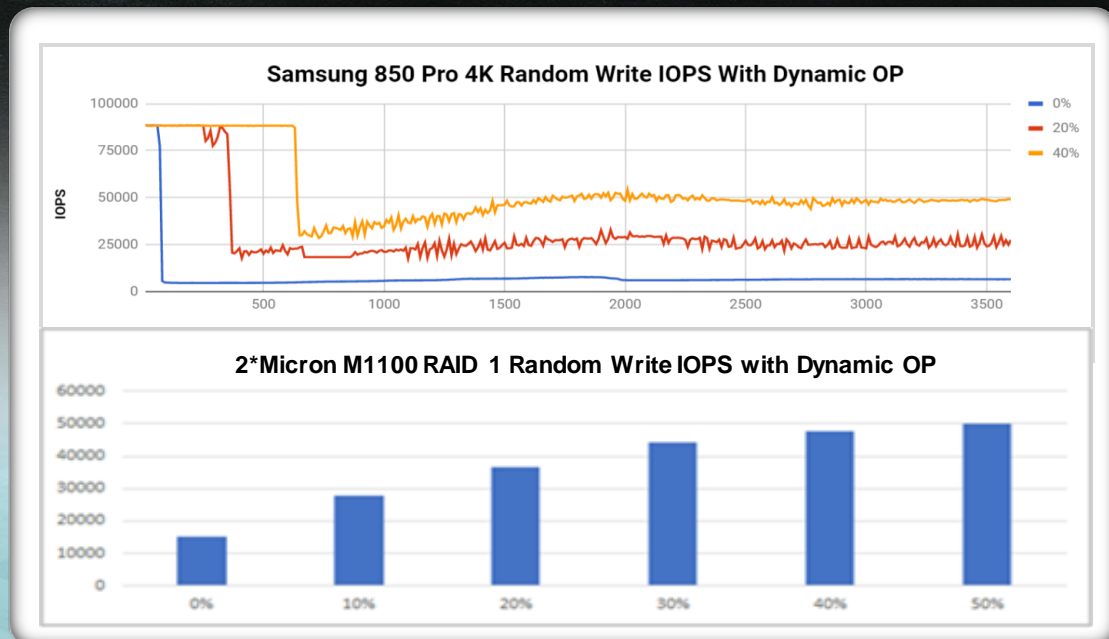


# The Advantage of Software-defined SSD Extra Over-provisioning

- With QTS, user can assign more OP to the SSD RAID.
- At QNAP Lab, the effect of over-provisioning can not only be observed on single consumer-level Samsung 850 Pro to gain the performance same as data center SSD, but also be seen on SSDs as a RAID.

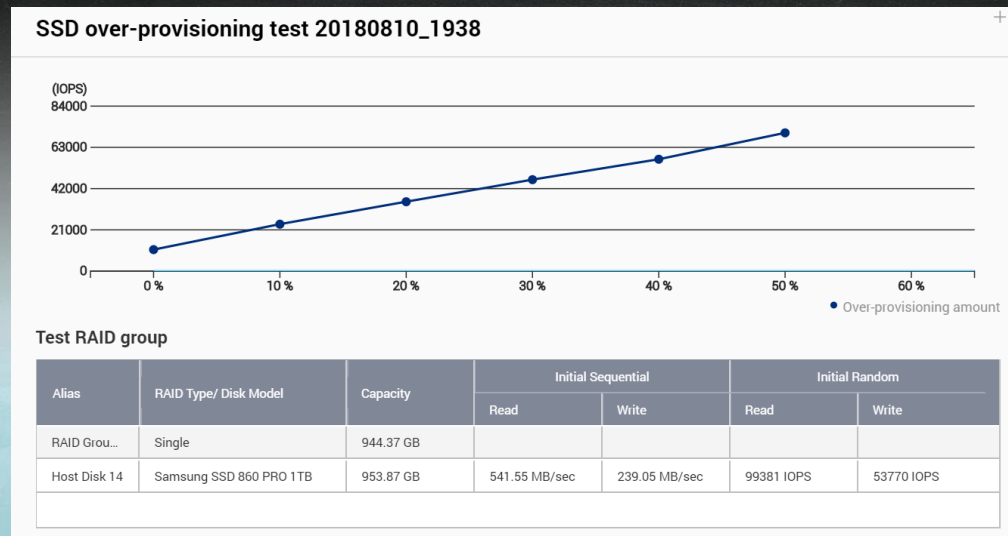


Above: Samsung 850 Pro as Single Disk  
Below: Micron M1100 as RAID 1  
FIO configuration: runtime=1800 iengine=libaio  
direct=1 rw=randwrite bs=4k numjobs=1 iodepth=32



# Choose SSD is Hard, Choose QNAP is Simple

- IT managers' biggest challenges in deploying SSD is to measure the SSD performance and how it can solve storage bottleneck.
- With QNAP SSD Profiling Tool, users can not only set OP, but further test SSD RAID performance with different OP amount.



