QNAP

Smart Home

WiFi Mesh

QMiro-201W

The Tri-band WiFi Mesh Router

Upgrade your home network with WiFi Mesh and SD-WAN

Working from home is now the preferred choice for many across the world, but the transition to working from home has exposed many issues, including performance, security, and connectivity. The question for many is how to connect to company networks and resources with dependable performance and security.

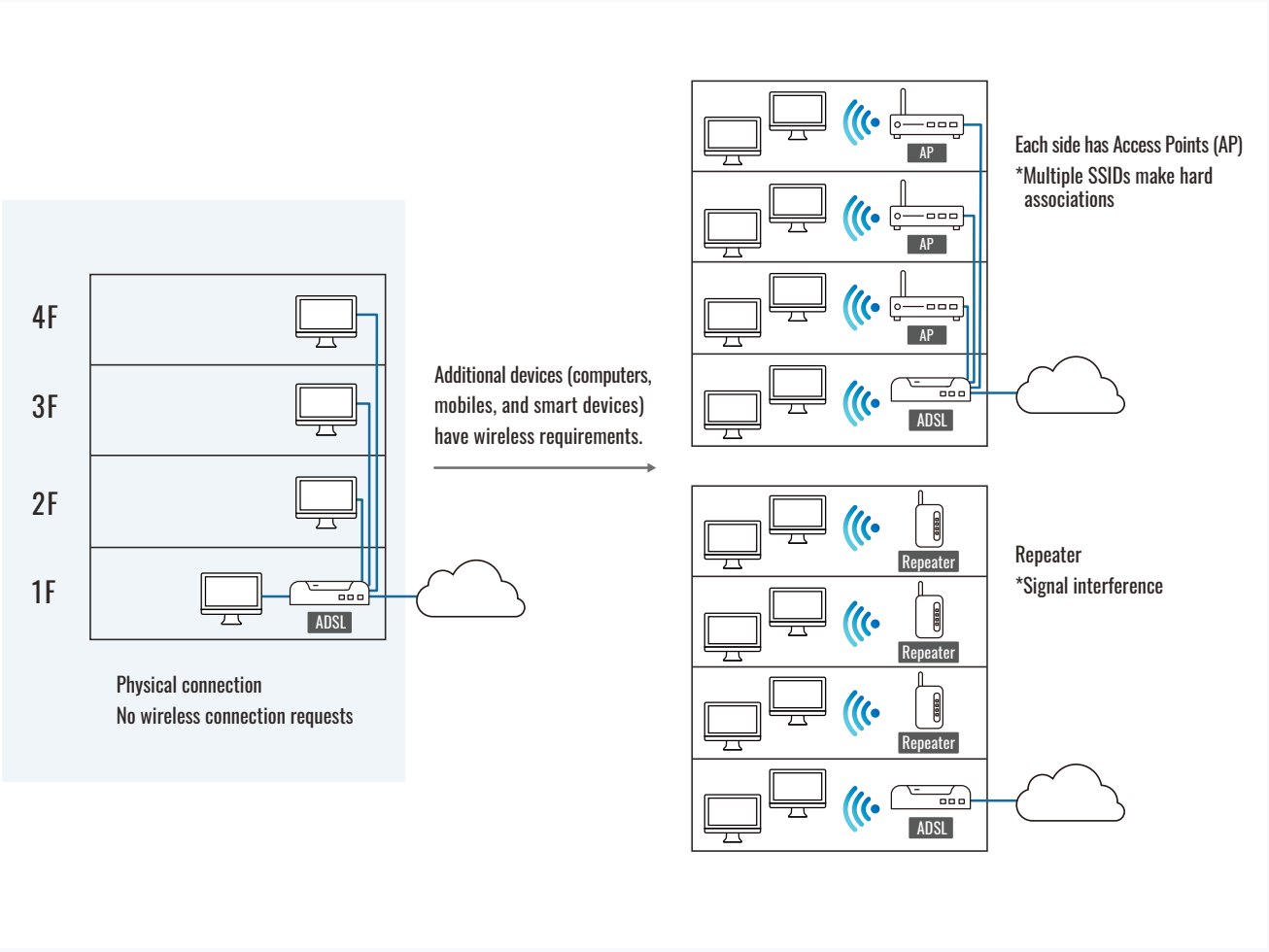
Qualcomm x QNAP launched the first SD-WAN/WiFi Mesh Router based on IPQ-4019

QNAP's QMiro-201W is a WiFi Mesh AP with integrated SD-WAN. Powered by a Qualcomm processor, home workers can enjoy a fast, stable network with secure connectivity to their workplace network.

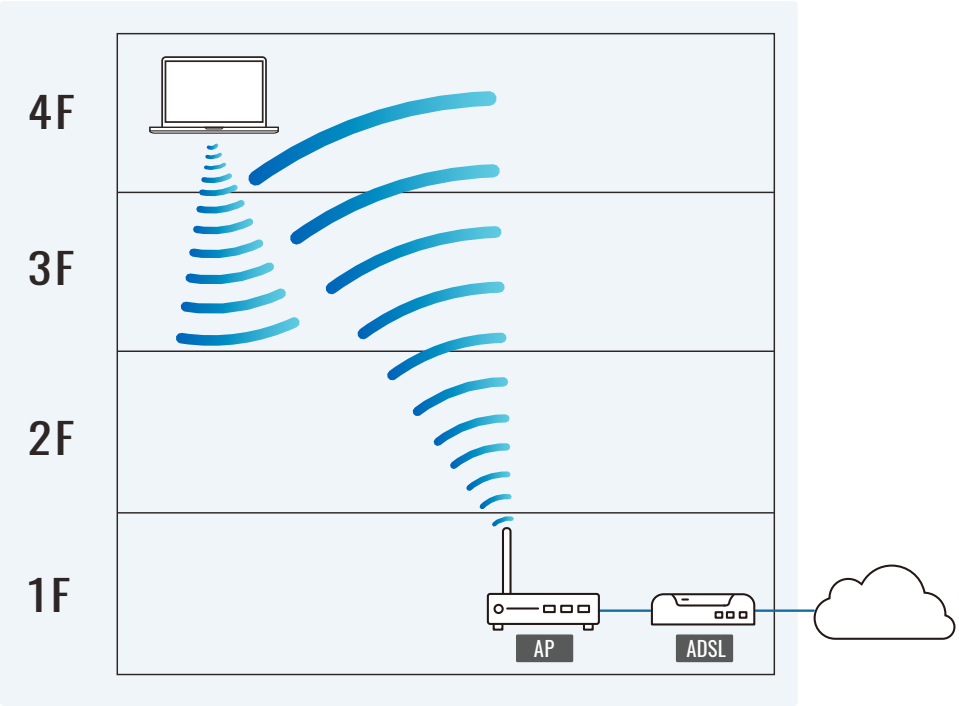
The QMiro-201W goes further than other WiFi Mesh solutions, providing greater flexibility and affordability in deployment. WiFi Mesh can also easily be set up using the companion mobile app.

