

### **Agenda**

- About QNAP® Systems, Inc.
- Product Introduction
- Product Application Areas
- Competitive Advantage







## **Company Profile and History**



### **QNAP Systems, Inc.**

## Global Leader in Data Storage Solutions

QNAP (Quality Network Appliance Provider) is dedicated to software application development and hardware design optimization. We have our own production lines to provide comprehensive and advanced storage and networking solutions.

- Founded in March 2004.
- 10 subsidiaries and 7 offices worldwide.
- Approximately 1,200 employees globally.
- Over 520 R&D engineers dedicated to innovation.
- Manufactured in Taiwan at our own factory.



### **Business Philosophy**

We are focused on providing comprehensive solutions for enterprise data access and data protection



#### Innovation-driven

Committed to technological innovation and product development, we constantly introduce competitive network storage solutions to enhance users' data management experience.



#### **Customer-centric**

We offer diversified and flexible products and services while continuously improving product quality and after-sales support to create value for our customers.



#### **Security first**

Through continuous technological upgrades and process optimization, we enhance product stability and security to maintain a leading position in a highly competitive market.





## **QNAP Value: History of a Treasured Brand**

QNAP has been at the forefront of the network storage industry for 20 years, starting with RAID technology and gradually expanding to operating systems and a rich app ecosystem. This expansion propelled the QNAP brand into the global market, and helped establish Taiwan as a major producer of NAS devices. QNAP stands out with the following unique qualities, which are rare in Taiwan's tech industry.



Independent Brand



Software and Hardware R&D



Global Marketing



In-house Production



### **Key Milestones**

2004

2006 - 2008

2010 - 2015

2016 - 2017

2018

#### QNAP established.

The global headquarters is in Xizhi, New Taipei City.

- · Integrated Multimedia Station and Download Station to lead the multimedia NAS trend.
- · Led the industry in providing NAS RAID configuration migration and storage expansion mechanisms.
- · Launched the world's first Thunderbolt NAS.
- · Established USA Office and Warehouse Center / Canada Office / Germany Office and Warehouse Center / Europe Warehouse Center / Italy Office.
- Pioneered the virtual machine workstation to redefine NAS multitasking applications.
- · PC World's Best Tech Product: TS-469 Pro NAS

- · Launched dual-control architecture Enterprise ZFS NSA series.
- · Launched the industry's first NAS with an AMD Ryzen processor, the TS-x77 series.
- · Established Japan office/India R&D and after-sales service center.
- Launched the first home NAS with PCle slot - TS-251B
- Established UK Office / Thailand Office / Hong Kong Office.
- Red Dot Product Design Award: TVS-951X 9 bay 10GbE multimedia NAS.

