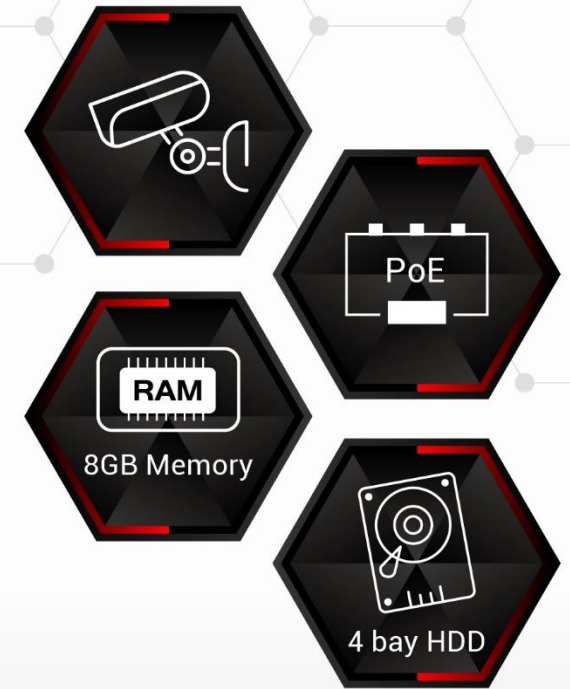


QNAP

QGD-3014-16PT

Guardian PoE Switch

Support IP surveillance and QuWAN multi-site deployment



Intel J4125 CPU



MICROCHIP

Switch controller



Agenda

- **Guardian 3rd Gen Smart Edge Switch**
- **Beyond traditional IP Surveillance solutions**
- **Guardian x QVR Pro solution**
- **QNAP QGD-3014-16PT key functions**
- **QNAP QGD-3014-16PT use cases**

PoE Power Sourcing Equipment product evolution

1st Gen Unmanaged PoE switch



2nd Gen L2/ L3 Managed PoE Switch



3rd Generation Guardian Smart edge PoE switch

QGD-3014-16PT

- Intel Celeron® J4125
- Built-in 8GB DRAM
- Equipped with QTS OS
- Secure IP Surveillance
- Hybrid cloud storage
- IEEE 802.3at/af
- SD-WAN (QuWAN)



QGD-1602P

- 10GbE SFP+
- Intel Atom® C3558/C3758
- Intel QAT
- Virtual machine with QTS
- Hybrid cloud storage
- IEEE 802.3bt Ready
- SD-WAN (QuWAN)



QGD-1600P

- Intel Celeron® J4125
- Equipped with QTS
- Virtual machine
- Hybrid cloud storage
- IEEE 802.3bt



QGD-3014-16PT vs QGD-1602P / QGD-1600P

NEW

QGD-3014-16PT

**Surveillance
PoE switch**



Intel® Celeron® J4125 4 cores
2.0 GHz processor

14 x 1GbE RJ45 ports
2 x 1GbE RJ45/SFP Combo ports

2 x 2.5G host ports

16 x 802.3at PoE port (max 30W)
PoE budget: 140W

4 x 3.5 inch HDD bay
2 x M.2 SATA SSD

Built-in 8GB memory

QGD-1602P



Intel® Atom® C3558/C3758 4/8 cores
2.2 GHz Processor

8 x 1G/2.5GbE RJ45 ports
8 x 1GbE RJ45 ports
2 x 10GbE SFP+ ports

2 x 1G/2.5G/5GbE Host ports
2 x 1GbE Host ports

4 x 802.3bt PoE ports (Max 90W)
12 x 802.3af/at PoE ports
Power budget: 370W

20GbE Internal bandwidth capability

Max 64GB memory

QGD-1600P



Intel® Celeron® J4125 4 cores
1.8 GHz Processor

14 x 1GbE RJ45 ports
2 x 1GbE RJ45/SFP Combo ports

1 x 1GbE Host ports

4 x 802.3bt PoE ports (Max 60W)
12 x 802.3af/at PoE ports
Power budget: 360W

2GbE Internal bandwidth capability

Max 8GB memory

Feedback of QGD IP Surveillance



Our store outlook is stylish, could you provide a solution with stylish-outlook ?



QGD form factor is Rackmount, do you have Desktop model?



Can QGD expands more HDD capacity like NAS? Since we don't have budget to install additional NAS.



Guardian QGD-3014-16PT

Innovative network surveillance solution

4 bay HDD



Beyond the traditional NVR solution

Network Surveillance

- Up to 5,000+ IP camera supports.
- Full professional functions for surveillance.
- Smart search and backup.

Network & Security

- PoE+ Switch.
- Advanced firewall protection.
- Wi-Fi management.

Cloud Management

- Multiple-sites cloud management.
- Encrypted authentication.
- Strong encryption in backup.



Traditional IP Surveillance



Traditional NVR

- Vendor lock-in of camera functions support.
- No GPU acceleration.
- Poor performance in Video-wall display.
- Traditional storage architecture.