How WiFi Mesh Benefits You

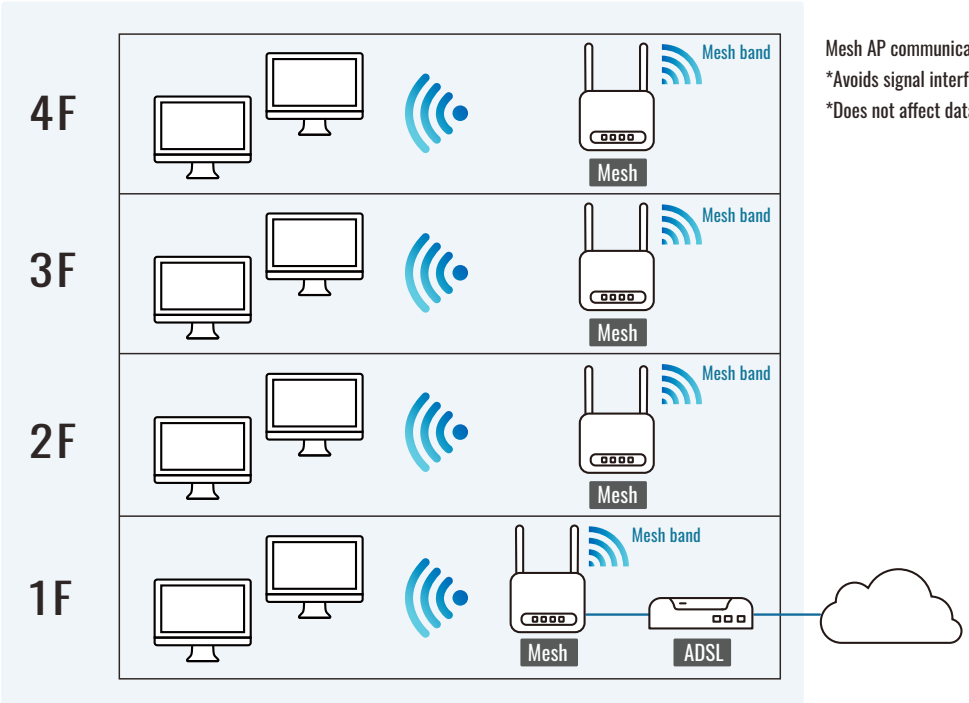
With the spread of WiFi and wireless-enabled devices in the household, it has always been a challenge to ensure these devices – sometimes spread across a large area – have a dependable connection. Sometimes this would require installing multiple access points (leading to confusion in what network to join and dropped connections when moving between networks), or repeaters that provide extended range but can also add latency or slower speeds.



This has led to routers having so-called large antennas or multi-antennas, which can increase the strength and range of wireless signals. However, certain issues still remain with long-range transmission and another solution is often required.



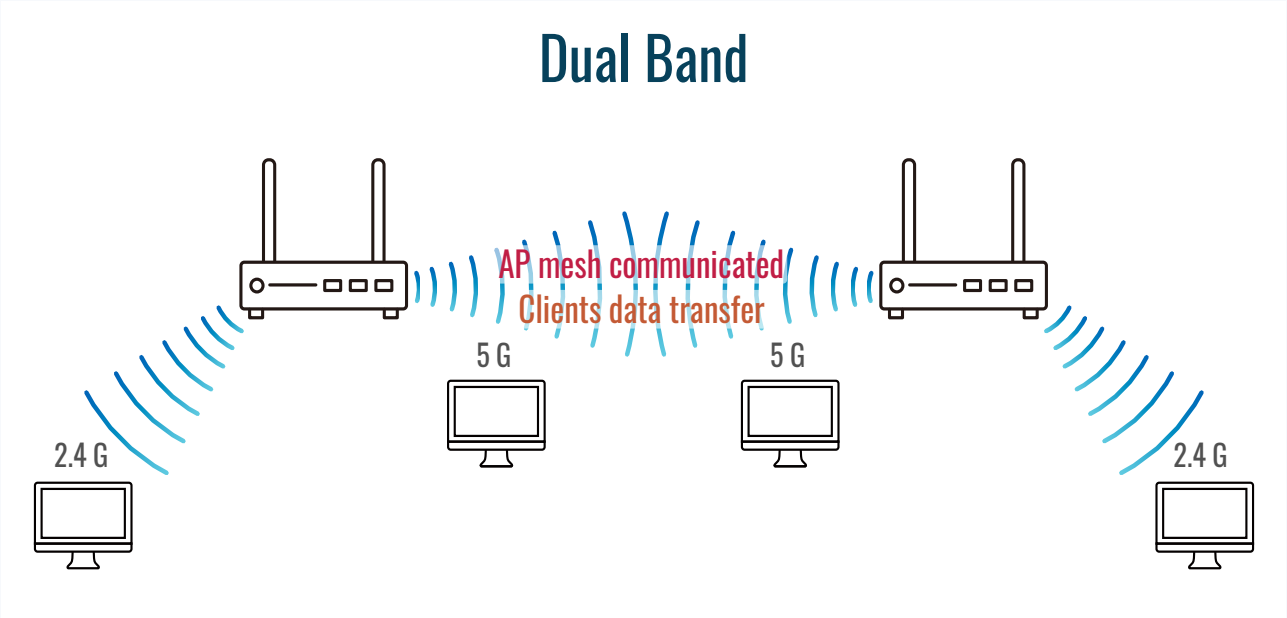
WiFi Mesh is this solution, as it allows wireless access points to have an independent communication band, not to occupy the user's band, and can automatically detect the environment and adjust signals. In terms of the signals provided to users for Internet access, WiFi Mesh also detects and takes steps to minimize any interference (potentially from non-network equipment).



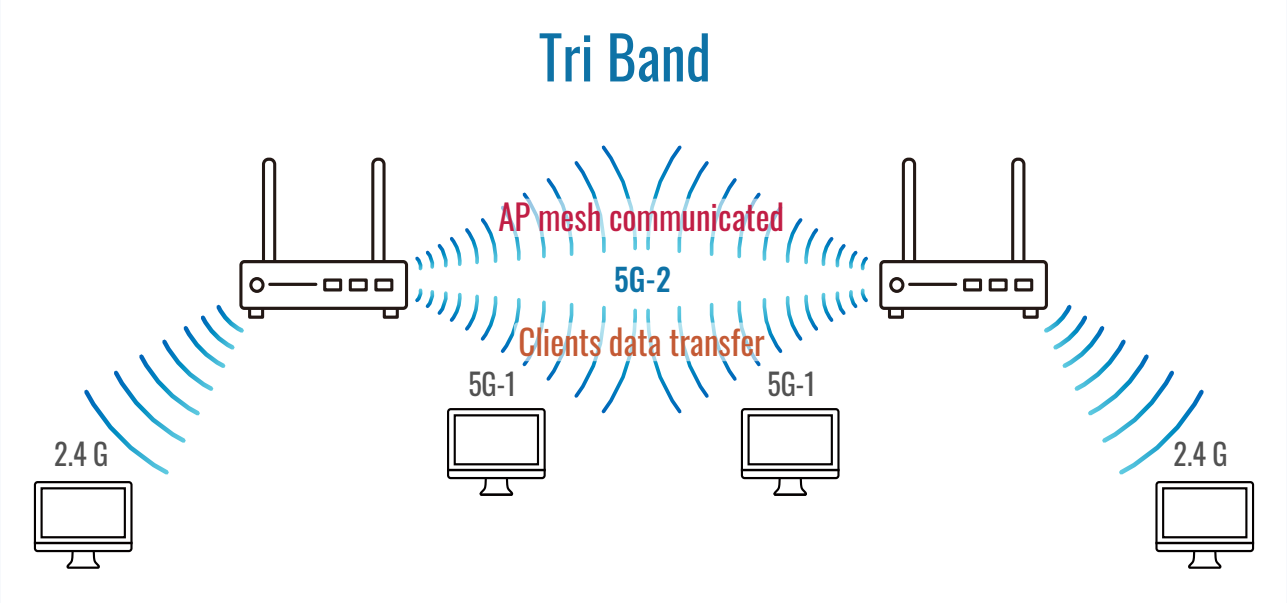
Mesh AP communicates using a dedicated band
*Avoids signal interference
*Does not affect data transfer bandwidth

