

The image features a blue Qnap logo in the top left corner. The background is a complex, abstract composition of numerous dark blue and black geometric shapes, including cubes, prisms, and lines, arranged in a way that suggests a dynamic, three-dimensional environment. A horizontal white band runs across the middle of the image, serving as a backdrop for the main text.

QNAP

Q'center V1.7

**A Central Storage Management
System to Maximum your ROI**

The Acclaimed CMS for QNAP NAS

- 200,000 NAS around the globe have installed Q'center
- 1,500,000 NAS managed by Q'center
- In average, per business customer, 10 NAS being managed by Q'center



A photograph of a server room with several racks of server units. The racks are filled with blue and silver components. A semi-transparent white rectangular box is overlaid on the center of the image, containing text. The background is a blue gradient at the top and bottom.

Your challenges, our solution:
**How to make sure if multiple
NAS is in their optimal condition?**

3 Aspects for Monitoring Your Storage

- First dimension: system resource usage, status and log
- Second dimension: storage resource usage
- Third dimension: storage performance and health



Is there a tool to monitor disk health?

Storage Performance



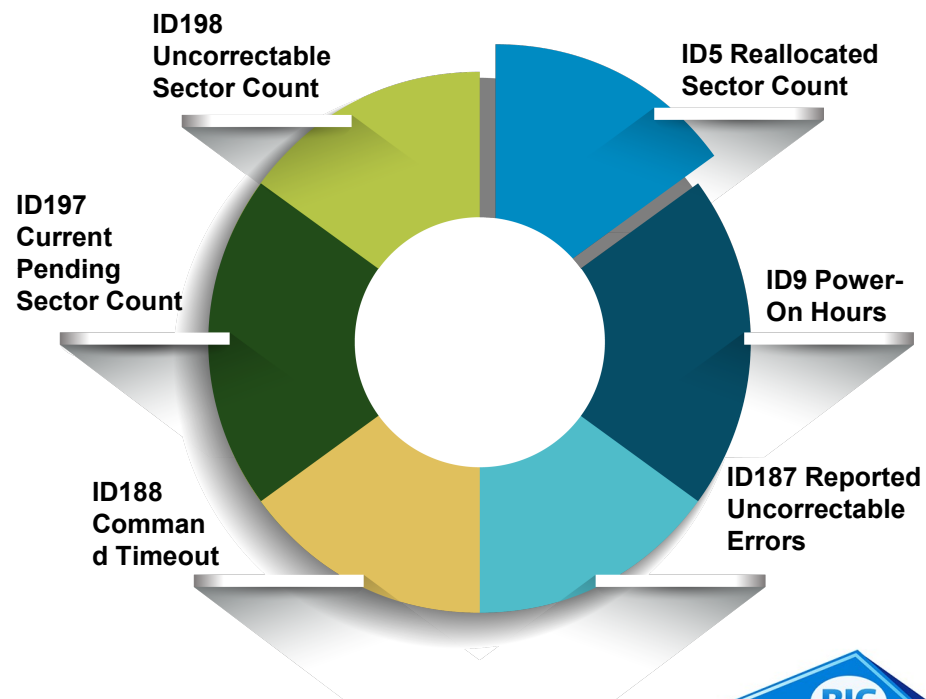
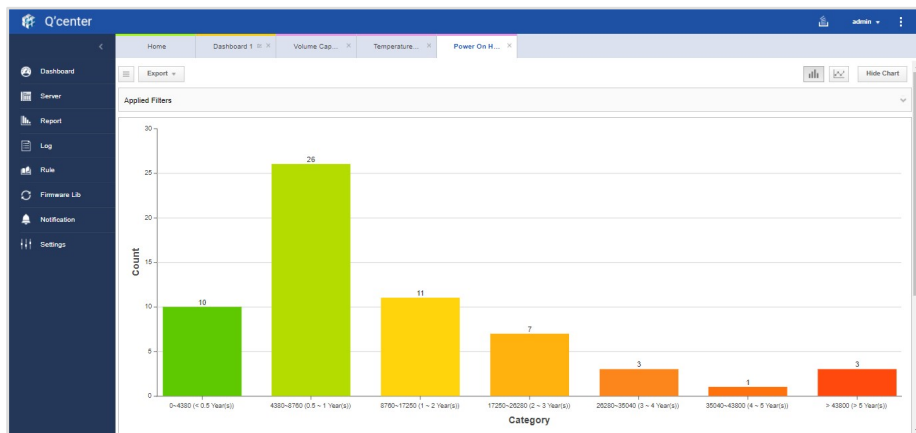
System Resource

Storage Resource

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30 Different Reports in 5 Categories

- **5 Categories:**
Inventory, Storage Space, Performance, Hardware, Disk
- **30 Analysis Reports:**
E.g. S.M.A.R.T. Monitoring



The Items that Q'center Monitored

Report

All Reports

- Inventory
- Capacity
- Performance
- Monitor
- S.M.A.R.T.