2019 - 2020

2021

2022

2023

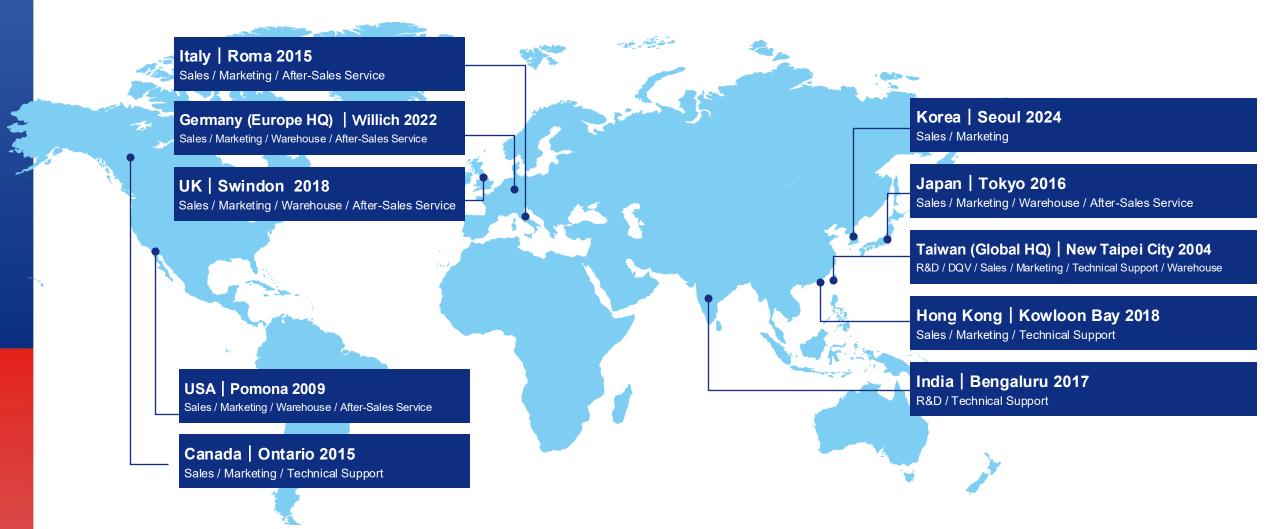
2024

- Launched the cloud gateway which flexibly integrates local storage with public cloud services.
- CES Innovation Award: HS-453DX Fanless NAS.
- · Released QuTS hero operating system.
- · Launched QuWAN SD-WAN network optimization solution.
- Launched Cloud NAS (QuTScloud) that can be hosted on public/private clouds.

- · Led the industry by launching 24bay U.2 NVMe all-flash array with dual-port 100GbE Ethernet cards.
- Innovated ADRA NDR active cybersecurity defense device.
- · Red Dot Award for Innovative Product Design - QGD-3014-16PT Desktop Smart Cloud PoE Switch.
- Established European headquarters in Willich, Germany.
- · Red Dot Product Design Award: TSh1290FX desktop 12 bay all-flash NAS.
- · Launched our own cloud storage, myQNAPcloud Storage.
- Released the world's first Thunderbolt NAS supporting E1.S / M.2 SSD.
- · TechRadar Pro Picks Award Winner for CES 2023.
- Launched the proactive surveillance and video backup solution QVR Recording Vault and the innovative isolated backup solution Airgap+.
- Established Korea office.
- Deepened collaboration with Trend Micro Labs and expanded participation in the Pwn2Own cybersecurity competition.



### **Worldwide Deployment of Subsidiaries**



### **Awards**

### 2018 Red Dot Award: Product Design



**TVS-951X**9-bay 10GbE Multimedia
NAS

#### CES 2019 Innovation Awards



**HS-453DX**Fanless NAS

#### 2021 Red Dot Award: Innovative Product Design



QGD-3014-16PT
Desktop Smart Edge PoE
Switch

## PICKS A W A R D S W I N N E R



#### 2024 TechRadar Pro Picks Award for CES 2024

TBS-h574TX Thunderbolt™ 4 All-Flash NASbook

### 2022 Red Dot Award: Product Design





**TS-h1290FX**Desktop 12-bay All-Flash NAS

## 2023 TechRadar Pro Picks Award Winner for CES 2023



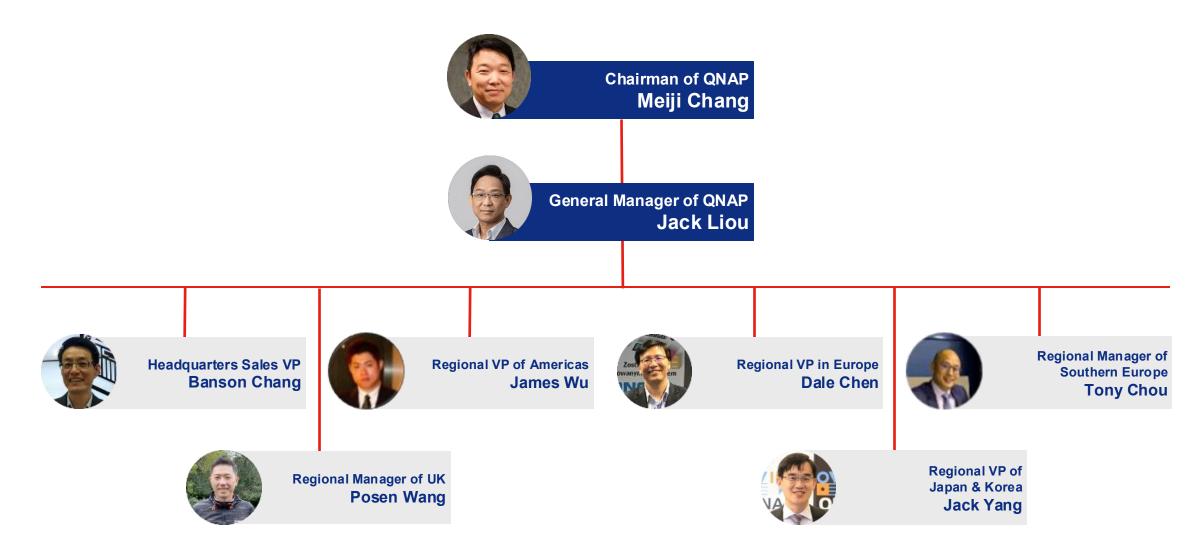
**TS-464**Quad-core dual-port 2.5GbE
NAS

