



**QNAP®**

# Network & Switch Solutions Guide

---



Contents

ABOUT QNAP	3
WHY QNAP DEVELOPS HIGH-SPEED NETWORK SOLUTIONS?	6
HIGH-SPEED NETWORK PRODUCT LINEUPS	8
CHOOSE QNAP'S COMPLETE HIGH-SPEED NETWORK SOLUTIONS: SPEND LESS, GET MORE	10
<b>2.5GBE</b> : BREAK THROUGH HOME AND STUDIO NETWORK BOTTLENECKS	12
<b>10GBE</b> : BUILT FOR ADVANCED BUSINESS APPLICATIONS	14
<b>25GBE</b> : BUILD LOW-LATENCY NETWORKS FOR ENTERPRISE AND MEDIA WORKFLOWS	18
<b>100GBE</b> : UPGRADE BACKBONE SPEEDS FOR STORAGE CENTERS AND THE MEDIA INDUSTRY	22
SERVING A WIDE RANGE OF HIGH-SPEED NETWORK ENVIRONMENTS	28
HIGH-EFFICIENCY AMIZCLOUD CENTRALIZED MANAGEMENT PLATFORM	30
EASILY BUILD SECURE MULTI-SITE NETWORKS WITH SD-WAN	32
FLEXIBLE NETWORK MANAGEMENT FOR RELIABLE DATA TRANSMISSION	36
COMPREHENSIVE LAN & WAN SECURITY PROTECTION	42

# About QNAP



Founded in 2004, QNAP is committed to providing efficient, reliable, and innovative technology solutions to meet the diverse needs of professional users and businesses of all scales.



## Global Services

QNAP provides professional and stable services worldwide and ensures localized support.

# 14+

subsidiaries

# 50+

countries served worldwide

## A Brand Trusted by Professionals

### Products



We deliver integrated storage, networking, and smart surveillance solutions, combining advanced software and hardware to drive business digital transformation.

### Long-term Availability



Our long-term commitment to supporting models ensures consistent NAS performance and streamlined management for long-term projects.

### Warranty



Standard hardware repair and service are available for all QNAP products. An extended warranty is available for up to five years.

# Why QNAP Develops High-Speed Network Solutions?



## Network Speed: The Key to Service Experience

As a leader in NAS, QNAP found that network hardware is often the bottleneck in storage performance. To meet users' needs, we developed a full suite of high-speed network solutions focused on bandwidth upgrades, offering high performance, stability, and ease of use at competitive prices.

## Simplifying IT with Software Innovation

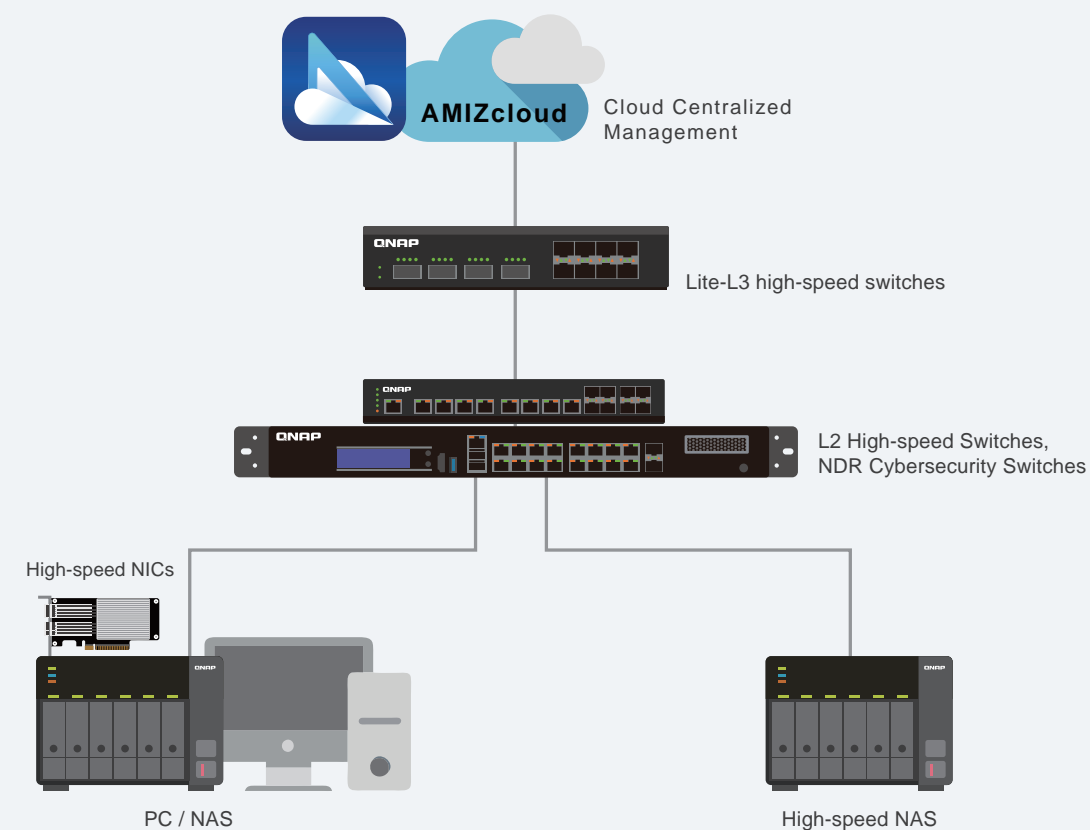
With the proliferation of network-connected devices in business environments, the market lacks efficient management solutions. QNAP leveraged its software R&D strengths to create unique tools such as QuWAN SD-WAN and the AMIZcloud centralized management platform, simplifying multi-site mesh VPN deployments and centralized control.

## Made in Taiwan: Quality You Can Trust

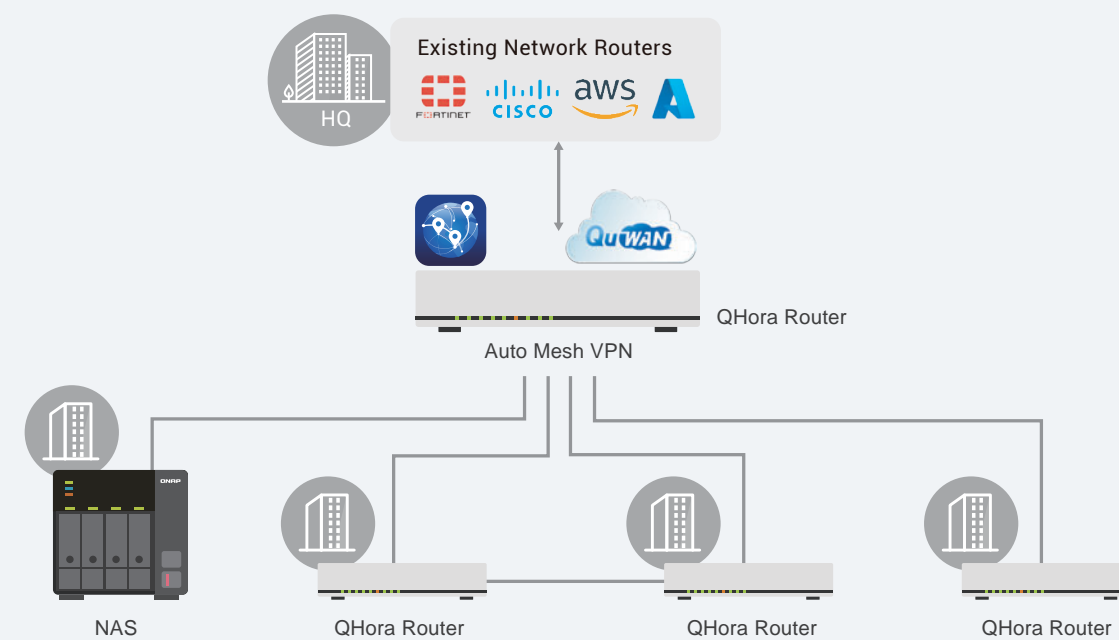
QNAP is a Taiwanese company that manufactures high-quality, secure, and innovative network solutions.

## Comprehensive LAN and WAN Solution

### Internal Network Infrastructure for Enterprises



### Multi-Site Enterprise Infrastructure







# Product Lineups

## Network Switches


### Multi-Speed




**1000 Series**  
2.5GbE Ports



**2000 Series**  
10GbE + 2.5GbE Ports



**3000 Series**  
10GbE Ports




**5000 Series**  
25GbE + 10GbE Ports




**7000 Series**  
100GbE + 25GbE Ports


### Special Design




Half-width




Switch + NAS



Cybersecurity NDR equipment



Industrial

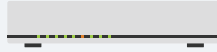


Fanless

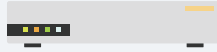
### Specification

Port Count	Management Types				PoE (Power over Ethernet)	
5 to 24 ports	L3 Managed	L2 Managed	Lite Managed	Unmanaged	PoE	Non-PoE


## Routers




**WiFi 6**  
(2.5/10GbE)



**SD-WAN**  
(2.5/10GbE)

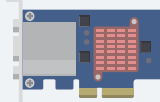


**NAS / Router Dual-System**  
( SD-WAN)




**QuWAN vRouter**  
SD-WAN For VMware Platform


## Accessories




**Network Expansion Cards**  
2.5/5/10/25/100GbE



**Network Adapters**  
Thunderbolt™ /USB/Ethernet



DAC



Transceivers



See all models online.

Note: This catalog includes QNAP's hardware and software solutions and technologies launched up to February 2025. QNAP reserves the right to modify and update software or hardware without prior notice. Refer to [www.qnap.com](http://www.qnap.com) for the latest announcements.

# Choose QNAP's Complete High-Speed Network Solutions: Spend Less, Get More

- Enterprise-grade features, SMB-friendly pricing—outperforms comparable market switches
- Affordable NDR (Network Detection and Response) switches for all businesses—defend against targeted ransomware
- Agile remote management saves time and manpower
- Simple to manage, ultra-fast to deploy, and highly flexible to use
- Storage, switches, routers, NICs, adapters—QNAP has everything you need!



## Quick Selection, One-Stop Shopping



Network Switches



NDR Switches



Routers



NAS

## Tailored Network Solution for Your Business



Explore More Products  
or Contact Sales





# 2.5GbE

## Break Through Home and Studio Network Bottlenecks

2.5GbE has become the standard when upgrading network equipment! QNAP offers a comprehensive 2.5GbE solution to help you effortlessly upgrade your home or office network—delivering noticeable improvements in overall network performance and daily productivity.

- **Reuse Existing Cables**

2.5GbE switches support NBASE-T™ and Multi-Gigabit standards (2.5GbE / 1GbE / 100Mb), allowing for seamless upgrades without needing to replace all legacy devices.

- **Boosted Performance**

Utilize Link Aggregation (LACP) for improved transmission bandwidth.

- **Plug and Play**

QNAP 2.5GbE switches feature auto network optimization—no complex setup required.

- **Entry-Level Upgrade**

Compared to jumping straight to 10GbE, unmanaged 2.5GbE switches offer an affordable, beginner-friendly alternative.

## Easily Set Up a 2.5GbE Network Environment

Enjoy smoother online gaming, faster large file transfers, high-speed data access, and seamless 4K video streaming and playback.

- **QNAP 2.5GbE Switches**

Connect various 2.5GbE devices such as NAS, PCs, TV boxes, or game consoles.

- **QNAP 2.5GbE/10GbE Routers**

Supports flexible LAN/WAN configuration for enterprise-grade routing.

- **High-Speed Fiber Broadband**

ISPs offering 10GbE/5GbE/2.5GbE WAN modems significantly enhance internet speeds.

- **QNAP 2.5GbE NAS**

2.5GbE as standard on QNAP NAS and supports Port Trunking or SMB Multichannel for higher throughput.