Inventory

- Server Report
- Disk Report
- REXP Report

Capacity

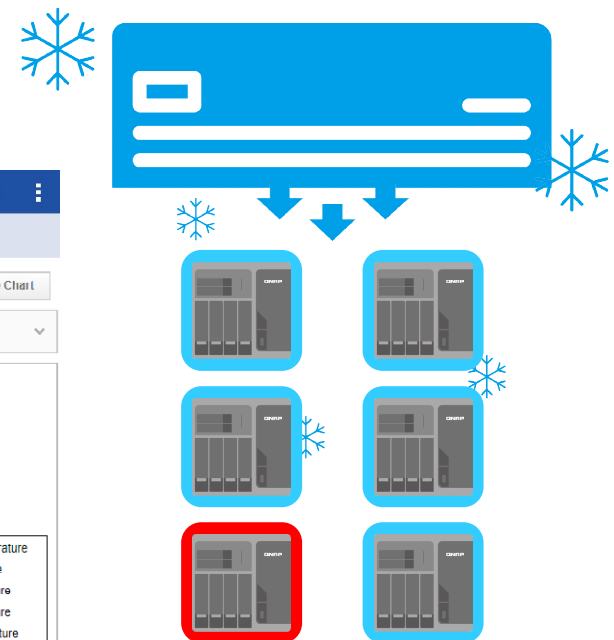
- Shared Folder Report
- Storage Pool Capacity R...
- Volume Capacity Report
- Storage Pool Utilization ...
- Volume Utilization Report
- Storage Pool Growth Re...
- Volume Growth Report

Performance




- CPU Usage Report
- Memory Usage Report
- Network Utilization Report
- Network Throughput Rep...
- Cache Acceleration Hit R...
- Volume/LUN IOPS Report
- Volume/LUN Latency Re...
- Volume/LUN Throughput ...
- Storage Pool IOPS Report

Detect Potential Issues

- Hardware: Temperature and Fan Speed
- Detect effects of environmental changes and prevent system failures



A Professional Monitoring Tool

Brand/ Monitoring Items	 QNAP Q'center	S Brand CMS
CPU/Memory/Network	✓	✓
Shared Folder/Storage Space Usage	✓	✓
Storage Performance and Logs	✓ 	✗
Long-term HW Monitoring (Temp/Fan Speed)	✓	✓
Periodical Disk Health Report	✓ 	✗

- An independent and professional suite

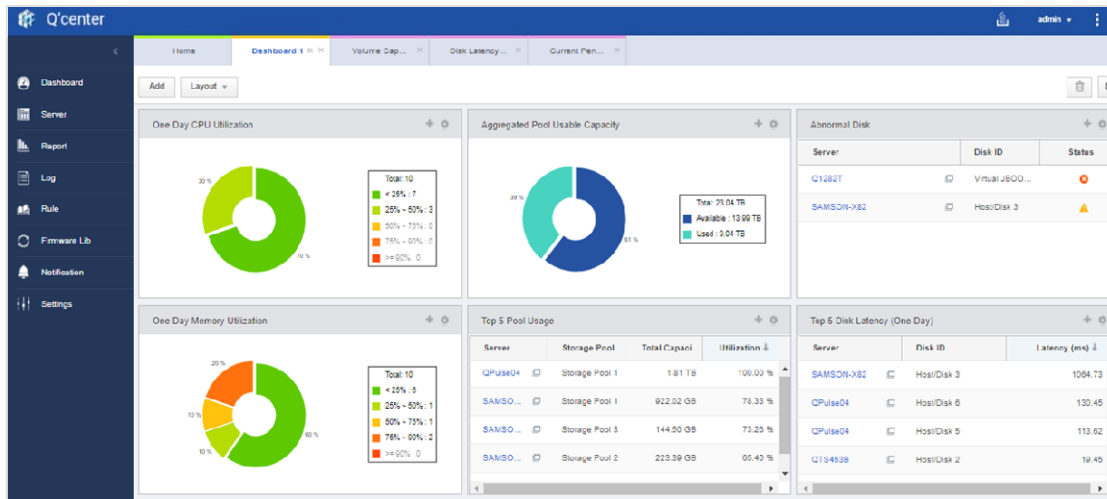
The Q'center Agent on every NAS will collect more than 100 variables each minute

