

QNAP

Introducing Mustang-200

Dual-CPU computing accelerator to boost NAS/PC performance



Demand increases for storage and computing

Add Storage

Purchase large capacity disks and/or storage devices

Enhance Computing

Purchase more powerful servers



But resource is limited. What can we do?

- Different departments in the company require their own independent storage environments, but the budget is tight. How can these demands be met ?
- New equipment is needed but the physical space is limited.
- The NAS computing capacity needs a boost while the storage space is still sufficient. Is there a way to deliver what's really in need?



Multiple advanced technologies in one card : Mustang-200



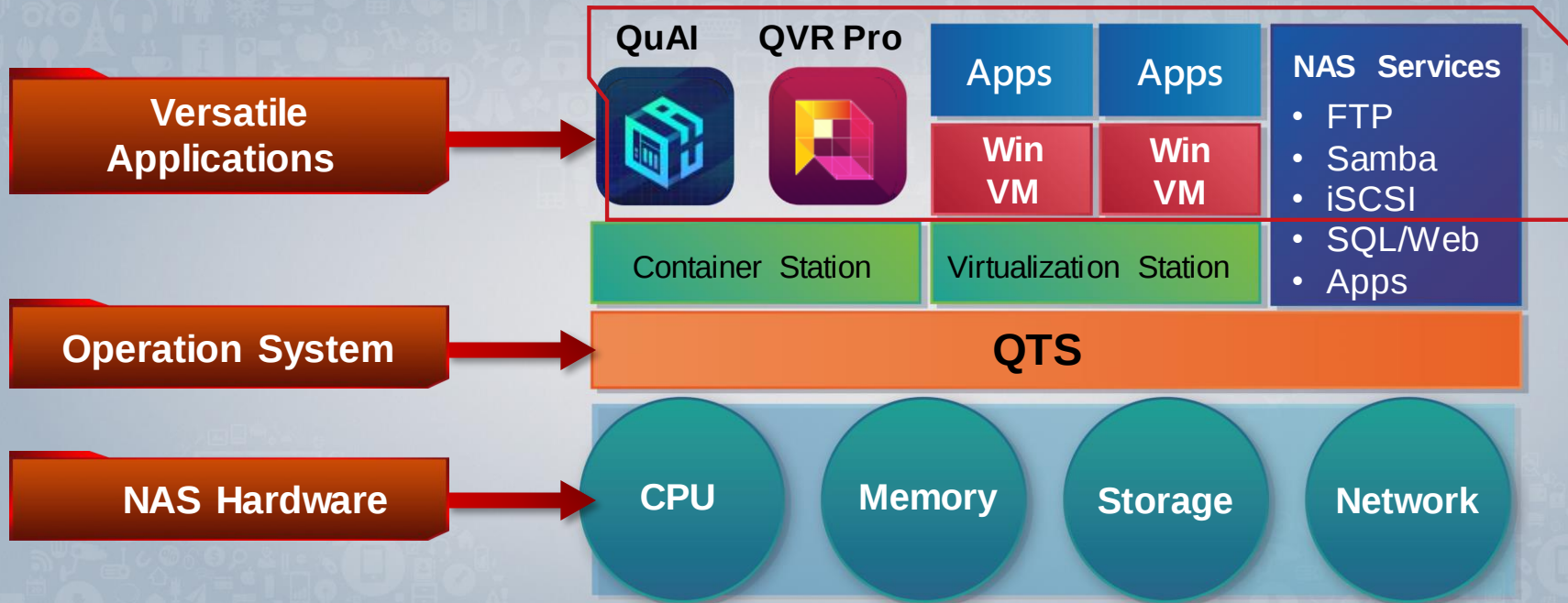
QNAP Software

X

IEI Hardware

Mustang-200 solves your problems in a compact single expansion card design.