- **PC + QNAP 2.5GbE NIC**

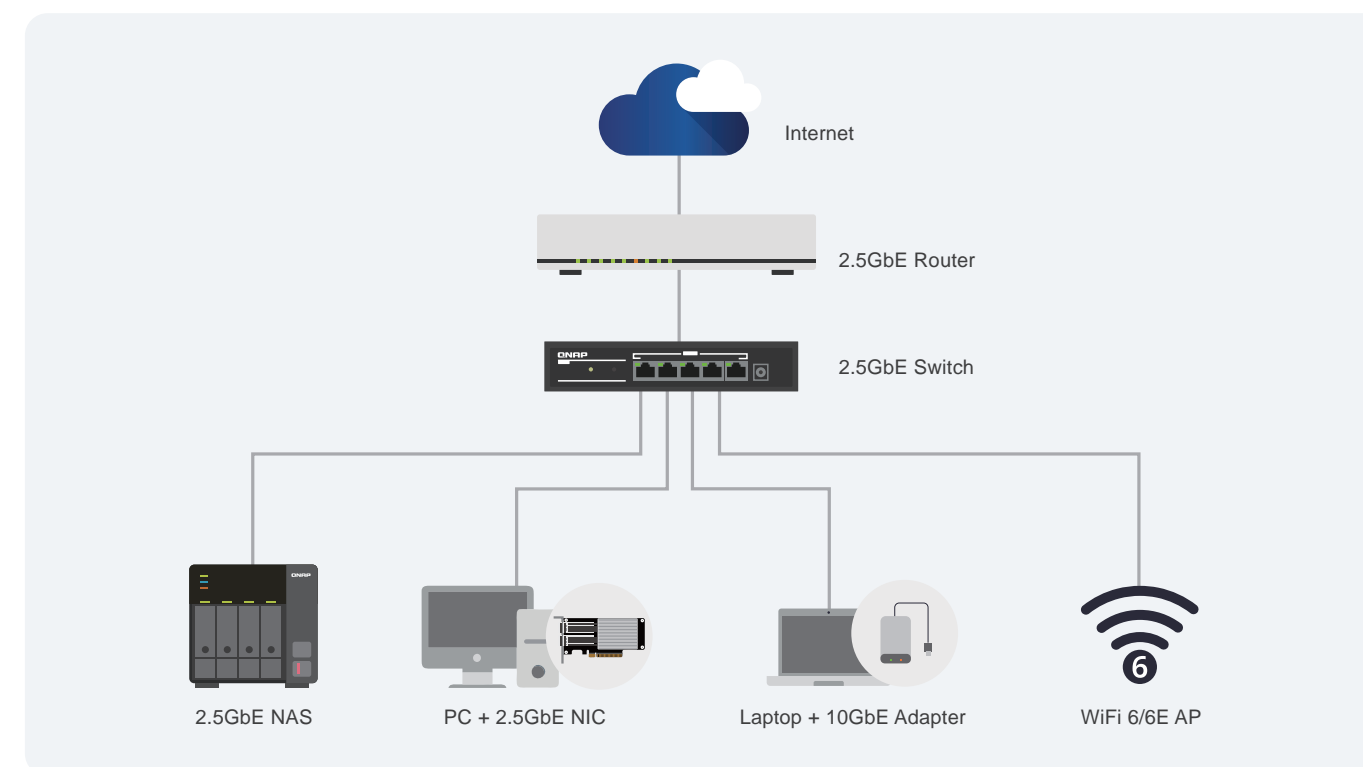
Install a 2.5GbE expansion card to your PC for simple and flexible connectivity.

- **Laptop + QNAP 10GbE Adapter**

Connect your laptop to a 10GbE BASE-T adapter via USB or Thunderbolt—lightweight and portable.

- **Wi-Fi 6/6E AP**

2.5GbE wired connections unleash the full potential of Wi-Fi routers and access points.





# 10 GbE

## Built for Advanced Business Applications

From small offices to growing SMBs, QNAP brings high-speed 10GbE network to everyone.

- **Backward Compatibility**

10GbE switches with RJ45 ports support NBASE-T™ and Multi-Gigabit standards (10GbE/ 5GbE/ 2.5GbE/ 1GbE/ 100Mb). SFP+ fiber ports are backward-compatible with 1GbE SFP modules.

- **Stable Transmission**

L2 or Lite-L3 features via switch management interface ensure secure, reliable network connectivity and consistent service quality.

- **Flexible Interfaces**

Use existing network cables to connect RJ45-based devices, or extend over long distances with SFP+ fiber ports.

- **Cost-Effective**

Meet high-speed network demands across various environments without overspending.

## Connect All Your High-Speed Business Devices

Only with powerful hardware and high-speed network can you unlock peak performance and ensure seamless, efficient operations.

- **QNAP 10GbE Switches**

Connect NAS, PCs, servers, or daisy-chain additional switches.

- **QNAP 2.5GbE / 10GbE / 25GbE Switches or Wi-Fi APs**

Scale up or down with 2.5GbE/10GbE/25GbE switches and Wi-Fi 6/6E/7 APs to boost both wired and wireless performance.

- **QNAP 2.5GbE / 10GbE Routers**

Equipped with high-speed 10GbE/2.5GbE ports for flexible LAN/WAN configuration and enterprise-grade routing.

- **PC + QNAP 10GbE NIC**

Install a 10GBASE-T network card on your PC, supporting 10GbE / 5GbE / 2.5GbE / 1GbE / 100Mb speeds.

- **QNAP 10GbE NAS or Server**

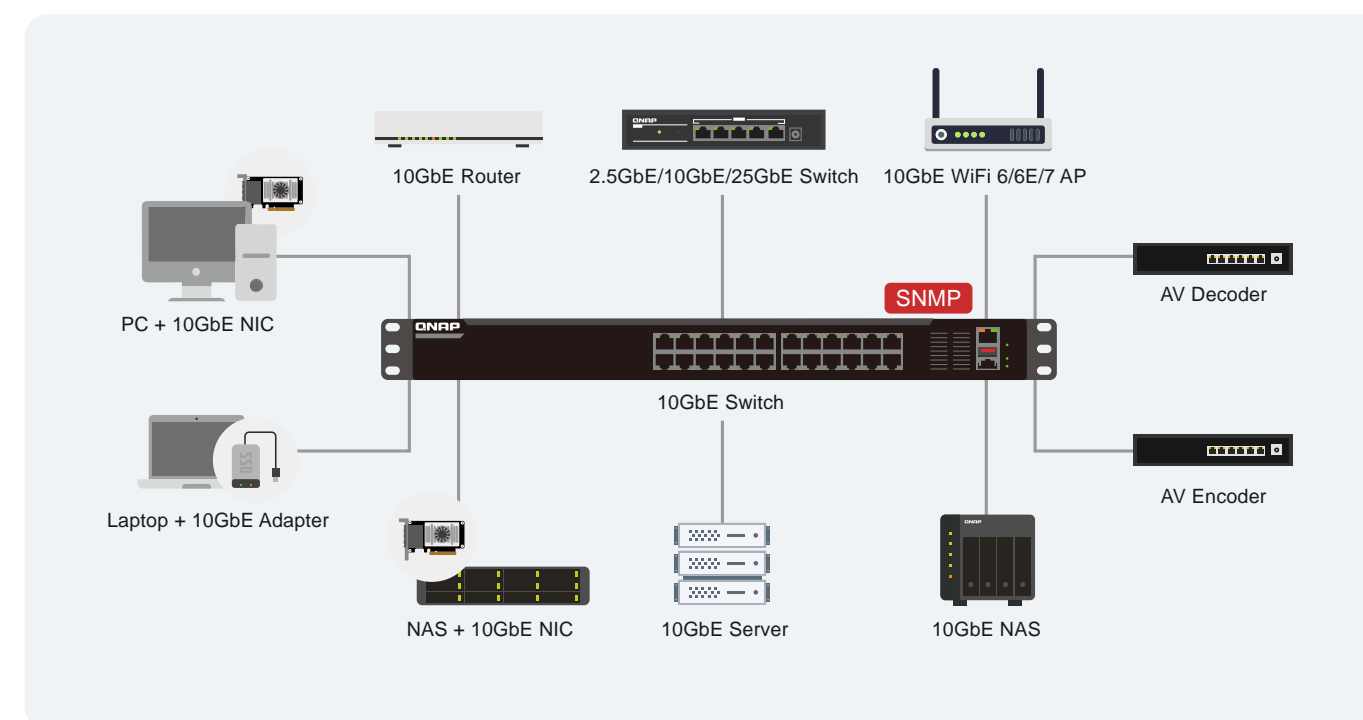
Connect multiple QNAP 10GbE NAS devices and enable Port Trunking or SMB Multichannel for increased bandwidth.

- **AV-over-IP: Enhance AV Experience**

Connect AV encoders and decoders for applications like video walls or large outdoor digital displays.

- **Centralized Device Management**

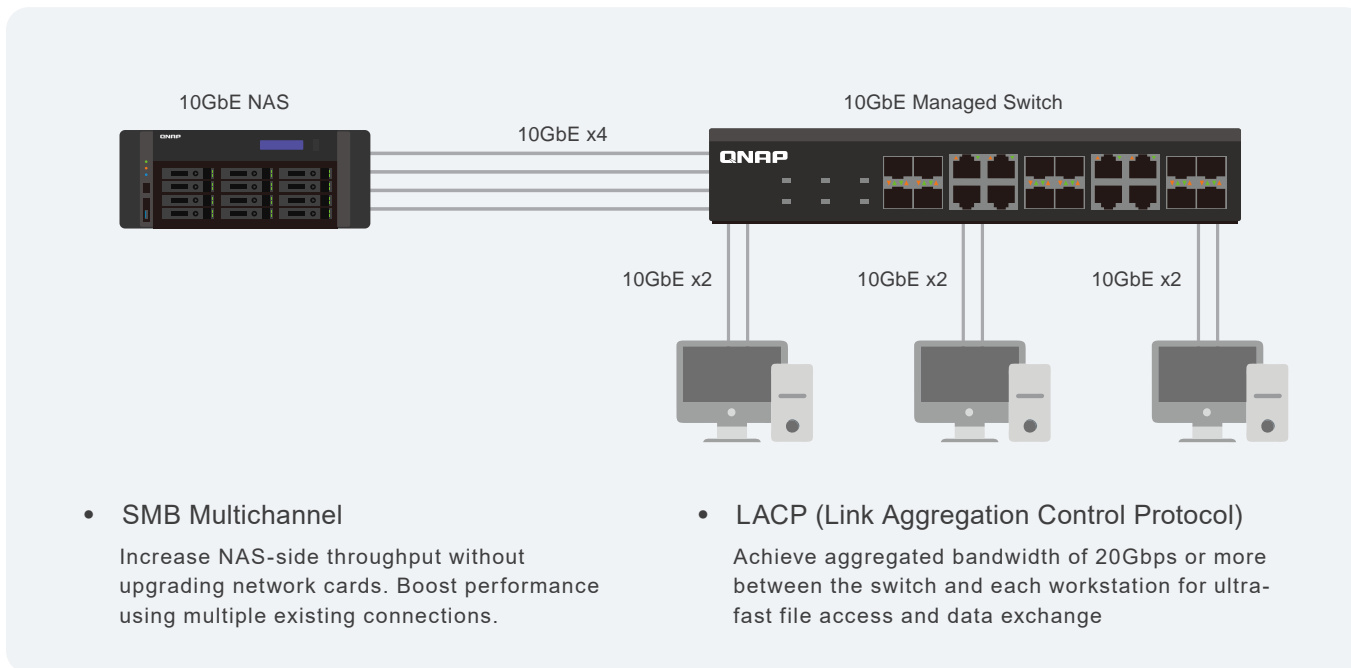
Centrally and securely manage all SNMP-enabled devices on the network: NAS, routers, switches, workstations, modems, IP phones, and cameras.





## Build a High-Performance Network Architecture

By deploying a managed 10GbE switch with multiple ports, you can connect several 10GbE-enabled PCs and NAS devices to enjoy aggregated bandwidth for fast and efficient data transfers across all workstations.

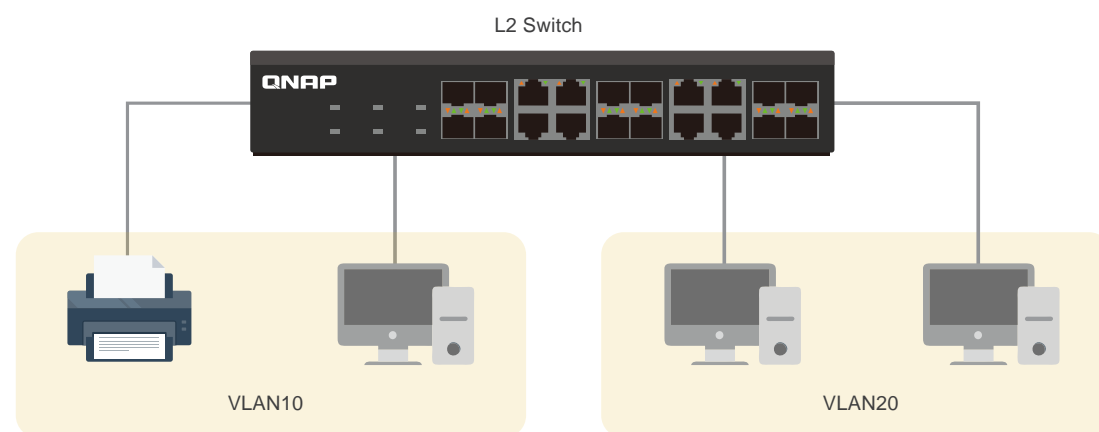


## Segmented Network Architecture for Enterprises

QNAP switches support IEEE 802.1Q-based VLAN standards, enabling scalable and flexible segmented networks—from small-scale departments to enterprise-wide deployments.