#### 2024 TechRadar Pro Picks Award for CES 2024



TVS-h874T Thunderbolt™ 4-bay NAS.

### **Corporate Leadership**



### **Key Channel Customers**













































## Product Introduction and Applications



### **4 Key Application Areas**

We develop smart enterprise information systems based on the rigid demands of data storage



## HIGH-PERFORMANCE DATA STORAGE AND PROTECTION

Low latency is a prerequisite for agile enterprise services and a key indicator of competitiveness



### CLOUD AND ON-PREMISES BACKUP AND DISASTER RECOVERY

Comprehensive backup and hybrid cloud offsite backup are critical components of modern enterprise data management architectures



#### INTELLIGENT VIDEO SURVEILLANCE

Visual recognition is the foundation for AloT application development



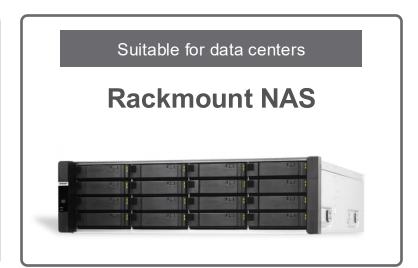
#### AI EDGE COMPUTING

The implementation of enterprise AI applications begins with the deployment of AI edge computing

### Core Product Line: Network Attached Storage (NAS)

#### What is NAS?

NAS is a server that provides access to data over a network. It is a data protection server that integrates network, storage, and computing to ensure that assets will not be damaged or stolen.











## Value-Added Product Line: Software Subscriptions and Accessories

## Service value-added and applications

Starting from storage, QNAP has developed various value-added applications and created a complete storage industry ecosystem.





Al video surveillance service

NVR video management server



Subscription-based cloud storage

myQNAPcloud Storage Cloud storage



myQNAPcloud Storage

Subscription-based software

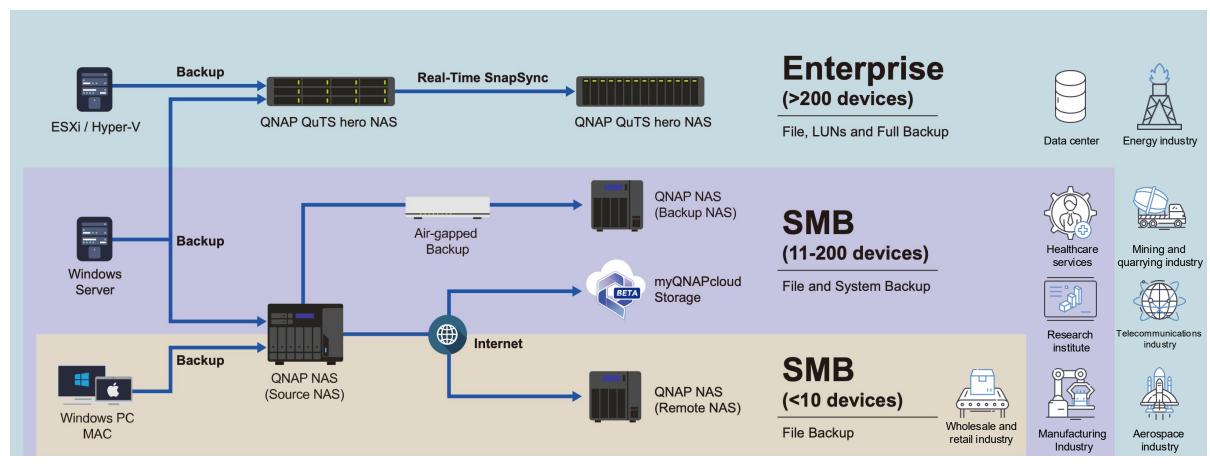
Value-added software

subscription



### NAS is Essential for Every Industry!

Enterprises of all sizes, industries of all types, businesses and individuals all need QNAP NAS





## **Integrated Hardware and Software Solutions**



# All-flash storage. Ultimate performance.

QNAP's All-Flash Storage Solutions feature ZFS data reduction and SSD optimization technologies to maximize SSD performance and lifespan. Perfect for keeping your business agile and efficient!

