

QNAP

QuWAN vRouter Edition

Support VMware ESXi
platform

to enhance multi-site VPN
and remote management



Overview

- Install QuWAN vRouter Edition on VMware ESXi
- The Market Exclusive Economy SD-WAN Solution
- Set up QuWAN vRouter Edition in Five Steps
- QuWAN Fulfills The Next Generation Networking Needs



QuWAN
vRouter Edition

Install QuWAN vRouter Edition on VMware ESXi



QuWAN
vRouter Edition




vmware®
ESXi

QuWAN vRouter Edition allows you
to setup QNAP SD-WAN when there is
no QNAP device at hand!

QuWAN vRouter Edition is suitable for all environment

- Flexible allocation of hardware resources (eg CPU, memory, network ports, etc.)
- Different throughput subscription plans.



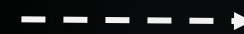
| Device | Environment | Support Form | Setup Method | Subscription |
|----------------------------|---------------|------------------------------|---|---|
| VMware ESXi v7.0 | All | QuWAN vRouter Edition | Join Key and QuWAN vRouter Edition | Subscribe based on required throughput |
| QHora-301W | SMB Office | Embedded Feature | QuWAN enable page | Subscription-Free |
| QMiro Series | Home Office | Embedded Feature | QuWAN enable page | Subscription-Free |
| Guardian Series PoE Switch | Retail Store | QuWAN vRouter | QuWAN Agent | Subscription-Free |
| QuCPE | Enterprise HQ | QuWAN vRouter | Service Composer | Subscription-Free |
| NAS | Branch Office | QuWAN vRouter | QuWAN Agent | Subscription-Free |

ZTP for Fast Multi-Site Remote Provisioning

- Create multiple vRouter devices at QuWAN Orchestrator and email the network setting values to site owner via Join Key in email
- Site owner enter Join Key to enable QuWAN vRouter on VMware ESXi.



vRouter A
Join Key



Taipei
vmware®

vRouter B
Join Key



Japan
vmware®

vRouter C
Join Key



Singapore
vmware®

QuWAN vRouter Edition can be a strong firewall for other ESXi VMs.

QuWAN vRouter Edition provides L7 firewall and QoS, allowing ESXi VM traffic to be analyzed by QuWAN vRouter, blocking blacklisted applications and reserved bandwidth for designated applications to protect your data!



Manage network traffic of other ESXi VMs via QuWAN Orchestrator

Manage traffic status and connection destinations.

QuWAN Orchestrator

Overview

QuWAN Device

QuWAN Topology

- Topology Settings
- Interdomain Link Settings
- IP / IP Subnet Summary

Alert

Event Log

Packet Capture

Common Configuration

- Segment
- DPI Application Group

Firmware Management

QuWAN Device

Region: Poland / QuWAN device: GrzegorzPoland

Dashboard

System Status

Traffic Report

QuWAN Device Settings

Quality of Service

Destinations

| Name | Total | Sent (Tx) | Received (Rx) | Detail |
|----------------|----------|-----------|---------------|--------|
| 217.116.100.20 | 8.71 MB | 3.11 MB | 5.6 MB | |
| 64.233.161.108 | 22.23 MB | 1.09 MB | 21.14 MB | |
| 74.125.104.167 | 42.84 MB | 269.31 KB | 42.57 MB | |
| 74.125.173.11 | 53.07 MB | 340.99 KB | 52.73 MB | |
| 84.10.48.26 | 3.78 MB | 3.56 MB | 217.09 KB | |
| 84.17.48.39 | 11.12 MB | 4.77 MB | 6.35 MB | |
| force.com | 4.9 MB | 1.15 MB | 3.75 MB | |
| github.com | 1.75 MB | 9.22 KB | 1.74 MB | |

The Market Exclusive

Economy SD-WAN Solution



QuWAN vRouter Edition Subscription

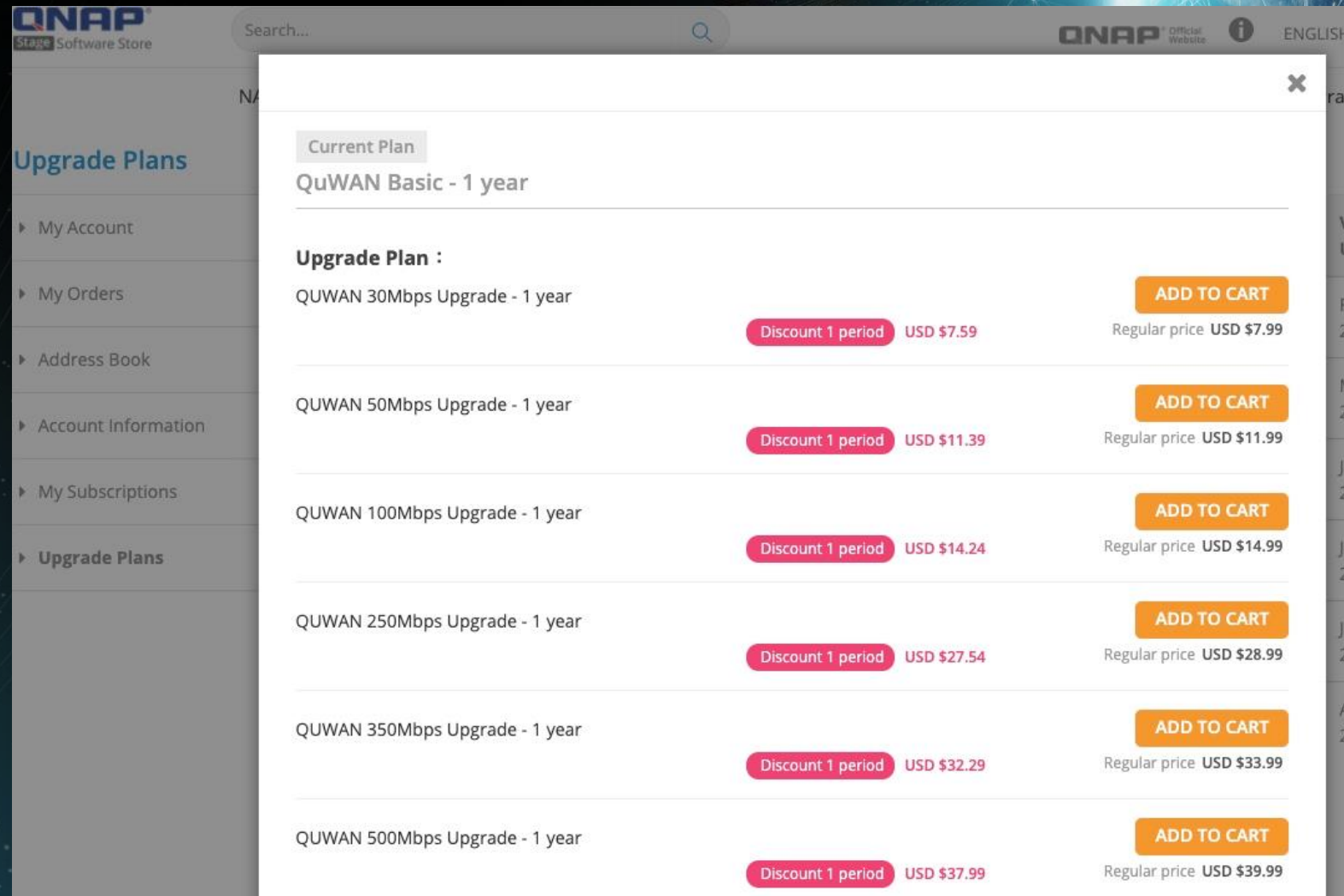
- Subscribe QuWAN vRouter Edition on QNAP Software Store
- Select subscription based on demanded total WAN throughput
- One subscription can enable one QuWAN vRouter Edition. To enable multiple QuWAN vRouter Edition, multiple subscriptions need to be purchased.

| | | | |
|---|---|---|---|
| Annual Subscription 15Mbps Special Offer USD \$0 | Annual Subscription 30Mbps USD \$7.99 | Annual Subscription 50Mbps USD \$11.99 | Annual Subscription 100Mbps USD \$14.99 |
| Annual Subscription 250Mbps USD \$28.99 | Annual Subscription 350Mbps USD \$33.99 | Annual Subscription 500Mbps USD \$39.99 | Annual Subscription 1Gbps USD \$49.99 |

Upgrade your subscription sooner to enjoy discounts

Upgrade your subscription directly in the QNAP Software Store, for selected subscriptions, upgrade sooner to enjoy **up to 20% off** for the first year!

Up to
20%Off



QNAP® Software Store

Search...

ENGLISH

Upgrade Plans

- My Account
- My Orders
- Address Book
- Account Information
- My Subscriptions
- Upgrade Plans

Current Plan

QuWAN Basic - 1 year

Upgrade Plan :

| | | | |
|--------------------------------|-------------------------------|---------------------------|-------------|
| QUWAN 30Mbps Upgrade - 1 year | Discount 1 period USD \$7.59 | Regular price USD \$7.99 | ADD TO CART |
| QUWAN 50Mbps Upgrade - 1 year | Discount 1 period USD \$11.39 | Regular price USD \$11.99 | ADD TO CART |
| QUWAN 100Mbps Upgrade - 1 year | Discount 1 period USD \$14.24 | Regular price USD \$14.99 | ADD TO CART |
| QUWAN 250Mbps Upgrade - 1 year | Discount 1 period USD \$27.54 | Regular price USD \$28.99 | ADD TO CART |
| QUWAN 350Mbps Upgrade - 1 year | Discount 1 period USD \$32.29 | Regular price USD \$33.99 | ADD TO CART |
| QUWAN 500Mbps Upgrade - 1 year | Discount 1 period USD \$37.99 | Regular price USD \$39.99 | ADD TO CART |




Fast and Easy!

Set up QuWAN vRouter
Edition in Five Steps

Step 1 – Subscribe QuWAN vRouter Edition

Subscribe QuWAN vRouter Edition at QNAP Software Store
website: software.qnap.com/quwan.html




Search...

Official Website

ENGLISHJudy Chen Member

NASCloud NASSurveillanceQIoTAutomationAlpha TestQTSLicense ManagerExtended WarrantyQTS 4.3.4 or older

Home > QuWAN vRouter Edition




QuWAN vRouter Edition

QuWAN is a comprehensive software-defined WAN (SD-WAN) solution that is compatible with several QNAP networking products and hypervisor platforms. The SD-WAN solution integrates QuWAN Orchestrator that is the cloud-centric SD-WAN management platform, and QuWAN vRouter that virtually simulates the functions of a routing device. QuWAN enables enterprises to automatically build multi-site virtual private networks and simplify network topology implementation. Network optimization and resilient IT infrastructure is achieved through intelligent routing, layer 7 firewall, Quality of Service (QoS), and remote troubleshooting.