Strengthen WiFi Mesh network transmission with Tri Band

Conventional solutions use a dual-band connection with 2.4 GHz and 5GHz wireless channels. These channels are shared between user devices and APs, which can lead to impacted performance and connectivity issues.



QNAP WiFi Mesh instead uses a Tri-Band (AC2200, 867 + 867 + 400 Mbps) to achieve high-speed and stable connectivity with a dedicated 5G band for AP communication. By using this dedicated band, interference that can lead to poor connectivity is effectively reduced from user connections, allowing users to fully enjoy 2.4 / 5GHz bands.



With diverse functions and flexible network deployment, why use a traditional router?

When choosing a home router, there are many options available and prices are similar. So which one is the best option? In fact, the most important question to ask is which one is most suitable for your home? To have multiple APs for Mesh deployment one time is not the key, and do you really need that many AP in your home?

With WiFi Mesh with the SD-WAN capabilities, the QMiro -201W enhances Internet performance and security while extending wireless coverage. After buying a QMiro-201W, users can gauge the connection coverage within their environment and add further QMiro-201W as needed to ensure complete coverage and flexible deployment.

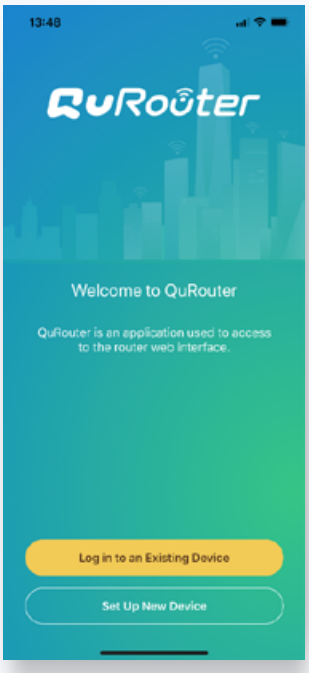
Single QMiro-201W for master	Multiple QMiro-201W for master + satellites
2100sqft/195 sq.meter	Additional 2,100 sqft./195 sq.meter for each
1-2 rooms apartment Small store	3-5 rooms apartment Large store Single-family house

Note 1: Home size, materials, and layout can affect how WiFi signals travel. These suggestions are based on laboratory tests.

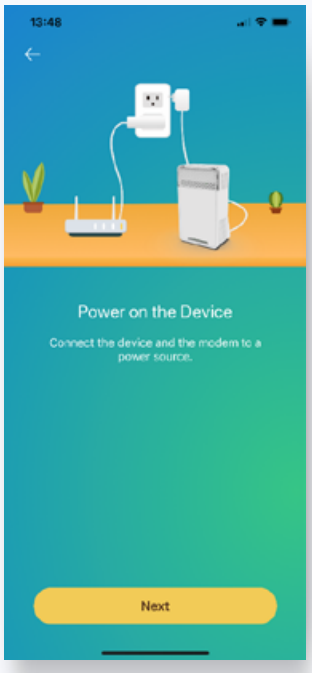
Note2: A single WiFi Mesh site can only have 4 QMiro-201W: 1 x primary + 3 x nodes

Set up with the easy-to-use QuRouter mobile app

The QuRouter app provides a straightforward setup process, ensuring that users with any level of IT skills can set up their QMiro-201W.

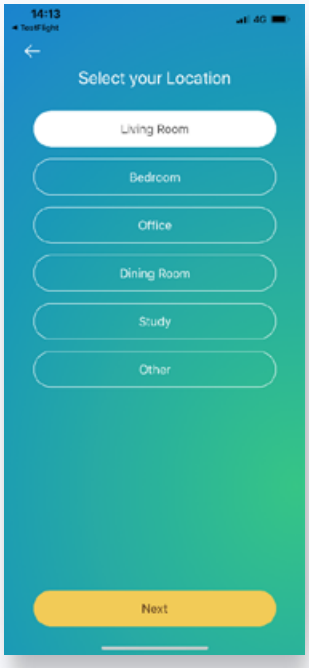


The login page.



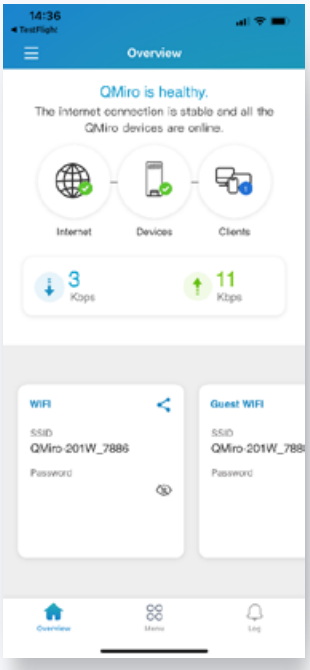
A wizard will walk you through every step of the process.

Illustrates key requirements of the installation process.



Select where the QMiro-201W is installed.

Automatically update the QMiro-201W's firmware.

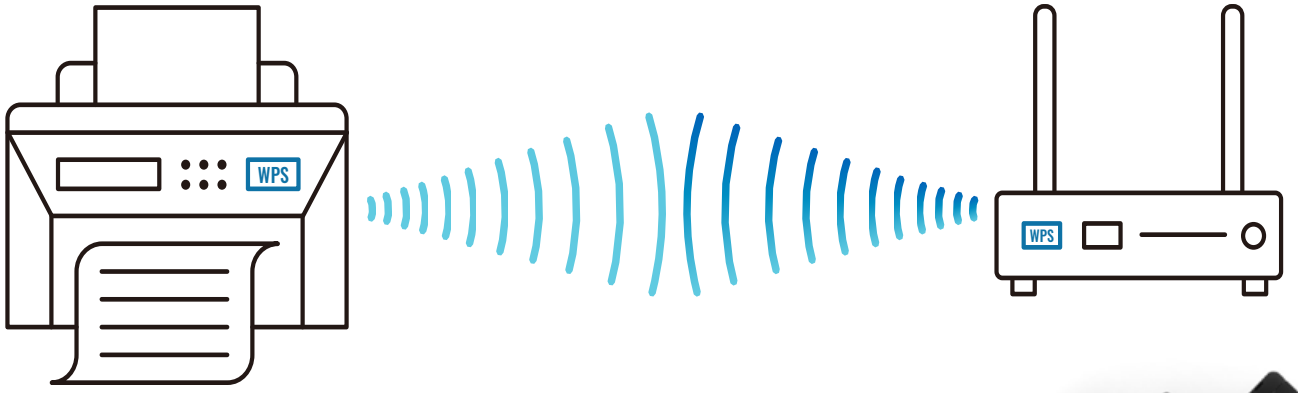


QuRouter clearly displays device and network information.