Intuitive GUI



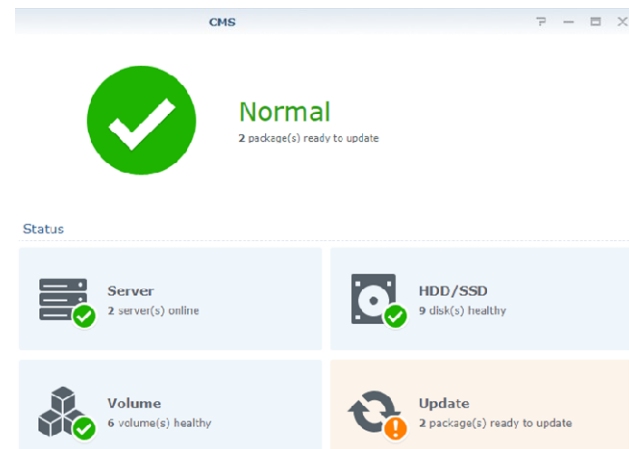
QNAP Q'center

A three dimensional, fully customizable interface



S Brand CMS

A basic monitoring interface



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Live Demo



How to use Q'center and easily find disks that need to be replaced?



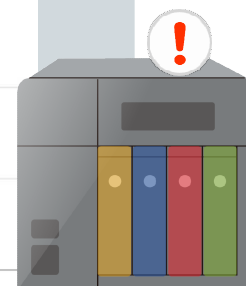
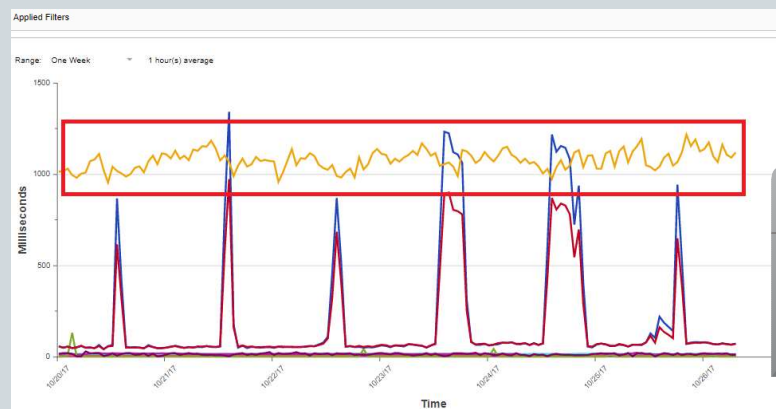
Long-term Self Monitoring Tool