A quick look at NAS architecture



Mustang-200 houses 2 independent nodes



mQTS

CPU

Memory

M.2
Storage
iSCSI/
VJBOD

Network

mQTS

CPU

Memory

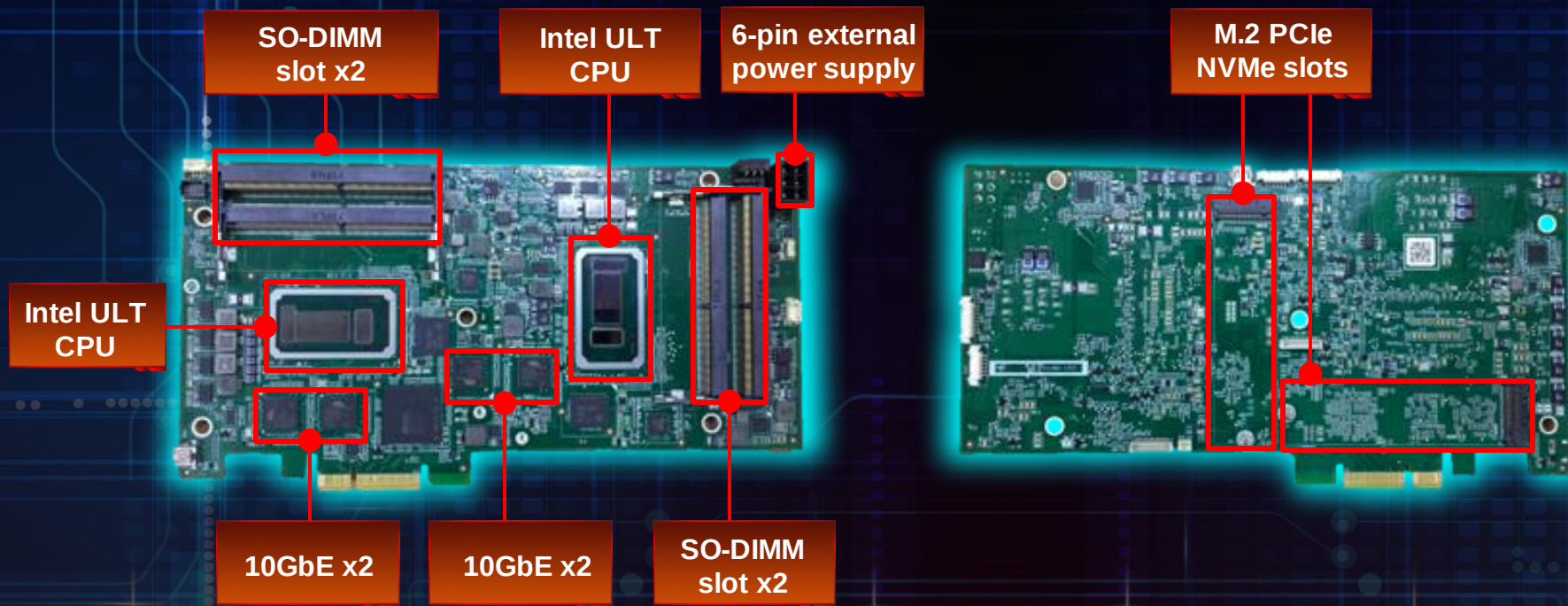
M.2
Storage
iSCSI/
VJBOD

Network

PCIe 2.0 x 4

PCIe

Mustang-200 card design



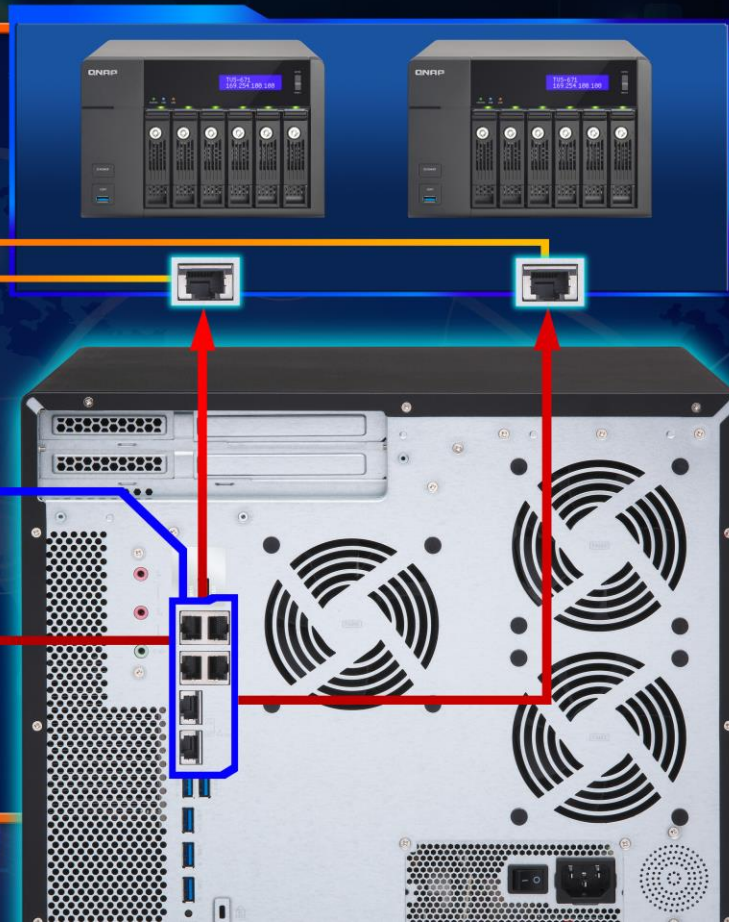
Interfaces

Each miniature
physical NAS has its
independent IP address

Choose any interface at
host NAS as the
gateway port



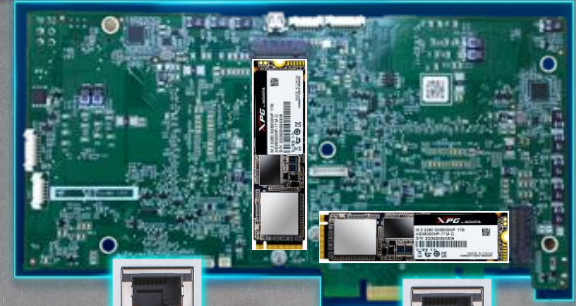
網路交換機



Storage and expansion

1

- Built-in M.2 PCIe NVMe SSD slots (per CPU)
- PCIe 3.0 x4



3

VJBOD expansion space



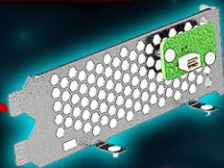
2

Connect to iSCSI LUN or shared folder

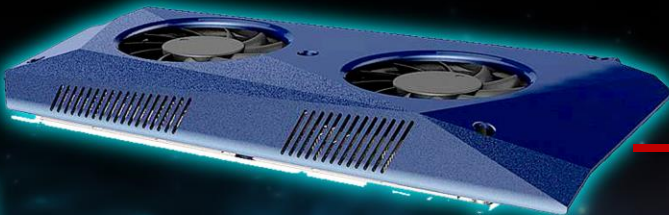


High efficiency cooling mechanism

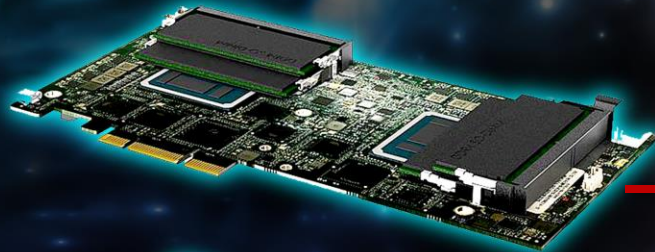
**Bracket &
Card number display**



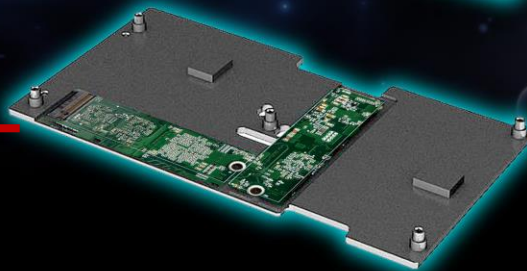
**M.2 thermal module:
aluminum alloy
radiator, thermal pad**



**CPU thermal module:
Heat shield, radiator,
fan**



**Motherboard:
CPU, Memory, 10G