IT managers can  
decide the best  
practice directly  
on production site

# QNAP Global SSD Cache

The QNAP SSD Cache can be applied to multiple volume / LUN

## Cache Type

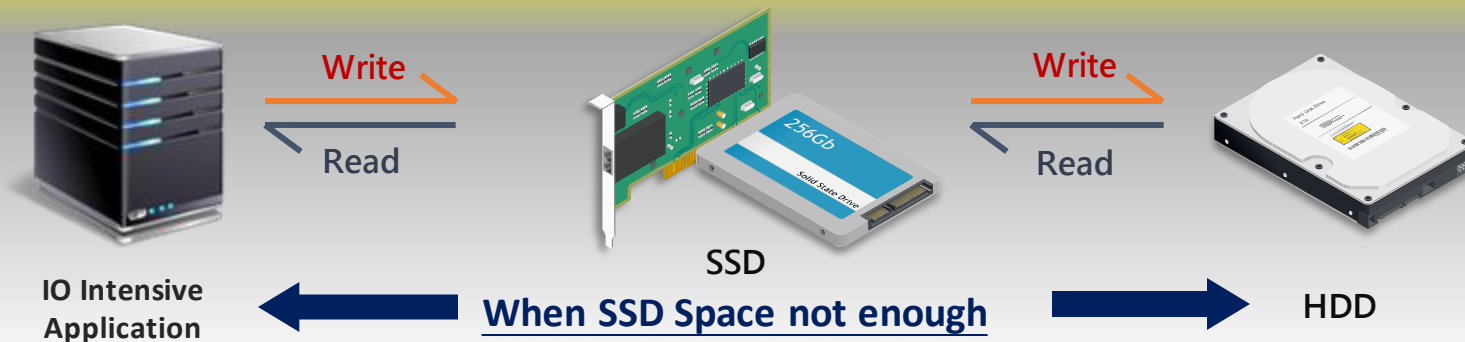
**Read-Only** → Copy frequently used data to SSD

**Read-Write** → Not only copy data, new data can also be temporarily stored in SSD

**(New) Write-Only** → Only new data will be written into the cache

How Read-write Cache work:

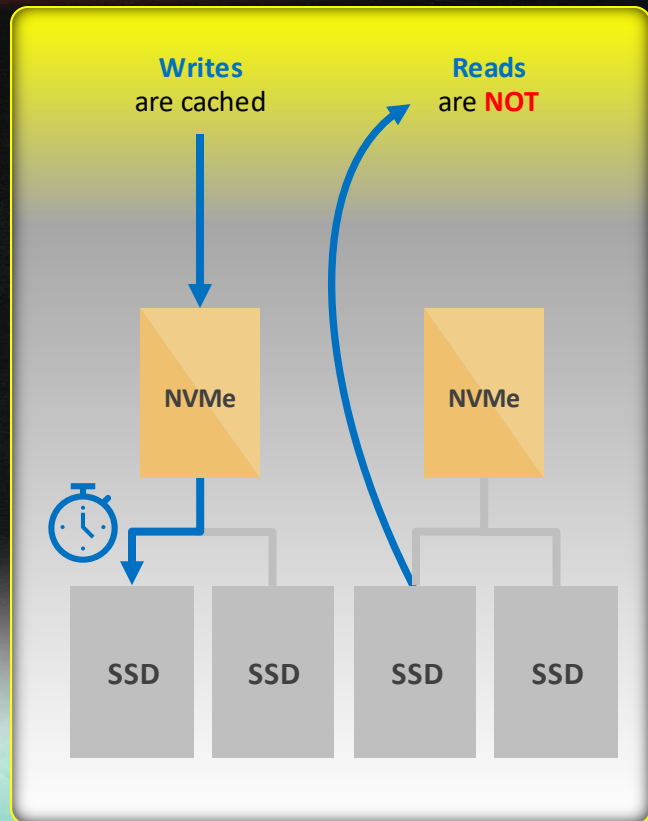
Data from clients and storage will both be cached