Notice:

1. The product's throughput refers to the sum of the data transfer rate (Tx/Rx) of all the WAN vRouters.
2. Current supported platform: VMware ESXi 7.0 or later version.
3. Minimum vRouter requirements: Single-core CPU, 1G

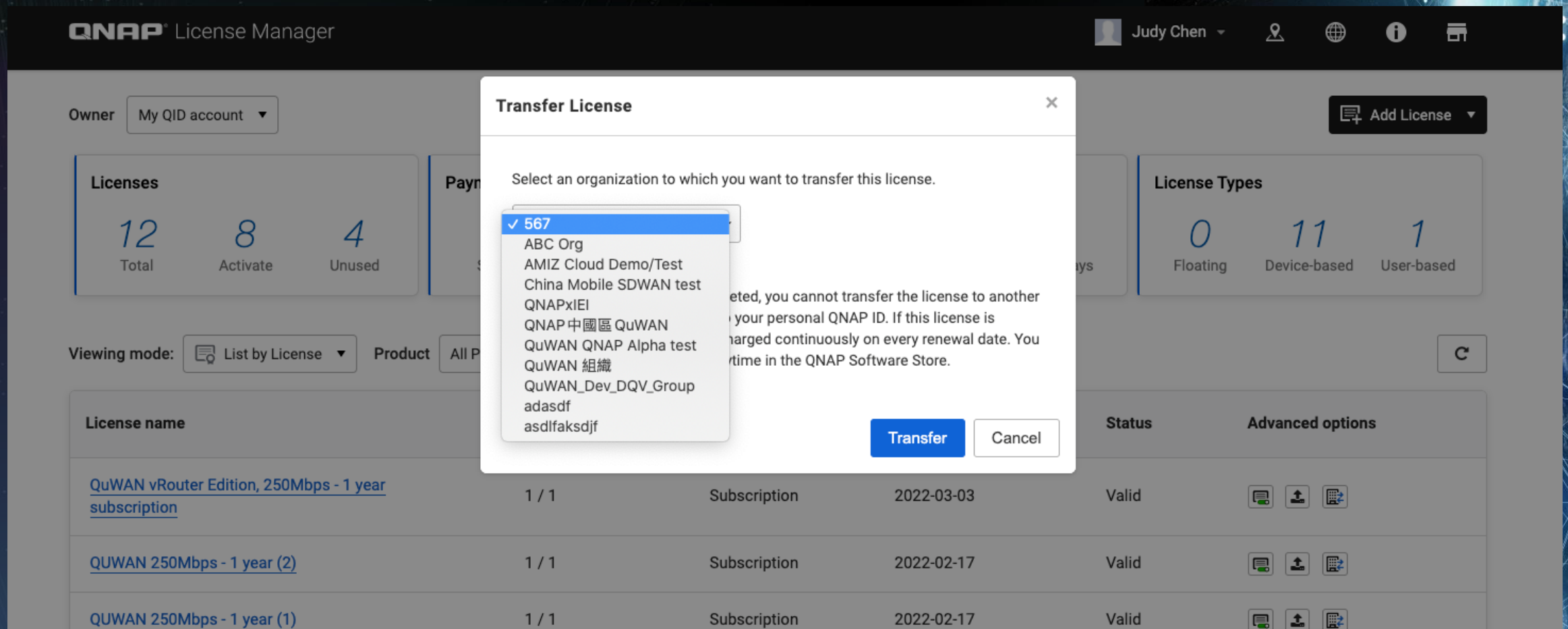
RECOMMEND

HybridMount

| | | | |
|--|--|--|--|
| BASIC 15MBPS QuWAN Basic 15Mbps - 1 year USD \$3.99 USD \$0.00 | 30MBPS QUWAN 30Mbps - 1 year USD \$7.99 | 50MBPS QUWAN 50Mbps - 1 year USD \$11.99 | 100MBPS QUWAN 100Mbps - 1 year USD \$14.99 |
| 250MBPS QUWAN 250Mbps - 1 year USD \$28.99 | 350MBPS QUWAN 350Mbps - 1 year USD \$33.99 | 500MBPS QUWAN 500Mbps - 1 year USD \$39.99 | 1GBPS QUWAN 1Gbps - 1 year USD \$49.99 |

Step 2 – Transfer Subscription to QuWAN Organization

Transfer subscription at QNAP License Manager



QNAP License Manager

Owner: My QID account

Licenses

12 Total, 8 Activate, 4 Unused

License Types

0 Floating, 11 Device-based, 1 User-based










Transfer License

Select an organization to which you want to transfer this license.

- ✓ 567
- ABC Org
- AMIZ Cloud Demo/Test
- China Mobile SDWAN test
- QNAPxIEI
- QNAP中國區 QuWAN
- QuWAN QNAP Alpha test
- QuWAN 組織
- QuWAN_Dev_DQV_Group
- adasdf
- asdlfaksdjf

Transfer **Cancel**

License name

| | | | | | |
|--|-------|--------------|------------|-------|---|
| QuWAN vRouter Edition, 250Mbps - 1 year subscription | 1 / 1 | Subscription | 2022-03-03 | Valid |    |
| QUWAN 250Mbps - 1 year (2) | 1 / 1 | Subscription | 2022-02-17 | Valid |    |
| QUWAN 250Mbps - 1 year (1) | 1 / 1 | Subscription | 2022-02-17 | Valid |    |

Step 3 - Create QuWAN vRouter Join Key

Add a new device to QuWAN Orchestrator and enable subscription

QuWAN Orchestrator

- Overview
- QuWAN Device
- QuWAN Topology
- Alert
- Event Log
- Packet Capture
- Common Configuration
- Firmware Management
- Subscription

QuWAN Device

Region: HQ / QuWAN device: JudyvRouter

Dashboard System Status Traffic Report QuWAN Device Settings

QuWAN Device Status Offline **Send Join Key** Delete QuWAN Device

QuWAN Device

QuWAN Device Settings

QuWAN Device ID 42bc0f43-7348-4e4b-af86-4d233fcdcf98

Region: HQ

Site: My Site

Device role: Edge

QuWAN device name: * JudyvRouter

Description:

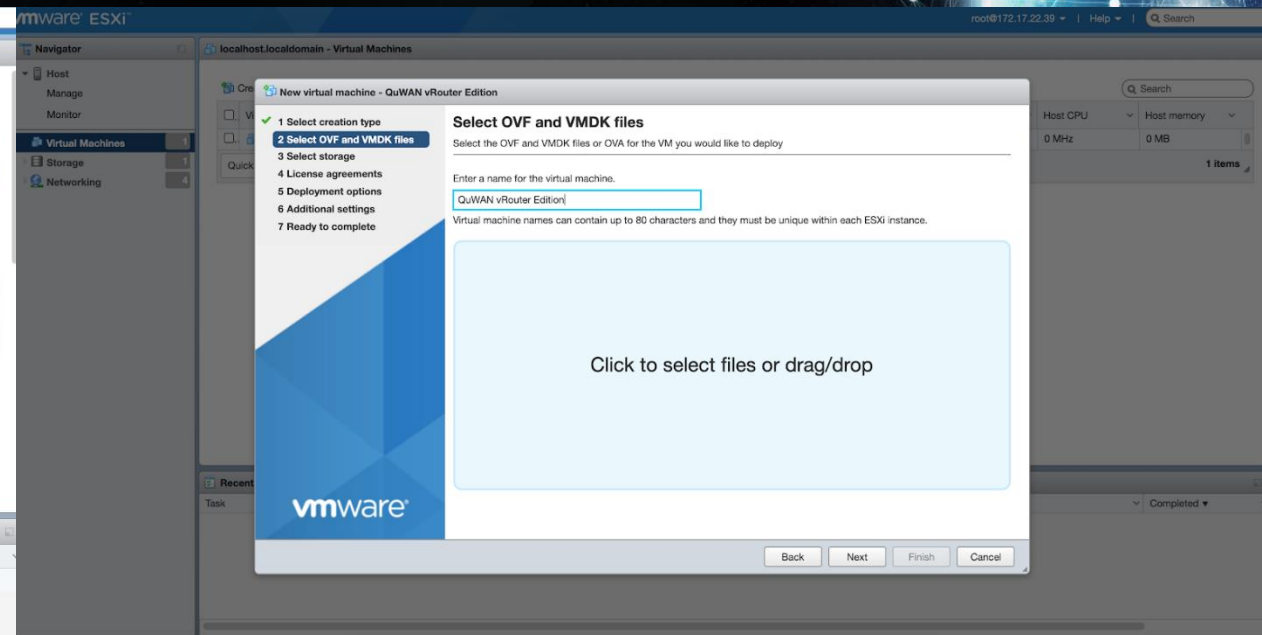
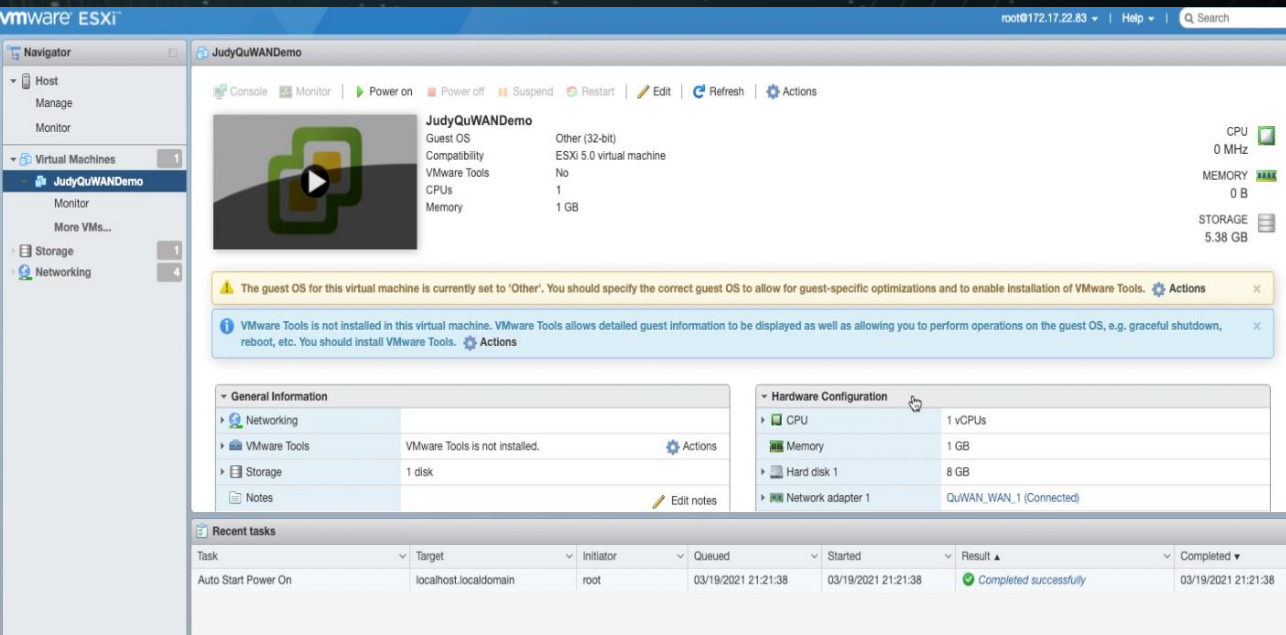
Get Started

5 out of 6 tasks completed

- ✓ QuWAN Device Setting
Please finish the first part of QuWAN device settings
- ✓ Contact Information
Please fill out the contact information part.
- ✓ Port settings
Please fill out the port settings
- ✓ Apply Settings
Please finish all the QuWAN device settings and click "Apply" button
- ✓ Send Joinkey
Click the send join key button to the contact email