Quickly connect to wireless networks without configuration — WPS

Imagine that I bought a printer, went home, and then thought about how to connect it to my network. I then discovered that the printer could access the Internet through a wireless network. How do I connect to a wireless network on the printer? I cannot find the management interface on it, or it is very troublesome to connect to the management interface. Are there any alternatives to connecting to the wireless network without using to the management interface?

Wi -Fi Protected Setup (WPS) enables you to connect WiFi enabled devices (such as printers) to your network simply by pushing a button. The QMiro-201W supports WPS, providing extra convenience in making a complete home network.



Guard your network security — NAT

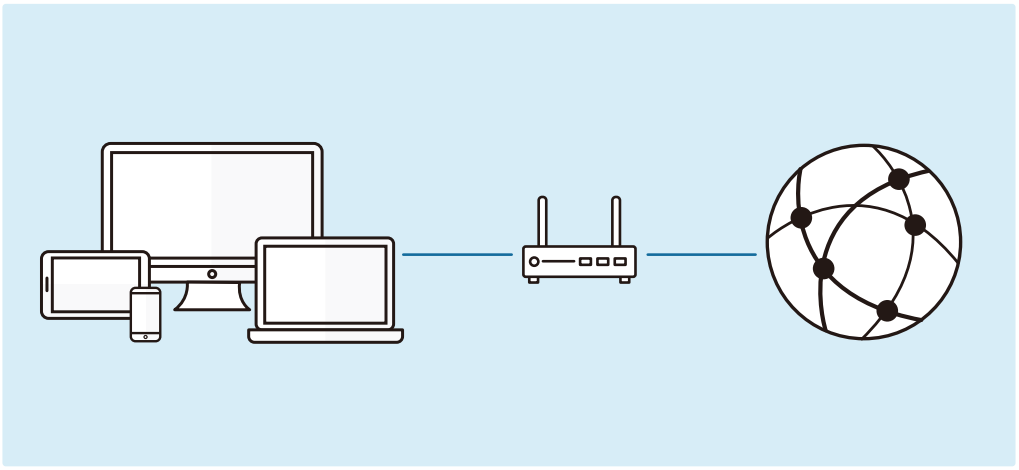
When I was outside today with some friends, I wanted to show them some photos from a trip that are stored on my NAS at home. I opened the NAS login screen with my mobile phone and opened the photos to share with everyone.

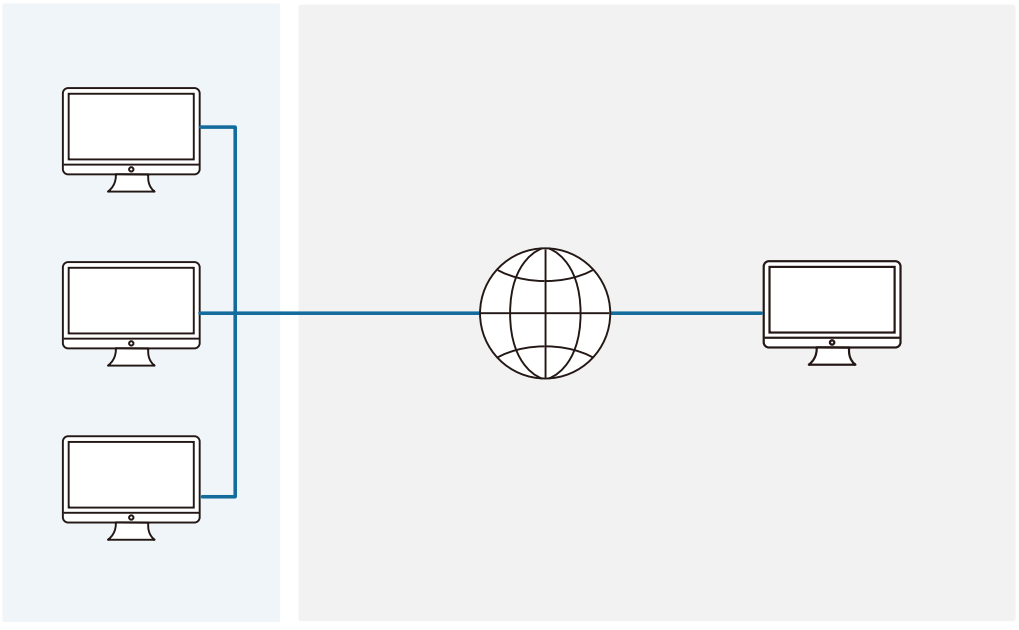
This is normal behavior, but also represents some risk. For example, if you can connect to the NAS from outside, does it mean that others can too? Everyone will say that it is can be secure through user account verification, but are you willing to let your NAS at home potentially received countless unwanted login requests on a daily basis? If there is a feature to control the connection from the front, and cut out unwanted connection requests, will it be a good solution?

As the QMiro-201W sits between the internet and intranet, security is exceptionally important to avoid direct internal and external network penetration. For this part, QNAP uses the Zero Trust security concept.

The NAT on QMiro-201W is a function developed based on QNAP Zero Trust. NAT can control the connection of internal devices through Port Forwarding, and limit external connections, which can facilitate connection management.