Poor network design

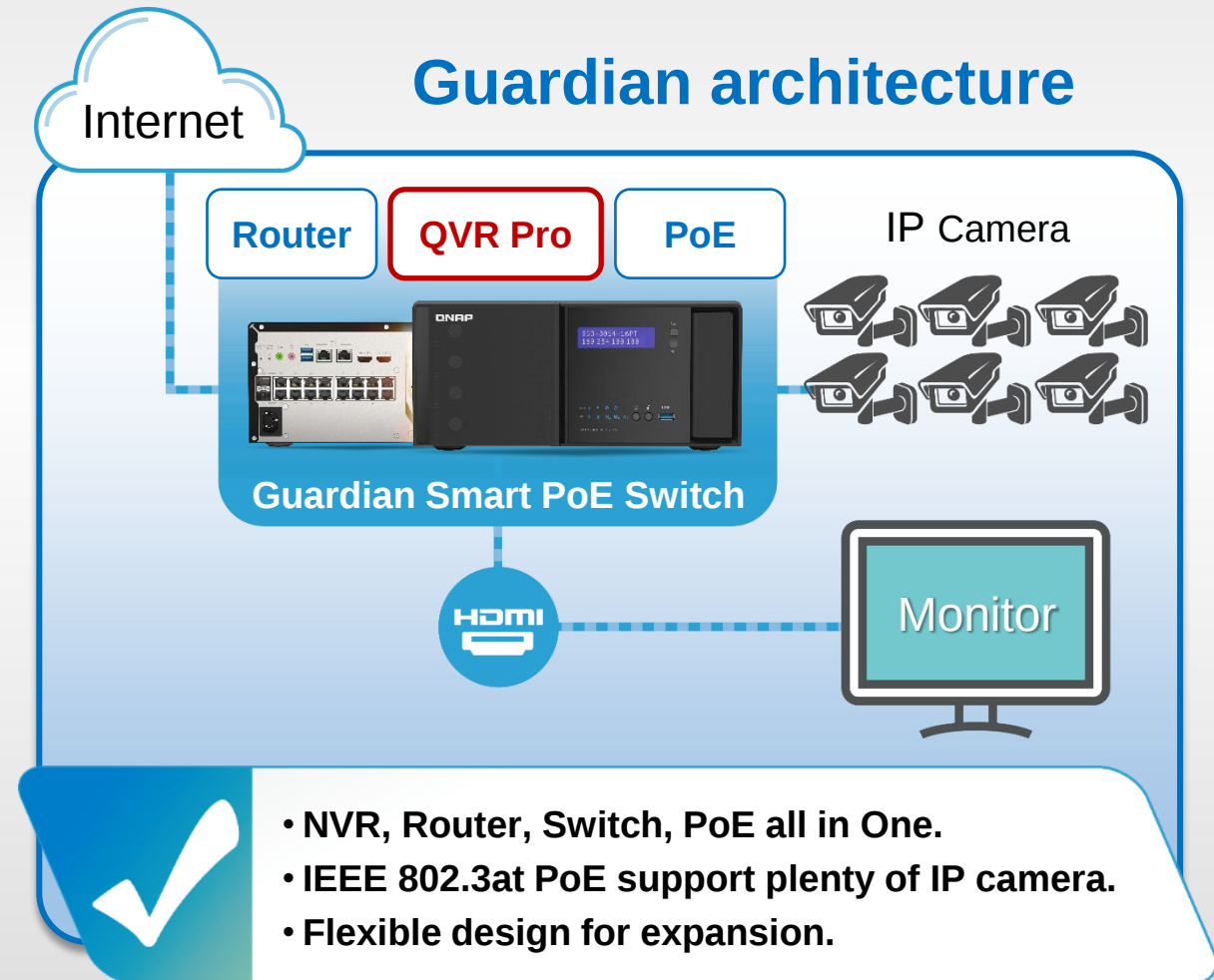
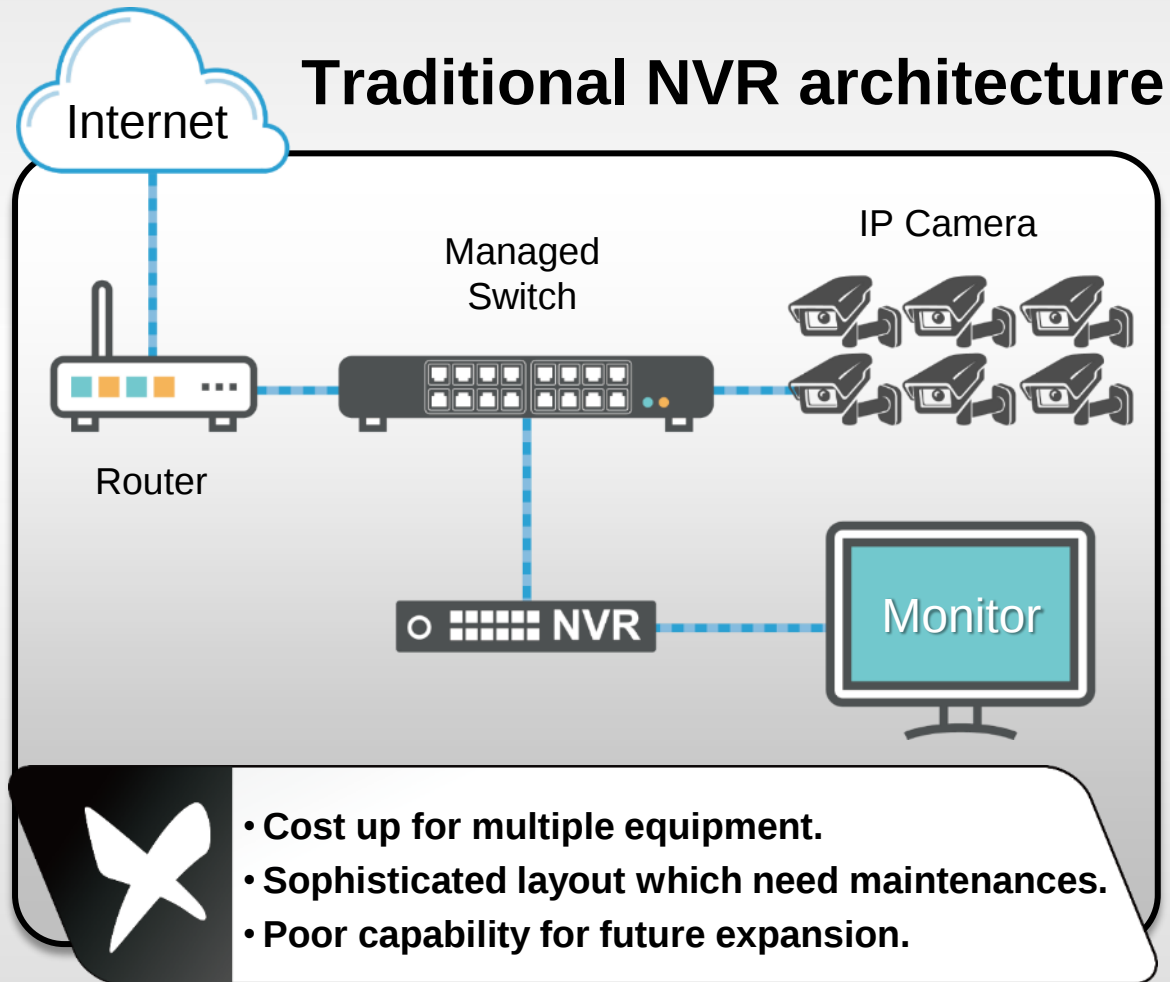
- Can't manage network, PoE and surveillance system in one place.
- Not easy for multiple sites management and backup.
- Multiple equipment maintenance.



No security awareness

- Vulnerable from external access.
- Remote management via by sniffer-able protocol.
- Use FTP for multiple site backup.

QGD-3014-16PT New IP surveillance solution



Corporations with multi-sites surveillance

Guardian + QVR Pro total solutions

QVR Pro

Guardian QGD-3014-16PT



Guardian QGD-3014-16PT



Guardian QGD-3014-16PT



QVR Pro Client



QVR Pro Client



QVR Pro Client



QVR Pro Client

QVR Pro Client - Center



QVR Center



QVR Center

QVR Guard

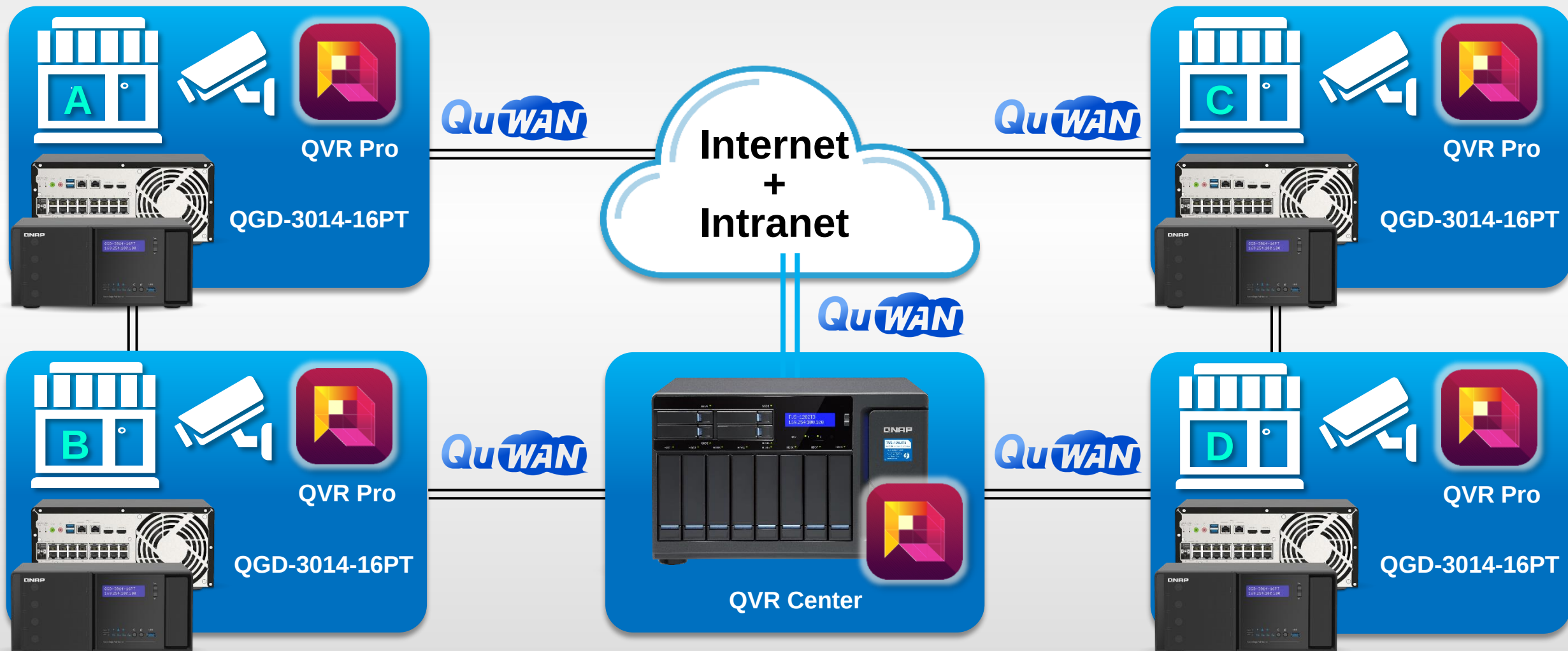


QVR Guard



Multi-site surveillance

Reliable, secure and encrypted data by SDWAN



QGD-3014-16PT

- Built-in 4 bay 3.5" HDD/SSD slot for more storages.
- Desktop design for small / branch offices.
- Stylish design fitting in for modern workplaces.