LAN, M.2, HDMI, USB**



Note: HDMI and USB ports are for debug purposes only.

Install multiple Mustang-200 as needed



- Set a unique ID for each card
- Use rotary switch to set ID

IEI x QNAP Mustang-200



Mustang-200-i7-1T/32G-R10

- Intel® Core™ **i7-7567U** 3.5GHz x2
- Intel® 600P 512GB SSD per CPU
- 16GB(8GB x2) DDR4 per CPU
- PCIe x4 interface

Mustang-200-i5-1T/32G-R10

- Intel® Core™ **i5-7267U** 3.1GHz x2
- Intel® 600P 512GB SSD per CPU
- 16GB(8GB x2) DDR4 per CPU
- PCIe x4 interface

Mustang-200-C-8G-R10

- Intel® **Celeron® 3865U** 1.8GHz x2
- 4GB (2GB x2) DDR4 per CPU
- PCIe x4 interface

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DEMO

Mustang-200 intro
Mustang-200 setup

Required NAS models and QTS versions

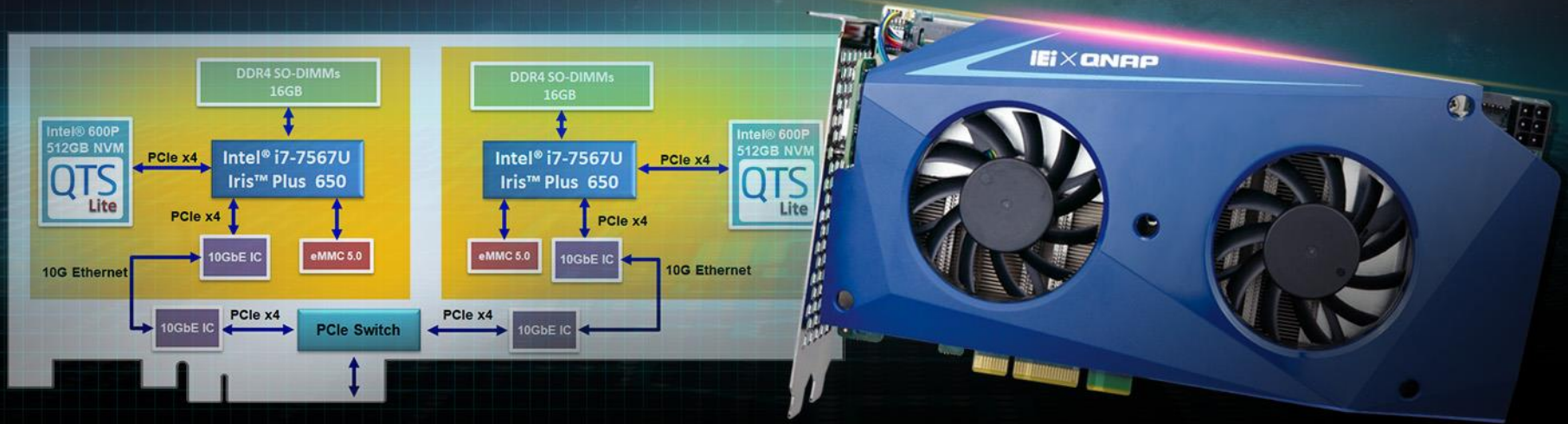
NAS	Form factor	QTS Ver.	Note
TS-877 TS-1277 TS-1677X	Desktop	4.3.5	
TVS-882 TVS-1282	Desktop	4.3.5	450 W power supply models only
TS-1685	Desktop	4.3.5	550 W power supply models only
TS-1677XU/TS-1677XU-RP TS-2477XU/TS-2477XU-RP	Rackmount	4.3.5	