- Low latency
- Inline data compression and compaction
- Up to 1M IOPS random read
- SSD TRIM
- QSAL (QNAP SSD Antiwear Leveling) patented algorithm





## High-performance ZFS-based OS with greater reliability

QuTS hero is our operating system for high-end and enterprise QNAP NAS. With Linux and ZFS, QuTS hero supports advanced data reduction technologies for further driving down costs and increasing reliability of SSD (all-flash) storage.

- Powerful real-time data reduction technology maximizes storage space efficiency.
- Near-limitless, instant snapshots
- Seamlessly integrate JBODs for expanding capacity up to petabyte-scale storage
- Real-time SnapSync
- WORM (Write Once, Read Many)



## Petabyte-level Storage Expansion

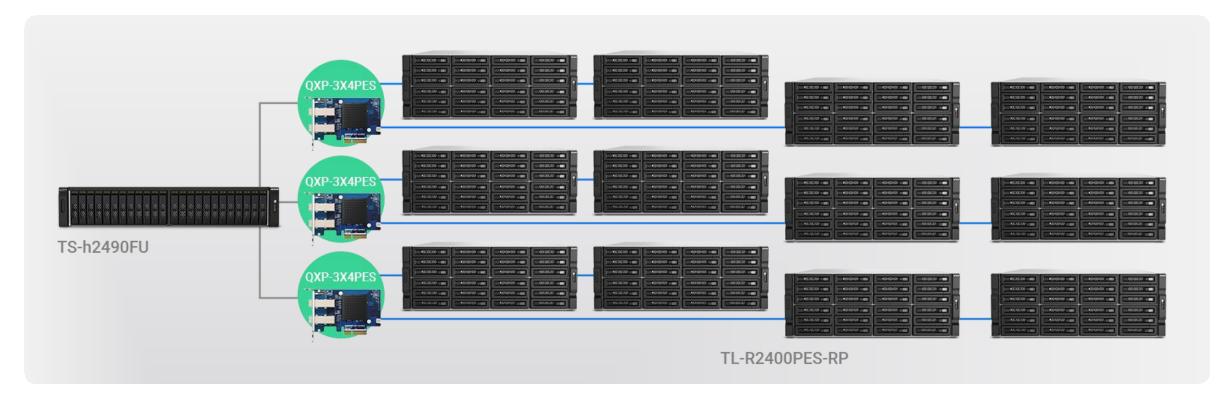
As hard drive capacities continue to grow, the cost per bit of storage is steadily decreasing. QNAP is committed to supporting the latest hard drive and storage technologies and providing highly reliable, flexible, and agile storage solutions to reduce system falure risks.

#### 4.5 PB Storage Solution

QNAP NAS and JBOD can be configured to provide up to 4.5 PB storage space, offering robust big data storage solutions for enterprises and research institutions.

#### From HDD to NVMe

QNAP offers the simplest vertical scale-up solution, increasing both performance and capacity by connecting up to 12 JBOD to a high-performance all-flash NAS.



## ADRA Network Detection and Response (NDR) appliances

The QNAP ADRA series Network Detection and Response (NDR) appliances selectively screen network traffic and detect the lateral movement of malware, stopping hostile activities before data leakage and encryption can occur.