Network Address Translation



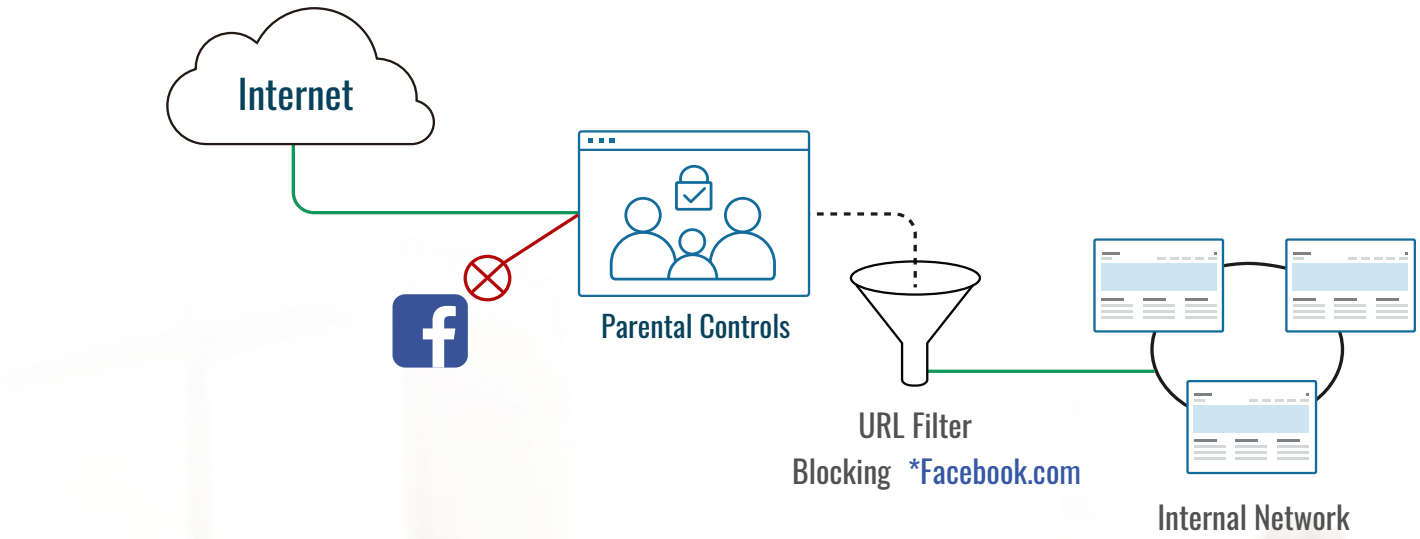


Filter your web browsing — Parental Controls

Passing by my child's room in the middle of the night, I found that they were still watching Instagram, Twitter, YouTube and not sleeping. I reminded them that they should go to bed to no avail. Then I thought that wouldn't it be wonderful if I could directly set a schedule to deny access for children to watch Instagram, Twitter, YouTube so that they would go to bed obediently? Moreover, shouldn't it be possible to block harmful websites to prevent children from accessing their content?

Modern parents have a lot to worry about, and what their children access on the Internet shouldn't be one of them.

The QMiro-201W provides effective parental controls to filter web sites and set rule-based access controls on what websites can be accessed. These filters can also be based on time, allowing parents to set available times for accessing certain websites.



In addition to web filters, the parental controls also enable safe searching to block children from searching and accessing inappropriate content.

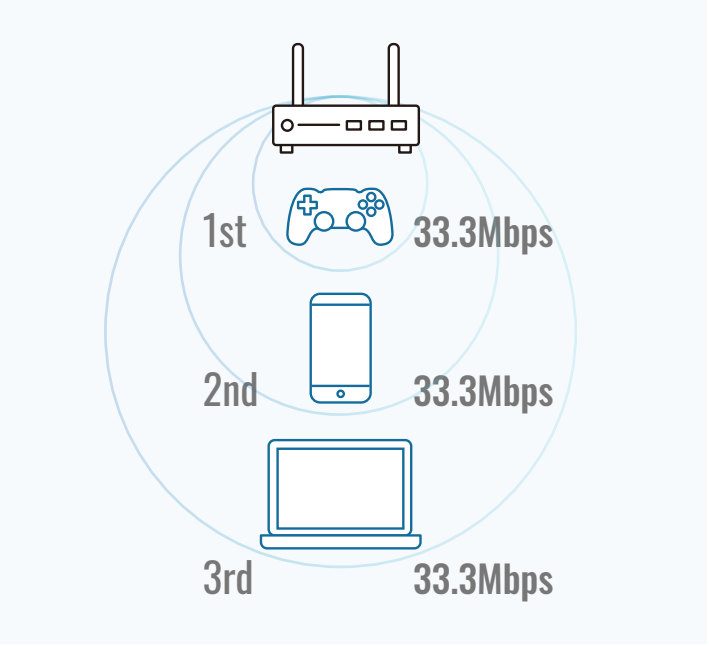
Please note: Schedule settings for Parental Controls will be available from Q3 2021.

Effectively handle multiple devices at the same time — MU-MIMO

Traditional WiFi

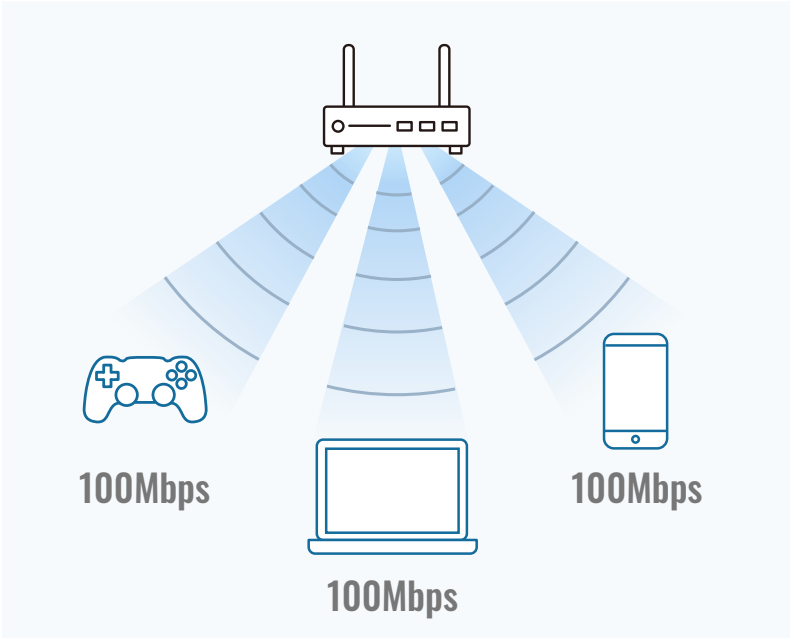
ISP: 100Mbps

Traditional WiFi routers that use Single-user MIMO (SU-MIMO) can get bogged down when attempting to serve multiple devices at one time – requiring devices to wait to complete transmission before moving to the next and adding latency when there are excessive number of devices. With modern digital households having a large number of wireless-enabled devices a better solution is required.



MU-MIMO WiFi

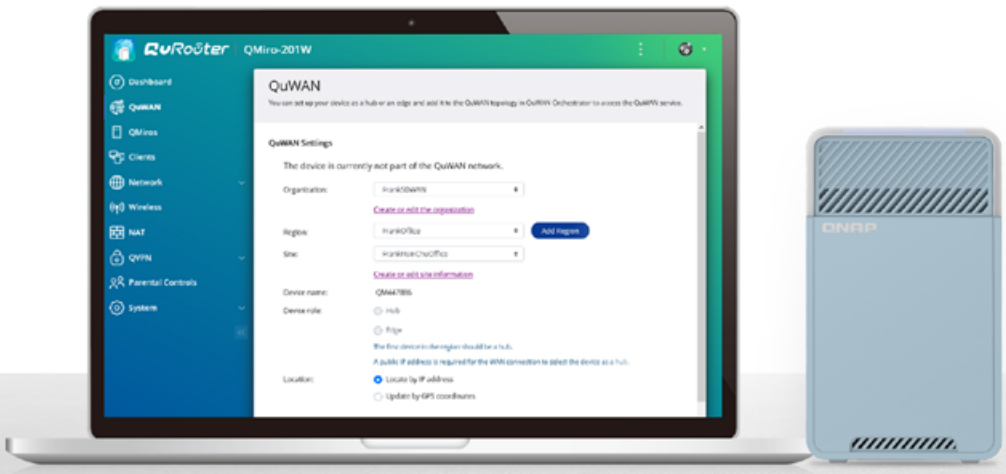
ISP: 100Mbps



The QMiro-201W supports Multi-User Multiple-Input Multiple-Output (MU-MIMO), ensuring optimized speed and performance for every connected device.