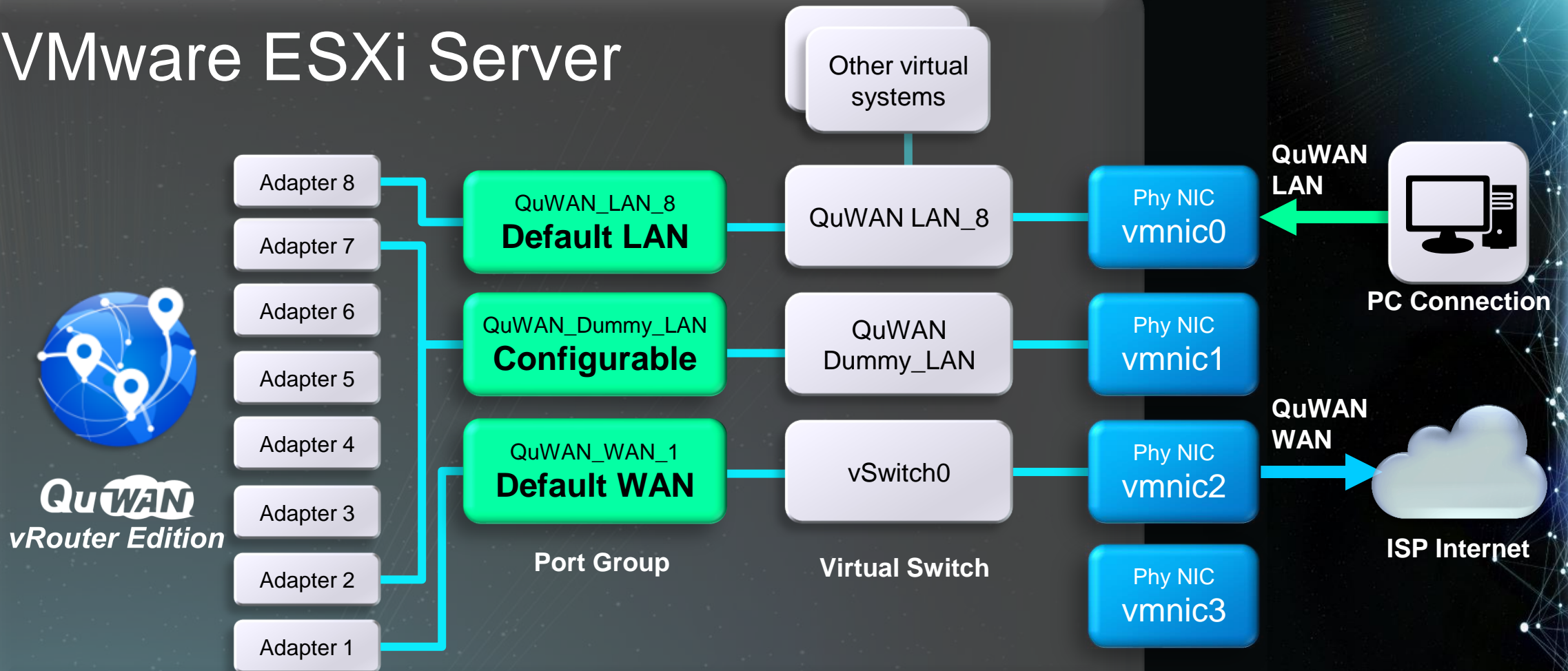
Step 4 - Install QuWAN vRouter on ESXi

- Go to QNAP Download Center to download vRouter VMware ESXi package
- Create QuWAN vRouter VM , and set corresponding Virtual Switch and Port Group
- QuWAN vRouter default settings: Port 1 is WAN, Port 8 is LAN



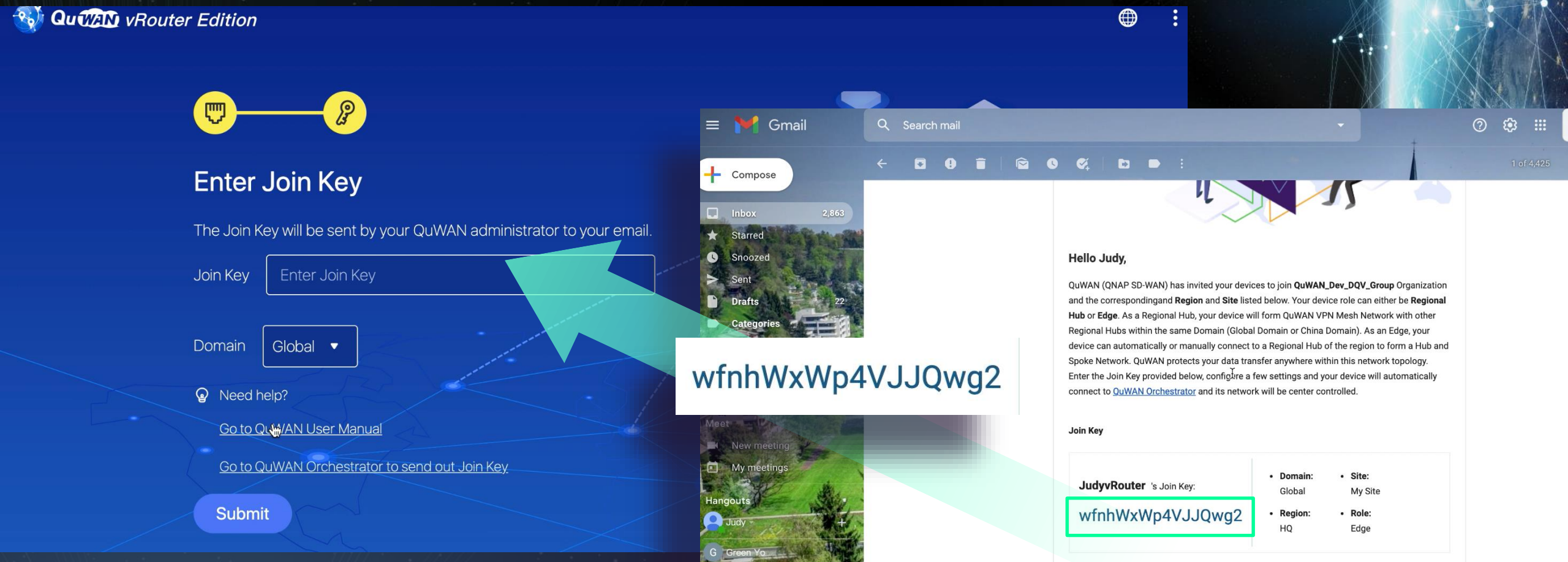
Concept of QuWAN vRouter on ESXi

VMware ESXi Server



Step 5 - Enter Join Key

- Connect PC to QuWAN vRouter LAN and enter [local.quwan] in a new browser
- Open vRouter local page, set network, and enter Join Key



QuWAN vRouter Edition

Enter Join Key

The Join Key will be sent by your QuWAN administrator to your email.

Join Key

Domain Global ▾

[Need help?](#)

[Go to QuWAN User Manual](#)

[Go to QuWAN Orchestrator to send out Join Key](#)

Gmail

Search mail

Compose

Inbox 2,863

Starred

Snoozed

Sent

Drafts 22

Categories

Hello Judy,

QuWAN (QNAP SD-WAN) has invited your devices to join **QuWAN_Dev_DQV_Group** Organization and the corresponding **Region** and **Site** listed below. Your device role can either be **Regional Hub** or **Edge**. As a Regional Hub, your device will form QuWAN VPN Mesh Network with other Regional Hubs within the same Domain (Global Domain or China Domain). As an Edge, your device can automatically or manually connect to a Regional Hub of the region to form a Hub and Spoke Network. QuWAN protects your data transfer anywhere within this network topology. Enter the Join Key provided below, configure a few settings and your device will automatically connect to [QuWAN Orchestrator](#) and its network will be center controlled.

Join Key

| | | |
|---------------------------------|--------------------------|-------------------------|
| JudyvRouter 's Join Key: | Domain: Global | Site: My Site |
| wfnhWxWp4VJJQwg2 | Region: HQ | Role: Edge |

Finished !

Information

QuWAN Orchestrator Info

Connection Status :

 Connected

VPN Status:

 Hub to edge: Connected

Connecting Hub: XiZhi-QGD



QuWAN Orchestrator

SD-WAN solution for Resilient IT
Infrastructure

[Go to QuWAN Orchestrator](#)