- The rapid-screening ADRA NDR cybersecurity appliances
- Threat detection: uncover hostile activities in time
- Threat analysis: provides valuable insights for taking further actions
- Threat response: stop and contain malware attacks



## Next-generation intelligent IP surveillance and remote backup solution

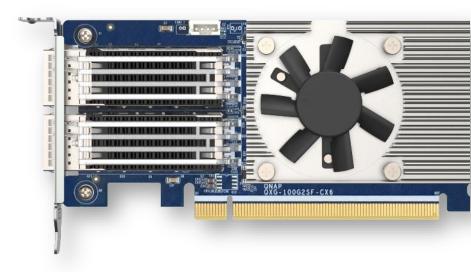
With the subscription-based QVR Elite smart surveillance solution you only pay for the channels you need, allowing you to affordably safeguard your property. You can arrange a dedicated, independent storage space for surveillance data on the QNAP NAS and enjoy simplified camera management, storage space allocation, camera live viewing and playback. Recordings are saved as MP4 files for playback on nearly every device.



- Direct monitoring on an HDMI display
- Leverage AI-based applications for value-added services
- QVR Pro Client: Centralized monitoring and management
- Saves recordings using the MP4 video format
- Easy capacity expansion
- Low cost: flexible subscription plan

## Join the ultra-high-speed 100GbE network generation

According to market research, the demand for 100 GbE switches took off in 2023. Enterprises, hyper scalers, and service providers worldwide continue to invest in higher-speed network infrastructure to support higher-speed servers and higher bandwidth demands of new applications such as Generative AI workloads.



#### Half-width rackmount 100 GbE managed switch

The QSW-M7308R-4X is a 100GbE Layer 2 Managed Switch with four 100GbE QSFP28 ports and eight 25GbE SFP28 ports, providing up to 1200 Gbps switching capacity. Its compact half-width rackmount design meets the high-bandwidth needs of big data storage, video editing, virtualization, and Al applications, accelerating deployment in data centers and multimedia studios.

## CNAP Status Locator 1 2 100GbE 3 4 6 8 25GBE 10 12

#### 100 GbE network expansion card

The QNAP PCIe 4.0 dual-port 100 GbE network expansion card delivers an impressive 100 Gbps bandwidth to overcome performance bottlenecks. Its low latency makes it ideal for bandwidth-demanding applications such as data centers, virtualization, multimedia streaming, and transfer, as well as mission-critical backup and restore tasks.

## High-speed 25GbE networking solution

When running SAN servers, cluster servers and AI computing applications, enterprises need 25GbE to break through transmission performance bottlenecks. QNAP offers a complete 25GbE solution to help enterprises quickly upgrade to 25GbE networking at a cost-efficient price, while enjoying low latency, reliability, and high compatibility.



#### 25GbE-ready All-flash NAS

The TS-h3088XU-RP provides a built-in dual-port 25GbE SFP28 SmartNIC with the NVIDIA® Mellanox ConnectX-4 Lx SmartNIC controller that supports iSCSI Extensions for RDMA (iSER) to increase the performance of data transfer between NAS and ESXi server and offload CPU workloads.

#### Affordable 25GbE managed switch

The QSW-M5216-1T is a 25GbE Layer 2 web managed switch that provides flexible network interfaces for high compatibility at an affordable price, enabling small businesses to quickly upgrade to an ultra-high-speed backbone network by integrating to existing network infrastructure.



## 10GbE network solutions

10GbE improves overall network performance and everyday tasks with ten times the bandwidth of 1GbE. By offering 10GbE-ready NAS, network adapters and switches, QNAP is a one-stop provider for everything needed to embrace 10GbE networking.



#### **10GbE NAS solutions**

QNAP provides NAS with built-in 10GbE connectivity and optional 10GbE expandability, ideal for large file transfer, storage, and backup with fast, reliable and cost-efficient advantages.

#### 10GbE network adapters

QNAP provides 10GbE PCle expansion cards and Thunderbolt to 10GbE adapters to empower devices with 10GbE connectivity. The QM2 Expansion Card not only includes 10GbE connectivity, but also provides the ability to add M.2 SSDs to your workstation or NAS.

#### 10GbE switches

QNAP's QSW Series 10GbE switches supports 10GBASE-T and NBASE-T standards, allowing you to take advantage of higher network speeds with existing Cat 5e and 6a cables. Both SFP+ (fiber) and RJ45 (copper) ports are available for servicing a range of network needs.

### 2.5GbE Ethernet

The lack of consumer-grade switches has made it hard for home and personal users to adopt 2.5GbE/5GbE networking. QNAP now offers cost-effective multi-port switches that support 10G/5G/2.5G/1G/100M Ethernet, helping you to transform your home network at a wallet-friendly price.