6-pin additional power



Dual independent QTS system is coming!

Bring up your productivity!



Five major benefits for upgrading your NAS now

Buy one card and get two NAS
Economical and affordable

Dedicated Card Manager app
For card management on host NAS

Massive apps in QNAP App Center
Easy to learn and use

Independent and friendly development environment
For resource segregation

Powerful security protection
Your safety is our duty



Buy one card and get two NAS

Dual system on one card

Two independent systems for resource assignments

Lightweight Design

Only takes one PCIe slot

Prices at a good value

Three configuration options to choose from



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+

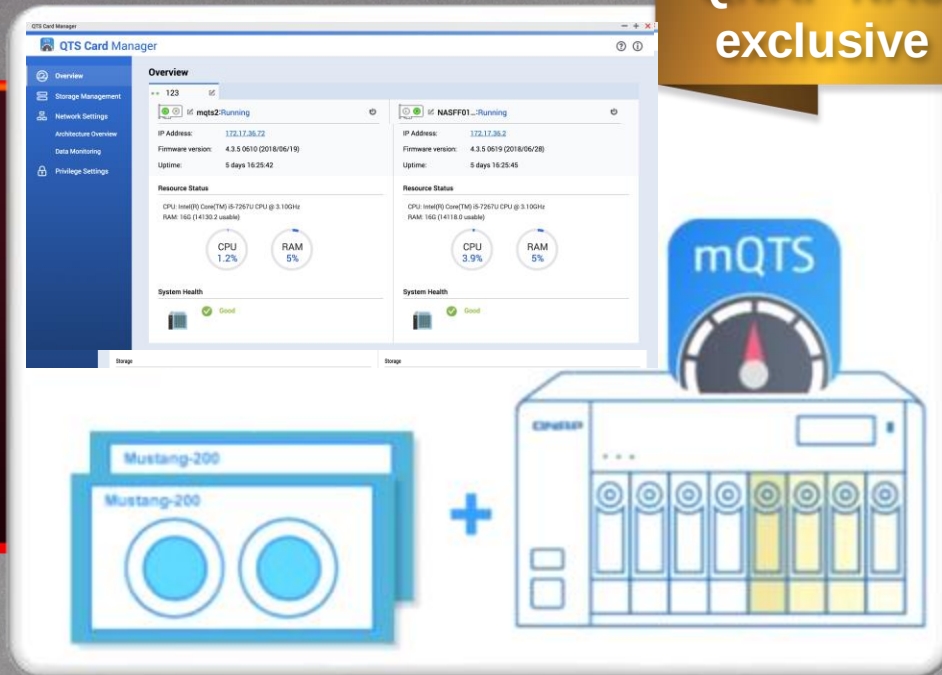


QTS Card Manager on QNAP NAS

QNAP NAS
exclusive

QTS Card Manager is a new app for host NAS users to manage subsystems.

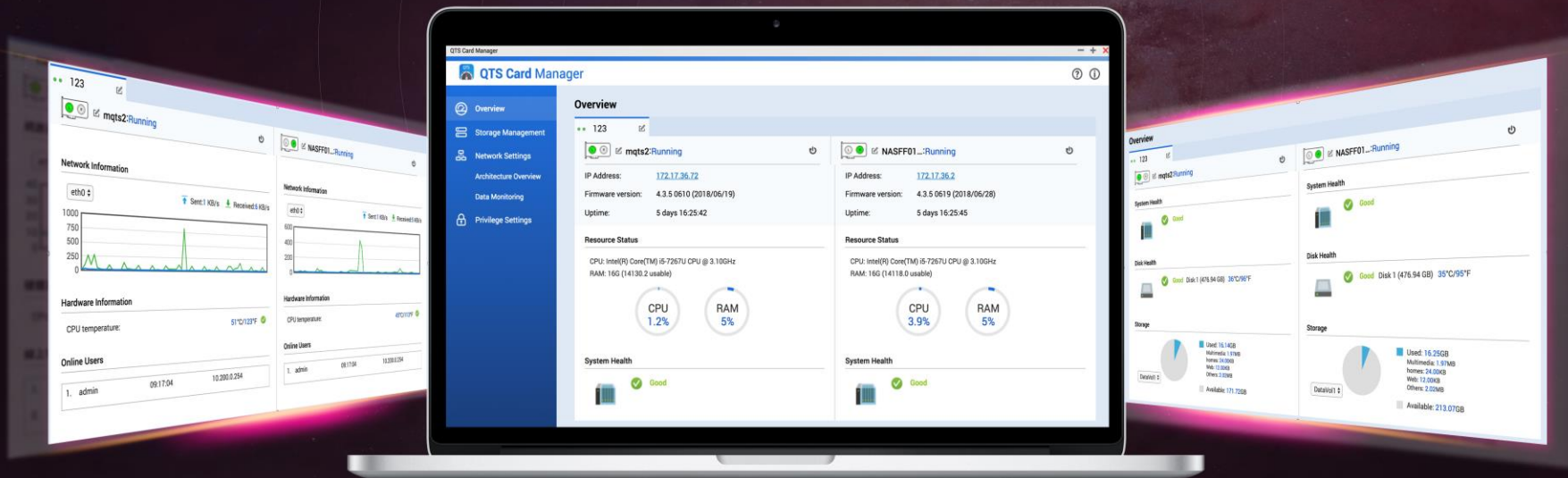
- Automatic network setup
- Subsystem overview
- Configure subsystem storage space
- Subsystem network settings