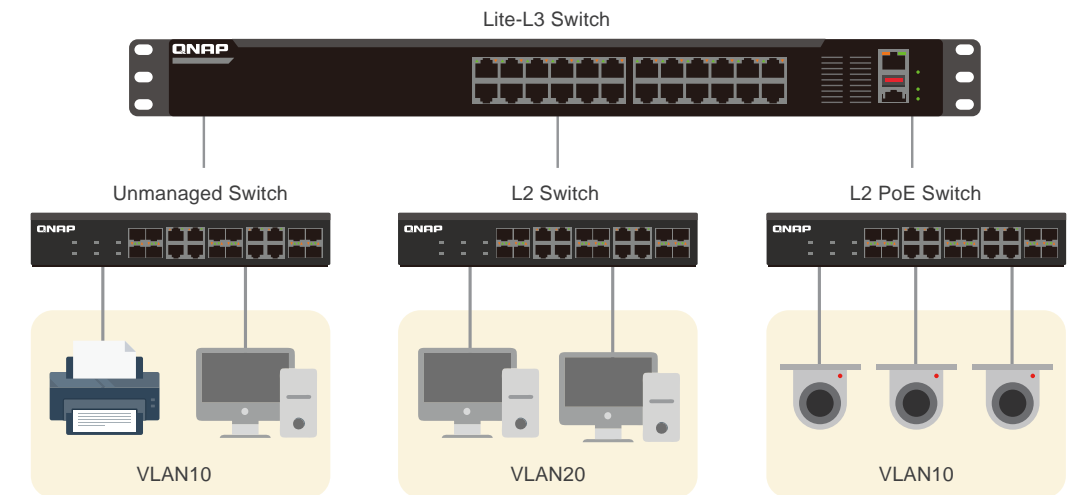
### Small-Scale

When traffic must be isolated between departments and device counts are low, QNAP L2 switches allow simple VLAN group configuration without requiring inter-subnet communication.



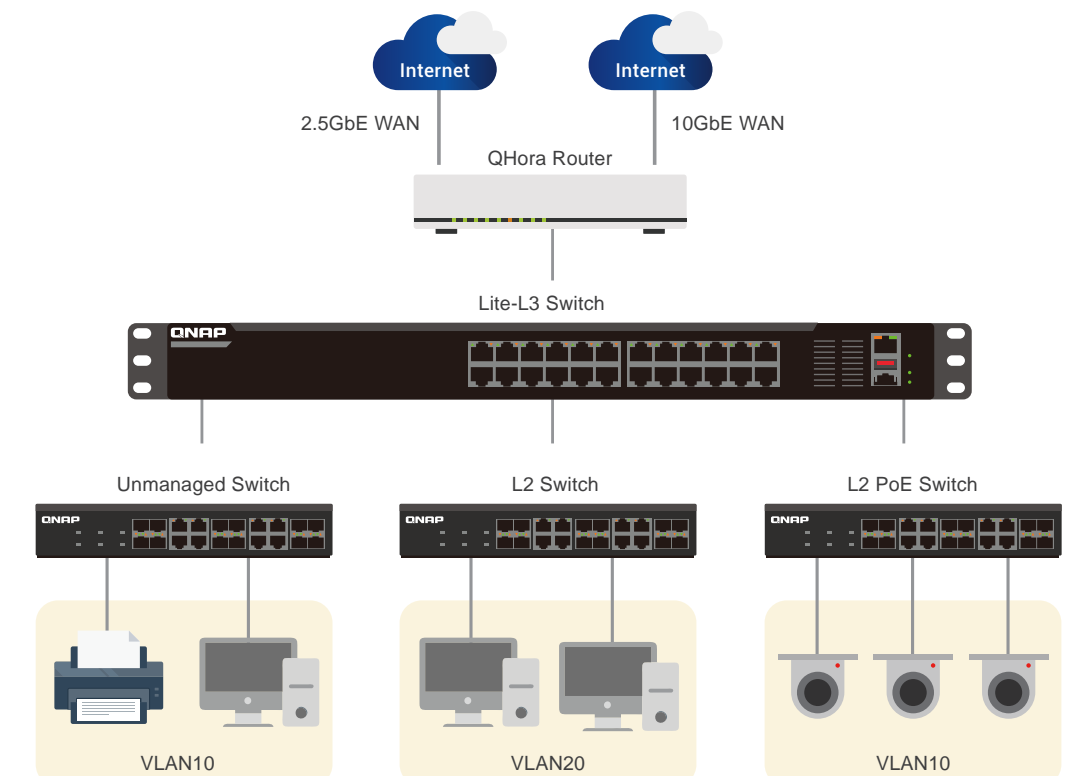
## Medium to Large Internal Network Architecture

QNAP Lite-L3 switches support VLAN segmentation across subnets and inter-VLAN routing, making them ideal for larger enterprises or campus networks with high-density VLAN environments.



## Medium to Large Internal and External Network Architecture

For more complex network scenarios involving both internal and external communications, the QNAP QHora router offers advanced VLAN configuration to isolate departmental traffic securely. It also supports multi-WAN connections for increased bandwidth and reliable connectivity.





# 25 GbE

## Build Low-Latency Networks for Enterprise and Media Workflows

QNAP's 25GbE network solution is the ideal backbone upgrade for enterprises seeking low latency, optimized link aggregation, and full-speed operation across multiple 10GbE devices.

### Great Value

Offers highly competitive pricing—affordable even for small businesses.

### Easy to Use

Intuitive switch management interface designed for SMB users with low technical barriers.

### Mixed-Speed Architecture

Serves as a core switch to connect devices with different interfaces/speeds, or integrate with existing enterprise switches and equipment.

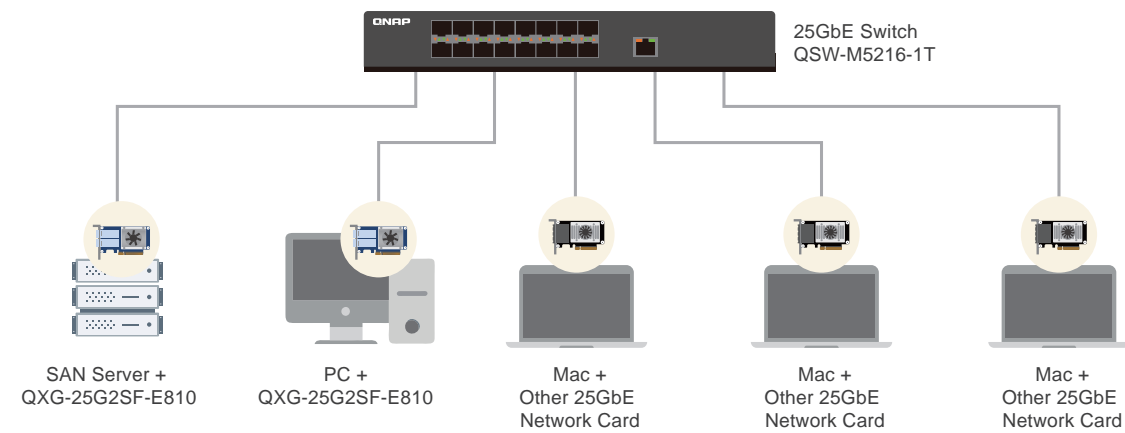
### Ready for 100GbE

Connect to 50GbE SFP56 or 100GbE QSFP28 fiber networks—future-proofing your bandwidth needs.



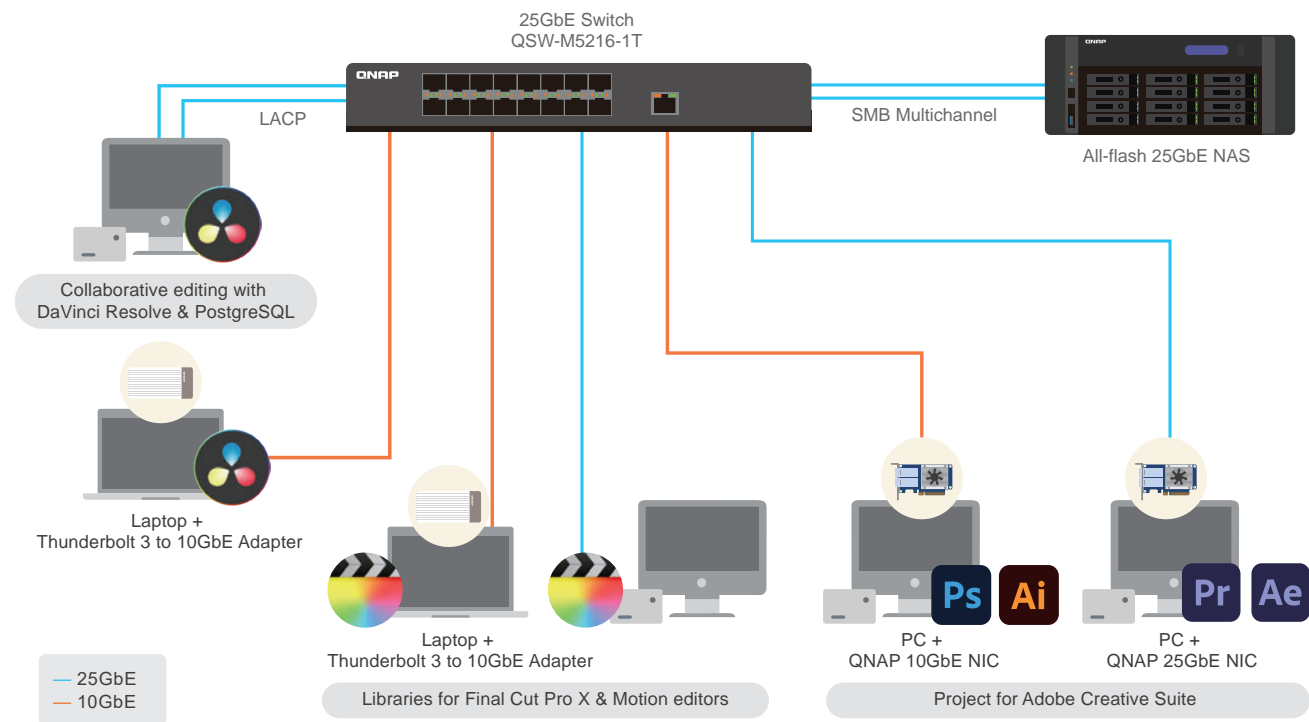
# Deploy an Enterprise SAN (Storage Area Network) Architecture

- Upgrade your backbone infrastructure with QNAP 25GbE switches to allow more workstations to achieve full 10GbE/25GbE throughput.
- Use QNAP 25GbE NICs to expand SAN server bandwidth.
- Maximize ROI on your SAN investments with high-speed, high-efficiency networks.



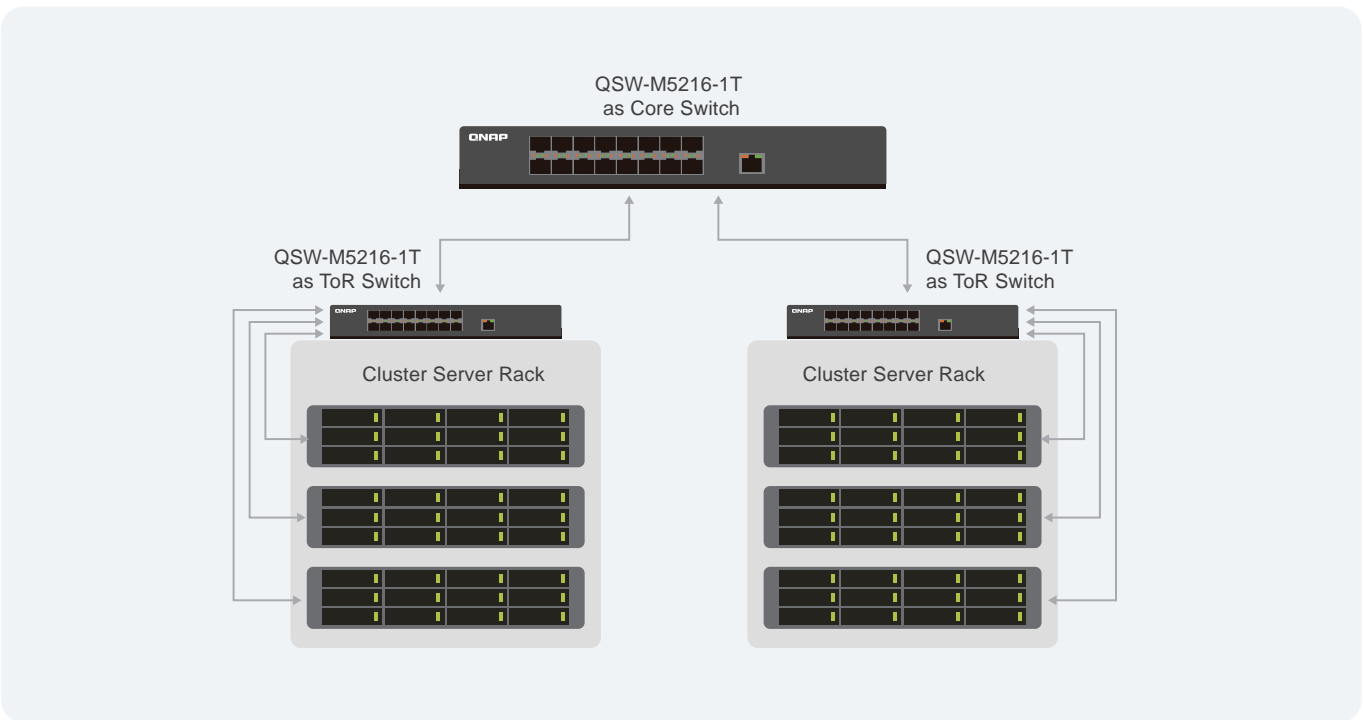
# Create a High-Speed All-Flash Media Collaboration Environment

- Build a high-performance intranet by upgrading to QNAP 25GbE switches and pairing with QNAP all-flash NAS, enabling low-latency access for video editing and VFX production.
- Empower real-time, multi-user collaboration and significantly shorten post-production time—eliminating delays caused by network bottlenecks.