#### 2.5GbE switches

QNAP offers a 10GbE switch series supporting five speeds (10G / 5G / 2.5G / 1G / 100M) and a 2.5GbE switch series.

#### 2.5 times faster

2.5GbE is 2.5 times faster than standard Ethernet (1GbE), increasing network performance to boost productivity.

#### Works with existing cables

No special cables or connectors are required to take advantage of 2.5GbE. Simply use your existing CAT5e cables as normal with your new 2.5GbE infrastructure.

#### More affordable

If you can't budget a 10GbE upgrade at this time, the more affordable 2.5GbE provides a notable improvement in current Ethernet speeds.



## Breakthrough performance and outstanding connectivity with Thunderbolt™ NAS

QNAP NAS with Thunderbolt<sup>™</sup> provides fast, efficient, scalable and secure storage, enabling the perfect collaboration environment for Mac® and Windows® multimedia professionals.



- Ultra-high-speed transfer (up to 40GbE bandwidth)
- High availability with USB Type-C
- Daisy chain multiple Thunderbolt devices
- Connect the Thunderbolt NAS to multiple
   Thunderbolt workstations for efficient
   collaboration.
- Thunderbolt™ NAS with HDMI output supports 4K
   UHD display

# SD-WAN Solution for Resilient IT Infrastructure

QNAP's QuWAN SD-WAN solution features SAML SSO, enabling users to join the VPN easily and conveniently with a single login. It also includes IPsec encryption, cloud-centric management, and QVPN Service for multi-site networks.



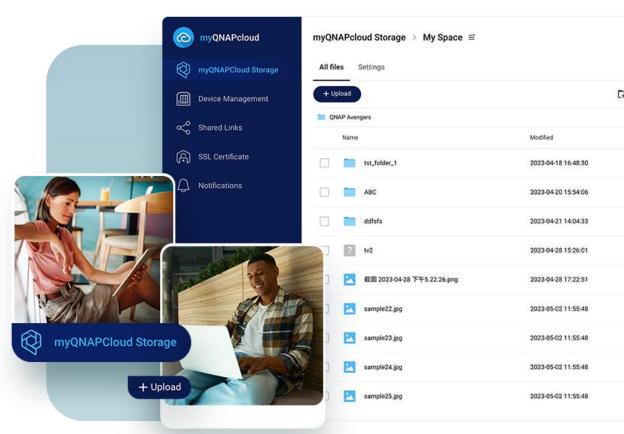
- Convenient single user account login to VPN:
   supports Authentication Server and SAML SSO
- Automatically establishes a mesh VPN
- Adopts load balancing technologies for WAN
   Aggregation and QoS for combining bandwidth
- Powerful and convenient central cloud management.
- Optimizes fiber/network transmission to lower the cost of VPN equipment and bandwidth expenses.
- Adopts DPI to analyze L7-Payloads for content information from websites and devices
- User-friendly Web GUI

#### QNAP-hosted cloud storage

## myQNAPcloud Storage

Back up your NAS data to a trusted cloud hosted by QNAP. myQNAP cloud Storage is designed for QNAP users to easily carry out off-site backup to meet disaster recovery requirements.

- Works perfectly with QNAP backup solutions
- Use myQNAPcloud Storage as a file drive
- Worldwide coverage with 12 data centers
- No costs for data transmission
- WORM; Lock/Unlock
- Personal Vault





In contrast to the limited storage space and potential security issues with public cloud services, the QNAP NAS is advantageous for establishing a secure and large-capacity personal cloud.



- An easy-to-use, all-in-one backup solution
- Greater multimedia enjoyment
- Easy and secure remote connection with myQNAPcloud
- A secure backup center with snapshot protection
- Connect to a TV or monitor with HDMI



## **Product Application Areas**



## **Enterprise IT Infrastructure**

Supports backbone architectures and secondary backups for corporate data centers

- From HDD to NVMe
- Data Backup and Recovery
- Infrastructure as a Service (laaS)
- Workspace Collaboration
- Network Infrastructure





## Industrial Manufacturing Sector

Manufacturing Industry Cybersecurity and Edge Computing Solutions

- Wide temperature and wide voltage power NAS system
- Industrial-grade managed network switches
- Targeted ransomware cybersecurity defense systems
- PoE++ / PoE+ Ethernet power supply switches
- IoT private cloud platform