Device Info

Device Name: JudyvRouter

Organization: QuWAN_Dev_DQV_Group

Region: HQ

QuWAN ID: 42bc0f43-7348-4e4b-af86-4d233fcdcf98

Device Role: edge

WAN Settings

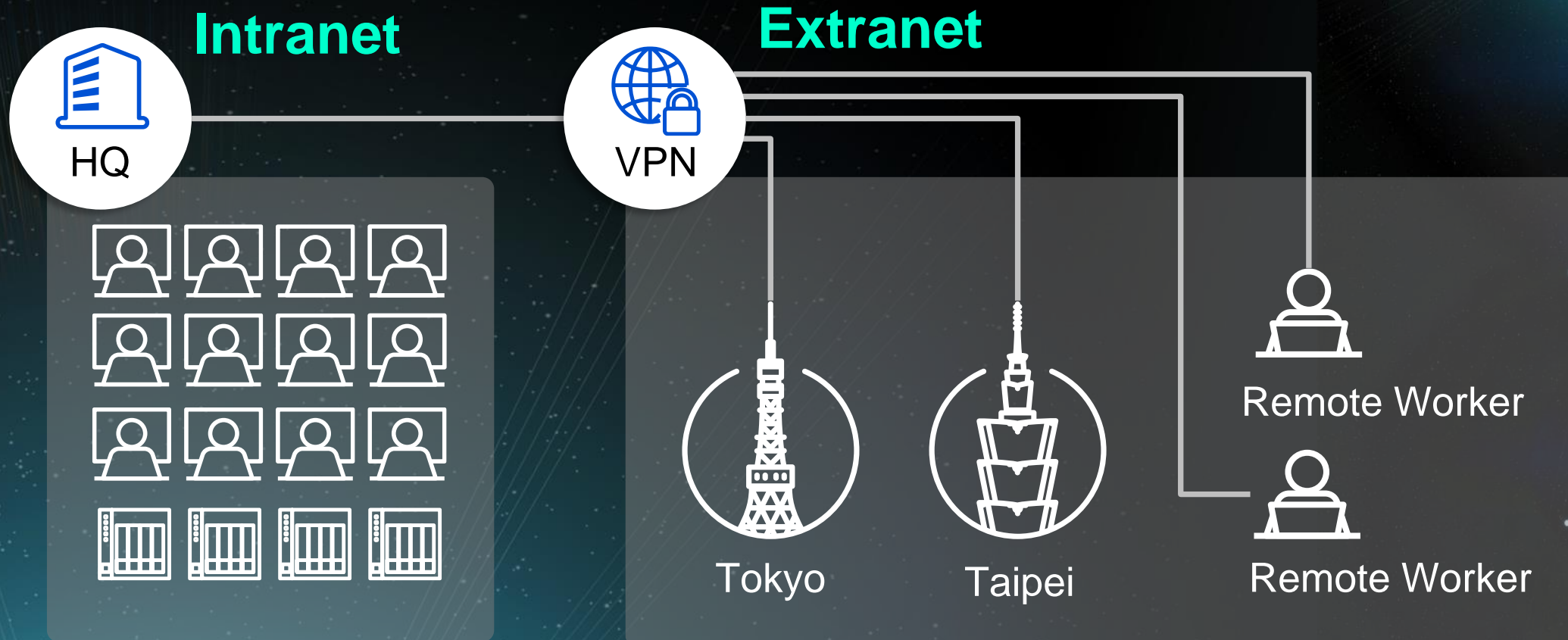
Reset QuWAN VM

QuWAN

Fulfills The Next
Generation Networking
Needs

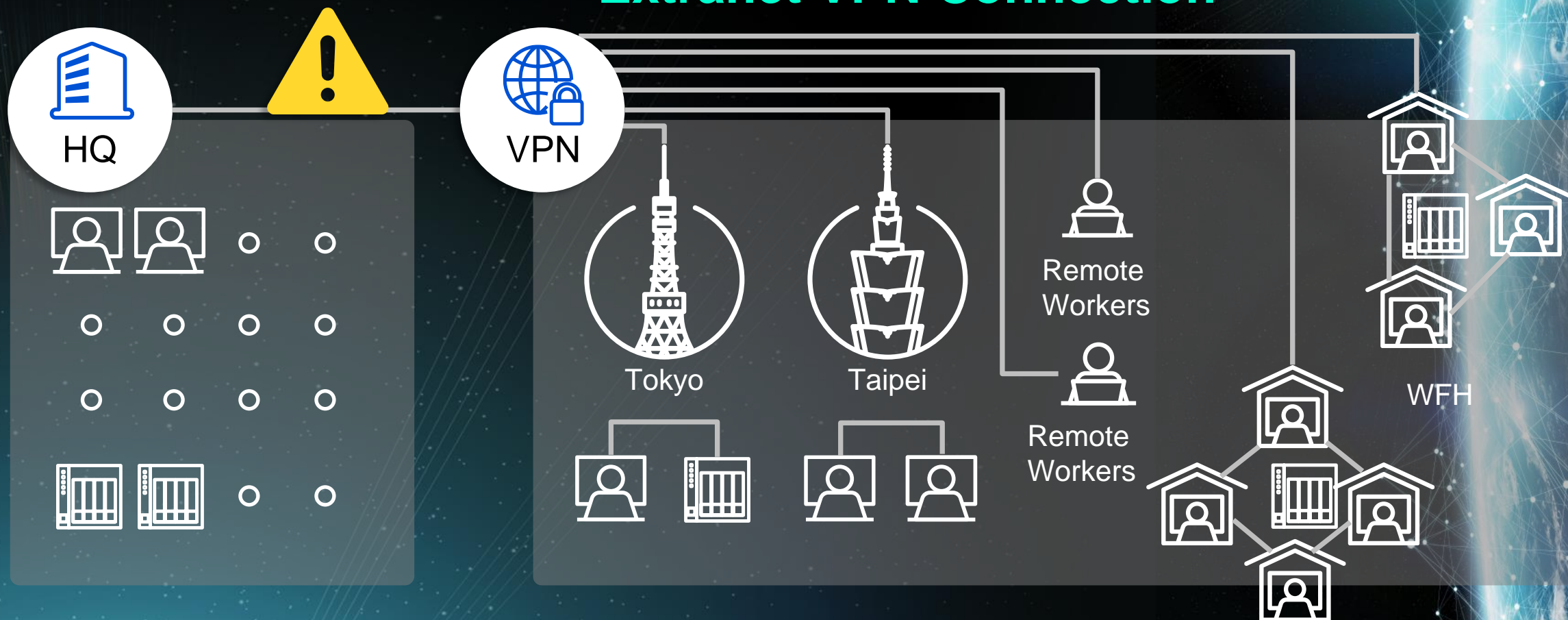


Site-to-site VPN were only used by a few branches and remote officers



HQ VPN resource cannot afford the spike of connection demand from distributed remote users and devices

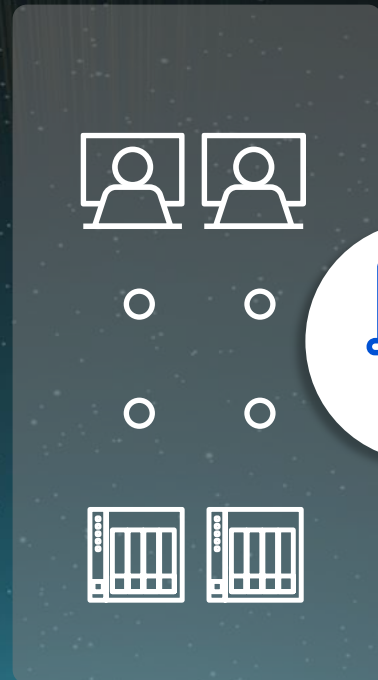
Extranet VPN Connection



More work-from-home More distributed remote workers

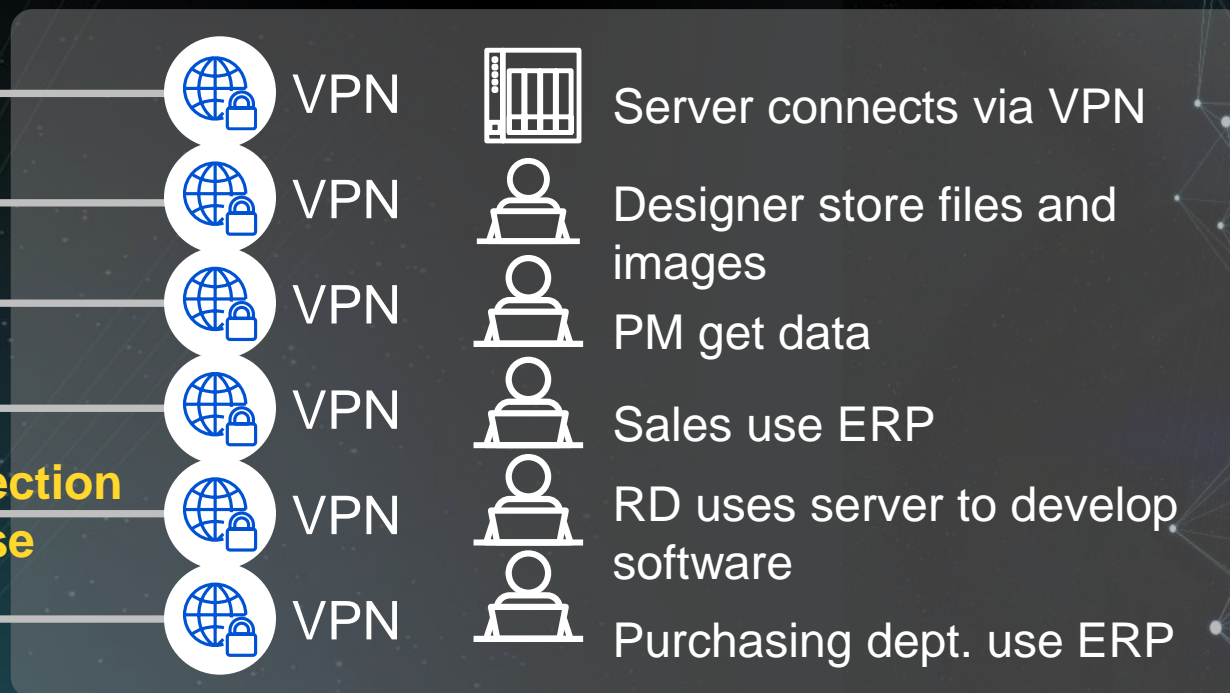
More network stability & reliability issues resulted from the overloaded VPN router in HQ.

Intranet



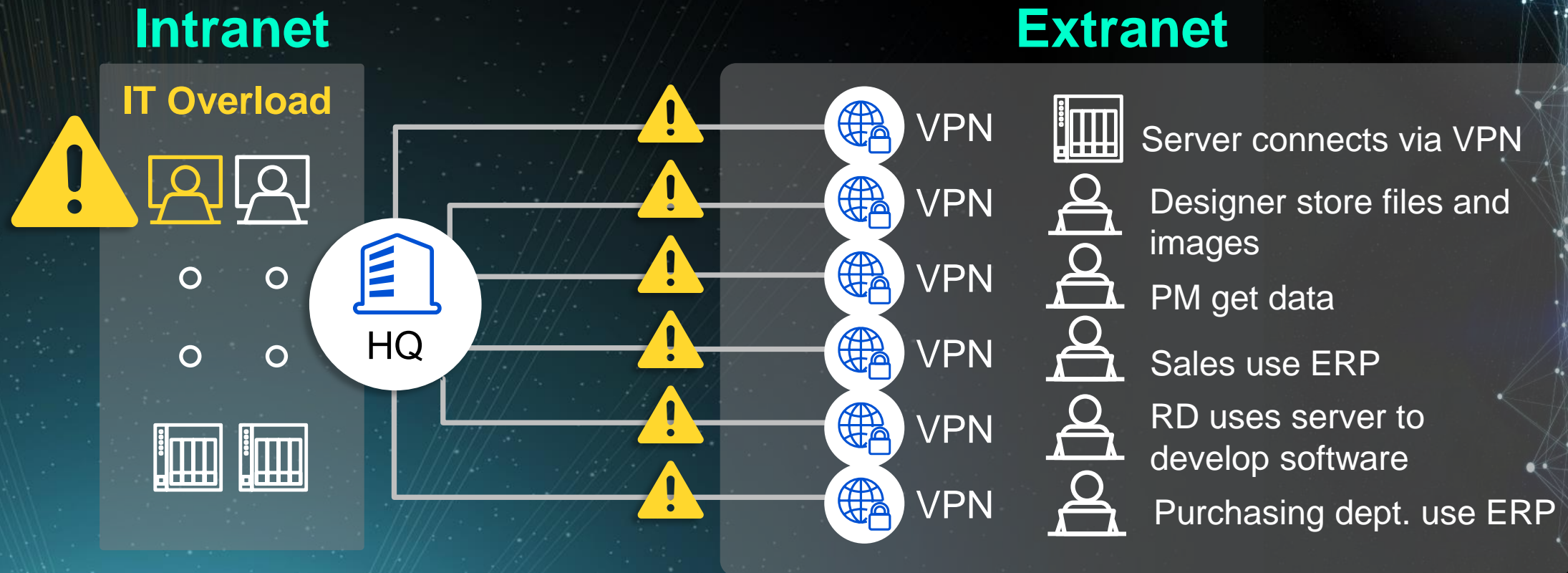
**VPN Connection
Collapse**

Extranet



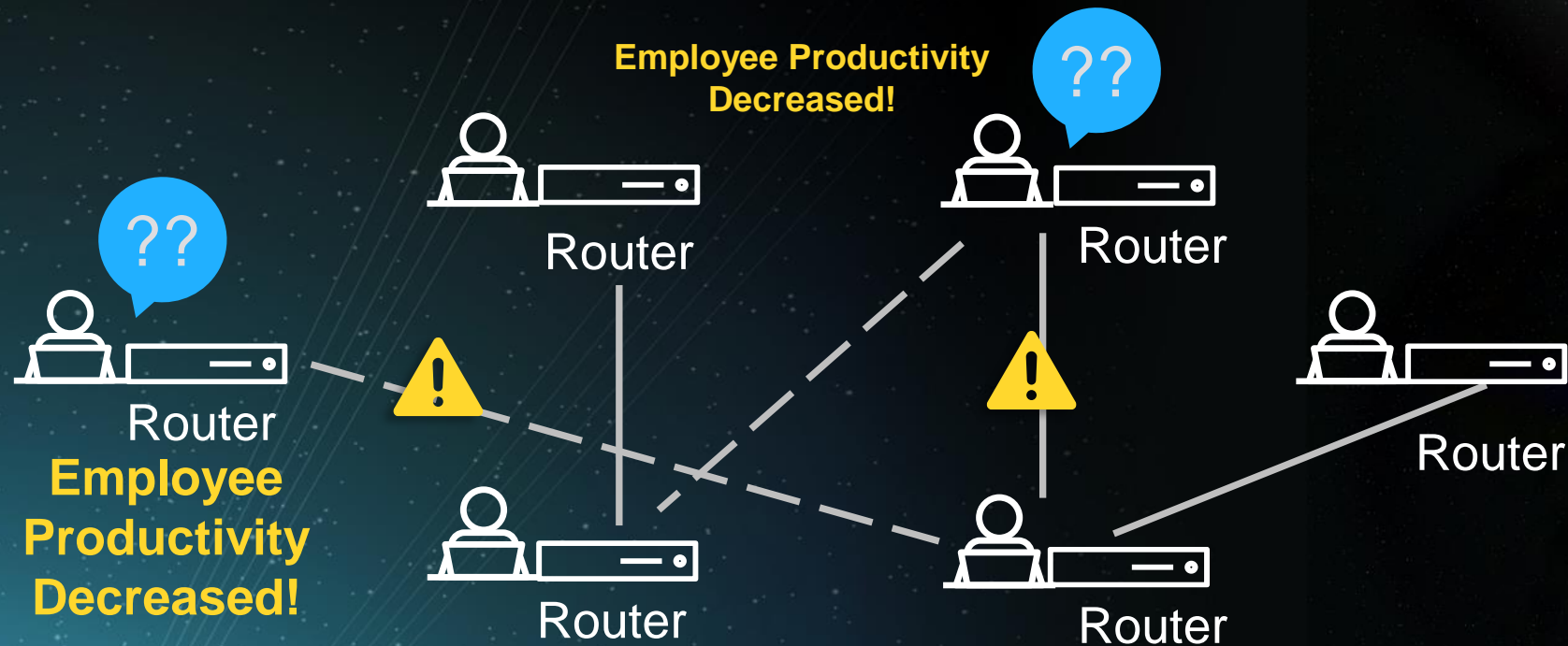
Lack of effective ways to manage large number of external devices

- IT administrators cannot manage equipment usage and connection status
- Not every remote worker has the knowledge to set up and maintain the on-prem devices
- Device & network troubleshooting can be time-consuming



Setting up site-to-site VPN is time and labor consuming

Employees who need to exchange data frequently within the group would need to create site to site VPN network by themselves . But setting up VPN is not easy, and special equipment may be required, hence, deploying a large mesh VPN solution can be very time and labor consuming.