- Log long-term (over a year) space or performance usage

Customizable dashboard

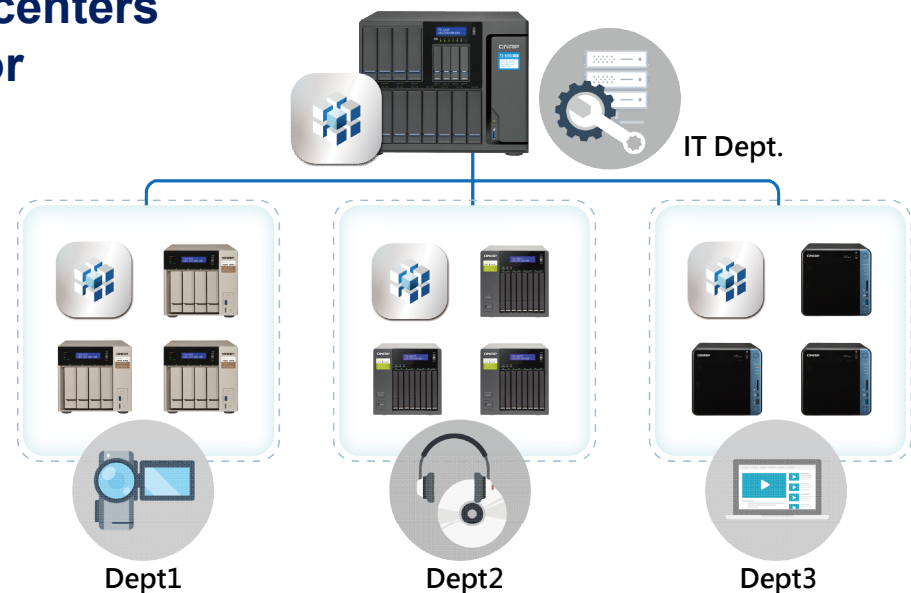
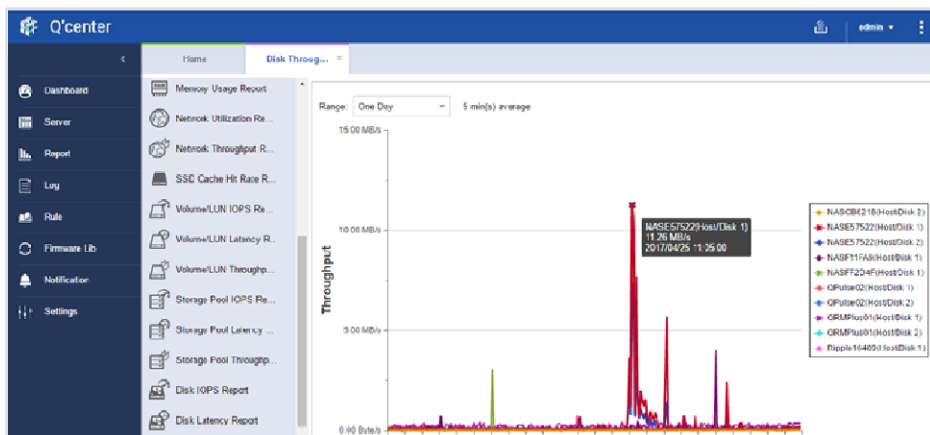


Q'center can be used even for a single NAS for self monitoring






A NAS can be Monitored by Several Q'centers

- A NAS can be monitored by up to 10 Q'centers
- Build a distributed monitoring system or a backup site



Helps you Work Smarter, not Harder

Functions of Q'center Central Management System:

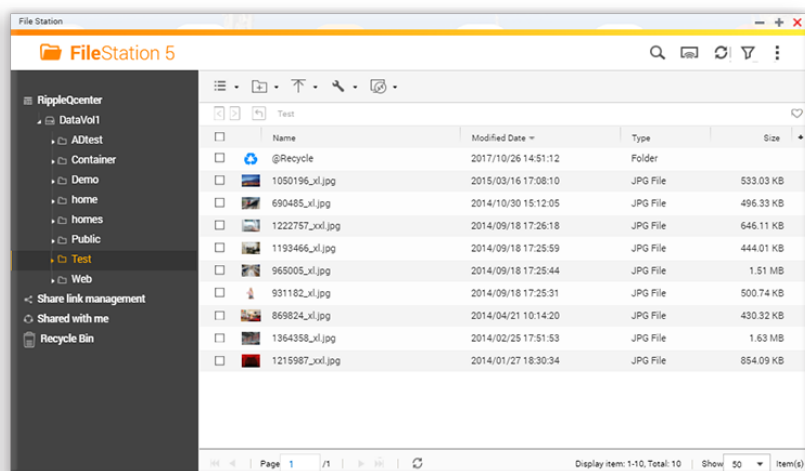
Brand/Function	 QNAP Q'center	S Brand CMS
Upgrade FW	✓	✓
Install apps	✓	✓
Change Settings	✓	✓
Backup Settings	✓ 	X
Create Shared folders	✓ 	X

- Upgrade FW, apps and change settings for multiple NAS
- Backup NAS settings
- Create shared folders



Create Shared Folders on Multiple NAS

- **Case: Create an identical folder on different branch office's NAS to store IT resource**
- **Use Q'center to create multiple shared folders & configure permissions directly**



Live Demo



How to create a shared folder on multiple NAS with Q'center



Your challenge, our solution:
**How to deploy Q'center and
monitor over a hundred NAS?**