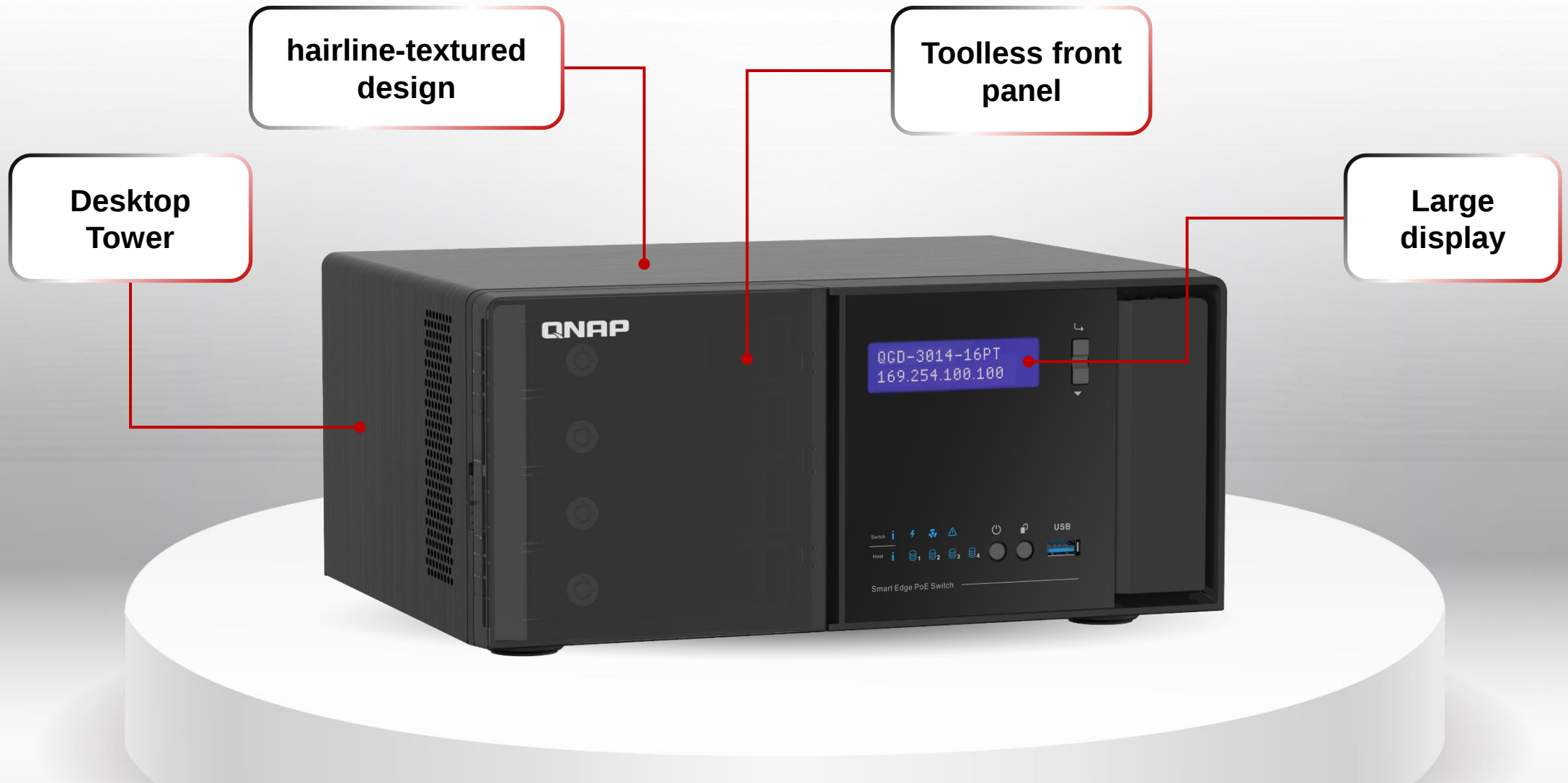
QNAP

QSW-3014-16PT Hardware

4 bay HDD



Stylish design



Intuitive LED indicators

System status

HDD status



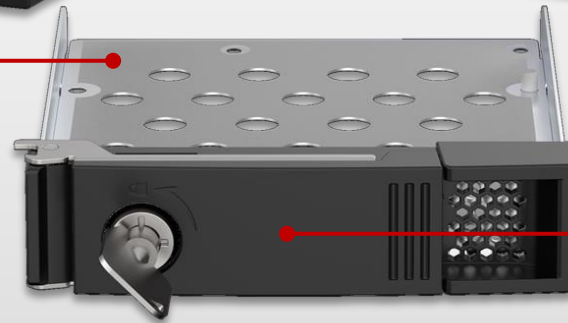
Metal 3.5/2.5" HDD tray with key



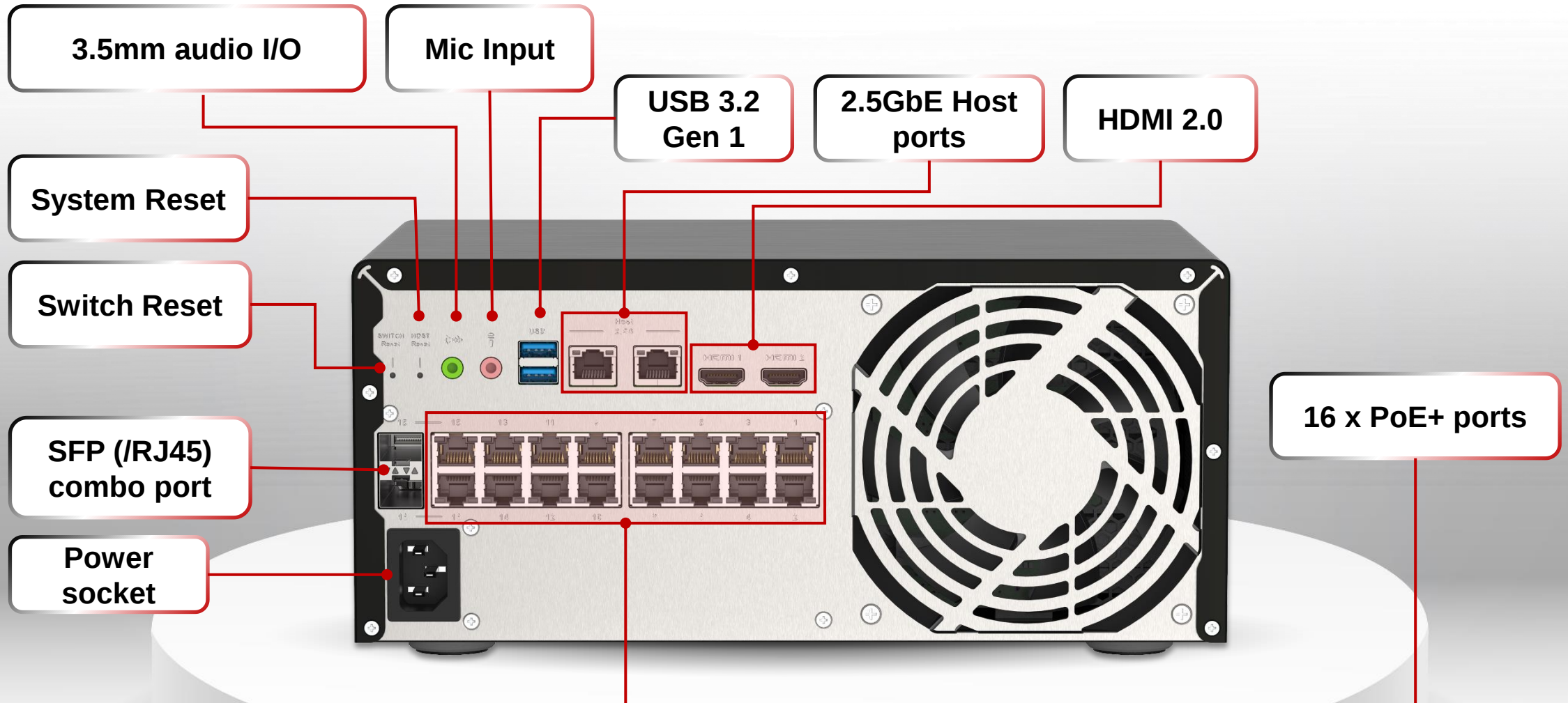
Key for locking HDD
trays in place



Quicker HDD cooling
with metal tray



I/O and network switch ports (rear)