# The Write-only Cache Increase ROI of SSD Cache with high Writing Demand

- Write-only cache is promoted by Microsoft for endurance control.
- QNAP believe Write-only Cache can increase the ROI of purchasing SSD in below scenario:
  1. File Server focusing on write operations
  2. Database with more write operation (Such as IOT monitoring server)
  3. Use high endurance SSD (Intel Optane™) with other SSD

<https://docs.microsoft.com/en-us/windows-server/storage/storage-spaces/understand-the-cache>

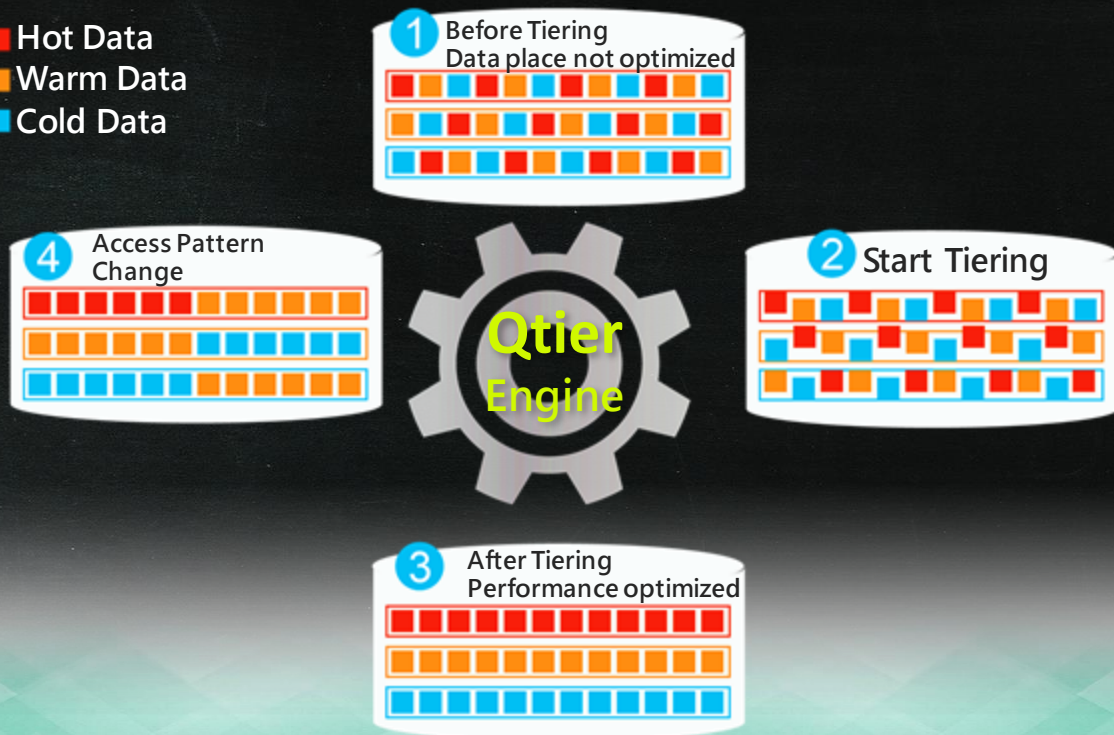


# Qtier (Auto-Tiering) Increase Capacity and Performance at the Same Time

Beside SSD Cache, Qtier™ can migrate data between SSD and HDD directly

SSD capacity can be utilized with limited memory requirement.