QTS Card Manager - Overview

Intuitive operation of system resource management

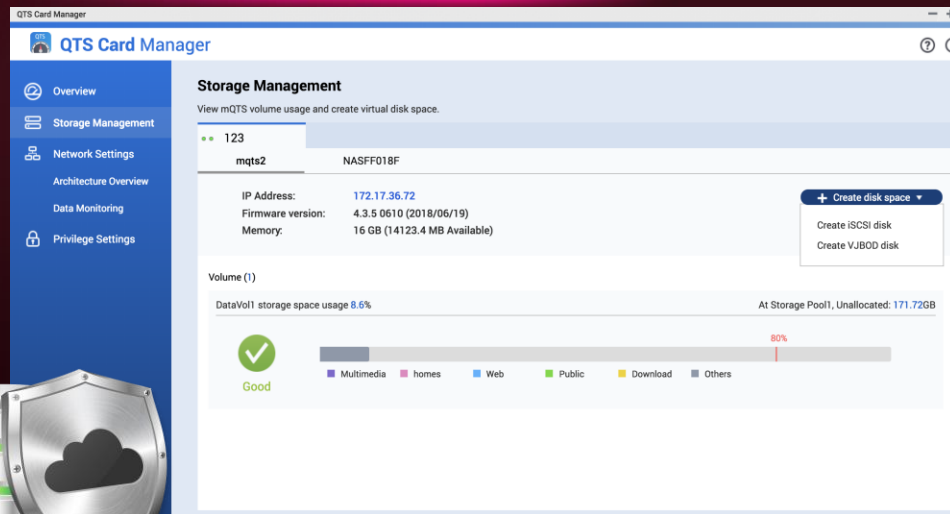
- Firmware version and hardware resource usage monitoring
- Remote control power on and off
- One-click to load subsystem management interface
- View online users



QTS Card Manager - Storage Management

Storage space monitoring and expansion is very simple!

- Hard Disk usage monitoring
- Help mount (iSCSI VJBOD) host storage space quickly and easily



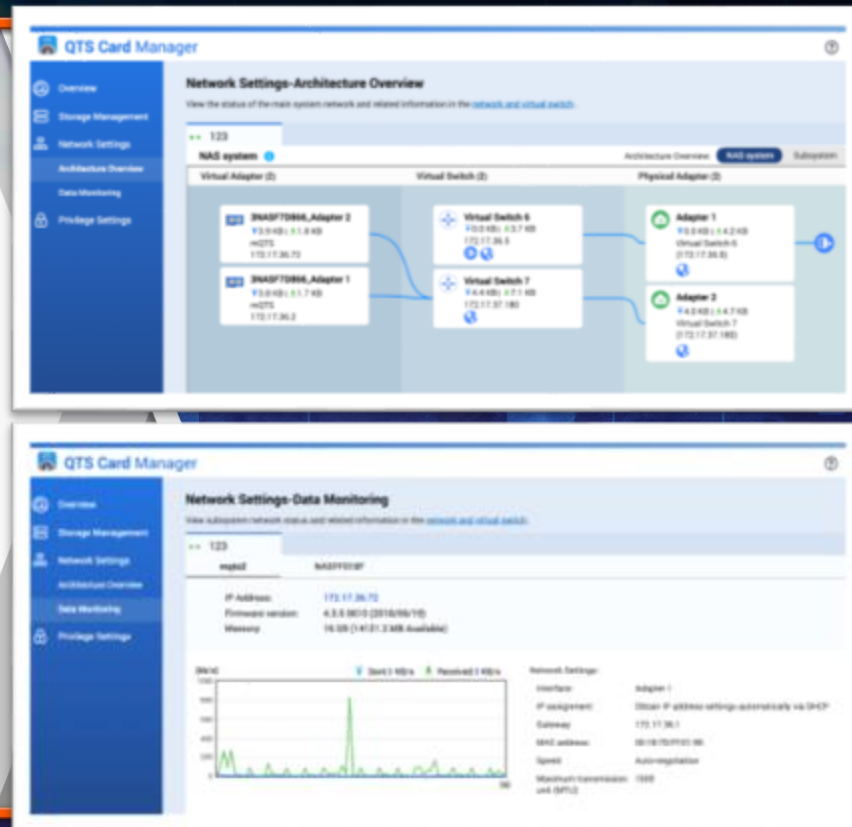
QTS Card Manager - Network Settings

Network topology

- Intuitive and clear network topology, for understanding network configuration
- Subsystem network settings for flexible configuration of network environments