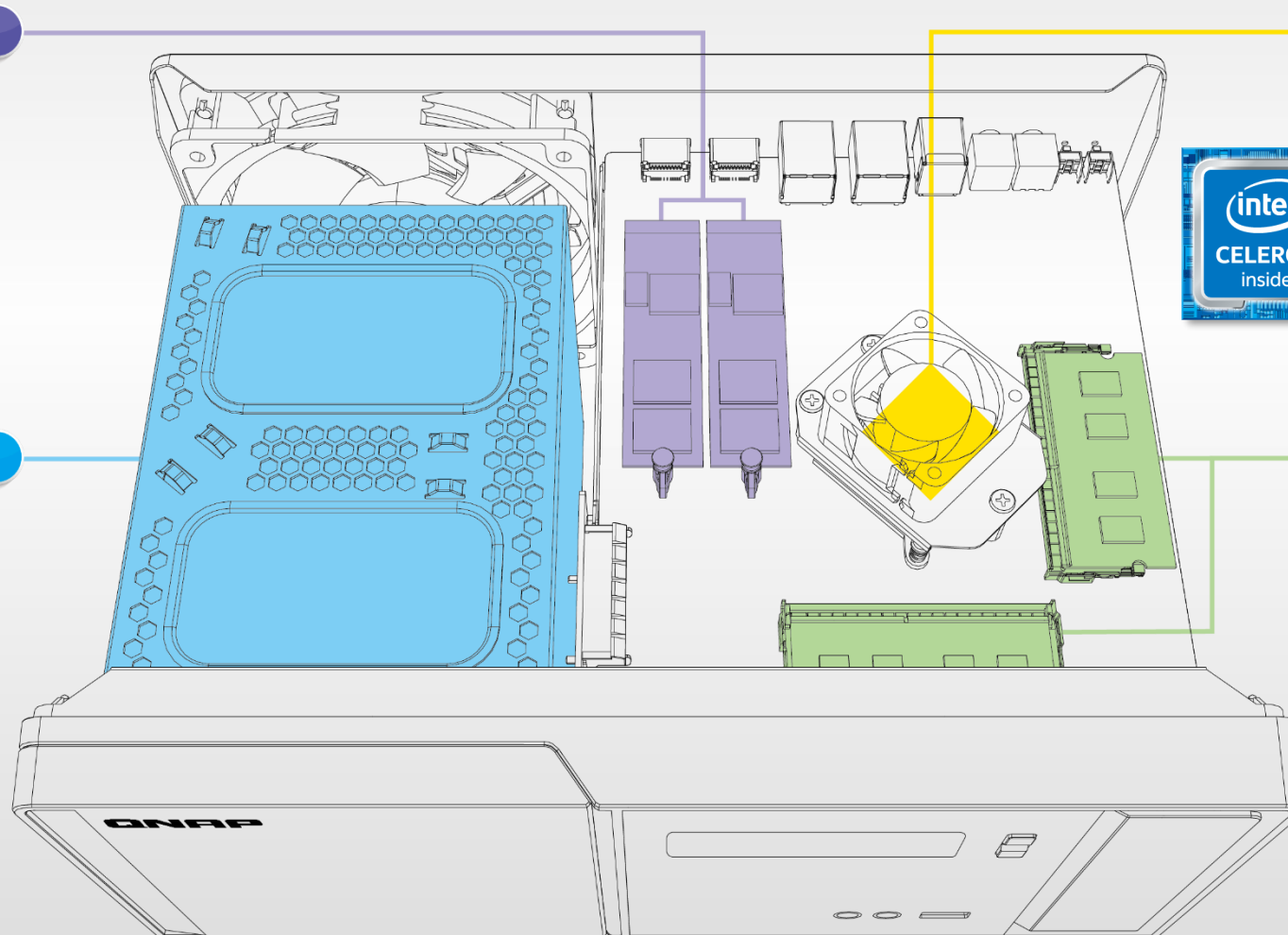
QGD-3014-16PT Inside

2 X M.2 SATA slots

Support M.2 SATA 2230 SSD for critical event recording.

4 X 3.5"/2.5" SATA 6Gb/s HDD/SSD slots

Built-in 4 x 3.5" SATA HDD tray for surveillance recording.



Intel® Celeron® Processor

Intel® Celeron® J4125 4 cores 2.0 GHz Processor.



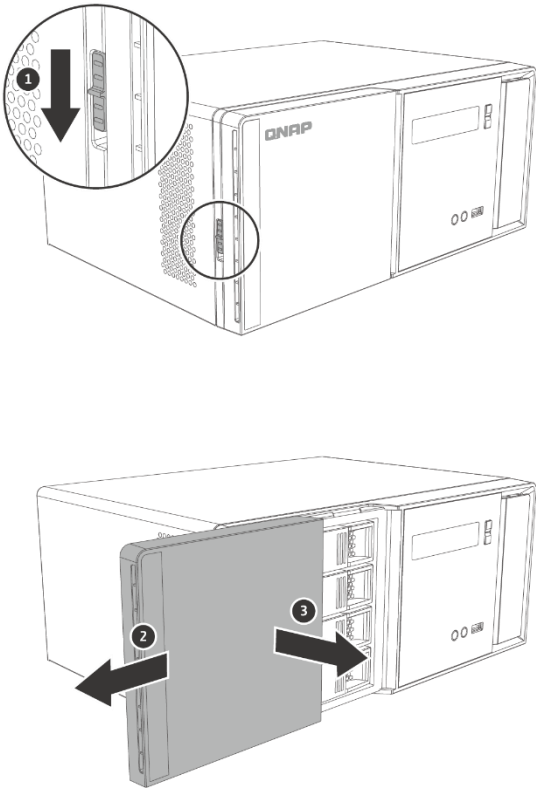
DDR4 DRAM

Support 2 x DDR4 SO-DIMM slots · Built-in 8GB (2 x 4GB dual channel).

3.5" / 2.5" HDD installation

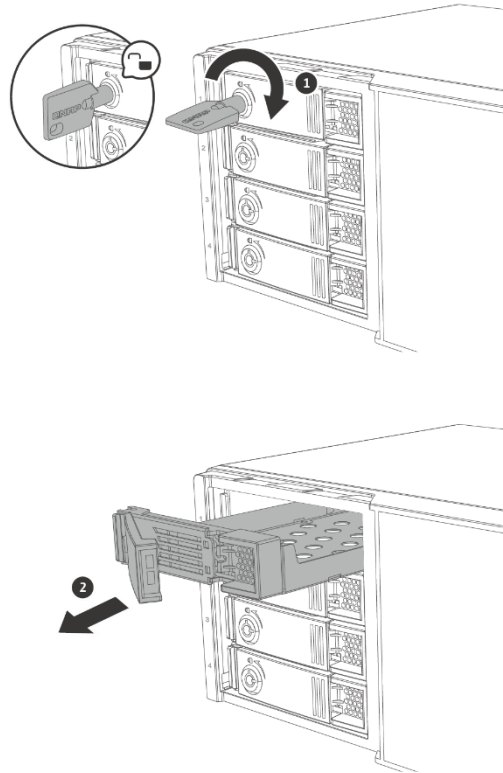
Step 1

Open the front panel.