# Build an Enterprise IT Cluster Environment

- Equip multiple cluster servers with QNAP 25GbE NICs and connect them via QNAP 25GbE switches.
- Low-latency networks ensures accurate data transmission between nodes, allowing seamless and fast failover and service continuity.
- Ideal for deploying large-scale clustered server environments.





# 100GbE

## Upgrade Backbone Speeds for Storage Centers and the Media Industry

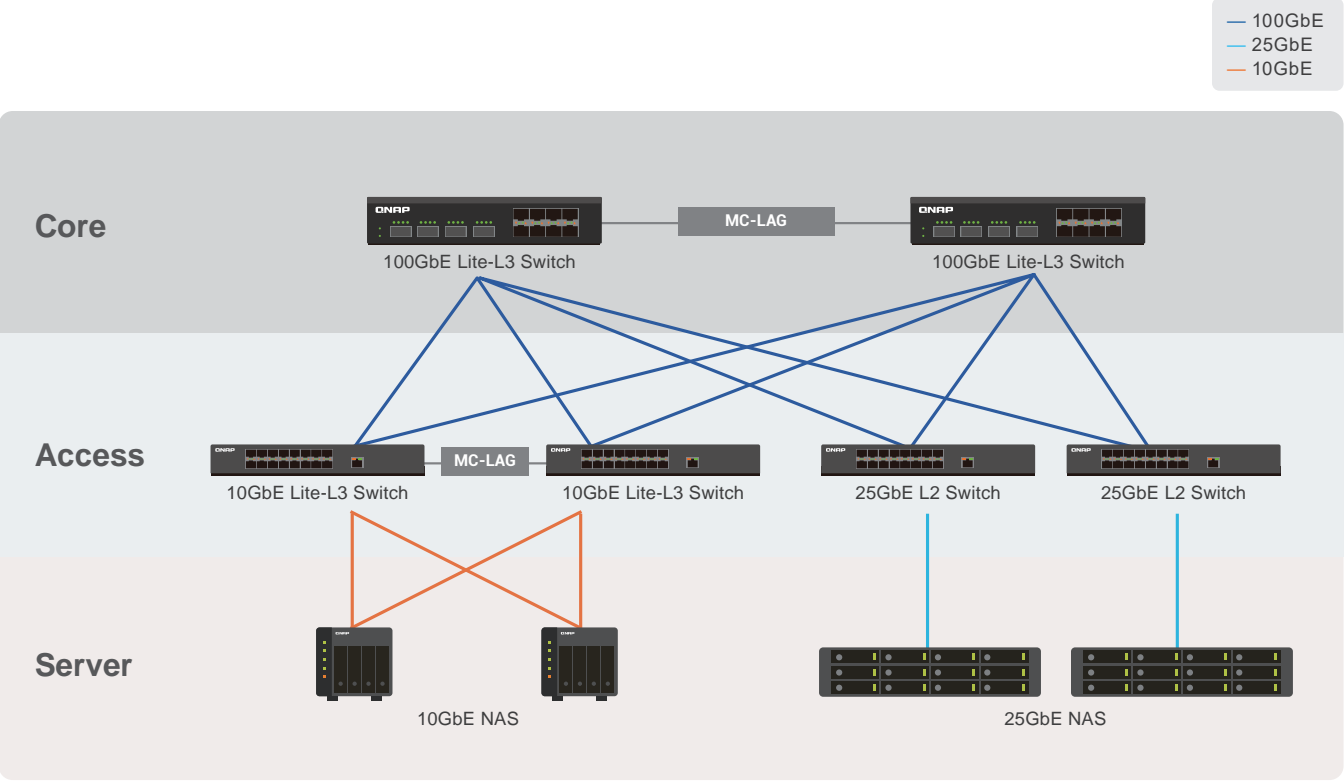
QNAP breaks the myth that 100GbE solutions are “too complex” or “too expensive” by offering scalable and backward-compatible 100GbE backbone networks. Ideal for organizations deploying high-performance network infrastructures for demanding workloads.

- **Cost-Efficient IT Choice**  
Delivering up to 1200Gbps total switching capacity at a lower budget. The half-width rackmount design also saves space.
- **Scalability**  
Supports uplink connections to higher-speed 100GbE+ core switches or servers, ready to meet future bandwidth growth.
- **Backward Compatibility**  
Unlike most 100GbE solutions, QNAP also supports downlinking to 40GbE QSFP+ and 25GbE SFP28 at minimal cost, offering deployment flexibility.
- **Lite-L3 Capabilities**  
User-friendly switch interface enables efficient and secure network management with enhanced stability.



# High-Density Applications in Storage Centers

Meet the intense bandwidth demands of storage centers handling data computing, big data analytics, and virtualization. Paired with switch-level MC-LAG redundancy, QNAP builds a robust and highly available 100GbE backbone network to ensure service continuity.



## Core Layer

Deploy two QNAP 100GbE Lite-L3 switches and configure MC-LAG for redundant interconnections. Connect each switch downward to a 10GbE Lite-L3 switch and a 25GbE L2 switch, forming four redundant groups.

## Access Layer

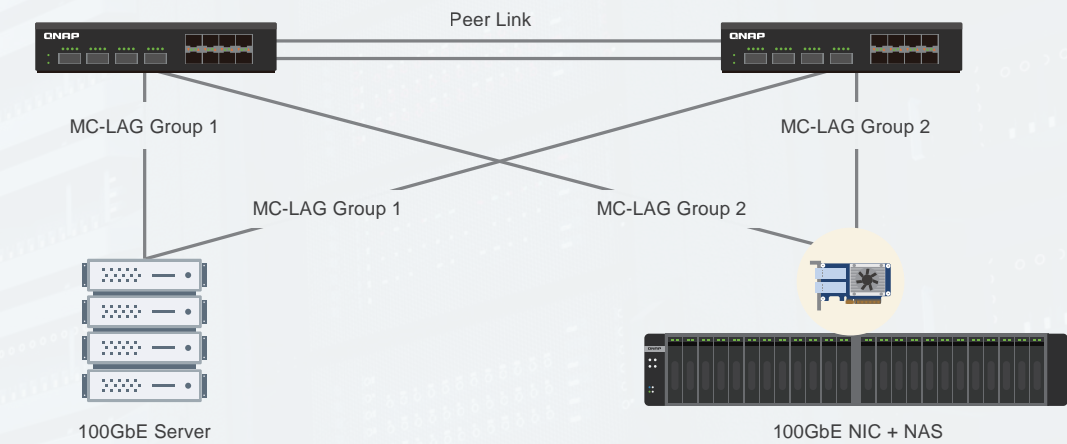
Configure MC-LAG between the two 10GbE Lite-L3 switches and pair each with a 10GbE NAS to form two backup groups. The 25GbE L2 switch connects directly to 25GbE NAS units.

## Server Layer

Leverage high-bandwidth, low-latency 10GbE / 25GbE NAS for data-intensive workloads such as virtualization, databases, big data analytics, critical data backup, and disaster recovery.

## MC-LAG Network Redundancy

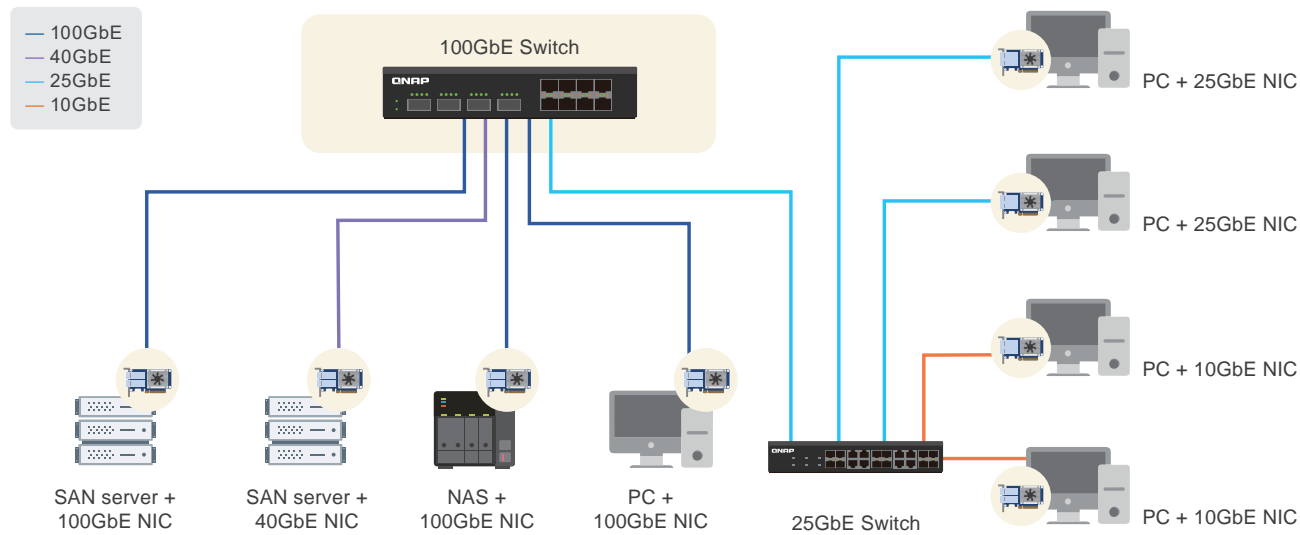
By configuring Multi-Chassis Link Aggregation (MC-LAG) between two switches, you establish a redundant link group to ensure uninterrupted switch-level connectivity. This enables high availability (HA) and network fault tolerance.





# Upgrade Backbone Speed for the Media Industry

Upgrading to a 100GbE backbone network is essential for post-production studios to stay competitive in handling high-resolution content and multi-user collaboration. Greater bandwidth not only boosts overall efficiency but also futureproofs the infrastructure for upcoming technological shifts and business growth.



## QNAP 100GbE Switch

Built-in 100GbE QSFP28 ports support breakout into four 25GbE SFP28 ports and backward compatibility with 40GbE QSFP+. Connect SAN servers, NAS, and video editing workstations.

## SAN Server

Install a QNAP 100GbE NIC on your SAN server, or directly connect SAN servers with 40GbE QSFP+ or 25GbE SFP28 ports for fast access to large media files.