Core Optimizations to Monitor over 1,000 NAS

- 2 major challenges for device monitoring:
Chosen hardware spec. can not meet requirements for monitoring
Monitored devices cannot connect back to the server

- The Q'center solution:
 - ✓ One Portal
 - ✓ Two Deployment Methods (NAS/VM)
 - ✓ Three Connection Types (LAN/WAN/over NAT)



One Portal

The NAS under the same subnet will form a connection cluster

Under the same subnet:
Only 1 NAS will transfer
data back to Q'center



When a NAS cannot connect to
Q'center, its data can still be
sent by other NAS

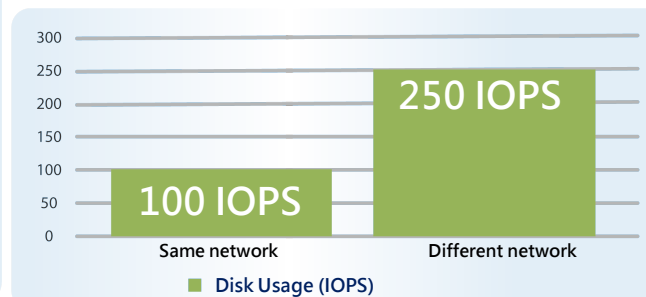
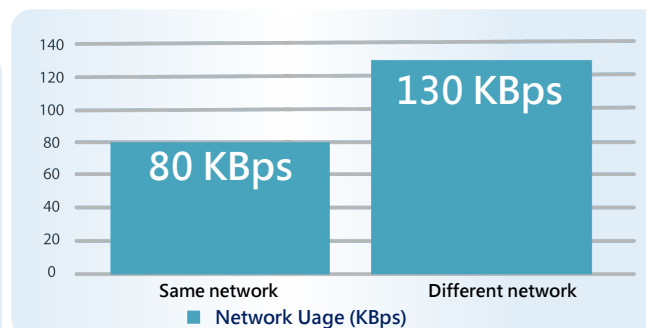
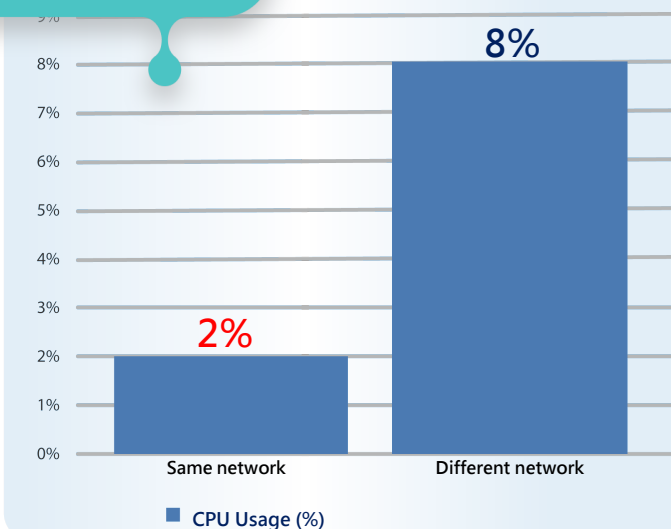


Each Q'center Agent will transfer 50KB~200KB data per min.

Reduce Resource Requirements

- TVS-1282 (i7) to monitor 100 NAS under the same or different networks
- CPU usage reduces by 75%, network usage reduces by 40%, disk IOPS reduces by 60%