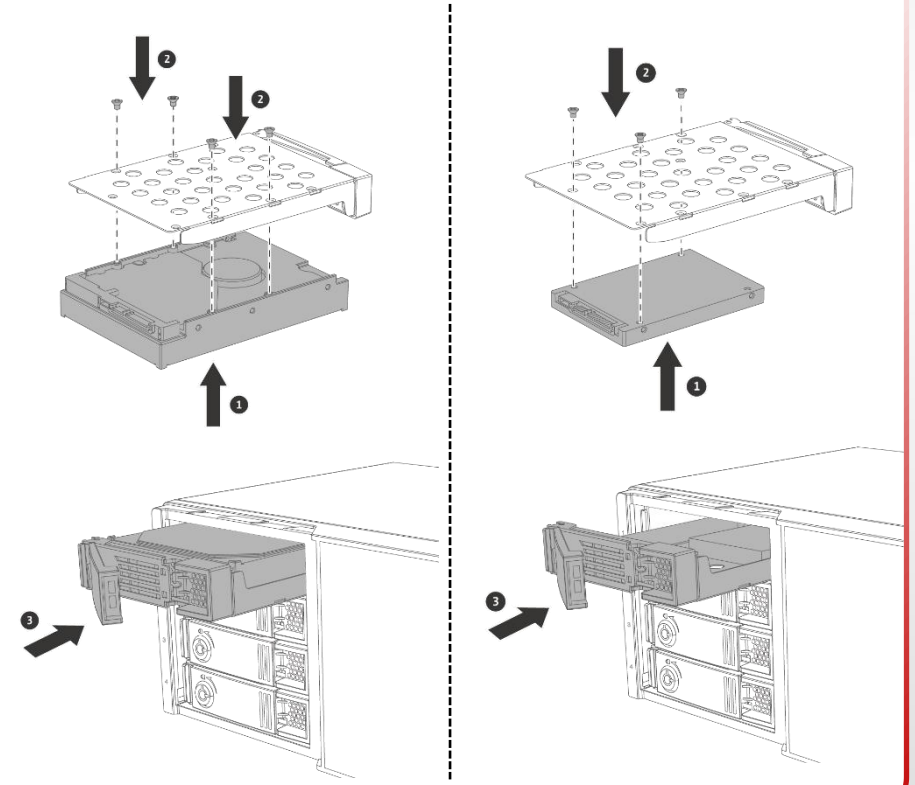
Step 2

Key to unlock and pull out the tray.



Step 3

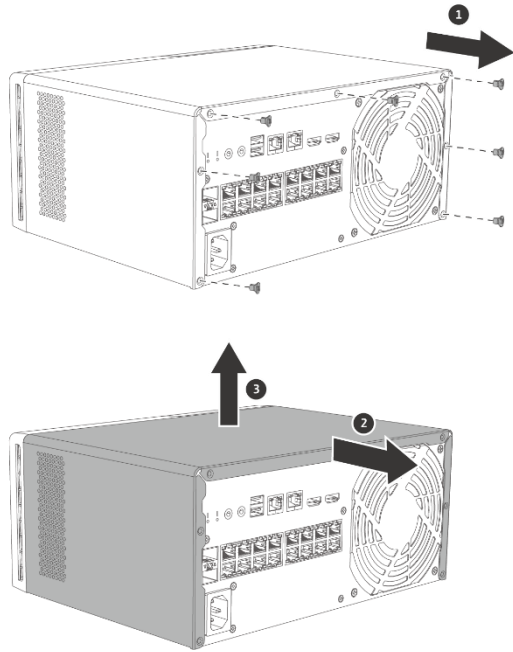
Secure the four screws in the back of the hard drive tray.



M.2 SATA SSD installation

Step 1

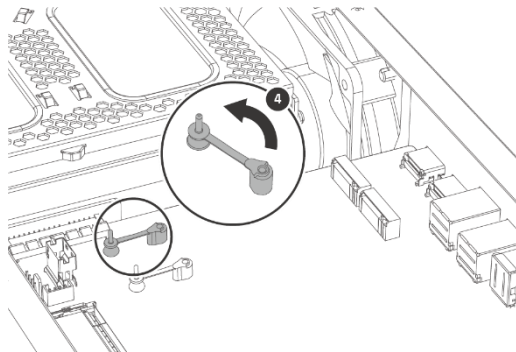
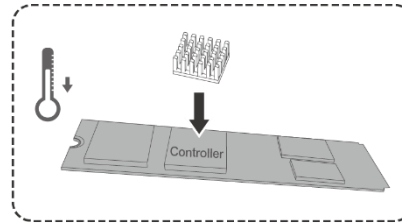
Remove the screws that secure the case cover to the chassis.



Slide the cover to the right to detach it from the chassis.

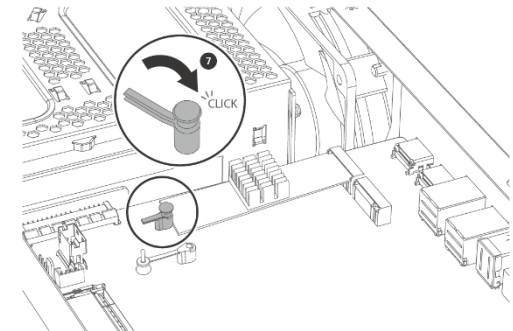
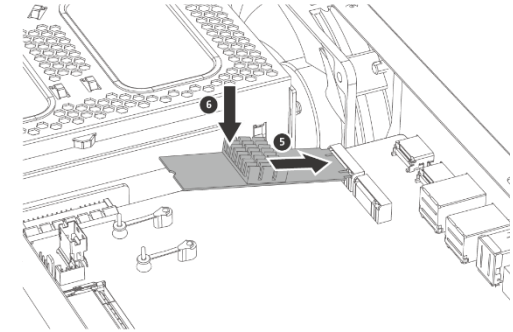
Step 2

M.2 SSD with heatsink, and unlock the screw.



Step 3

Insert M.2 SSD and lock SSD.





Open surveillance platform QVR Pro

4 bay HDD



QNAP QVR Pro highlight

QVR Pro



Dewarp (fisheye)

Dedicated storage space

Easily Failover

QVR Pro
Client



Dynamic view

Motion Detection
(Modeling Based)

Status Monitoring

QVR
Guard



Videowall

Up to 128CH recording

Up to 256 x QVR Pro
Central management

QVR
Center



Advanced backup

Multiple Notification
Methods

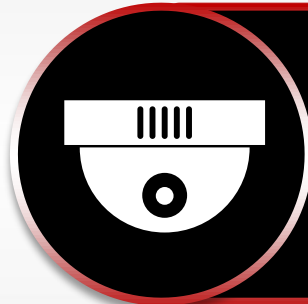
Distributed storage
Central manipulation

QVR Pro – an open platform

Open platform support makes the upgrade / expansion flexible.



QVR Pro



Support over 140 vendor and 5,000 also ONVIF based cameras.



Support over 100 storage disk, including 3.5" / 2.5" HDD/SSD, and M.2 SATA SSD.