Enterprise level VPN solution is expensive

SMB start to look for VPN solutions on the market to solve these problems, but not every SMB can afford the high cost for extending or building a complete VPN solution.

\$\$\$



Features that SMB need for the next generation networking

Flexible Topology Design

- Supports multiple site and multiple equipments connection.
- Support different topology style
- Effectively disperse network traffic

Fast Deployment Easy Setting

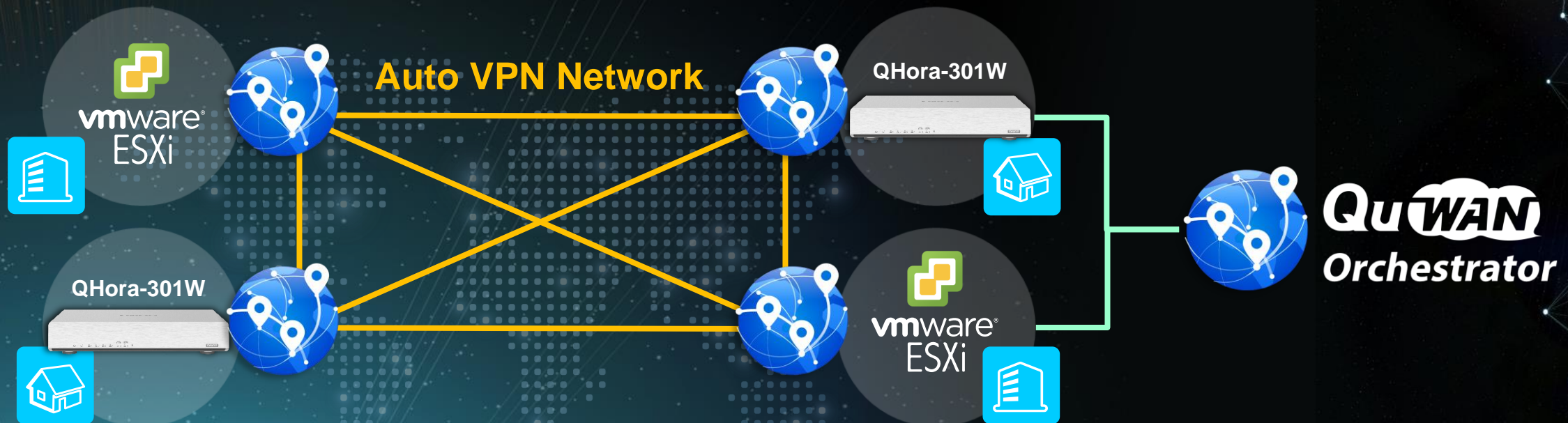
- Deploy via virtual network functions.
- Centrally manageable
- Easy deployment

An Affordable Solution

- Low implementation cost
- Cost for solution is transparent and manageable

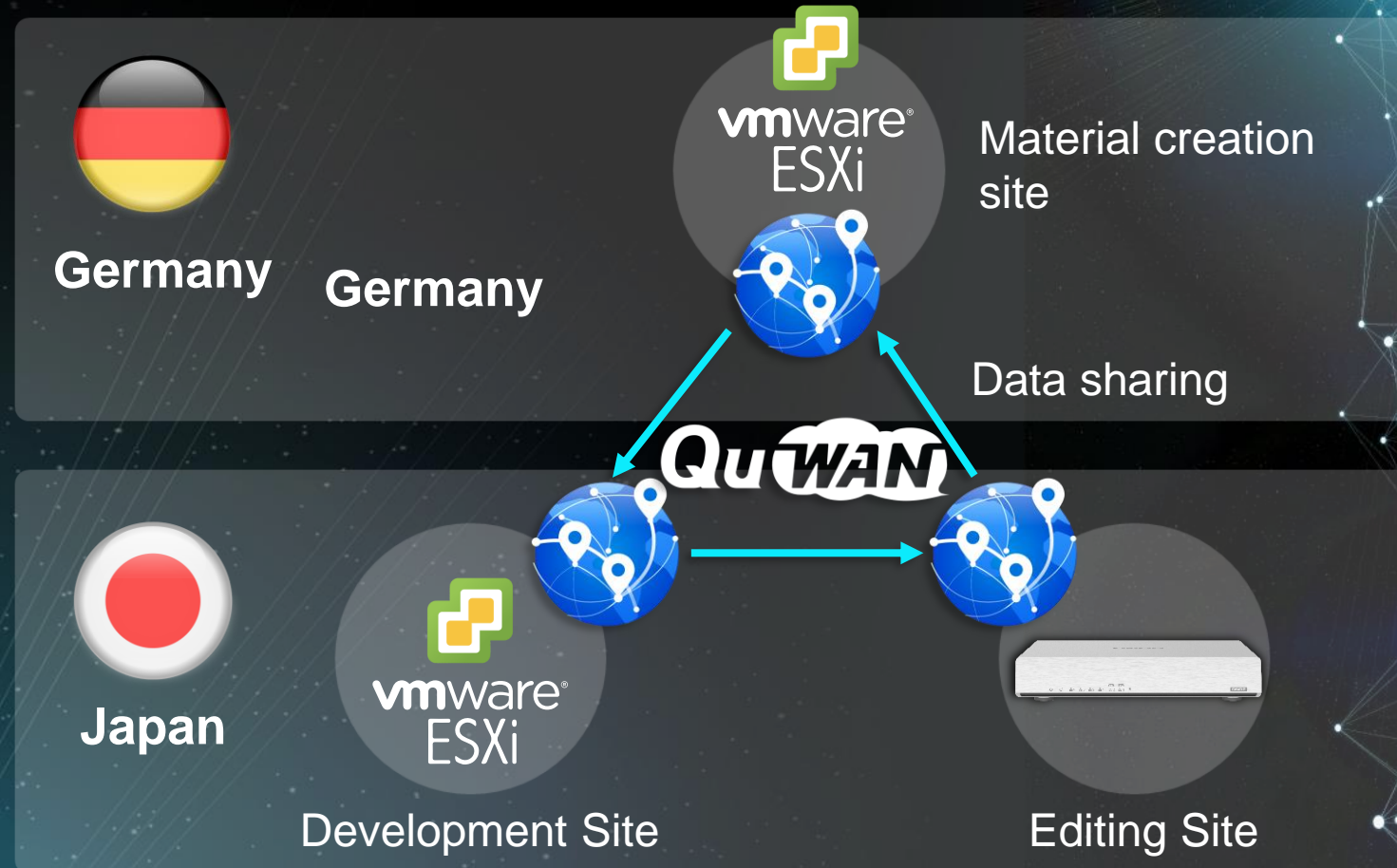
QNAP SD-WAN solution meets the next generation networking needs

QNAP QuWAN is a complete SD-WAN solution that provides enterprise IT managers with a simple, fast, secure and efficient network connection structure. You can easily and quickly build a multi-site VPN network and centrally manage it from a cloud platform.



Efficiently build multi-site VPN

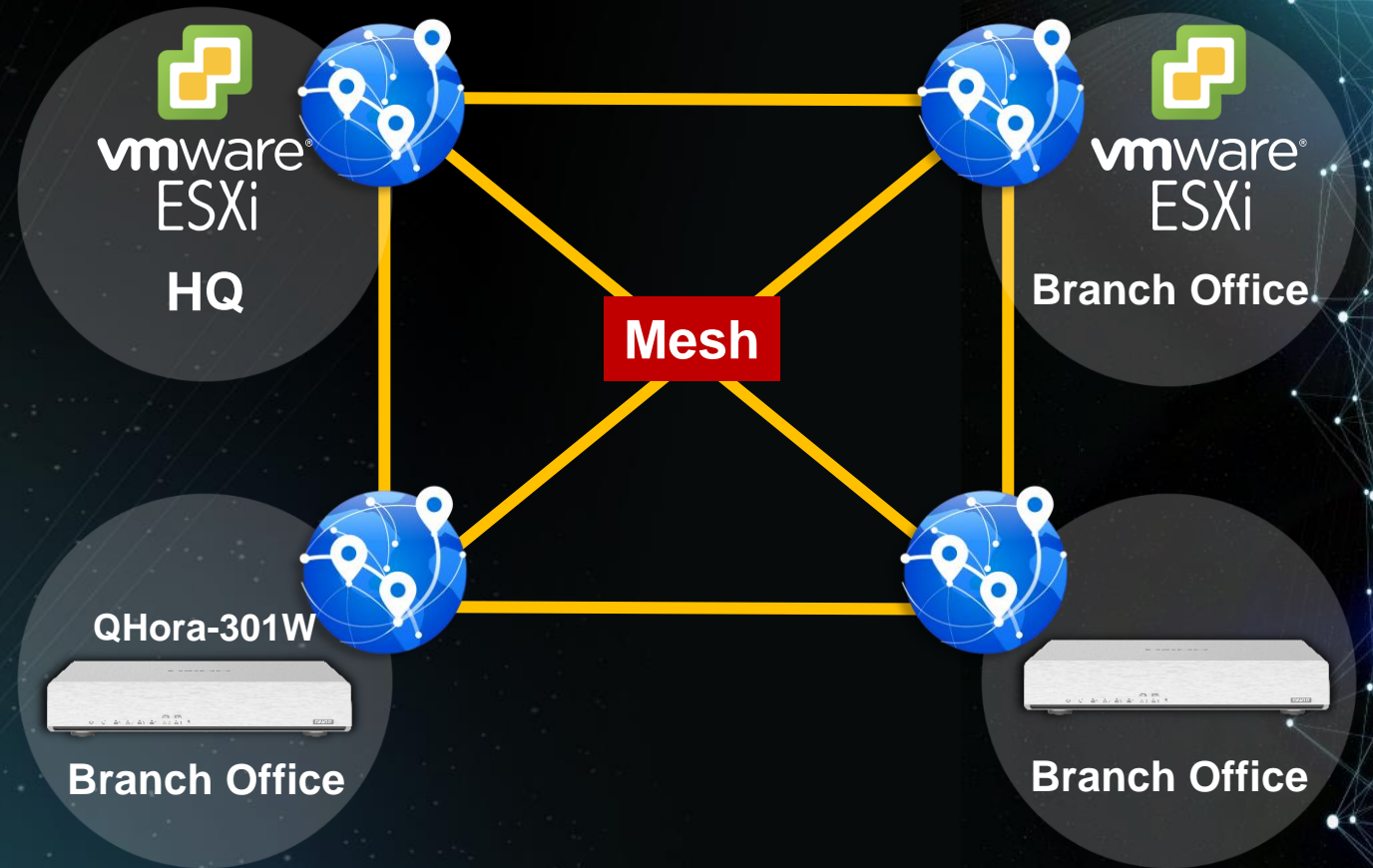
- Each department sets up a private network and uses the Internet as a private network.
- Protect corporate network activities, confidential files, voice and image transmission



Flexible VPN Topology

Mesh VPN

- Mesh VPN topology is suitable for a network architecture that requires fast and multiple route network.
- Need to use Public IP for being a Hub.
- Hub can automatically form Mesh VPN with all other Hubs in the same domain.