Network traffic monitoring

- Clearly monitors all network activity and traffic changes, and review network bandwidth usage



Versatile apps in QNAP App Center

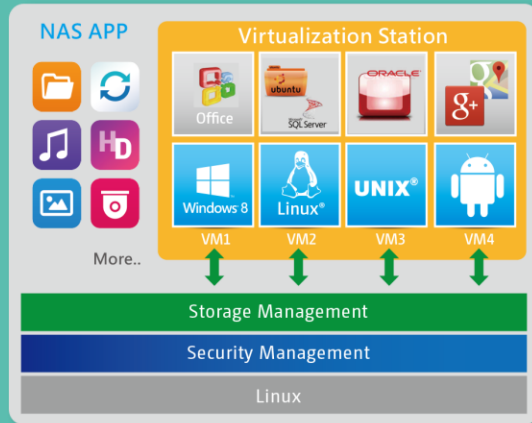
- Hundreds of apps to choose from
- Importing from third-party app stores
- Develop your own application is also possible!



Further expansion: virtualization

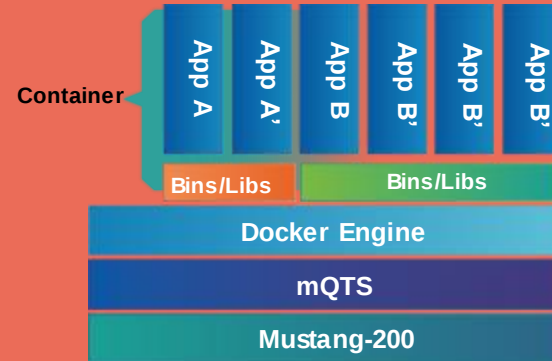
Utilize the advantages of independent hardware resources to enable virtualization on miniaturized physical machines!

Virtualization Station



- Complete OS virtualization solution
- Supports Windows®, Linux®, UNIX® and Android™
- Secure, isolated computing environment

Container Station



- Lightweight Linux®-based OS and app virtualization solution
- Supports LXC and Docker® containers
- Easy deployment, portable and efficient

The system is independent and segregated

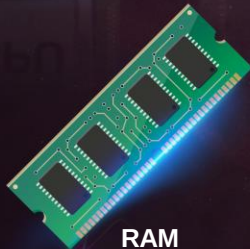
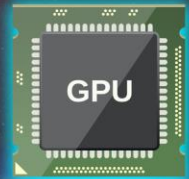
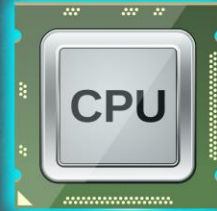
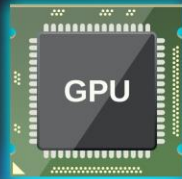
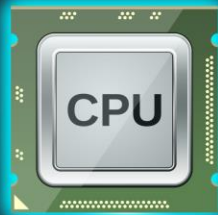
Subsystems and host NAS run independently of each other

- Share with different people and the users may have their own QTS system
- Responsible for different application services to ensure that applications do not affect each other

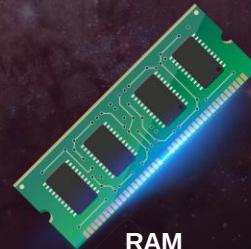


Independent physical hardware resources are more efficient than virtual machines

Each mQTS system has its own independent hardware resources, such as processors and memory. No need to share host system resources. Application and performance configuration is more flexible