GPU acceleration benefit



QVR Pro Client



X 9



CPU

25%



Accelerate the multi-area/camera display



Much lower cost without installing multiple computers for operators



Keep tasks smoothly running on CPU



Applicable to

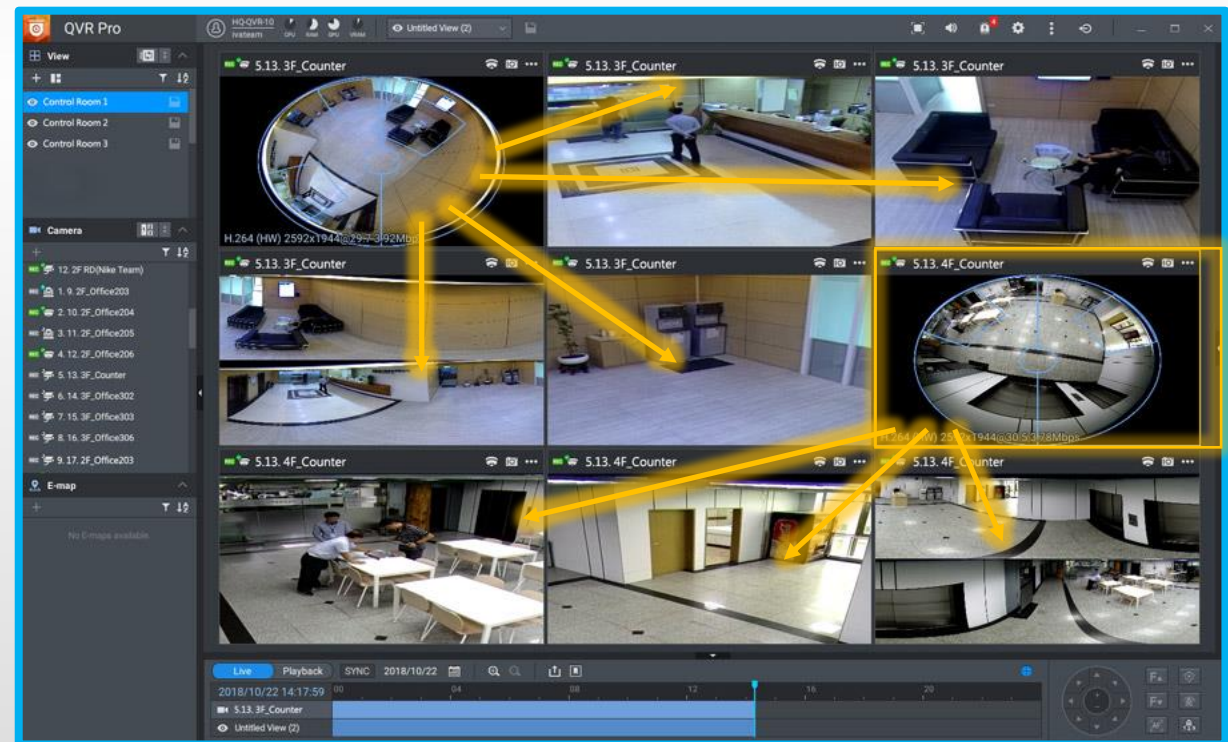
- Video Wall monitoring
- Dewarp acceleration
- High resolution playback

QVR Pro Qdewarp – Fisheye dewarp



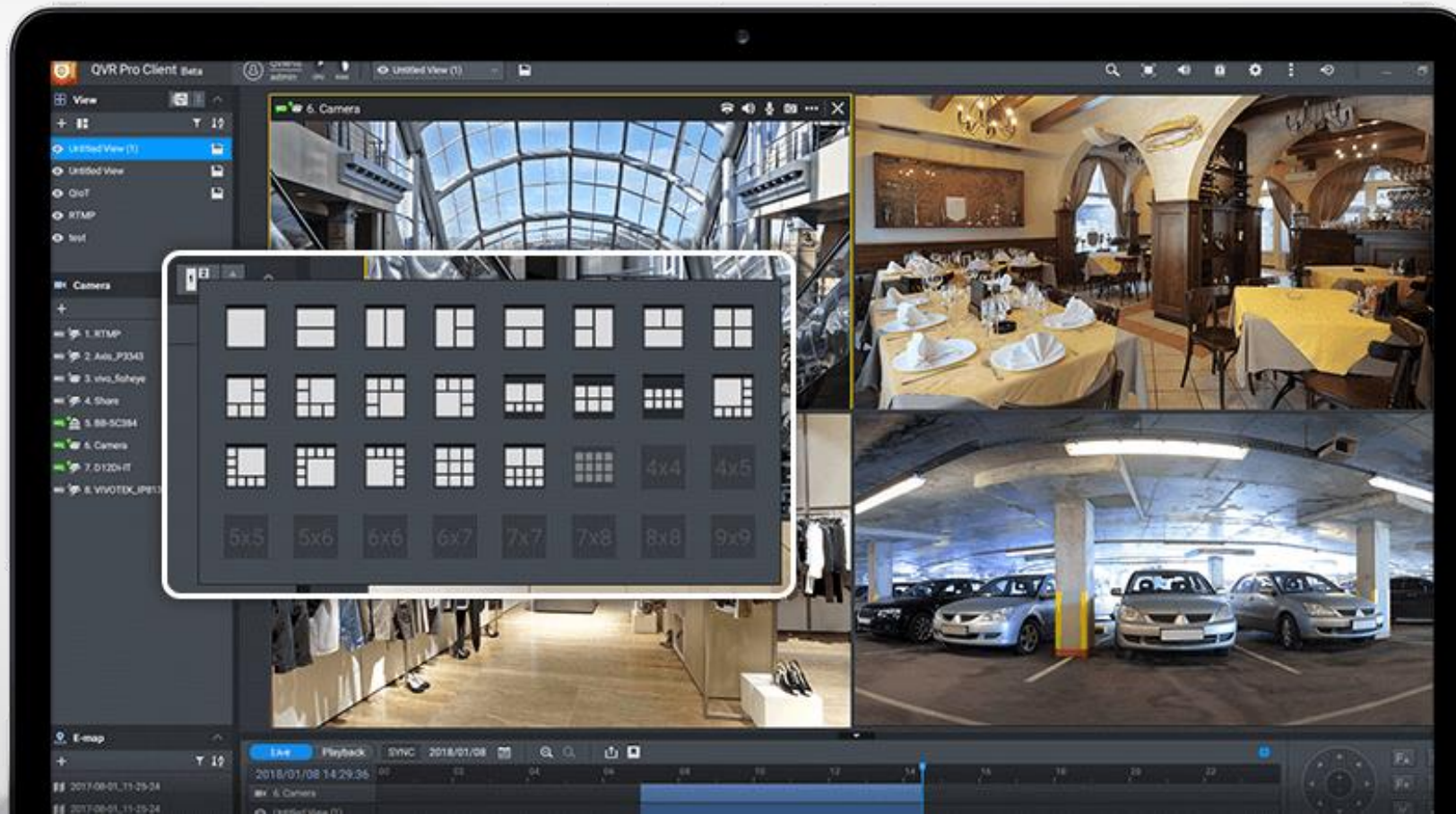
**One fisheye camera to monitor
whole area**