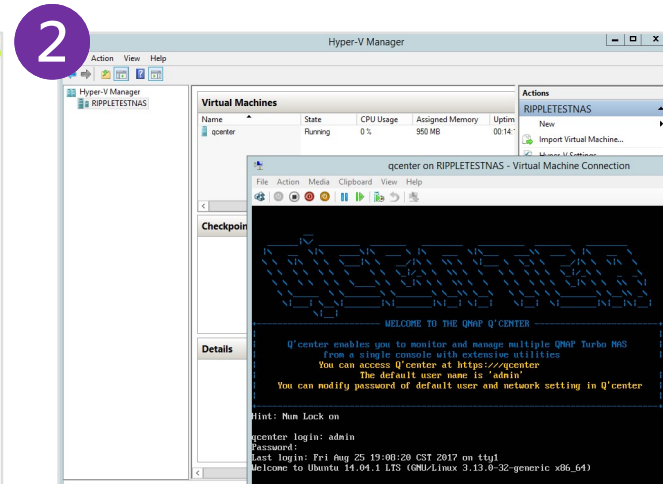
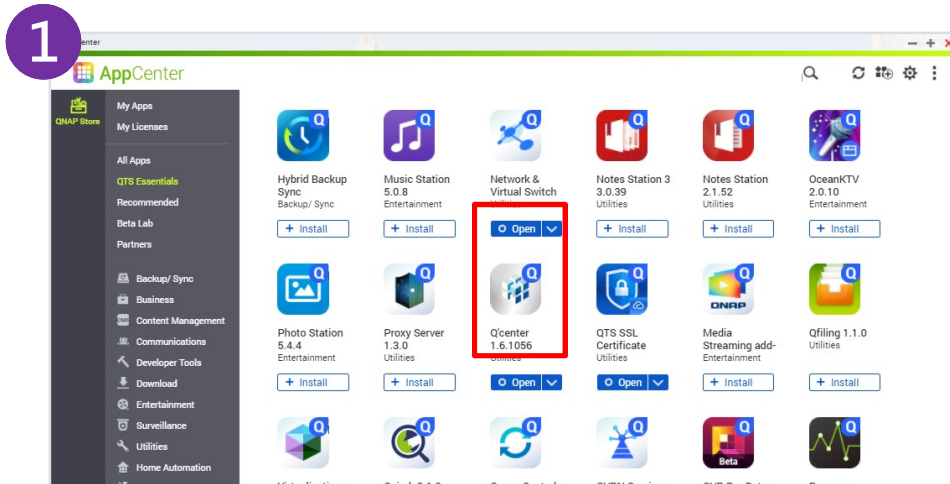
A single portal
reduces resource
requirement



Two Deployment Methods: NAS/VM

- Download Q'center from QNAP NAS App Center
- Download Q'center VM Edition from QNAP website and port into hypervisors

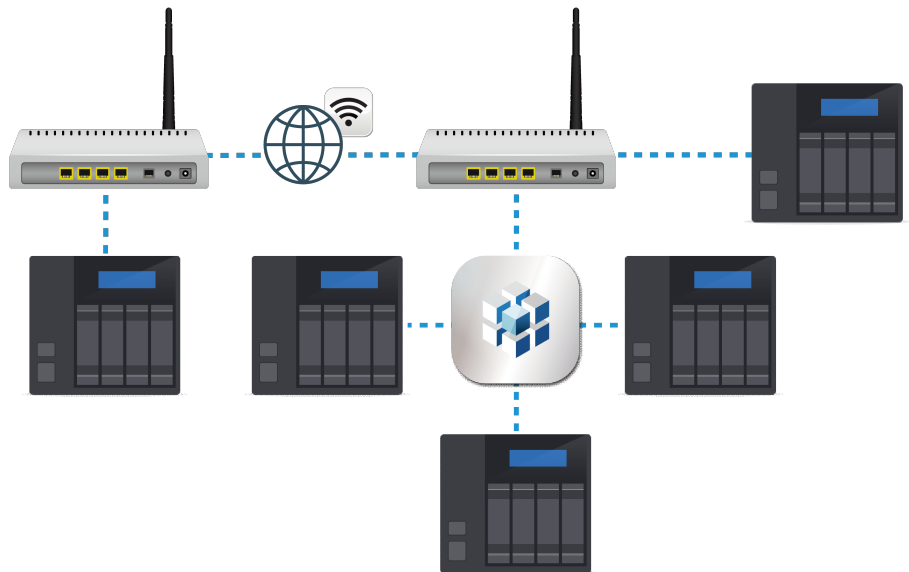
VMware / Windows (2 editions)