## NAS + QNAP 100GbE NIC

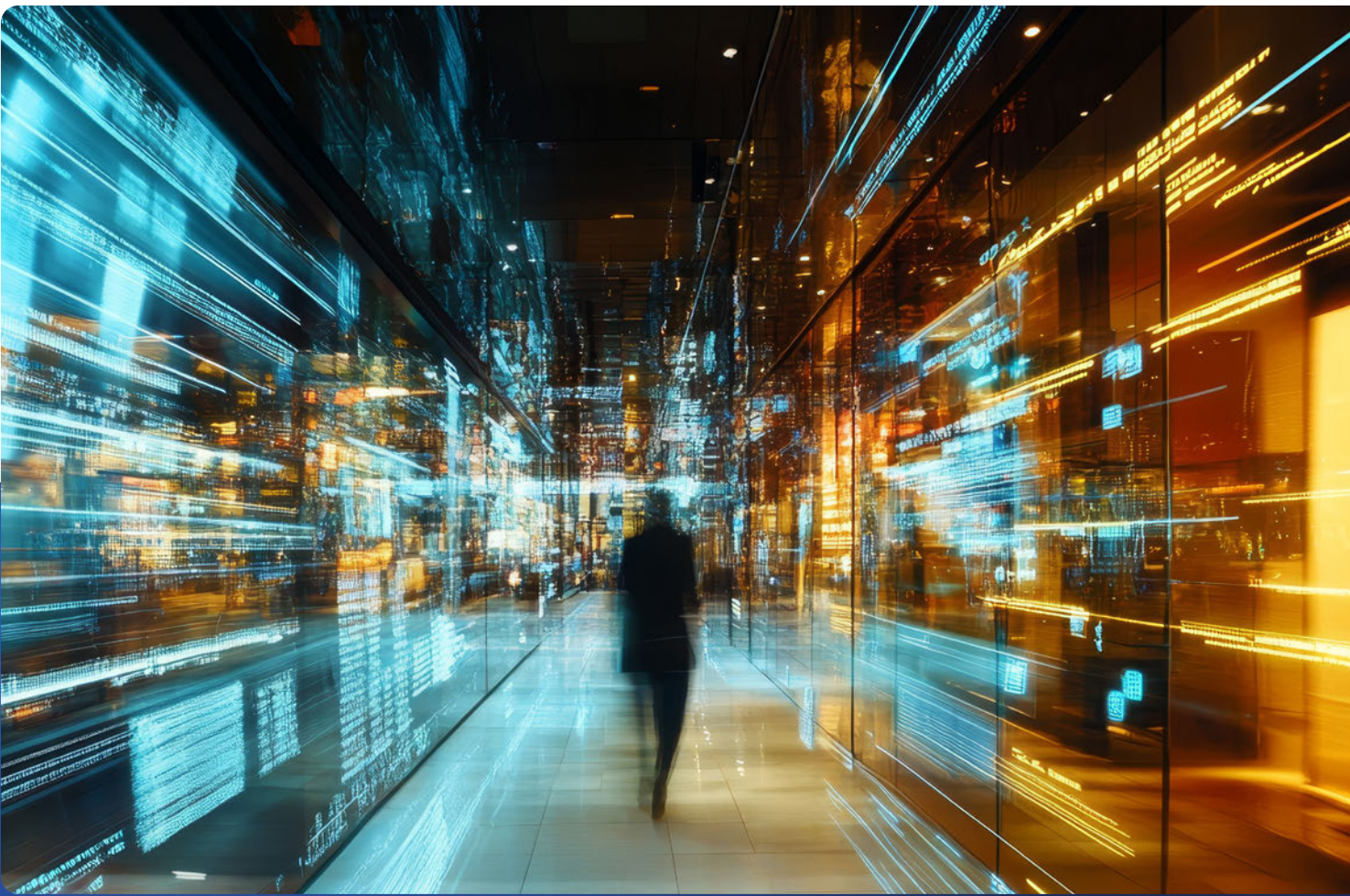
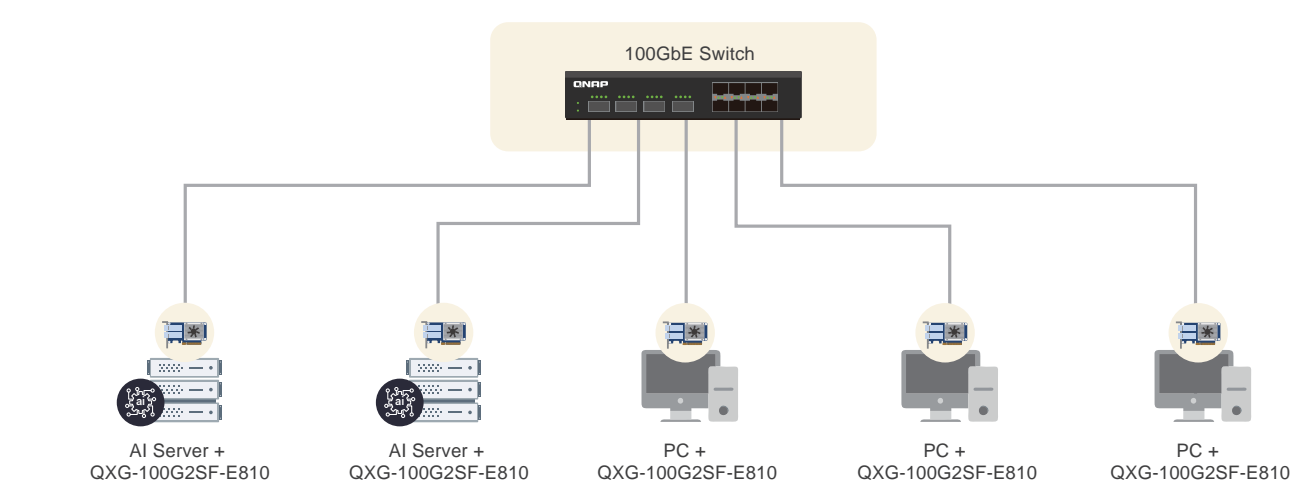
Use QNAP NAS with expandable 100GbE NICs to enable real-time editing and multi-user access to high-resolution footage.

## PC Workstations

Studios planning to expand with more high-performance workstations or rendering servers can ensure sufficient bandwidth with 100GbE networks.

# AI Labs

Launching an AI project often involves handling hundreds of terabytes of datasets. By deploying QNAP 100GbE switches along with 100GbE/25GbE NICs, you can upgrade your backbone to 100GbE and support simultaneous operations across multiple AI servers and client PCs—reducing training time and accelerating model development.





# Serving A Wide Range of High-speed Network Environments

QNAP offers a comprehensive lineup of high-speed switches, including PoE, industrial-grade, half-rack, and smart edge switches with VM capabilities. All these switches provide high-value network solutions for enterprise data centers, smart factories, retail chains, smart hotels, and MSP/SI integrators.

## Smart Factories

Industrial-grade switches paired with QNAP industrial NAS provide secure and stable data transmission and storage in harsh environments, making them ideal for factories, warehouses, outdoor surveillance, and enterprise server rooms.

- IP20 industrial-grade protection
- Wide temperature tolerance: -30°C to 65°C; DC 9–54V redundant power
- Delivers low-latency, high-resolution AVoIP experience

## Compact Server Rooms

Exclusive half-rack-width switches save space and simplify management—perfect for SMB server rooms.

- Two half-rack-width switches can fit in a 1U space
- Lightweight design also fits well in office environments



## IP Surveillance

Choose multi-port PoE switches or smart edge switches with SATA drive bays to simplify surveillance system cabling while enhancing video data transmission and backup efficiency.

- PoE supplies power to high-wattage IP cameras
- Supports VLAN, LACP, QoS, and IGMP Snooping network management functions
- Exclusive smart edge switch integrates PoE, NVR, and data backup management in one device

## Wireless Networks

QNAP PoE switches eliminate bandwidth bottlenecks between wired and wireless networks, maximizing Wi-Fi performance in offices, hotels, and retail environments.

- Multi-port 2.5GbE/10GbE Multi-Gig connectivity
- Supports high-power PoE Wi-Fi 6/6E/7 access points
- Complies with IEEE 802.3bt PoE++ / 802.3at PoE+ standards for high-power Ethernet

## Virtual Machine Deployment

QNAP QGD smart edge switches support software-defined functions, replacing multiple physical devices in one.

- Run MikroTik RouterOS or OpenWrt as a virtual router for flexible routing
- Deploy pfSense firewall VMs to protect and isolate internal enterprise networks





# High-Efficiency AMIZcloud Centralized Management Platform

Remotely and centrally manage large numbers of switches and NAS devices across multiple sites—simple, cost-effective, and greatly reduces IT management workload.



## Centralized Cloud Management

Coordinate with multiple administrators to manage multiple devices efficiently, saving time and effort.



## Low Cost

No need for dedicated hardware or additional license purchases, significantly lowering total cost of ownership (TCO).



## Hierarchical Management

Supports an organizational and site-based structure, making it easy to view and manage devices by department or location.

## QNAP Unified Cloud Management Services



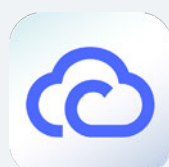
### AMIZcloud Centralized

Monitor and manage device resources, system settings, and security risks from one place.



### Organization Center

Provides role-based access and collaboration by organization—no more relying on a single admin account to control everything.



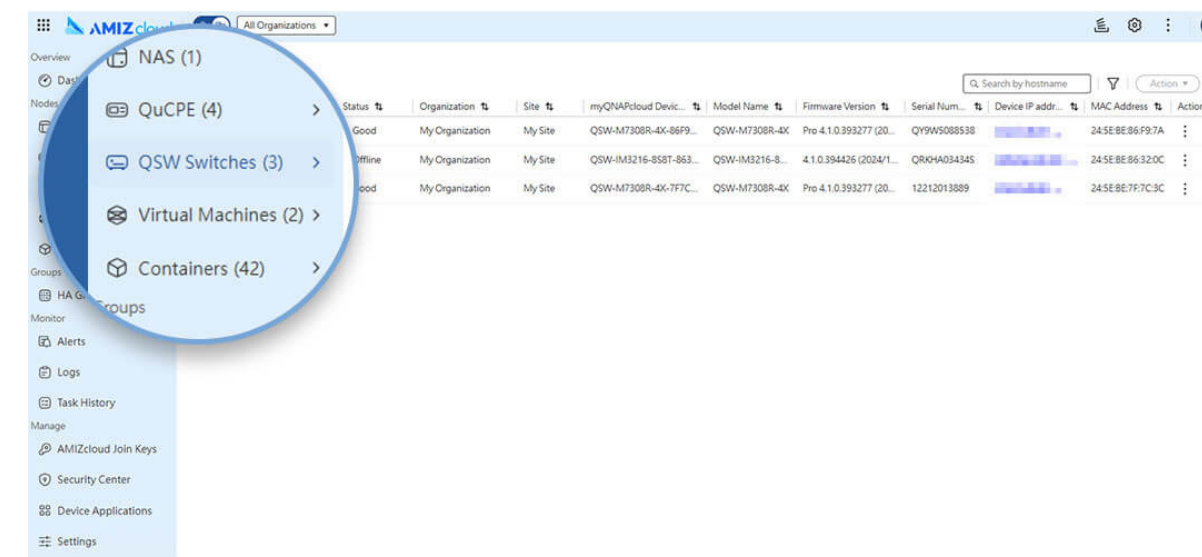
### myQNAPcloud

Enables secure remote access to NAS and binds multiple QNAP devices under a single QNAP Account or Organization.

## Centralized Switch Management

Instant overview of switch device details such as IP address, connection status, and per-port traffic—enabling IT staff to monitor and troubleshoot remotely.

Note: AMIZcloud supports specific switch models. For details, please visit the QNAP website.



## Centralized NAS Management

Monitor the status of all NAS devices in real time. Perform batch installation,

- Firmware Updates**

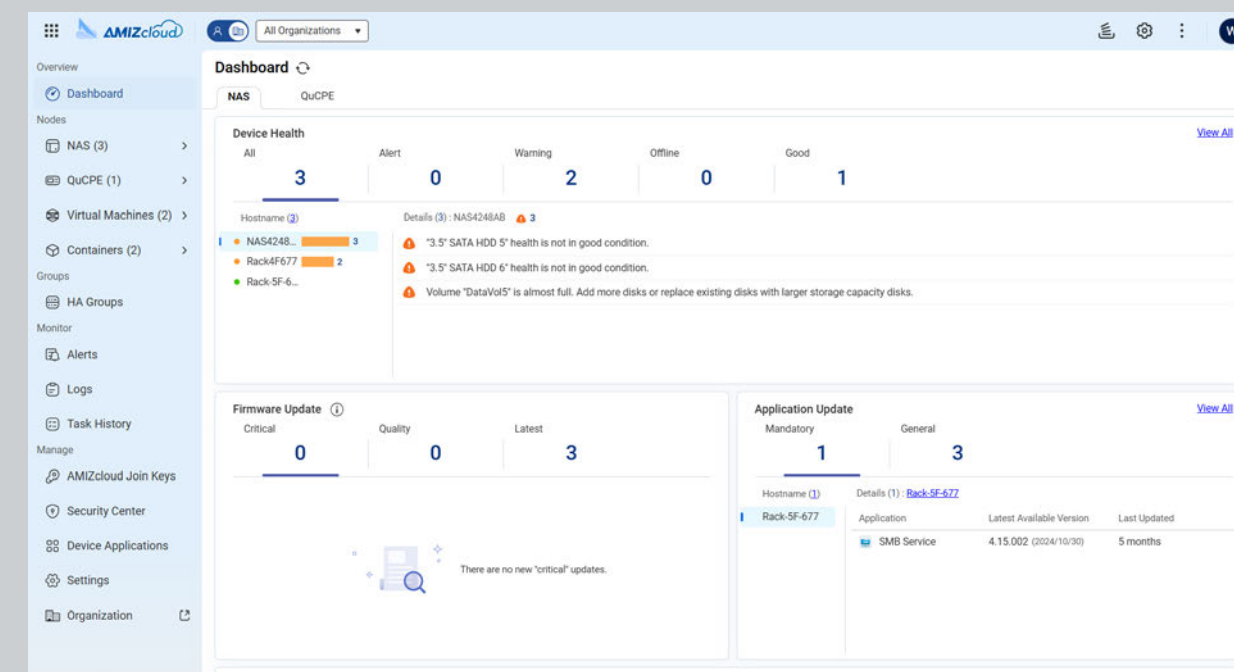
Update multiple NAS devices to the latest firmware version simultaneously to ensure device security.