Flexible VPN Topology: Hub & Spoke

- Hub & Spoke topology is suitable for a network architecture that requires fast deployment, extension and backup route.
- All data transmission between edges will go through a hub
- If your device uses private IP, it can connect to network topology as Edge



A centrally managed platform solves the management issues of multiple devices

01

Intuitive graphical user interface



Instant Notification

04

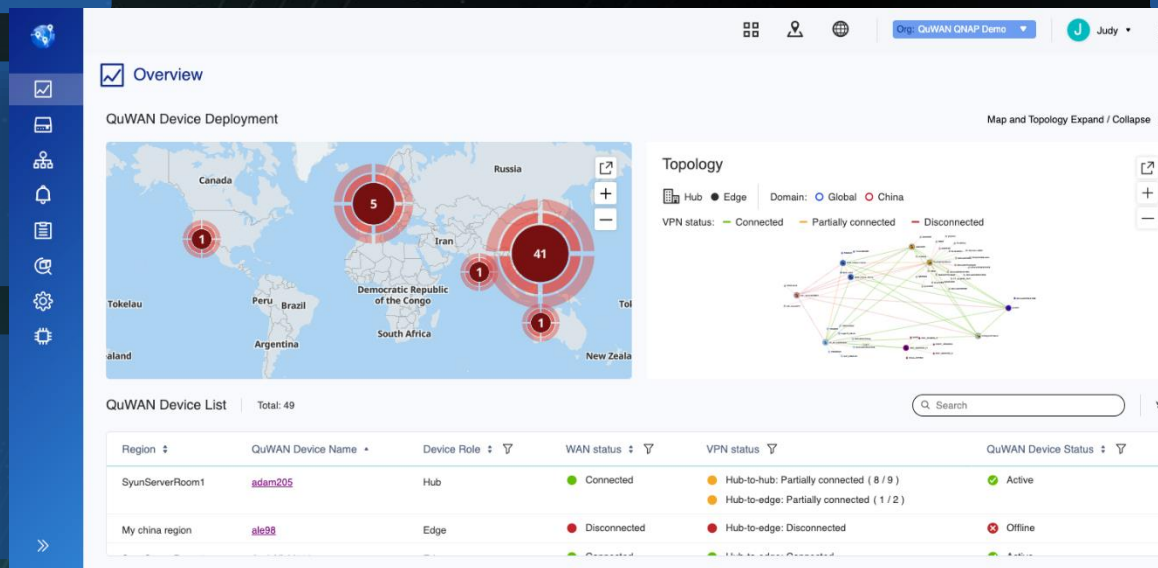
Simultaneously execute various parameter settings

02

Geological location of each device

03

Overview connection status of all devices



05

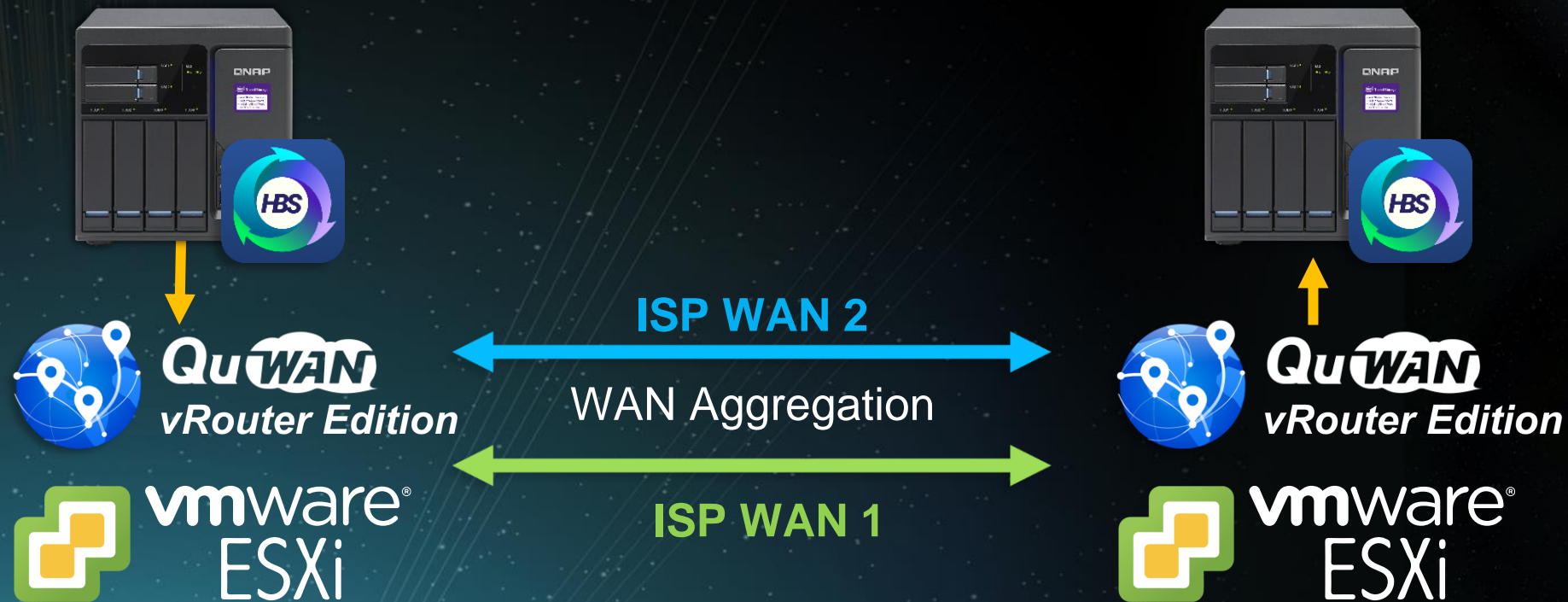
Set once and apply to all. Save time to set device one by one.

06

Remote troubleshooting (e.g. packet capture)

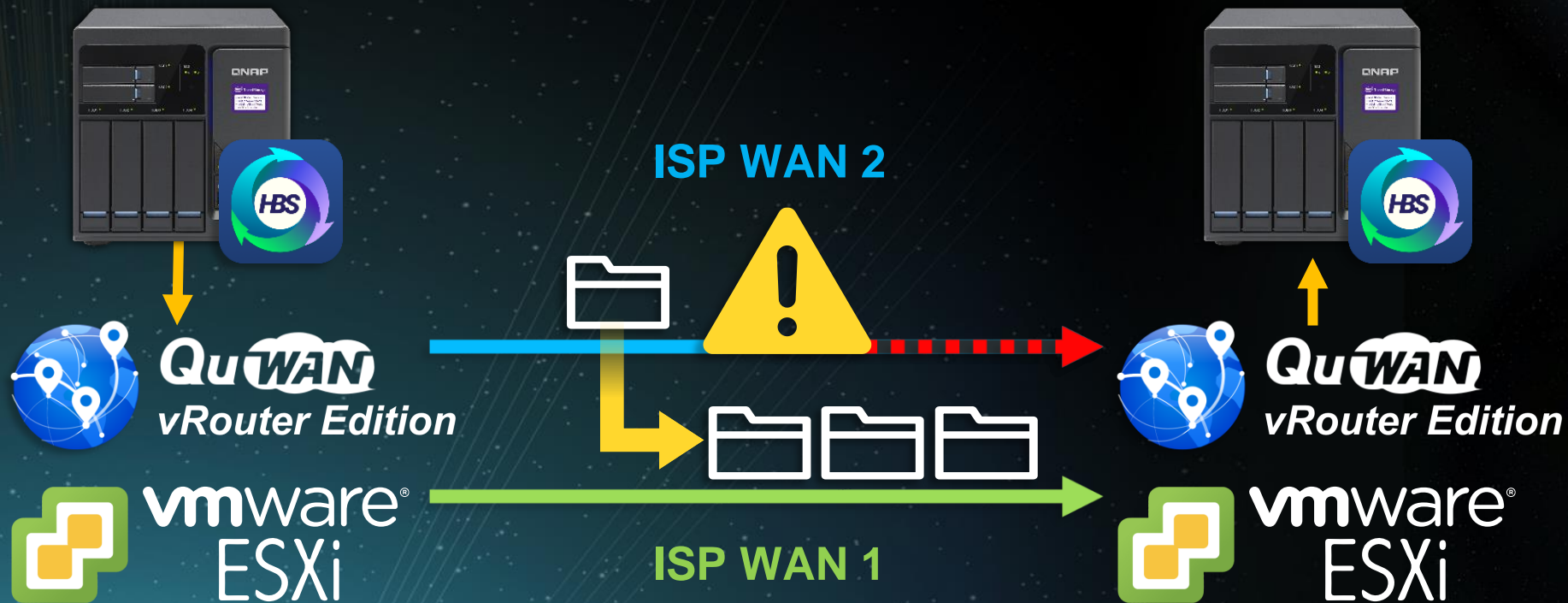
WAN aggregation to improve data transmission rate

WAN aggregation is effective in achieving a faster data transmission for remote backup and remotely mounted file system



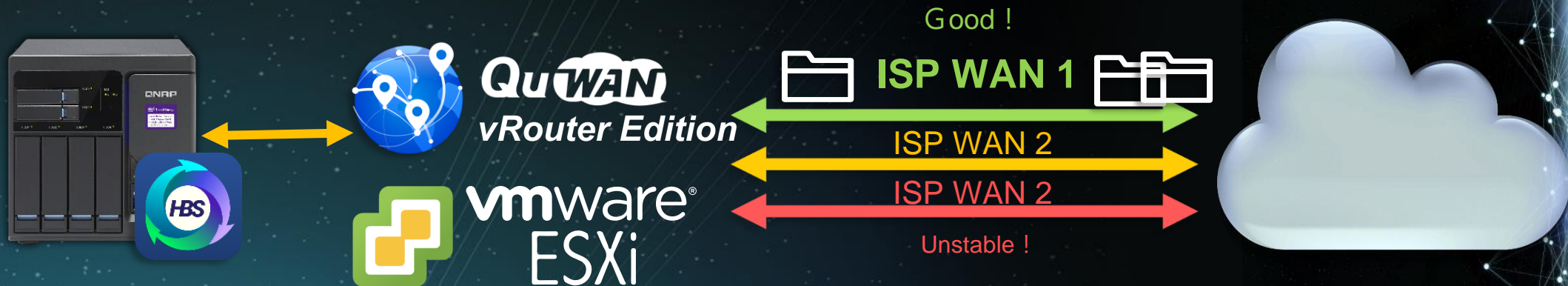
WAN Failover

- Multi-site connection can form a backup system automatically that allow uninterrupted collaborative operations.
- The central management platform sends warnings and notifications in real time



WAN Load Balancing

- Using Multipath TCP (MPTCP) technology to automatically detect current network jitter, delay, and packet loss conditions, so that each packet takes the best network path to the destination, so as to achieve intelligent routing and uninterrupted connection for transmission
- Maintain long-term and efficient transmission by distributing traffic through multiple WANs



QuWAN QoS reserves bandwidth for important applications

No interruption during streaming or data backup even when bandwidth usage is full.

- Set application service level on QuWAN Orchestrator.
- QuWAN vRouter has built-in DPI engine to automatically detect and distinguish applications, and reserve bandwidth for important applications.