Cool and quiet performance — Fanless design

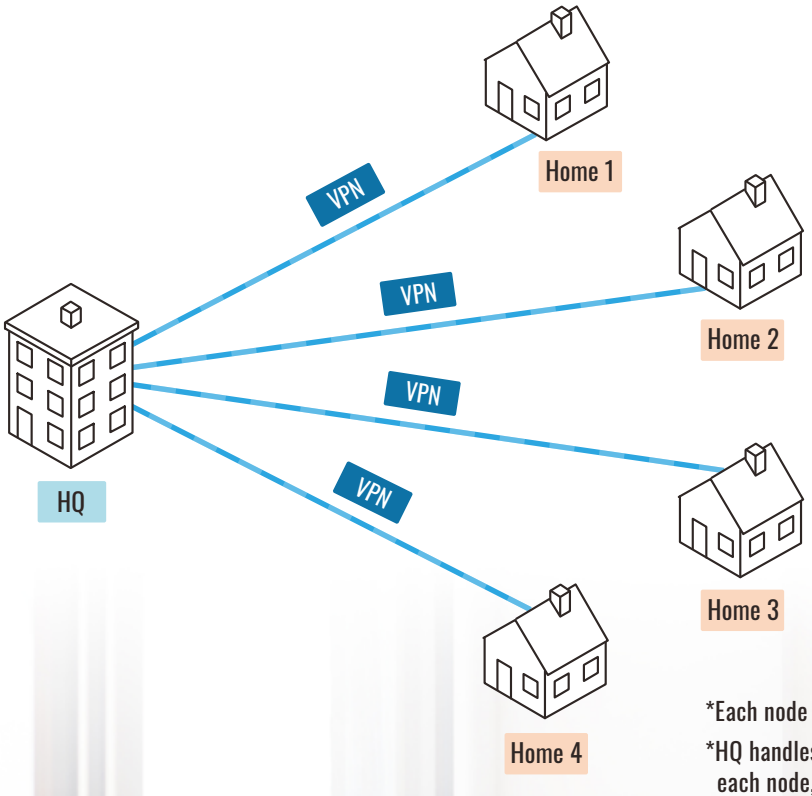
QNAP know how important it is for home devices such as routers to work peacefully in the background with no distracting noise. Designed to be effectively cooled without a fan, the QMiro-201W is capable of providing consistent high-performance without distracting noise or throttling due to overheating.



Access company network at home — SD-WAN

Conventional remote access methods to corporate networks can be tricky, often involving complicated network settings, laggy remote desktop connections, or the use of third-party applications and VPNs.

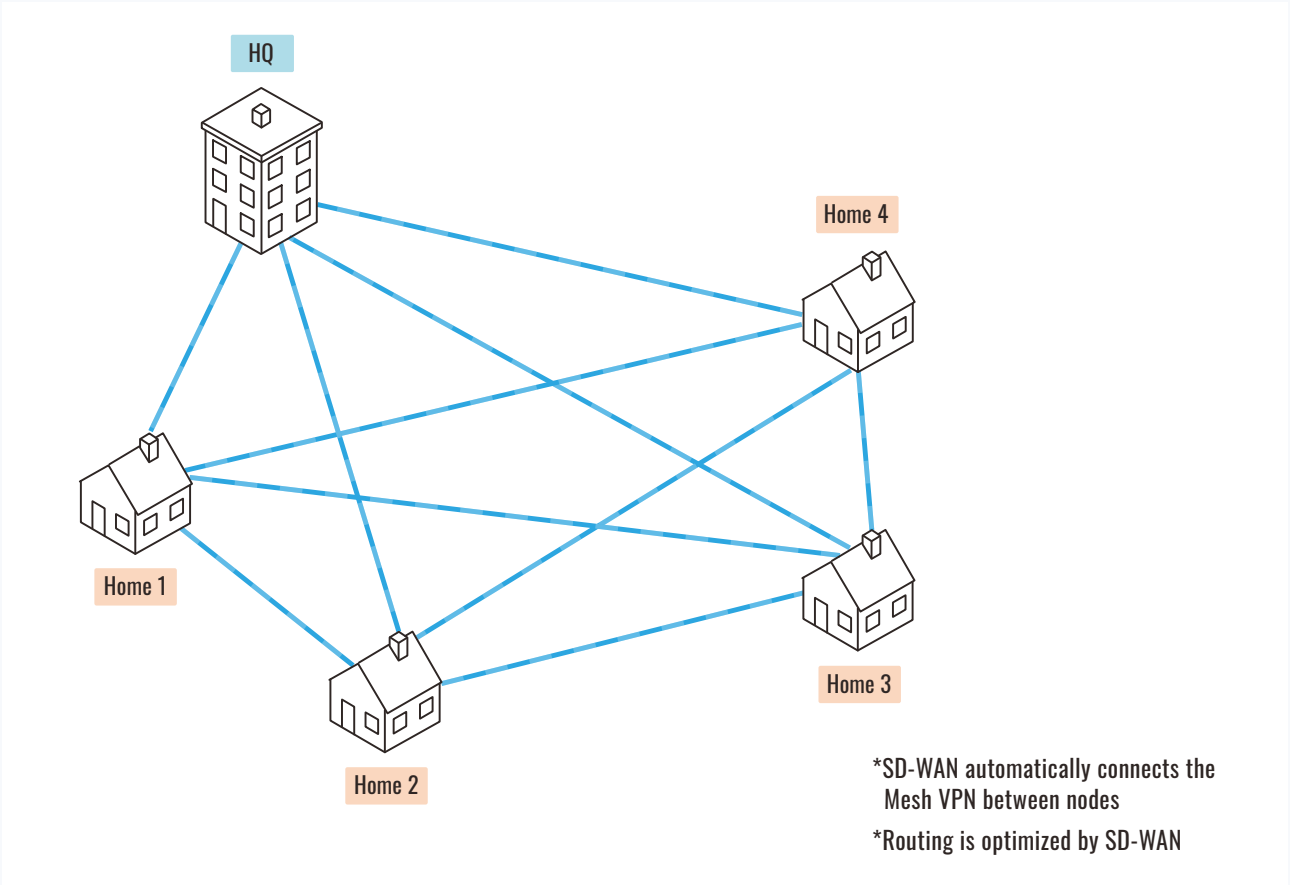
Traditional VPNs can be difficult to deploy, often requiring assistance from corporate IT staff – which becomes even harder if they themselves are working from home.



*Each node must connect back to HQ

*HQ handles all the routing to/from each node, and between nodes

QMiro- 201W retains VPN functionality but also supports SD-WAN. SD-WAN operates as a traditional VPN, but optimizes its configuration, deployment and management. As long as devices join the same SD-WAN organization, the SD-WAN will automatically establish a Mesh VPN and connect to each of them. Employees working from home can then enjoy smoother and more efficient connections to their corporate networks – with IT staff being able to remotely control all settings.