- Remote Reboot / Shutdown**

Remotely reboot or shut down devices in case of abnormalities. Devices can also be removed from the management platform.

- Alert Management**

Customize alert conditions. When triggered, email notifications are automatically sent to administrators.





# Easily Build Secure Multi-Site Networks with SD-WAN

QNAP's exclusive QuWAN SD-WAN intelligent network optimization solution empowers digital transformation, business expansion, and remote work strategies with simplified and secure connectivity.



## | Why Do Businesses Need SD-WAN?

SD-WAN is a key technology for upgrading enterprise networks. It enables large-scale, flexible VPN connectivity across multiple sites—far beyond the limitations of traditional MPLS or standard VPN architectures.

- **Centralized Management**

Eliminate complex point-to-point VPN setups. SD-WAN allows centralized deployment and monitoring of multi-site networks via a single cloud-based platform, simplifying configuration and reducing maintenance costs.

- **Flexibility**

Traditional networks rely on fixed physical connections. SD-WAN enables dynamic traffic routing and automated bandwidth optimization.

- **Scalability**

Unlike traditional enterprise networks that are costly and time-consuming to scale, SD-WAN allows rapid branch deployment to meet increasing bandwidth and operational demands.

## | Why Choose QNAP for SD-WAN Deployment?

QNAP's QuWAN SD-WAN solution streamlines configuration—making Hub and Edge connections easy, even for non-technical staff at branch locations.

- **Cost-optimized**

Among the most affordable SD-WAN routers and free software solutions in the market. Supports Auto Mesh VPN among QNAP devices, VMware platforms, and mobile endpoints—delivering enterprise-grade networks at minimal cost.

- **Extreme Performance**

QNAP routers feature 2.5GbE/10GbE physical ports and automatic bandwidth optimization, maximizing both WAN and LAN throughput. Supports up to 1,000 simultaneous VPN clients.

- **Security**

From identity authentication to endpoint protection, QuWAN SD-WAN provides multi-layer security with encrypted transmission and advanced protection.



## QuWAN SD-WAN Solution

A cloud-managed solution with visual topology mapping that simplifies multi-site network deployment and monitoring.

### Cloud Orchestration

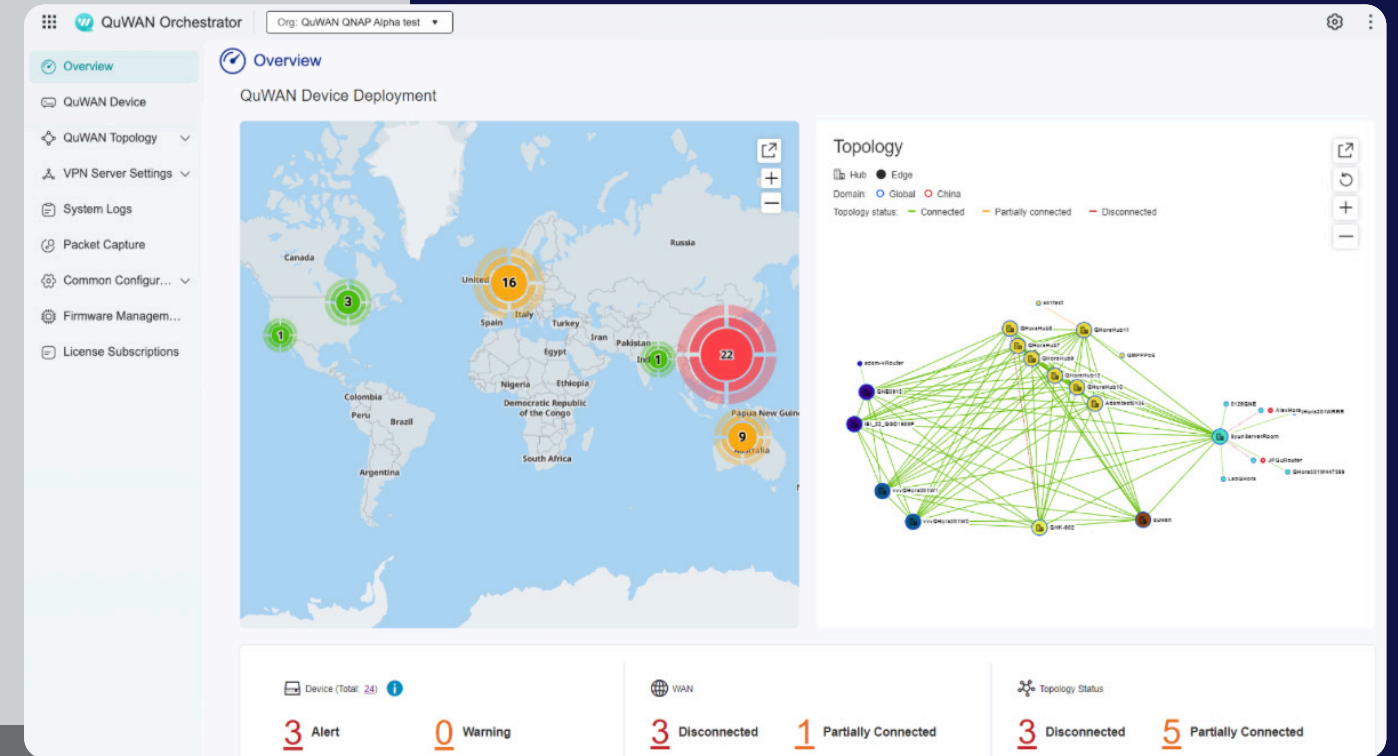
The QuWAN Orchestrator provides a centralized dashboard and network topology view for remote deployment, monitoring, and management of SD-WAN across all branches.

### Optimized Bandwidth

Smart bandwidth allocation with link aggregation, QoS load balancing, prioritized bandwidth usage, and WAN failover—ensuring always-on connectivity.

### Cybersecurity

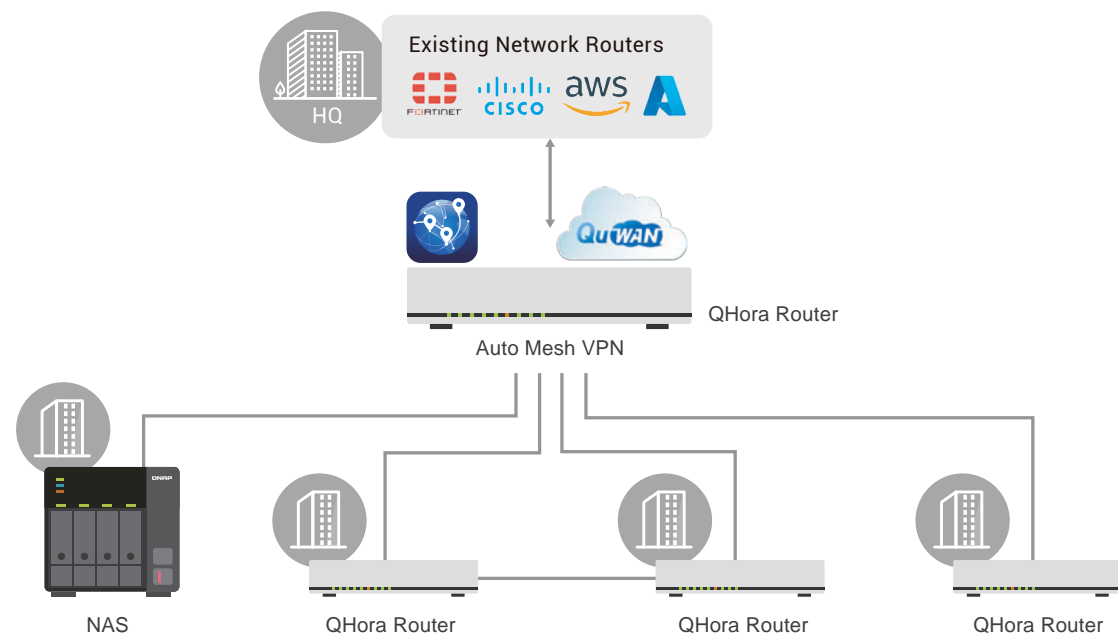
Supports IPsec AES 256 encryption, deep packet inspection (DPI), and firewall functions to detect malicious packets and blacklist risky applications—ensuring internal and external network safety.



## Centralized SD-WAN Management

Build a mesh VPN across multiple branch sites at minimal cost.

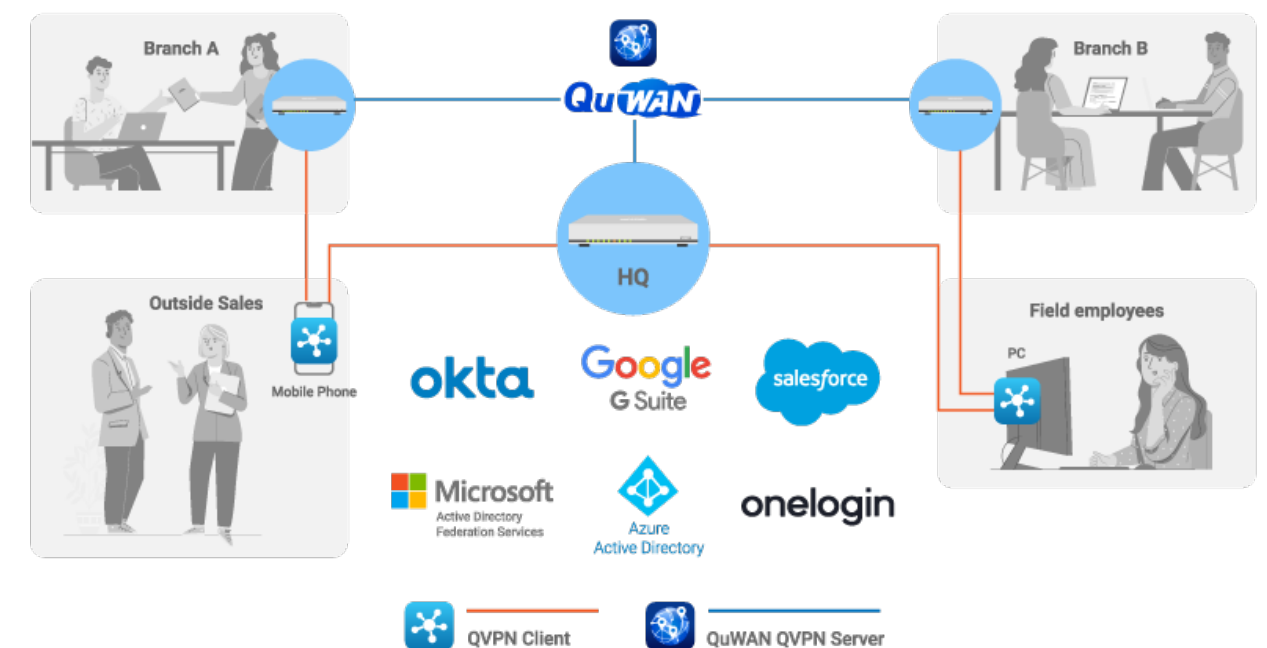
- **All-in-One Cloud Management:** Use the QuWAN Orchestrator to link QNAP QHora routers or NAS at different sites, reducing IT workload and administrative costs.
- **Join SD-WAN with NAS:** Even without a router, remote sites can join SD-WAN directly using QuWAN Express on QNAP NAS.
- **IPSec VPN Compatibility:** QuWAN SD-WAN easily integrates with existing third-party routers, setting up site-to-site VPNs without requiring changes to the existing infrastructure, enabling the rapid establishment of Route-based IPSec VPNs.



## Flexible and Convenient VPN Access

Connect large numbers of remote offices and mobile users.

- **High Connection Capacity:** Supports up to 1,000 VPN clients.
- **QuWAN QBelt VPN Protocol:** Securely connect endpoints like PCs and mobile devices.
- **Existing Account Login:** Integrates with authentication servers and SAML SSO, allowing employees to use their existing company credentials—reducing IT management overhead.