**vmware**
ESXi

**QuWAN**
vRouter Edition


**vmware**
ESXi

**QoS**

**50% VoIP**

**30% ERP**

20% File transfer


**QuWAN Device**

Region: / QuWAN device:

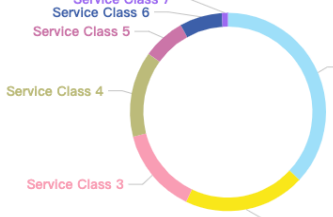
[Dashboard](#) [System Status](#) [Traffic Report](#) [QuWAN Device Information](#) [Quality of Service](#) [Static Route](#)

Segment:

QuWAN Service Class and Weight Percentage

Used: 100% Remaining: 0%  Limit bandwidth when network is fully used

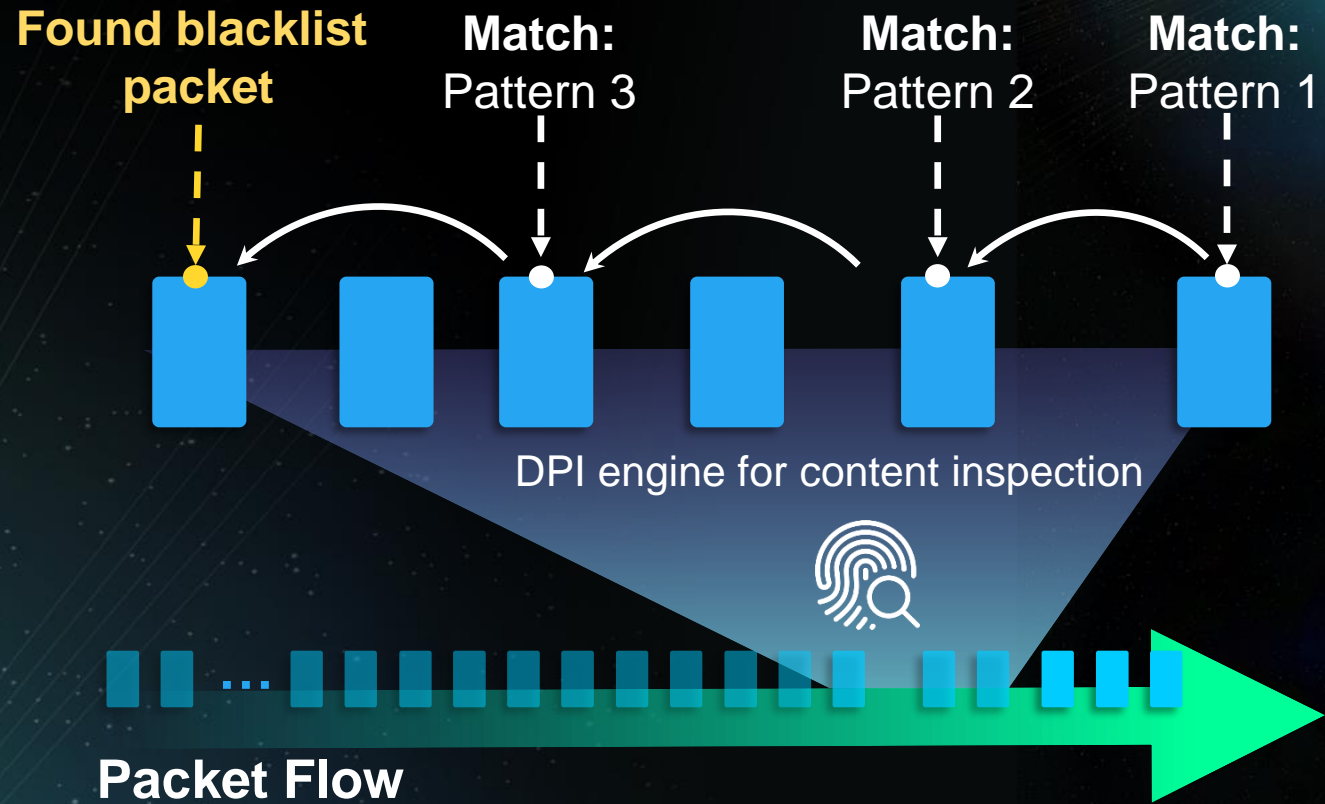
| | |
|--|---|
| Service Class 1: <input type="text" value="37"/> % | Service Class 6: <input type="text" value="7"/> % |
| Service Class 2: <input type="text" value="20"/> % | Service Class 7: <input type="text" value="1"/> % |
| Service Class 3: <input type="text" value="14"/> % | Service Class 8: <input type="text" value="0"/> % |
| Service Class 4: <input type="text" value="14"/> % | Service Class 9: <input type="text" value="0"/> % |
| Service Class 5: <input type="text" value="7"/> % | |



Service Class 1
Service Class 2
Service Class 3
Service Class 4
Service Class 5
Service Class 6
Service Class 7

Protects your data

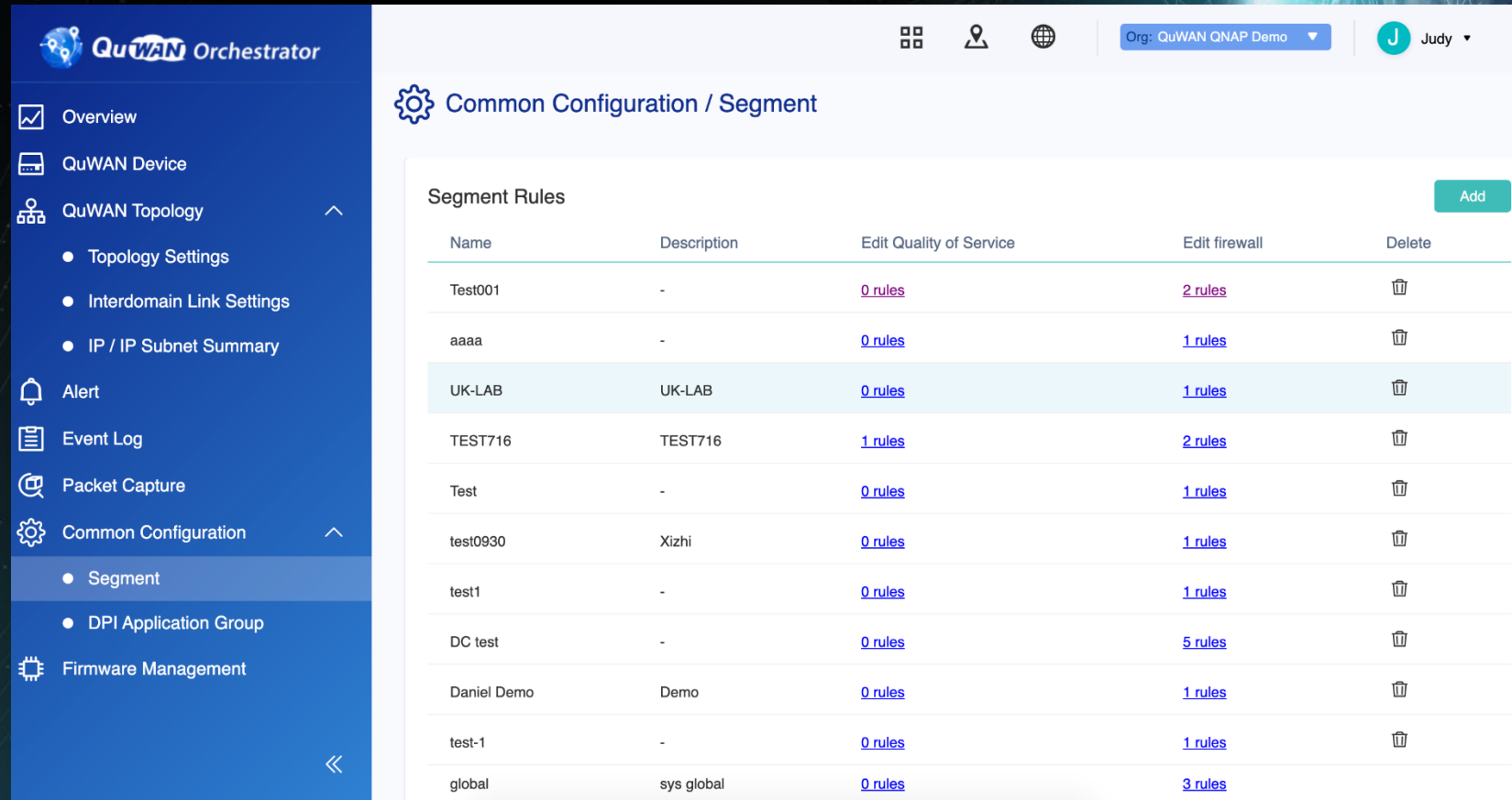
- Through using deep packet inspection technology, it can identify and control network services based on the characteristics of the application layer to achieve L7 firewall and intelligent QoS functions.
- Blacklist specific applications to protect corporate network security.



QuWAN provides organization wise firewall settings

A set of firewall and business policy rules can be set in one segment and be applied universally across domains.

Easy to manage network using behavior and data transmission security!



QuWAN Orchestrator

- Overview
- QuWAN Device
- QuWAN Topology
 - Topology Settings
 - Interdomain Link Settings
 - IP / IP Subnet Summary
- Alert
- Event Log
- Packet Capture
- Common Configuration
 - Segment
 - DPI Application Group
- Firmware Management











Common Configuration / Segment

Org: QuWAN QNAP Demo | Judy

Segment Rules [Add]



| Name | Description | Edit Quality of Service | Edit firewall | Delete |
|-------------|-------------|-------------------------|-------------------------|--------|
| Test001 | - | 0 rules | 2 rules | |
| aaaa | - | 0 rules | 1 rules | |
| UK-LAB | UK-LAB | 0 rules | 1 rules | |
| TEST716 | TEST716 | 1 rules | 2 rules | |
| Test | - | 0 rules | 1 rules | |
| test0930 | Xizhi | 0 rules | 1 rules | |
| test1 | - | 0 rules | 1 rules | |
| DC test | - | 0 rules | 5 rules | |
| Daniel Demo | Demo | 0 rules | 1 rules | |
| test-1 | - | 0 rules | 1 rules | |
| global | sys global | 0 rules | 3 rules | |



Organizational IP Segment Allocation







QuWAN Topology / IP/ IP Subnet Summary

Topology

 Hub  Edge

Domain:  Global  China



IP/ IP Subnet Summary Table

Search

IP

Static Route

| Region | QuWAN Device Port/ VLAN ID | Port Definition | IP | Description |
|-----------|--|-----------------|--------------------|-------------|
| Hong Kong | QHK / Port 1 | WAN | 10.26.43.10 / 16 | - |
| Hong Kong | QHK / Port 8 | LAN | 192.168.200.1 / 24 | - |
| Hong Kong | QHK-Office882ST / Port 1 | WAN | 10.26.42.202 / 16 | - |
| Hong Kong | QHK-Office882ST / Port 8 | LAN | 192.168.26.1 / 24 | - |
| Hong Kong | QHKHORA1 / Port 1 | WAN | 10.26.42.18 / 16 | - |
| Hong Kong | QHKHORA1 / VLAN 4094 | LAN | 192.168.101.1 / 24 | - |
| Hong Kong | QHKHORA1 / VLAN 1000 | LAN | 192.168.104.1 / 24 | - |
| Hong Kong | QHKHORA1 / VLAN 1000 | LAN | 192.168.100.1 / 24 | - |

QuWAN Network Topology

Organization

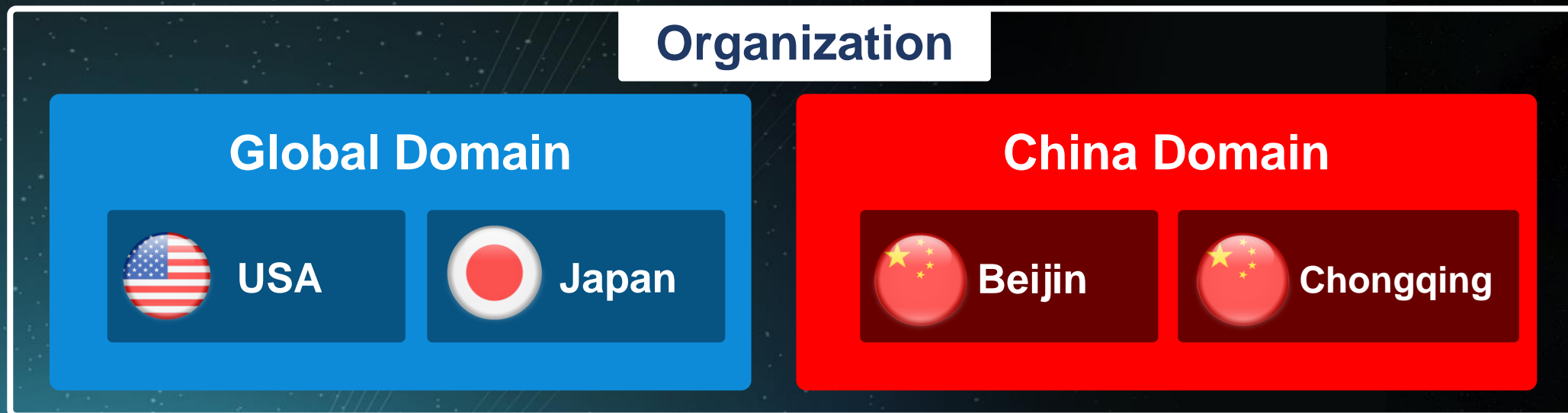
One company can be an organization

Domain

QuWAN network is divided into two main domain: Global and China

Region

Multiple regions can be created inside a domain.