3 Connection Types: LAN/WAN/over NAT

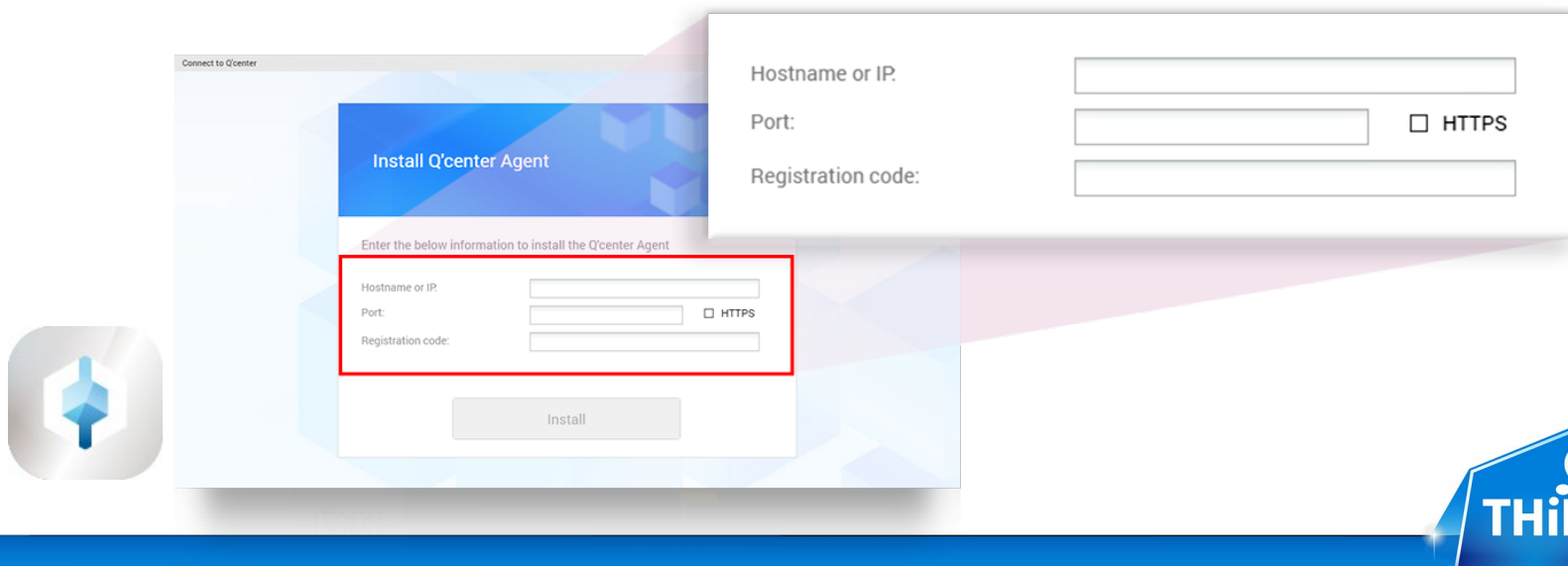
Add NAS to Q'center
through different methods

- 1 Subnet → Search by IP
- 2 Over NAT/
VPN → Connect to
Q'center
- 3 WAN → Search by
myQNAPcloud
Account



No Need to Modify Firewall Settings

- Install Connect to Q'center app on NAS to be monitored
- Set Q'center IP to connect to Q'center Server directly
- Single portal tech. available
- Can be used with VPN connections



Find Your NAS Through myQNAPcloud

01

Add a NAS to your myQNAPcloud ID

Enable myQNAPcloud on NAS where Q'center is installed

02

03

From Q'center, search NAS of the same myQNAPcloud ID

Add Server

Add single/multiple NAS from myQNAPcloud account

Server, Model...

myQNAPcloud brokenripple@gmail.com

	Device Name	LAN IP Address	WAN IP Address	Model Name	Version
<input type="checkbox"/>	RippleNAS	10.0.3.1, 172.17.31...	122.146.88.200	TS-EC879 Pro	4.3.4.0184 (201705...
<input type="checkbox"/>	RippleVJBOD	10.0.5.1, 169.254.1...	122.146.88.200	TS-879 Pro	4.3.4.0350 (201710...
<input type="checkbox"/>	RippleHome	192.168.0.6, 10.8.0.1	119.14.51.43	TS-269L	4.3.3.0299 (201709...
<input type="checkbox"/>	Ripple882T	10.0.0.16, 10.0.0.3, ...	220.132.123.89	TVS-882T	4.3.4.0170 (201704...

Total 4 servers ☐ List selected servers only

This list excludes managed servers. Q'center deploys the Agent QPKG to the selected servers.