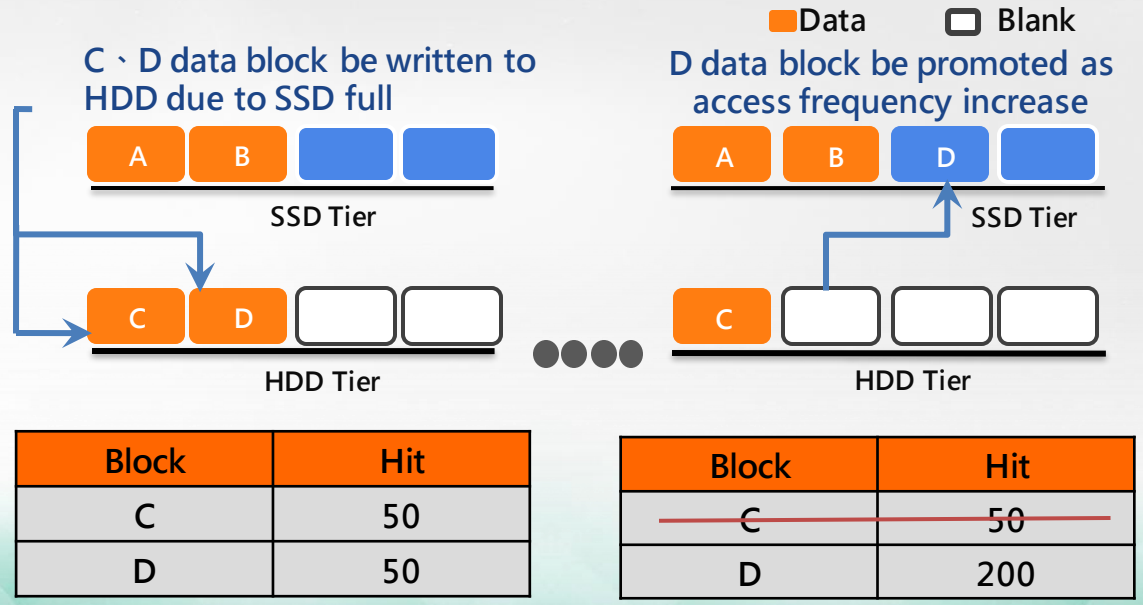
- Hot Data
- Warm Data
- Cold Data



# Qtier 2.0 IO Aware tiering for real time performance boost

Beside tiering on schedule, Qtier now can simulate SSD Cache behavior

It can utilize SSD capacity while boost performance in real Time thus increase SSD ROI





# TS-x83XU SSD Multiple Configurations

In addition to acting as a backup server, SSD Over-provisioning, Global Cache and Qtier let TS-x83XU be deployed as production server

Scenario	File Server	Web, Application, Virtualization Server	Collaboration, Video Editing	Surveillance, Backup, Log Server	Business-Critical Database
SSD Config	Qtier™	Qtier™	Read-Write Cache	Write-Only Cache	SSD RAID
SSD RAID	RAID 6	RAID 10	RAID 5	RAID 10	RAID 10
SSD OP	10%	20%	20%	30%	30%



# Businesses need lower RTO

In the survey of 300 Enterprises and SMBs at Taiwan:

- **60%** has used Remote Replication as Backup Plan.
- **50%** of businesses expected the recovering time should be within **1 Hour**.
- But **also 50%** of businesses experience actual recovering exceed **1 Day!**

Can businesses only manually transfer data back from the remote end when disaster happen?



# Restore From Remote Snapshot Vault

- The Snapshot Manager is now actively connected to Snapshot Vault
- Support monitor and restore selected folders and files **from the source NAS directly!**



Remote Snapshot Vault

DataVol1 (V\_DataVol1 At Ripple3085, 172.17.22.95)  
Ready

Select snapshot location : Remote Ripple3085 (DataVol1\_rep)

Local  
Demo1677U

Remote  
✓ Ripple3085 (DataVol1\_rep)

Now 08/15 13:13  
08/15 17:17 2018/08/16 12:00 1200

- GMT+08\_2018-08-16\_1200
- GMT+08\_2018-08-16\_1100
- GMT+08\_2018-08-16\_1000
- GMT+08\_2018-08-16\_0900
- GMT+08\_2018-08-16\_0800
- GMT+08\_2018-08-16\_0700
- GMT+08\_2018-08-16\_0600
- GMT+08\_2018-08-16\_0500

Backups  
Container  
Download  
ISOs  
Multimedia  
Public

Taken: 2018-08-16 12:00:01  
Replicated: No  
Expires After: --  
Status: ✓ Ready  
Capacity: 297.24 GB  
Description: No description

Restore Clone Revert volume snapshot

**Both the source and destination NAS must be upgraded to 4.3.5 to support this function**

# Drastically Reduce Recover Time With 10GbE Network

- The Remote Snapshot Vault Recovering is based on Ethernet service.
- Using 1GbE network, recovering large data still takes hours.
- Pair the Snapshot Replica Solution with 10GbE or even faster interfaces to increase both the backup and recovery speed !



# The Forth Way: Snapshot Export / Import

- Export a snapshot from snapshot manager or snapshot vault
- Using external storage device, the exported imaged can be imported to another NAS to create new volume or LUN
- The same image can also be used to revert source volume or LUN



# With QTS 4.3.5 Power Of Storage:

01

## Software-defined SSD Extra OP

Measure & set unique over-provisioning amount on the NAS

02

## SSD Global Cache & Qtier™

Using Cache or Auto Tiering to maximum SSD ROI

03

## Remote Snapshot Restore

Using 10GbE network to reduce RTO





**QNAP**

**TS-x83XU**

is your best choice!

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