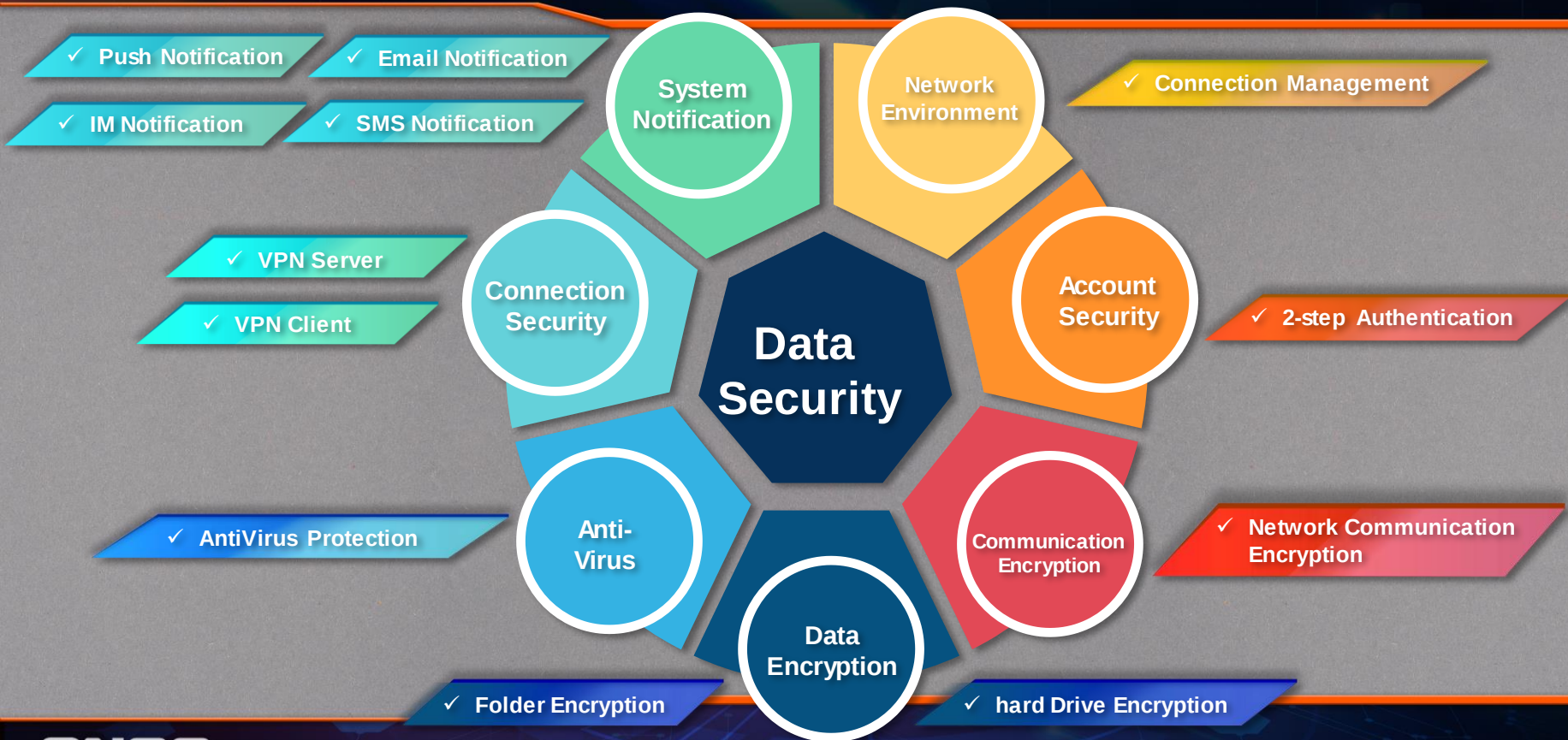


RAM



RAM

Mustang-200 Data Security



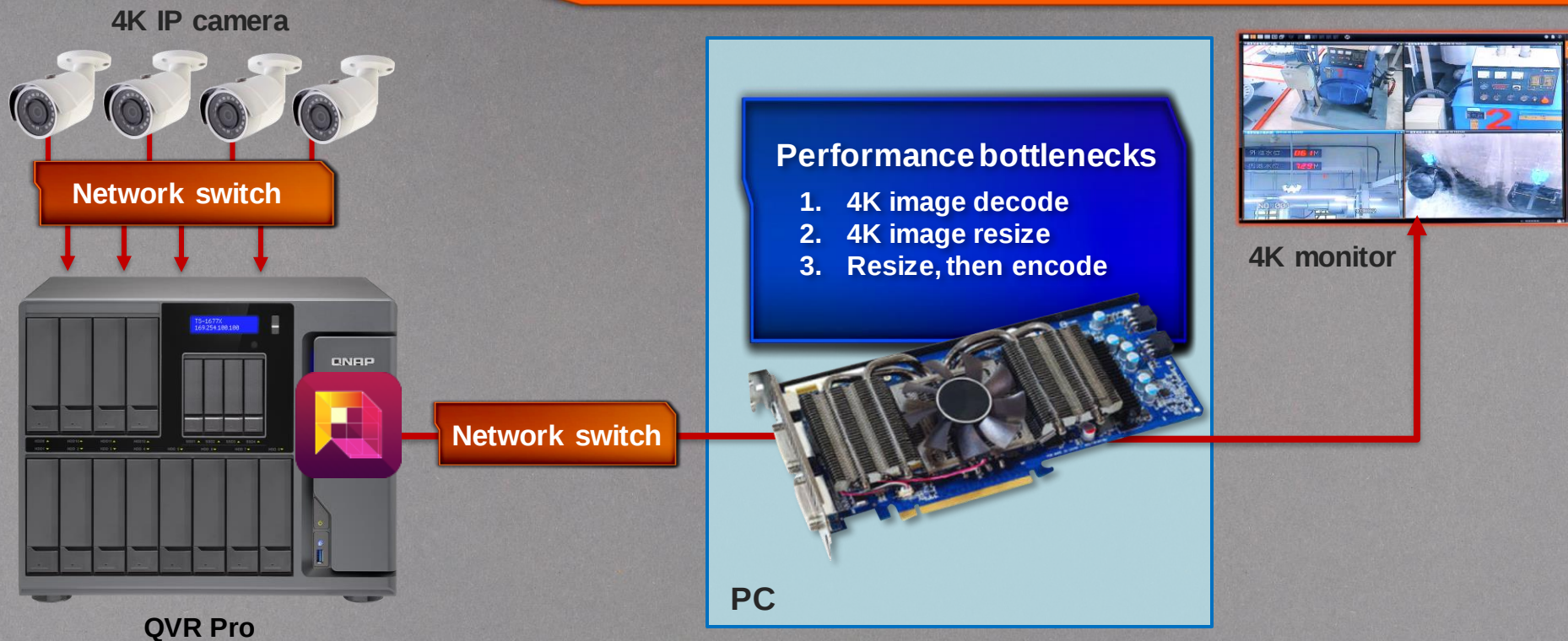
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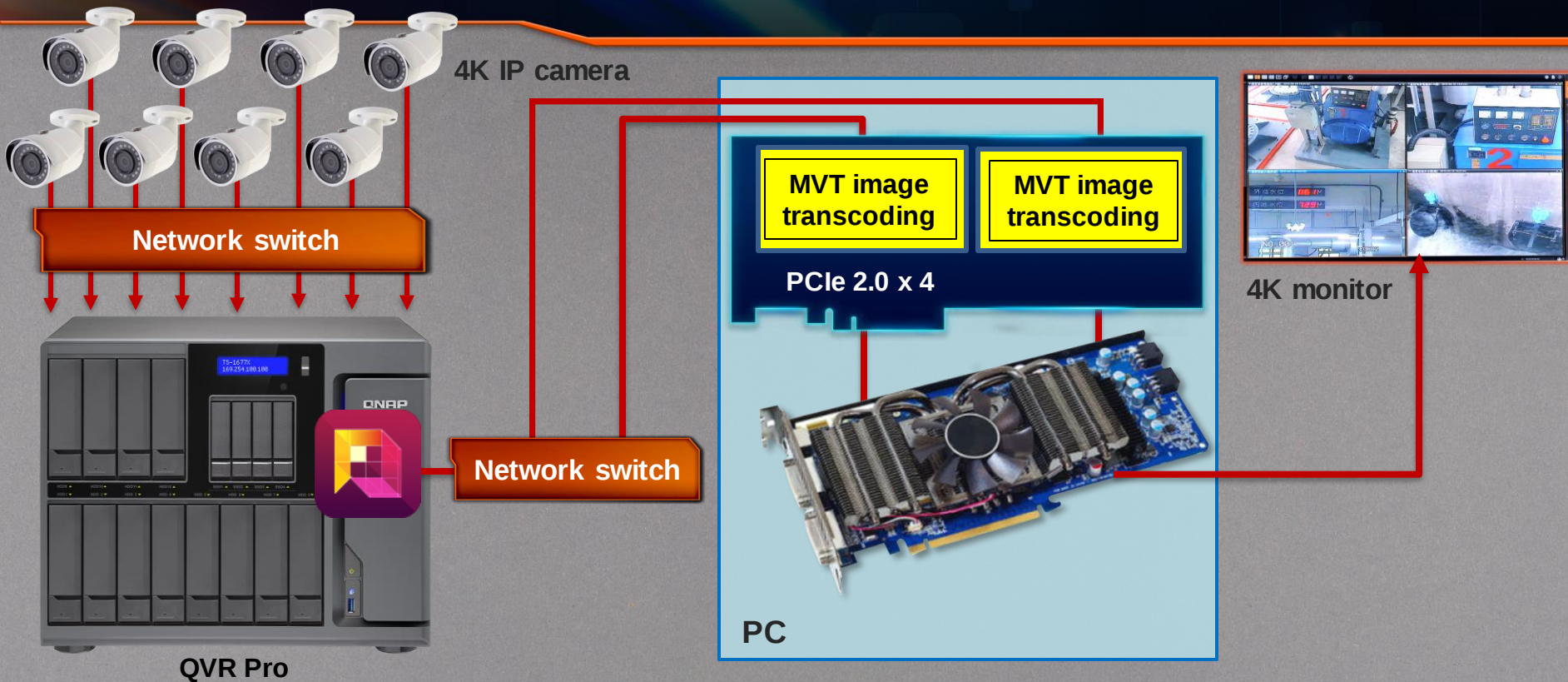
DEMO

QTS Card Manager

QVR Pro surveillance performance bottlenecks



QVR Pro surveillance accelerated



Greatly improves image processing capability

Installation of a Mustang-200 can increase the image processing capability of twelve 4K IP cameras

		w/o Mustang-200	w/ Mustang-200
Environment	GPU	2 x NVIDIA GTX 1060 GAMING VR X 6G PCI-E	
	HDMI	8 Port (Each GPU provides 4 ports)	
	Number of output monitors	8	
Efficiency	Image processing capability	Twelve 4K IP cameras	Twenty-four 4K IP cameras

QNAP

Mustang-200

Your best choice!