## **Enterprise Video Surveillance Sector**

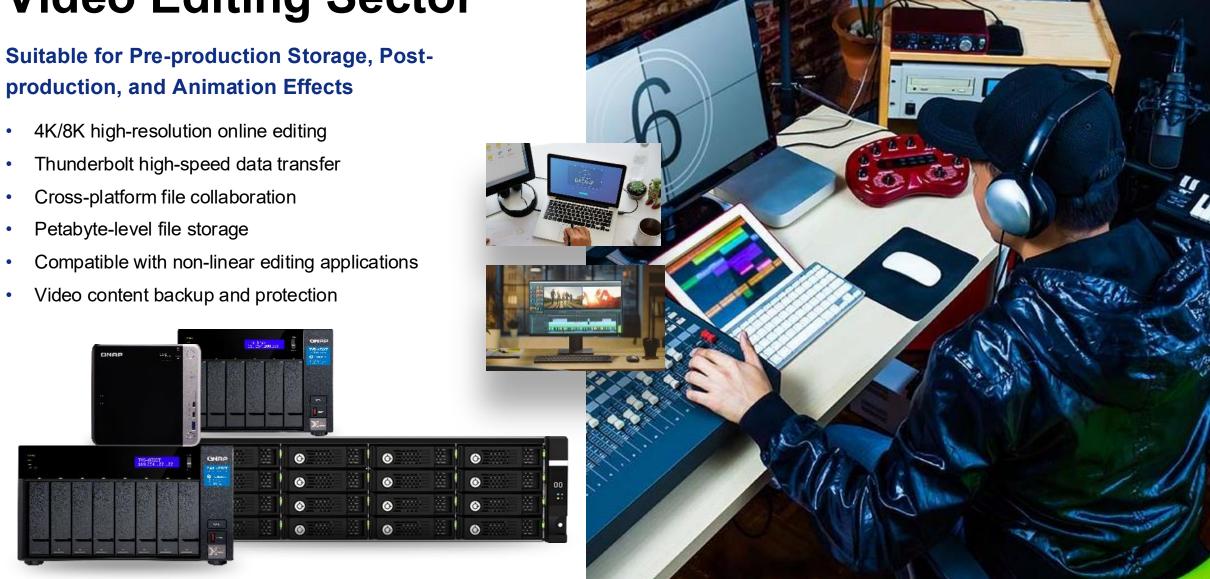
**Integrated Recording, Analysis, and Management Surveillance System** 

- Real-time video surveillance
- Intelligent Al Video event search
- Supports facial recognition and search
- High availability video failover
- Cloud monitoring service





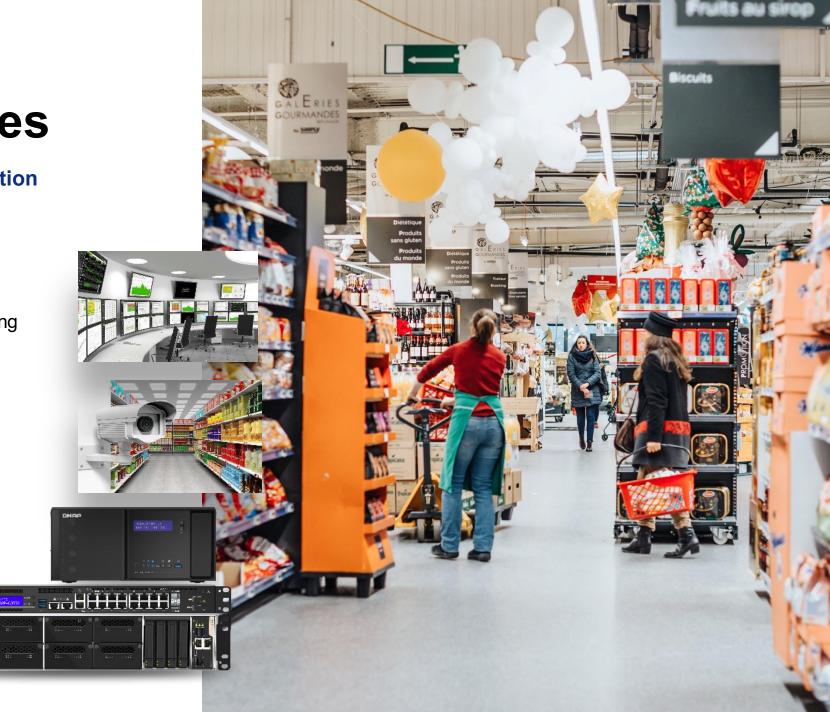
## **Content Creation and Video Editing Sector**