Dewarp up to 9 x focused area

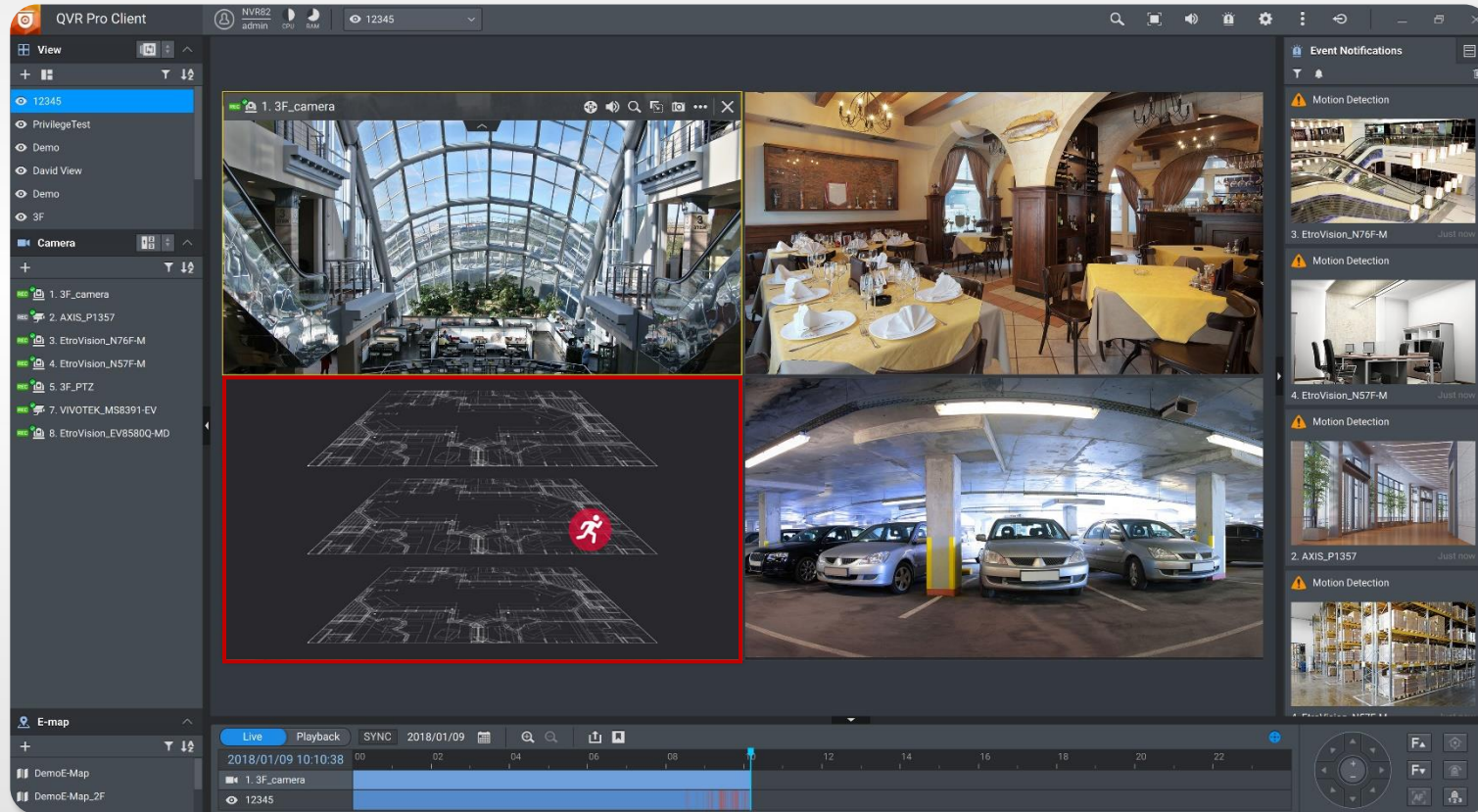


Dynamic Layout

- Highly-customizable display panel with Templates.
- Great for surveillance management of multiple locations.



Multiple Notification Methods



Event notification provides multiple ways of being informed of emerging events

- Flashing red borders of channels.
- Alert buzzers.
- Motion icon on the e-map.

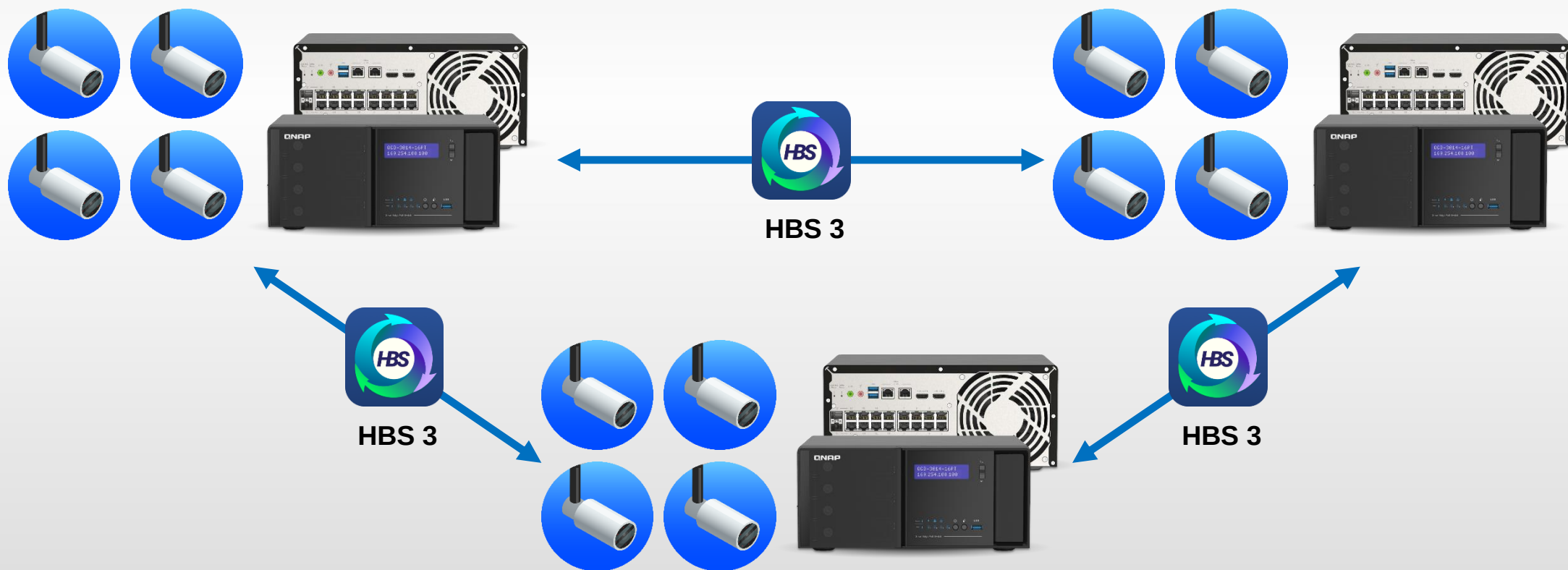
Flexible Backup Hybrid Backup Sync (HBS) 3