# Flexible Network Management for Reliable Data Transmission

QNAP network products offer flexible routing, Lite-L3, and L2 features with an intuitive interface—empowering IT teams to efficiently build fast, stable, and reliable network infrastructures.

- **Dual WAN Failover**

Automatically switches to the standby connection if one WAN link fails. Resumes load-balanced operations once both are back online.

- **Wireless Network Management**

Supports Wi-Fi 6 dual-band 802.11ax (2.4GHz & 5GHz), MU-MIMO, and OFDMA technologies—offering up to 3600Mbps wireless speeds and significantly improved efficiency.

- **DHCP Server**

Automatically assigns dynamic IP addresses to clients on the local network.

## Flexible Routing Capabilities

- **IPv4/IPv6 Static Routing**

Users can manually define IPv4/IPv6 data paths to reduce latency and enhance performance—ideal for large enterprises or advanced routing requirements.

- **Policy-Based Routing**

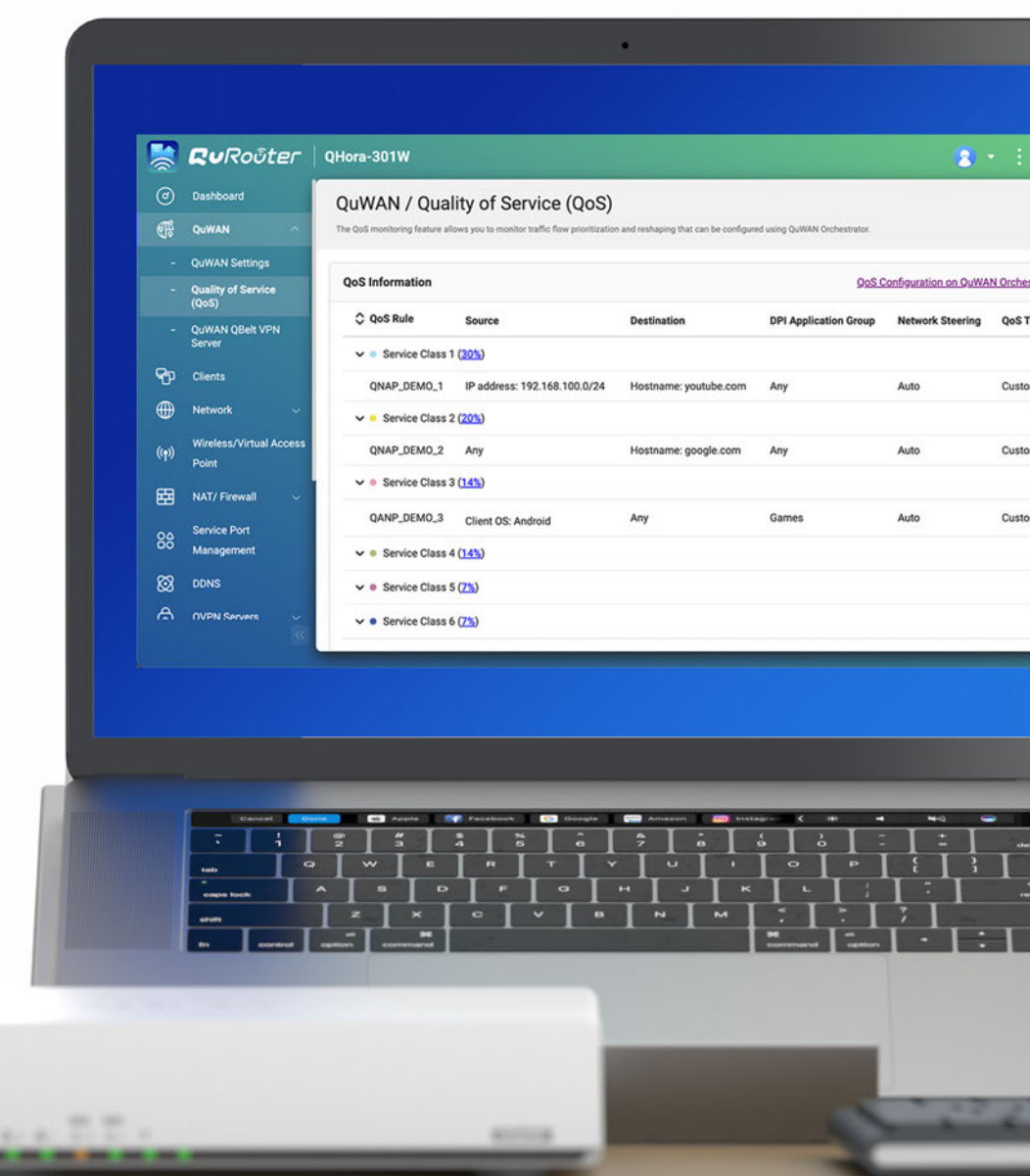
Define traffic rules based on IP addresses, devices, or traffic types to precisely allocate bandwidth and ensure optimal performance for priority tasks.

- **LAN/WAN VLAN**

Supports inter-VLAN routing to enable communication between isolated network segments when needed.

- **Dual WAN Load Balancing**

Connect two WAN uplinks to increase total network throughput.

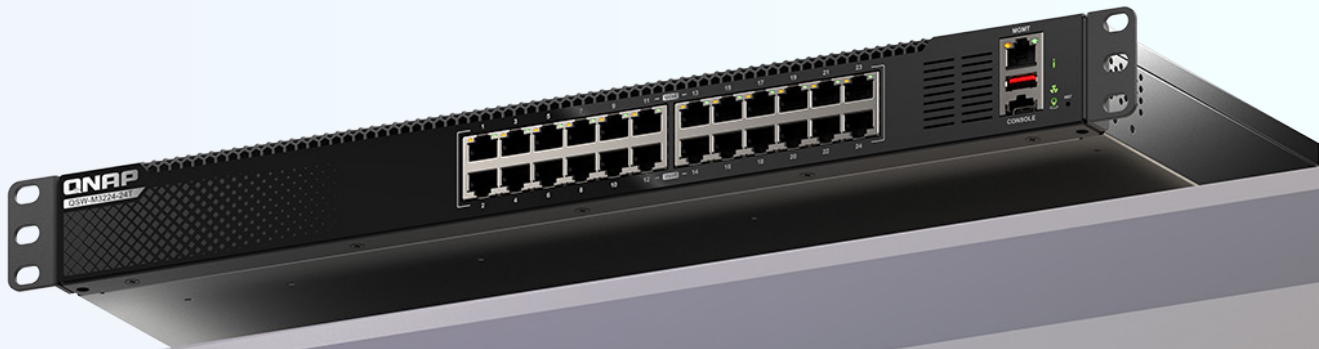


# | Switch Management Features

- **MC-LAG (Multi-Chassis Link Aggregation Group)**  
Combines multiple Layer 2 links into a single logical connection across switches for high availability and fault tolerance—ensuring uninterrupted operation even if one or more physical links fail.
- **IPv4/IPv6 Static Routing**  
Users can manually define IPv4/IPv6 data paths to reduce latency and enhance performance—ideal for large enterprises or advanced routing requirements.
- **DHCP Server**  
Dynamically assigns IP addresses to devices in the local network.
- **FEC (Forward Error Correction)**  
Reduces bit error rate (BER) during high-speed or long-distance transmission by enabling rapid error correction on the receiving end.
- **AV-over-IP & PTP (Precision Time Protocol)**  
Built-in setup wizard supports IGMP Snooping and PTP (compliant with ITU-T G.8273.3 Class A), minimizing time signal delays between AV devices and improving synchronization accuracy.
- **SNMP (Simple Network Management Protocol)**  
Collects and exchanges information from managed devices on an IP network.
- **LACP (Link Aggregation Control Protocol)**  
Aggregates multiple network links into a single logical link to increase bandwidth.
- **QoS (Quality of Service)**  
Offers advanced traffic control (queue scheduling) and prioritization (strict policy) to ensure real-time performance for critical traffic.
- **VLAN (Virtual LAN)**  
Efficiently segments network traffic by department or application for improved network organization and security.
- **LLDP (Link Layer Discovery Protocol)**  
Enables network devices to advertise identity and capabilities for easier discovery and troubleshooting.
- **RSTP (Rapid Spanning Tree Protocol)**  
Automatically detects network loops and resolves them by blocking redundant paths, while offering link redundancy.

- **Flow Control**  
Balances transmission rates between sender and receiver to avoid congestion and maintain smooth traffic.
- **ACL (Access Control List)**  
Filters traffic based on custom rules for enhanced security. Supports ACL Mirroring to forward matching traffic to monitoring or analysis devices.
- **DDM (Digital Diagnostic Monitoring)**  
Built-in optical transceivers on fiber ports provide real-time monitoring of optical power, temperature, voltage, and transceiver status.
- **Port Mirroring**  
Duplicates traffic from one port to another for monitoring and troubleshooting purposes.

Note: Feature support may vary by model. Please refer to individual product specifications for details.





# | User-Friendly Web-based Management System

Featuring a graphical web interface and guided setup, QNAP network systems are intuitive and accessible—even for non-IT professionals.

### At-a-Glance Dashboard

Visual overview with port-mapped diagrams helps you instantly understand the status of network connections.

### Guided Wizards

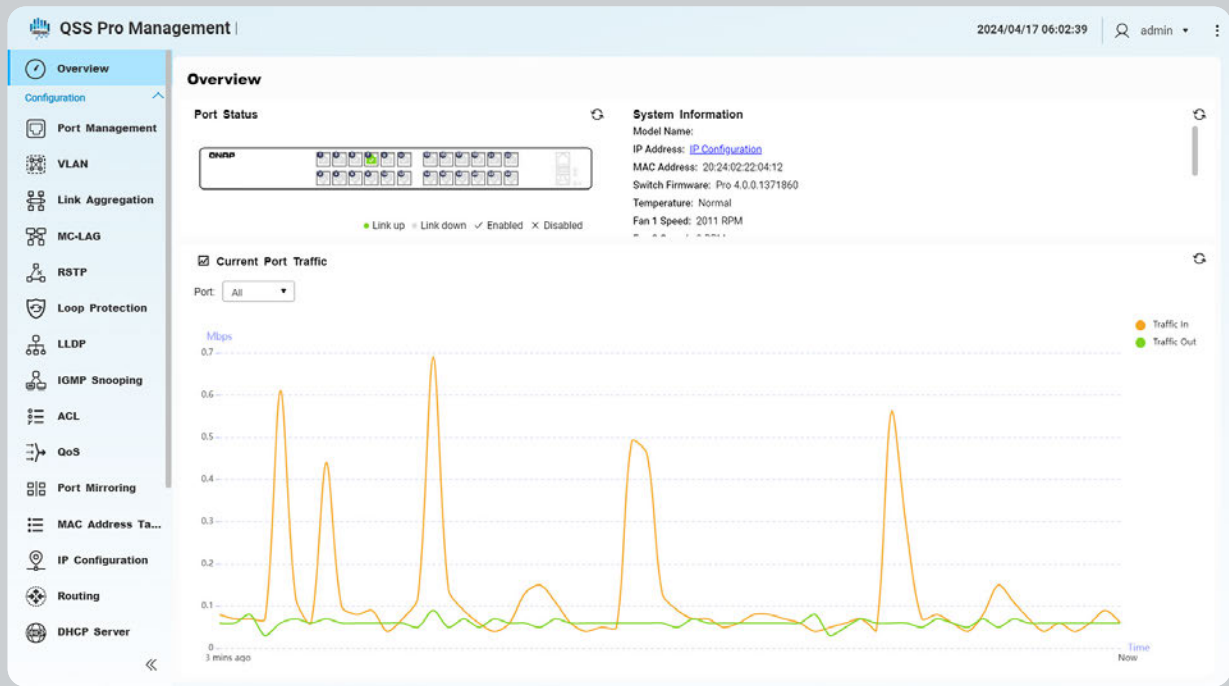
Step-by-step instructions and feature explanations simplify configuration and reduce training effort.

### Online Firmware Updates

Quickly check for updates and apply them with a single click to ensure network security.