## Retail and Department Stores

### **Meets the Needs of Multi-site Information Architecture**

- POS system virtual machine application
- Al smart retail data analysis
- Cross-camera facial recognition and tracking
- Crowd hot-spot map
- Dwell time and conversion rate analytics
- Multi-point SD-WAN setup
- Centralized branch file backup to head office



### **Healthcare Sector**

#### **Sensitive Data Protection and Backup**

- Sensitive data storage and backup
- HIPPA compliance
- Medical imaging machine learning model
- Medical journal document extraction
- Telemedicine interaction



### **Education Sector**

#### **Campus Security and Data Sharing**

- Multi-point data sharing and synchronization
- FTP file management system
- Compact classroom storage devices
- Remote teaching interaction
- Campus security monitoring





## **QNAP Solution Advantages**



## **Enterprise-grade High-performance Storage Technology**



Use ZFS file system for both data efficiency and integrity.



High availability (HA) technology for enterprise service stability.



All-flash high-performance storage with real-time data compression and accelerated write speed.



Petabyte-level, horizontal-scale-out data service architecture for massive expansion.



Innovative Thunderbolt technology, supporting plug-and-play high-speed team collaboration.





## High-speed Cybersecurity Network Aggregation Technology



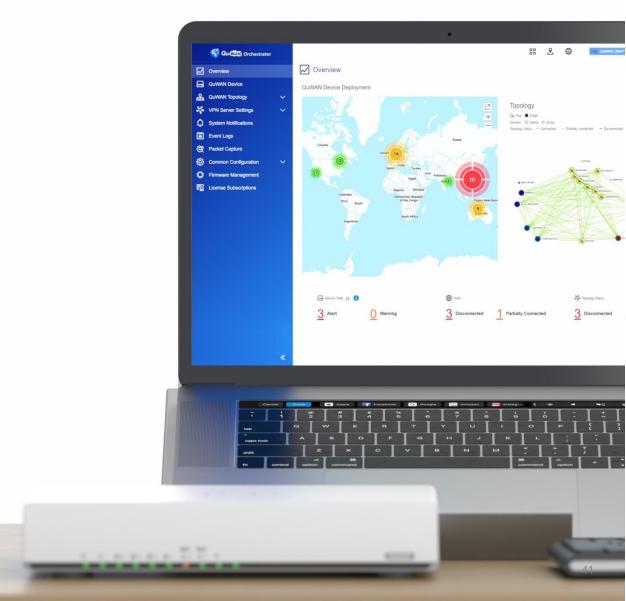
Ultra-high-speed 100GbE network switching technology with data center-level fault-tolerance protection.



SD-WAN high-security agile networking technology for cross-region enterprise networks.



Malicious network activity detection and response technology for intranet endpoints and data security.



# Data Backup and Synchronization Technology



Endpoint, server, and cloud backup synchronization with comprehensive backup and disaster recovery architecture.



Cloud SaaS service backup empowers enterprises with absolute control over their data.



Snapshot protection and offsite backup to ensure data resilience.



## **Multi-cloud Integration and Cloud Services**



Cloud storage mounting and S3 cloud gateway technology for seamless integration between on-premise NAS and cloud.



AMIZ cloud device management services to monitor device hardware and connection status.



myQNAPCloud cloud storage subscription allows businesses to quickly perform NAS data backups.



QuWAN integration with SaaS account authentication to build secure SD-WAN remote access network for enterprises.



## Intelligent and Edge Al Computing



Al Core facial and object recognition technology for analyzing photos and semantic search in documents.



Cross-camera facial tracking and object detection with the Al-powered surveillance system QVR Pro.



NAS integration with GPU, TPU, and NPU to enhance performance and enable AI computing deployment.



Edge RAG architecture integrating third-party Al models and cloud intelligence for rapid deployment of edge Al applications.