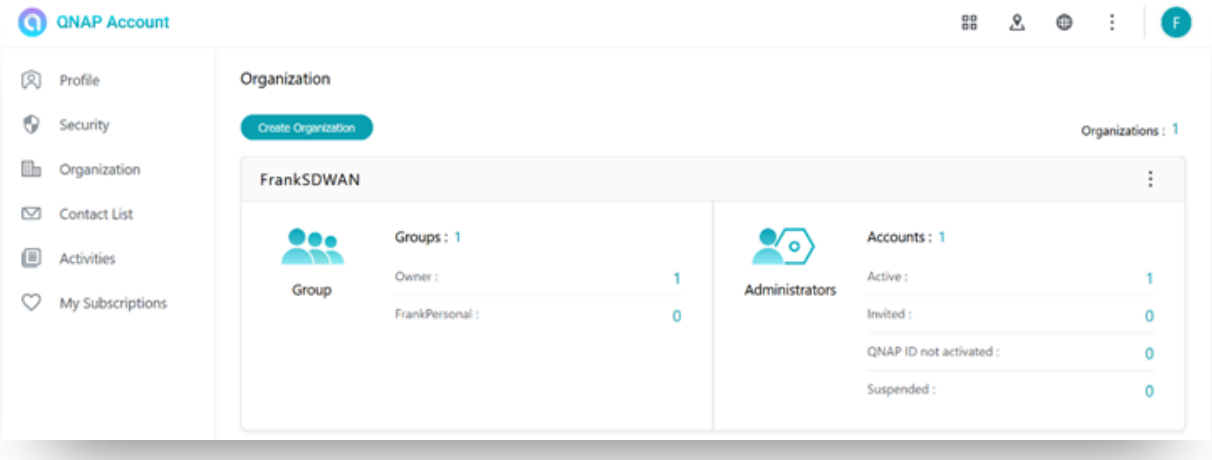
SD-WAN also optimizes network connectivity to prevent slowdown. SD-WAN immediately swaps routing when routes are busy, ensuring optimized connections without requiring the intervention of IT staff.

	Traditional Site-to-Site VPN	QNAP SD-WAN solution, QuWAN
Configuration	Individual devices	Auto batch deployment from the cloud
Management	Individual devices	Centrally managed from the cloud
Add additional VPN nodes	Manually configure a VPN at branches and HQ	Log in to your device and choose the QuWAN criteria
Connecting each node	Manually set up each VPN	Mesh VPN builds all VPNs through the nodes
Deployment cost	Additional costs for each node	Free deployment

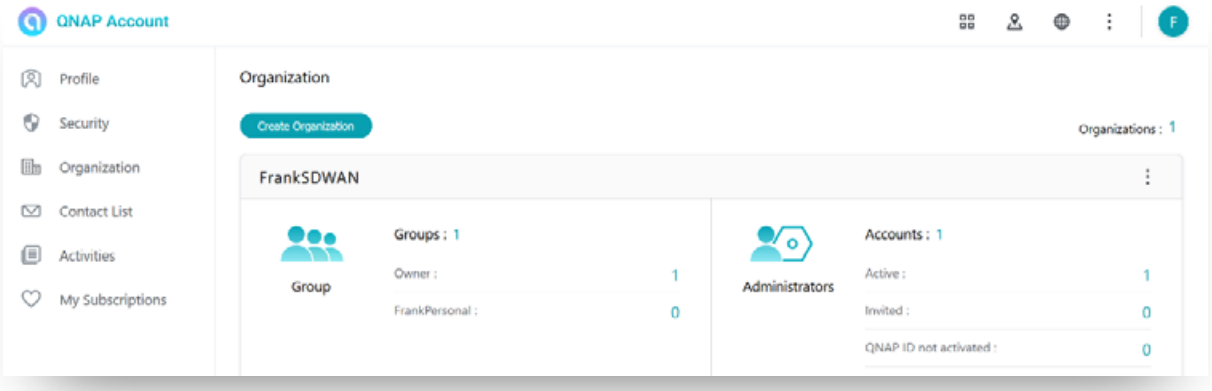
Setup QuWAN quickly

1. Log in to your QNAP account at https://account.qnap.com.

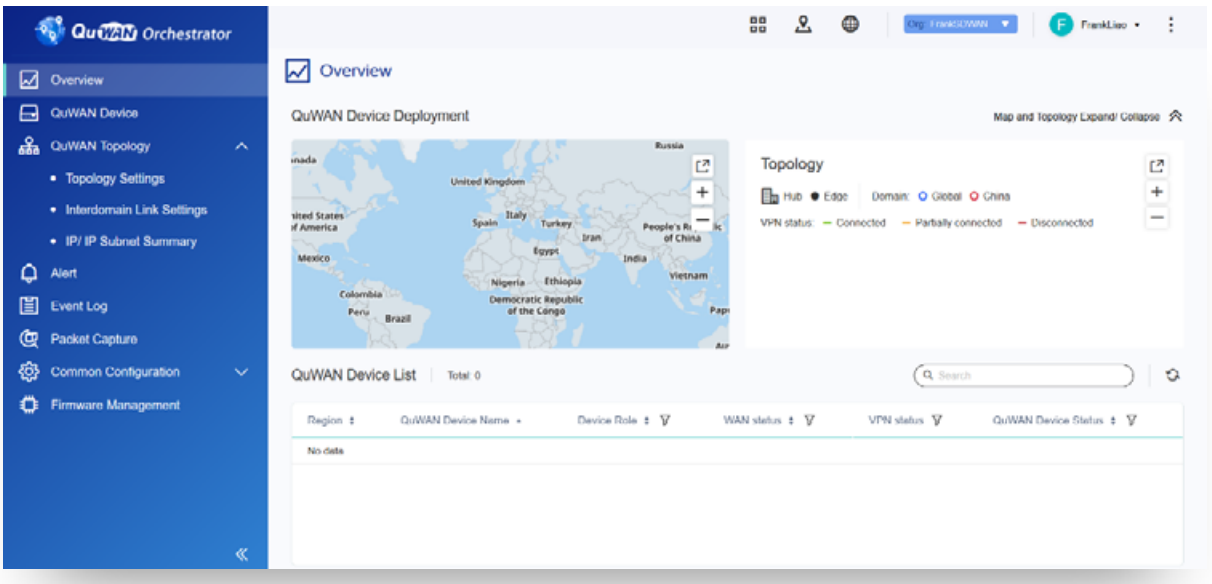
2. Create a new organization.