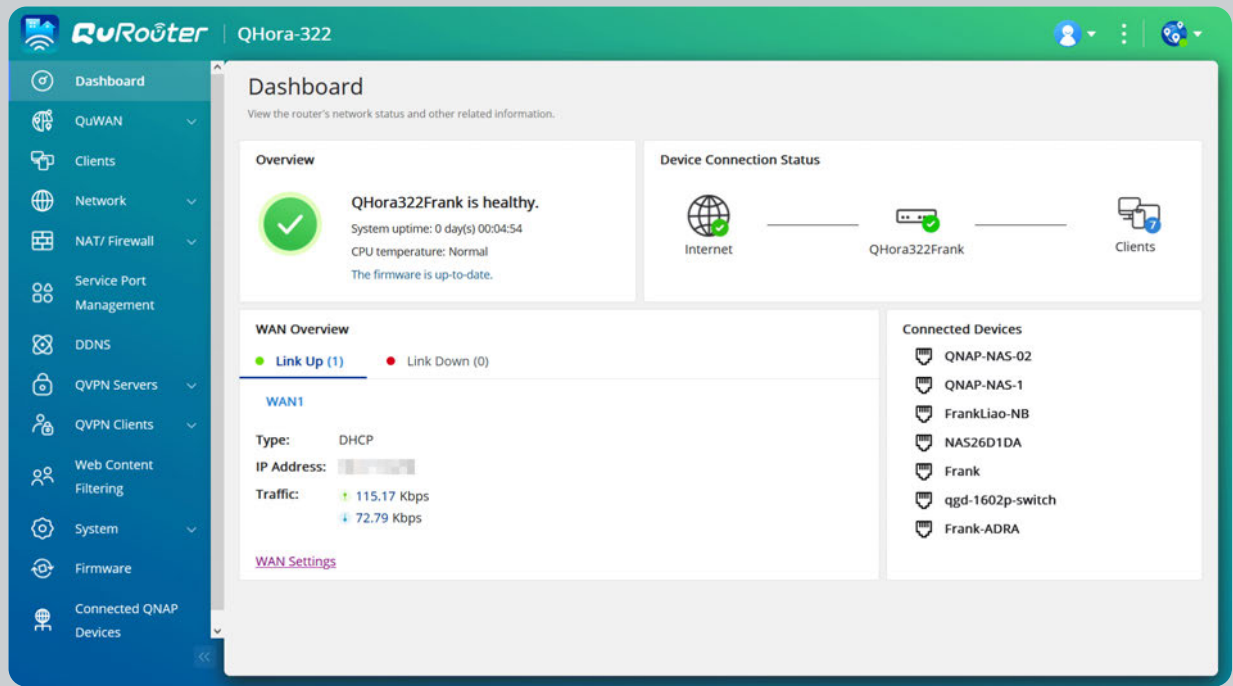
## Switch Management System – QSS / QSS Pro

Manage and monitor Lite-L3 and L2 features. You can bind devices to AMIZcloud for centralized control.



## Router Management System– QuRouter

Easily configure LAN/WAN routing, VPN, and security policies. Integrates QuWAN SD-WAN features for multi-site deployment.





# Comprehensive LAN & WAN Security Protection

Whether for individuals or enterprises, QNAP delivers multi-layered protection for your data and services.



## Secure Your Network Edge with a Security Router

Routers serve as your first line of defense. QNAP QHora routers filter incoming traffic to block unauthorized access. Combined with QuWAN, they implement Zero Trust principles, identity verification, and multi-layer security to build a secure, intelligent SASE-aligned network—protecting branches, headquarters, and remote workers.



### LAN Security

Supports L3 firewall and NAT for internal virtual IP assignment. Use QNAP NAS with Airgap+ backup to isolate backups from external threats. QuWAN enables centralized policy enforcement and site-wide security configuration.



### Security Settings

Disable risky services like Port Forwarding, UPnP, and DMZ by default. Remote Management is also disabled to prevent external IP attacks.



### Endpoint Application Control

Layer 7 firewall with DPI allows segmentation, blacklisting, and web filtering to limit access to unauthorized websites and services.



### Wireless Network Security

Supports enterprise-grade VAP (multiple SSIDs), WPA/WPA2/WPA3, and OWE encryption standards for secure wireless communication.



### Network Perimeter Defense

- **Intrusion Prevention System (IPS):** Real-time packet inspection and signature detection block malware and exploit attempts. Enhances edge protection.
- **GeoIP Firewall:** Automatically detects source IP locations and blocks traffic from high-risk or unauthorized regions, proactively stopping threats at the perimeter.



### Application & Endpoint Management

**Layer 7 Firewall + DPI:** Deep traffic inspection detects and blocks risky services and applications. Web filtering controls user access and browsing behavior.



### Authentication & Secure Connections

- **Identity Verification:** Supports LDAP, AD, and SAML SSO to implement Zero Trust architecture with access control based on identity and device status.
- **End-to-End Encryption:** Uses IPSec AES-256 encryption to fully protect data transmissions—preventing eavesdropping and man-in-the-middle attacks, ensuring secure remote access.



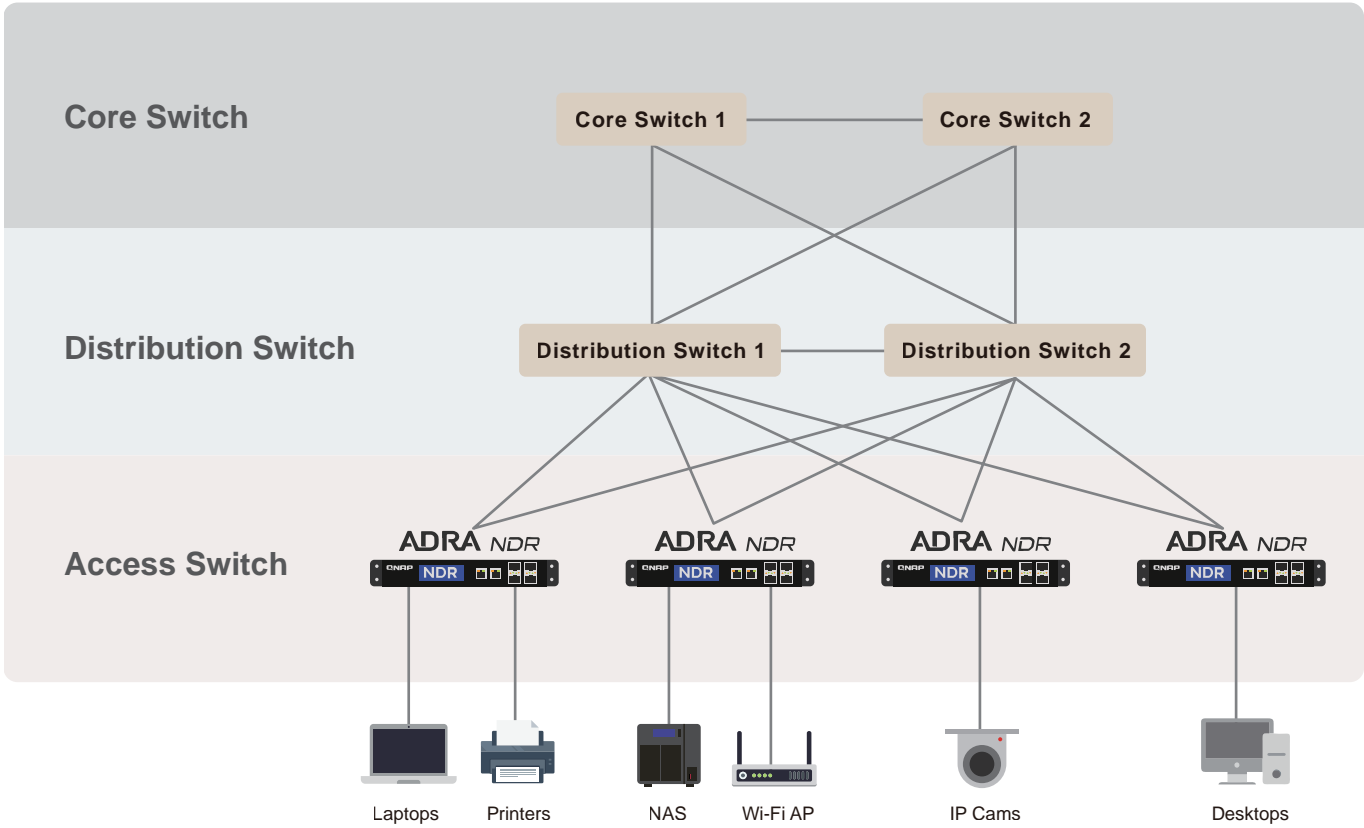
# Upgrade to NDR Switches for Internal Network Defense

Did you know?Traditional firewalls can't detect threats already spreading inside the LAN, like targeted ransomware.

## Why not detect threats directly at the switch level?

Install ADRA NDR software on QNAP QGD switches to enable network-layer protection for all connected endpoints—simpler deployment, smarter security.

- **Active Detection:** Analyzes packets and lateral movement across the switch.
- **Threat Hunting:** Uses virtual threat traps to lure dormant malware into exposing itself.
- **Automated Analysis:** Leverages deep analysis and correlation to assess threat types and severity.
- **Micro-Isolation:** Automatically isolates infected devices without interrupting services to the rest of the network.



### Enterprise-Ready for All Budgets

Unlike costly EDRs requiring per-device installation, ADRA NDR protects the network centrally from the switch—more cost-efficient and scalable.

### No Performance Impact

Analyzes Layers 1–7 traffic and executes threat detection without affecting network performance.

### Device-Agnostic Protection

Unlike EDRs limited to certain endpoints, ADRA NDR secures all connected devices—including printers and IP cameras.

# ADRA NDR Complements Firewalls and EDR—All Are Essential

	QNAP ADRA NDR	Firewall	EDR (Endpoint Detection and Response)
Main Purpose	Detect and neutralize suspicious LAN activities	Block threats from external networks	Protect individual endpoint devices
Network Layer Position	Between endpoint and internal network (access switch)	Between internet and internal network	Resides on each endpoint device
Primary Threat Source	Internal LAN threats (e.g., lateral movement)	External threats (e.g., internet-based)	Threats targeting endpoint apps or data
Advantages	Switch-integrated, simple to deploy, cost-efficient	Rich UTM features for border defense	Deep protection of apps and data on individual devices
Limitations	Cannot analyze or decrypt files directly	Can't detect threats if traffic bypasses firewall	Not all devices (e.g., printers) support EDR agents



# | Secure Remote Connectivity

Multiple remote access solutions for home and business users—simple, secure, cost-effective, and highly flexible.

## General Users



### myQNAPcloud Link

A simple and secure way to access your NAS data at home or in the office.

## Business Users



### QVPN (QBelt)

Built-in QBelt VPN protocol using DTLS and AES-256 encryption. Supports up to 1,000 connections and can also act as a client to connect to third-party services.



### WireGuard® VPN

Ideal for remote workers or large file transfers. Integrated WireGuard® ensures faster and more stable VPN connections.

### OpenVPN

### OpenVPN

Supports OpenVPN services (such as ExpressVPN™, NordVPN®, Surfshark®, Astrill®) to establish secure remote connections to servers.



### Traditional VPN Protocols

Supports L2TP/IPsec for simple and effective VPN deployment in business environments.

## Multi-Site Enterprises



### QuWAN SD-WAN

Automatically builds encrypted IPsec VPN networks across multiple locations, optimizes bandwidth and provides the QuWAN Orchestrator cloud-based centralized management platform.



We are amazed at the network risk visualization, rapid network isolation, and stable operation of QNAP's low-cost ADRA NDR.

Mutsuo Nakato, CEO of Marunaka Transportation

QNAP ADRA NDR solution provides affordable protection against targeted ransomware attacks—ideal for small businesses seeking high-value security.





## QNAP SYSTEMS, INC.

[www.qnap.com](http://www.qnap.com)

### QNAP Systems, Inc.

New Taipei City  
Email: [sales@qnap.com](mailto:sales@qnap.com)  
Tel: +886 2 2641 2000

### QNAP Inc. (USA)

Pomona CA  
Email: [usasales@qnap.com](mailto:usasales@qnap.com)  
Tel: +1-909-595-2782

### QNAP Inc. (Canada)

Markham, Ontario  
Email: [canadasales@qnap.com](mailto:canadasales@qnap.com)  
Tel: +1-905-947-1000

### QNAP GmbH (Germany)

München  
Email: [desales@qnap.com](mailto:desales@qnap.com)  
Tel: +49-(0)215-4884-2816

### QNAP SRL (Italy)

Roma  
Email: [eusales@qnap.com](mailto:eusales@qnap.com)  
Tel: +39-(0)687-738456

### QNAP UK Limited

Swindon  
Email: [uksales@qnap.com](mailto:uksales@qnap.com)  
Tel: +44-(0)333-344-2522

### QNAP Japan

Tokyo  
Email: [jpsales@qnap.com](mailto:jpsales@qnap.com)  
Tel: +81-3-5901-9735

### QNAP Korea

Seoul  
Email: [krsales@qnap.com](mailto:krsales@qnap.com)



Copyright © 2025 QNAP Systems, Inc. All rights reserved.

QNAP® and other names of QNAP Products are proprietary marks or registered trademarks of QNAP Systems, Inc. Other products and company names mentioned herein are trademarks of their respective holders. QNAP reserves the right to modify or revise this guide and related statements at any time. Product specifications and descriptions are subject to change without notice.

P/N: 51000-025518-RS | 202508 (EN)A