Step 4/6 Previous OK Cancel

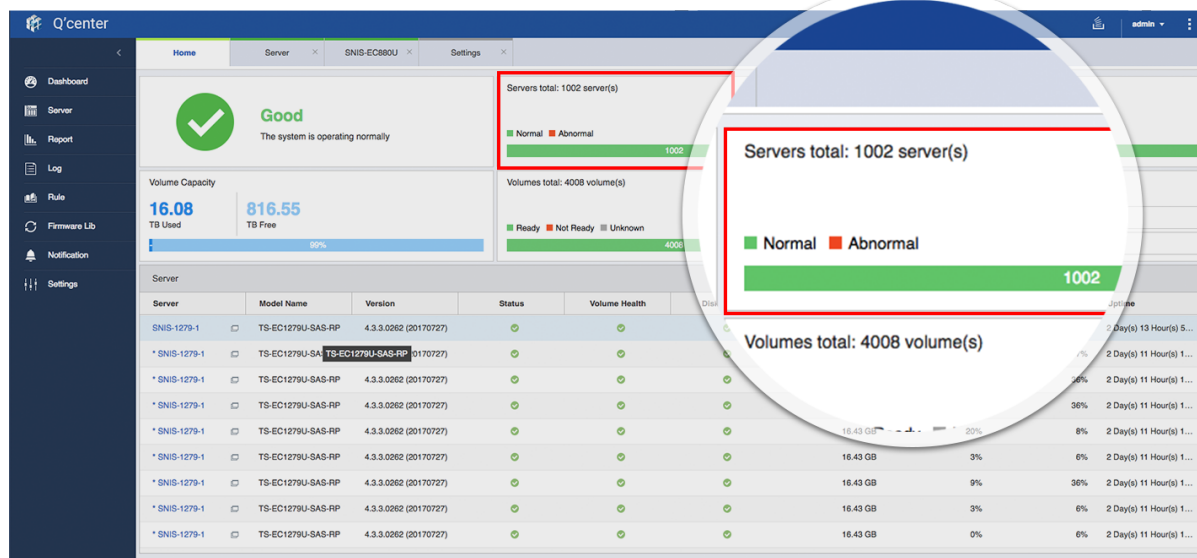


*The added NAS will be connected via WAN IP instead of through myQNAPcloud relay

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Support Monitoring of > 1,000 NAS

- Aug. 2017, Q'center V1.6.1056
- Monitors 1,000 QNAP NAS in QNAP Lab with TDS-16489U E5-2620*2, 64GB Memory



Best Practices for Deploying Q'center

Factor 1: Are monitored NAS on the same or different subnets?

Factor 2: NAS Configurations (Disks, Network, Connection Logs, etc)

NAS count	CPU	RAM	Storage	SSD Cache	Suggested model
1~50	Intel® Quad-Core	1GB	100GB	No Need	TS-x51
50~100	Intel® Celeron®	4GB	100GB	No Need	TS-x53B
100~500	Intel® i5	8GB	200GB	Needed	TVS-x82
500~1000	Intel® Xeon® E3	16GB	200GB	Needed	TVS-x80U
500~1000 with complex configurations	Intel® Xeon® E5	64GB	500GB	Needed	TDS-x89U



<Use Case> Tesco Lotus Thailand

- One of the biggest supermarket chains in Thailand
- 1,200 stores, 200 of them have deployed QNAP NAS
- Q'center (app ver.) and the following HW:
 - ✓ TVS-1282
 - ✓ Intel® i7-6700
 - ✓ 16GB RAM with SSD RAID

Theerapong Boonma, Local Distributor:

The Q'center is looking good in managing 200 NAS. We are looking forward to adding more servers!



<Case> Italian Agriculture Association

- **Total 724 Branch office, 200 has deployed QNAP NAS**
- **Q'center VMware Version**
 - ✓ **IBM Flex System x400**
 - ✓ **Intel® Xeon® CPU E5-4650**
 - ✓ **4GB Virtual Memory**



IT managers:

Thanks for great support from QNAP,
it really makes a difference!



Make the Best Use of Your NAS with Q'center

- 3-Dimension monitoring
- Single portal, NAS/VM dual mode and 3 connection types (LAN/NAT/WAN)
- Monitoring over 1,000 QNAP NAS



Q'center Official Page:

<https://www.qnap.com/solution/qcenter>



Deployment Best Practice:

<https://www.qnap.com/en/how-to/tutorial/article/best-practices-for-deploying-qcenter>



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QNAP

THANK YOU