3. Create one or more sites under the organization.

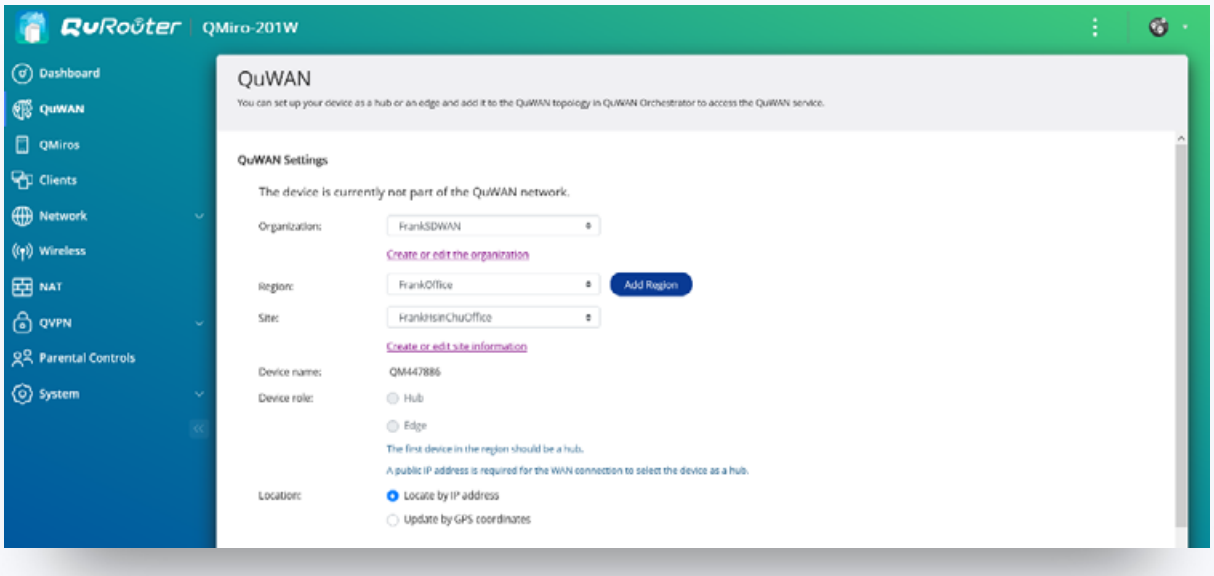


4. Log in to the QuWAN cloud-managed page with the organization at https://quwan.qnap.com/.



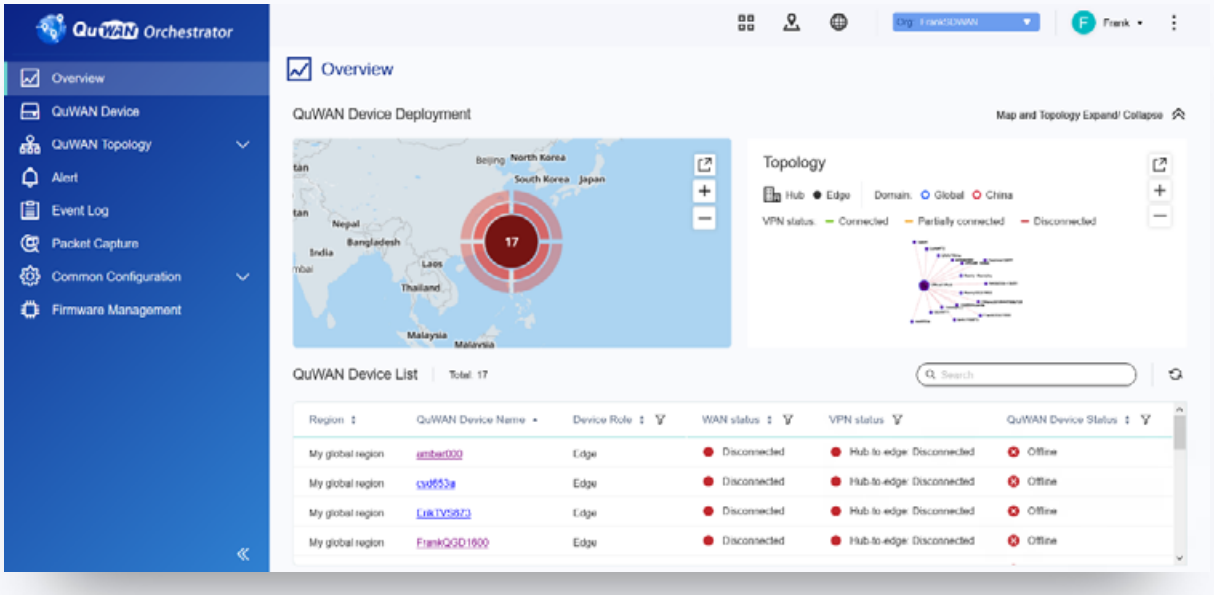
QMiro-201W join QuWAN

1. Log in using your QNAP ID on the QMiro-201W.
2. Go to the QuWAN setup page.
3. Create or choose an organization, select the region and site.
4. Click Apply.



Note: The first device of a new organization in QuWAN must have a public IP address on the QMiro-201W and must be a Hub. This is required for the organization to have a gateway for routing. Other QMiro-201W will not need to do this if they join the same organization.

You can view all of the QMiro-201W connected to the QuWAN by logging into the QuWAN cloud managed page at https://quwan.qnap.com/.



QMiro-201W Hardware Specifications

CPU	• Qualcomm IPQ4019 ARM 4cores 717MHz
Memory	• 512MB DDR3
Flash	• 4MB SPI NOR Flash, 4GB eMMC
Antenna	• 2 x Internal Dual Band(2.4/5G) antennas • 2 x Internal Single Band(5G) antennas
USB	• 1 x USB 3.2 Gen1 5Gb/s Type-A
Wireless Standard	• 802.11a/b/g/n/ac
Wireless Speed Rating	• AC2200 2.4G (400Mbps)+5G (867Mbps x 2)
Wireless Bandwidth	• 20/40/80MHz
Bluetooth	• Version 5

QMiro-201W Software Specifications

System Status and Management	• Device connection status • Device health status • WAN status • Wireless status • Firmware schedule management
Operation Modes	• Wireless router mode • Access point (AP) mode
Wired Network Management	• 1x WAN port - DHCP client - PPPoE - Static IP • 1x LAN port - DHCP server - Reserved IP table
Wireless Network Management	• Supports IEEE 802.11ac (WiFi 5) • Supports MU-MIMO • Supports band steering for dual-band (2.4GHz and 5GHz bandwidth) access points • Transmission power (high, middle, and low) • 20/40/80 MHz bandwidth • RTS/CTS (Request to Send/Clear to Send) function • Dual-band 2.4G and 5G band settings • Guest wireless • Smart connect • SSID and password configuration • Supports IEEE 802.11r fast roaming • Wireless scheduler • Wireless (Protected Setup (WPS)
WiFi Mesh	• Supports 4 devices (1 master 3 satellites per mesh system) • Tri-band • Add/delete node
IPv4 routing management	• Direct route • Static route
NAT	• Port forwarding and Network Address Translation (NAT) • Supports FTP ALG, PPTP ALG and SIP ALG

QVPN	• Secure remote access with L2TP, OpenVPN and QBelt (QNAP proprietary) protocol • Client IP pool configuration • VPN client management • Connection logs • Maximum tunnel scale: 30
Parental Controls	• Website filter • Safe search - Youtube - Google - Bing
System Settings	• Restart, Reset, Backup, Audio Alert • Local account, QNAP ID, Remote management • Even Logs
Firmware	• Firmware update - Live update - Schedule update - Manual update • Display mesh nodes firmware status
QuWAN SD-WAN Service	• Auto multi-site VPN • WAN optimization • WAN aggregation • Failover • Load Balancing • Traffic monitoring using QuWAN Orchestrator
Download the QuRouter App Apple Store Google Play	• Managed QMiro-201W • Create WiFi mesh • Add/delete WiFi mesh nodes

Smart Home

Mesh WiFi System

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