QuWAN Network Topology

Site

Usually One office or a smaller area within a region is called site.

Device

Each site can have one QuWAN router enabled.

Organization

Global Domain



USA

Site

Device

Site

Device

Site

Device

Site

Device



Japan

Site

Device

Site

Device

China Domain



Beijing

Site

Device

Site

Device



Chongqing

Site

Device

Site

Device

Site

Device

Site

Device

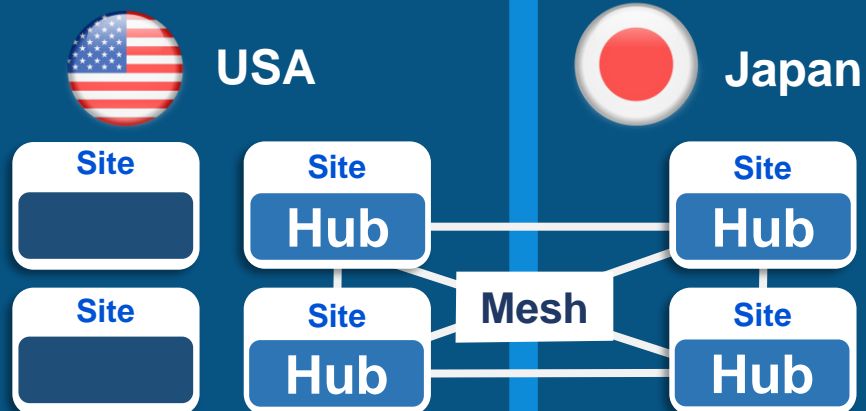
QuWAN Network Topology

Hub

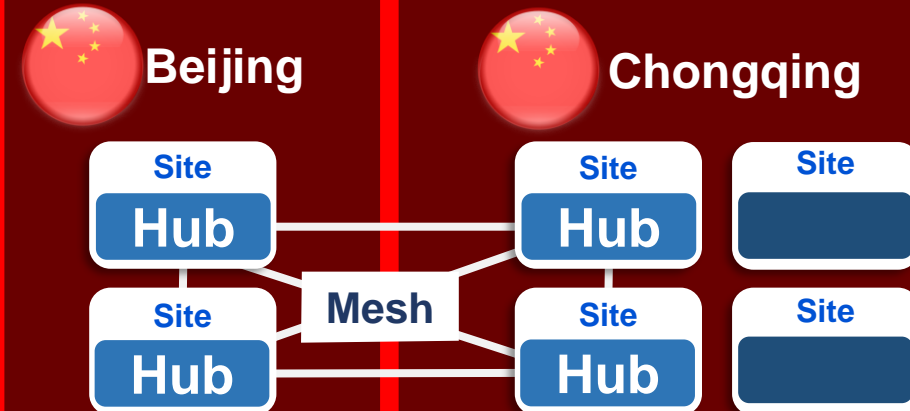
- All Hubs under the same domain automatically form Mesh VPN connections.
- Public IP is required for a device to be Hub.
- First device deployed in a region needs to be a Hub. This Hub will serve as the primary Hub.

Organization

Global Domain



China Domain



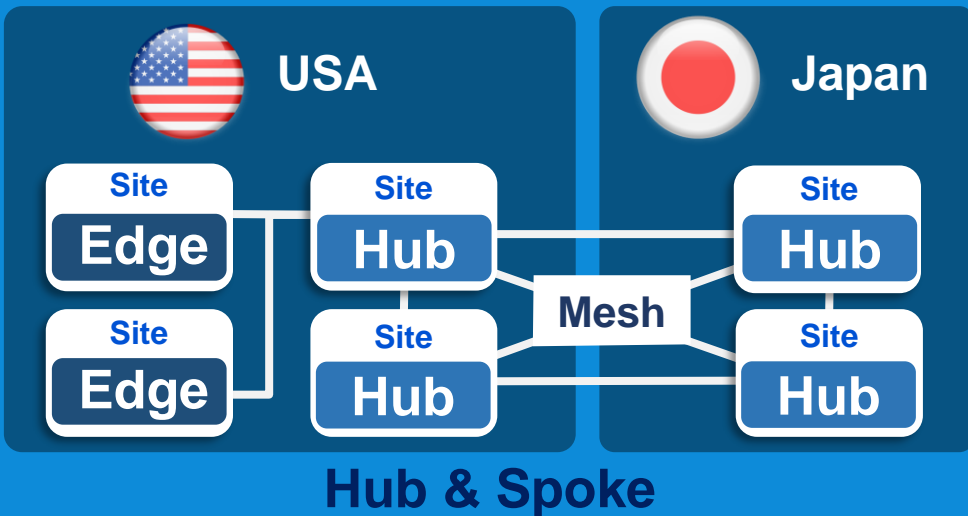
QuWAN Network Topology

Edge

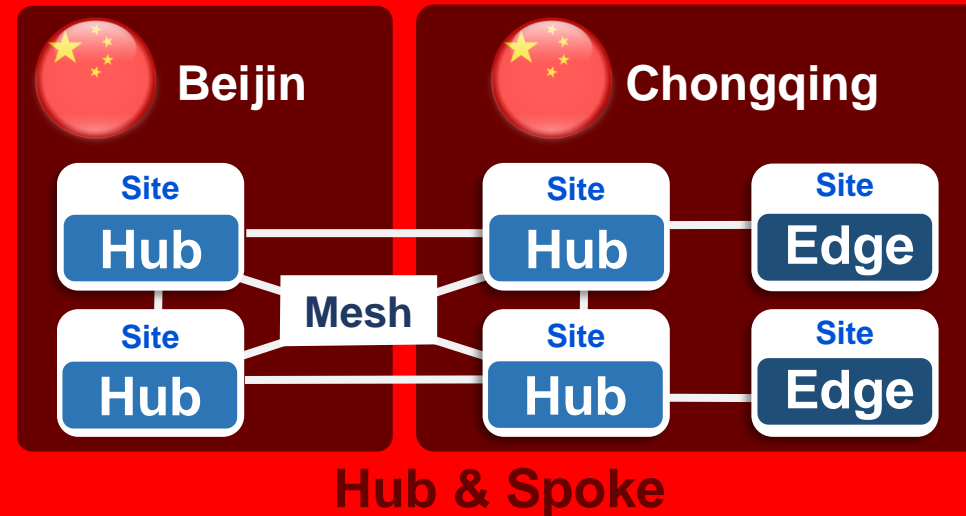
- A device can connect to QuWAN network as an Edge using private IP.
- An Edge needs to connect to a Hub under Hub & Spoke network structure.
- Edge automatically connects to the primary Hub.
- All data will be transferred through Hub.

Organization

Global Domain



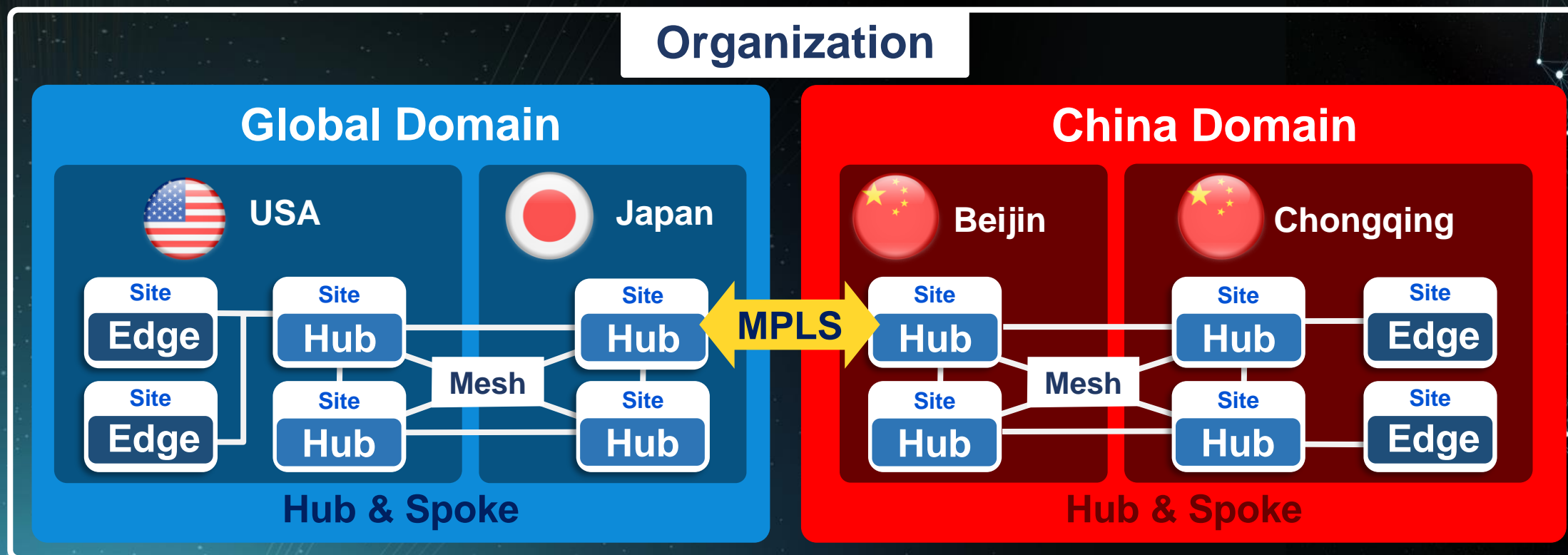
China Domain



QuWAN Network Topology

Inter-Domain Link

- To comply to China network regulation, user needs to apply for Inter-Domain Link by his or herself for the two domain to have VPN connection.
- Inter-domain Link can only be set on hub.



QuWAN Inter-Domain Link

Set the applied MPLS to QuWAN Inter-Domain Link to establish a cross china and global domain private network between the two QuWAN Hubs



QuWAN Topology / Inter-regional Link Settings



Region *

HUB *

Port *

IP ☐ Obtain all settings automatically via DHCP
☐ Static IP

ISP Line rate:

Description:

☐ Enable to encrypt the inter-regional link

Region *

HUB *

Port *

IP ☐ Obtain all settings automatically via DHCP
☐ Static IP

ISP Line rate:

Description:

QNAP

QuWAN is Your Best Choice!

Copyright © 2021 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.