4 bay HDD

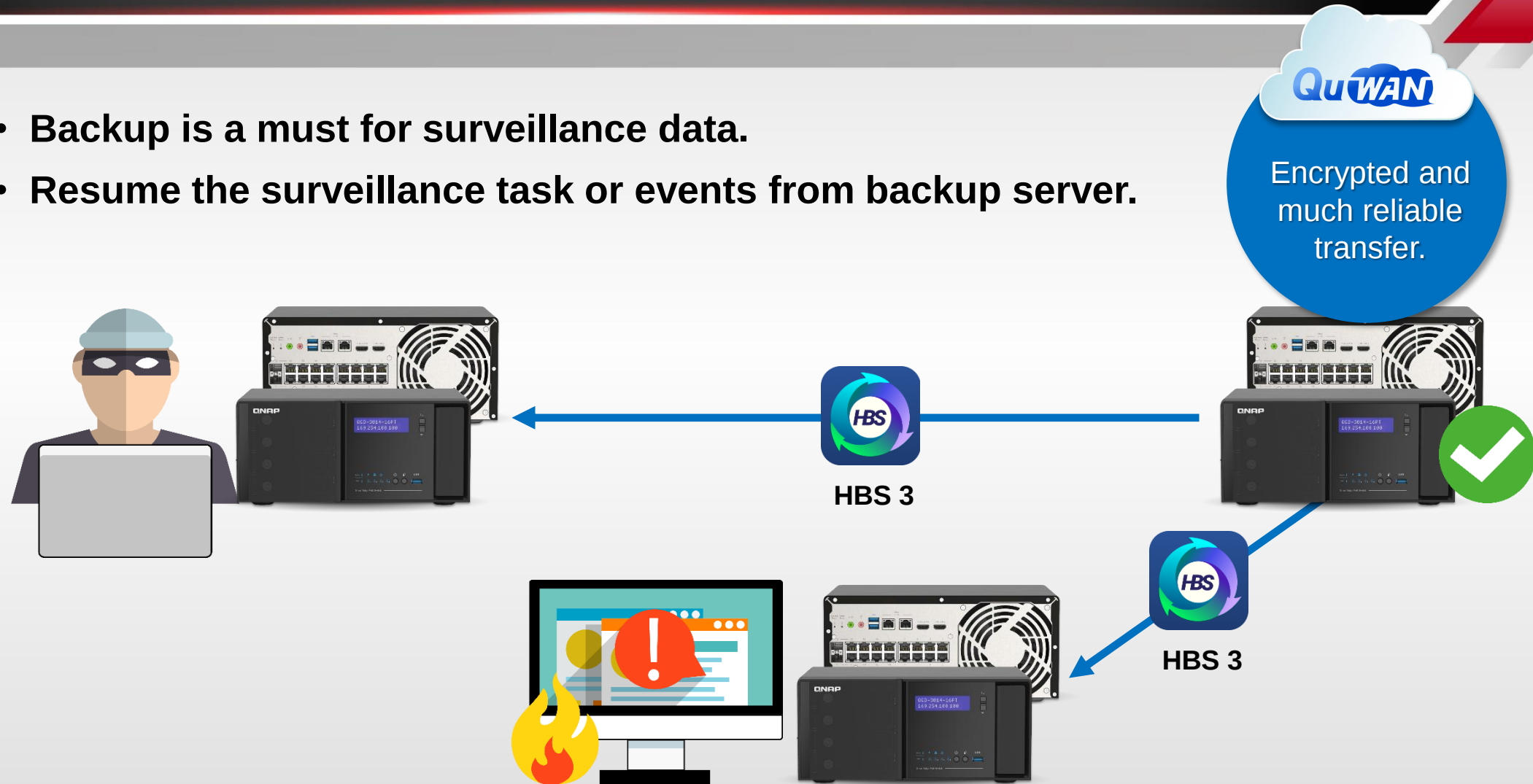
4 bay HDD/SDD for multi-site backup

- With 4-bay HDD, administrator can be flexible to rearrange storage for expansion.
- With HBS3, data and surveillance data could be backup cross multiple sites.



Reduce the risk

- Backup is a must for surveillance data.
- Resume the surveillance task or events from backup server.





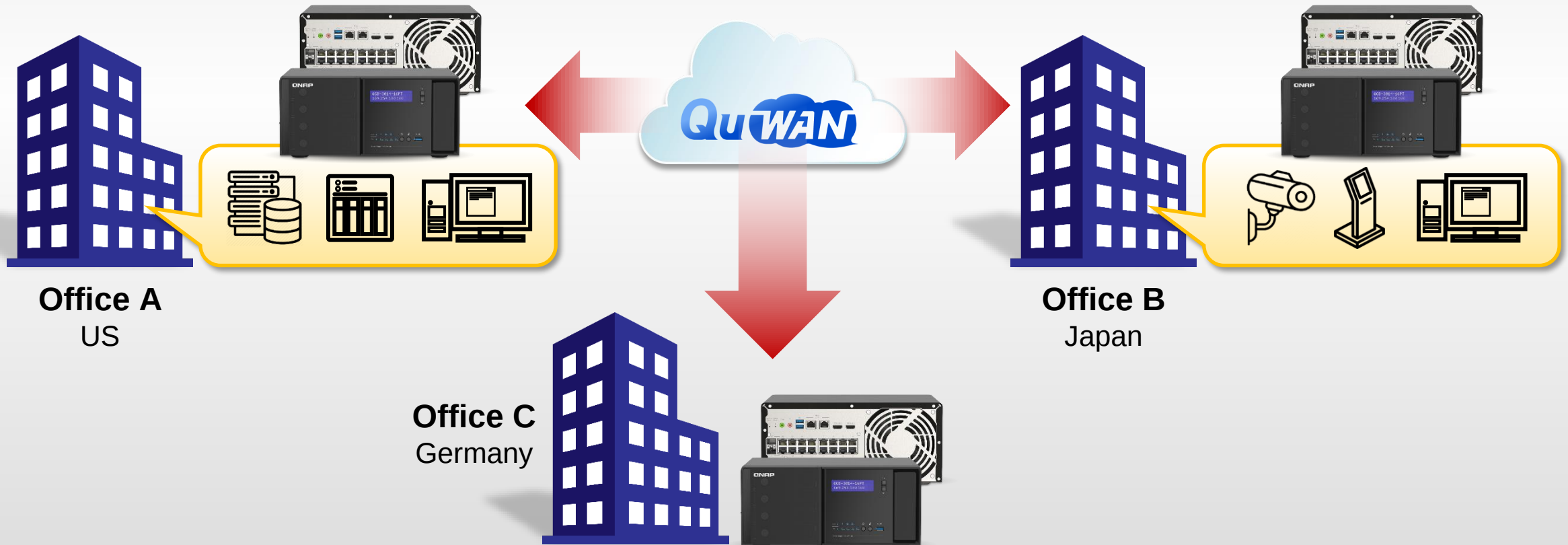
Resilient & secure multi-site connections QuWAN

4 bay HDD



QuWAN constructs Intranet securely

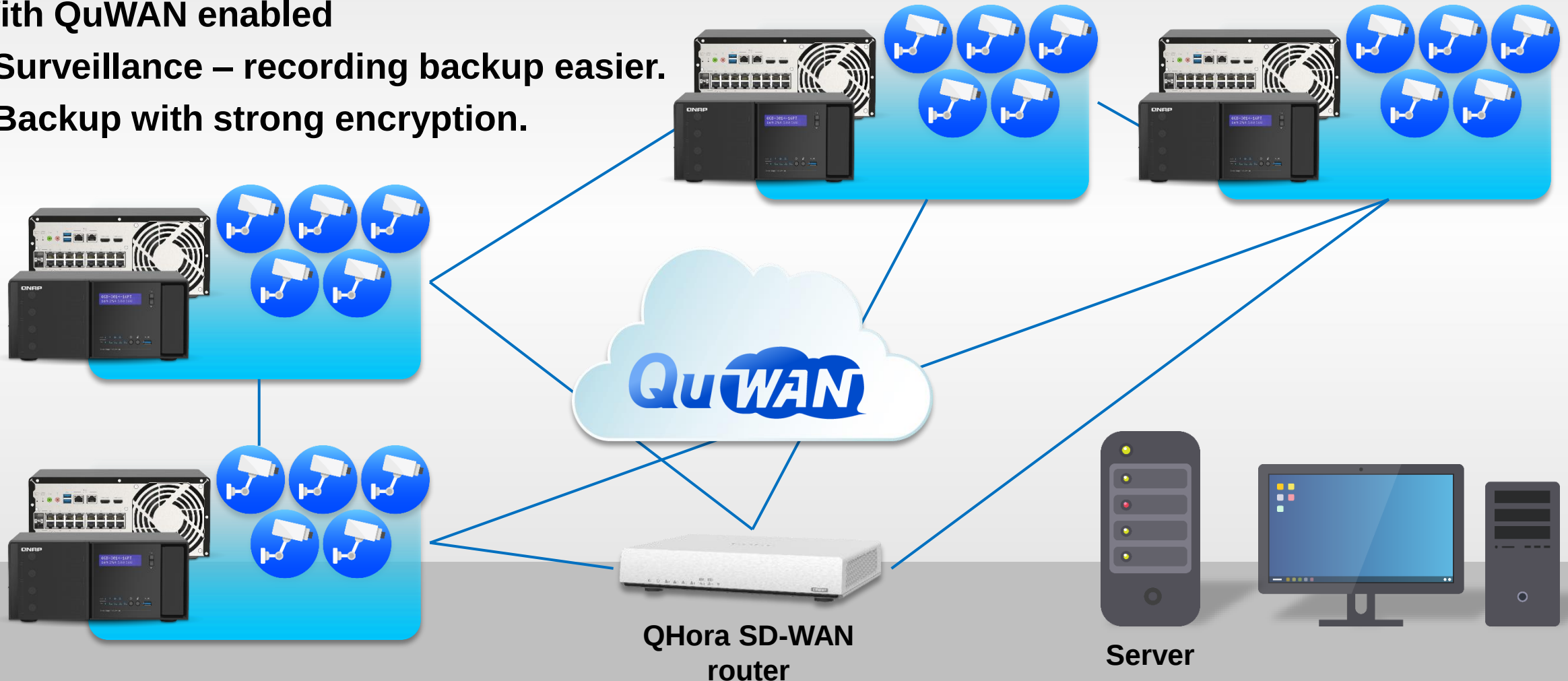
- QGD-3014-16PT support QNAP SDWAN solution (QuWAN).
- QuWAN is a secure and zero-touch solution to constructing multi-sites intranet.



Great for multi-site surveillance

With QuWAN enabled

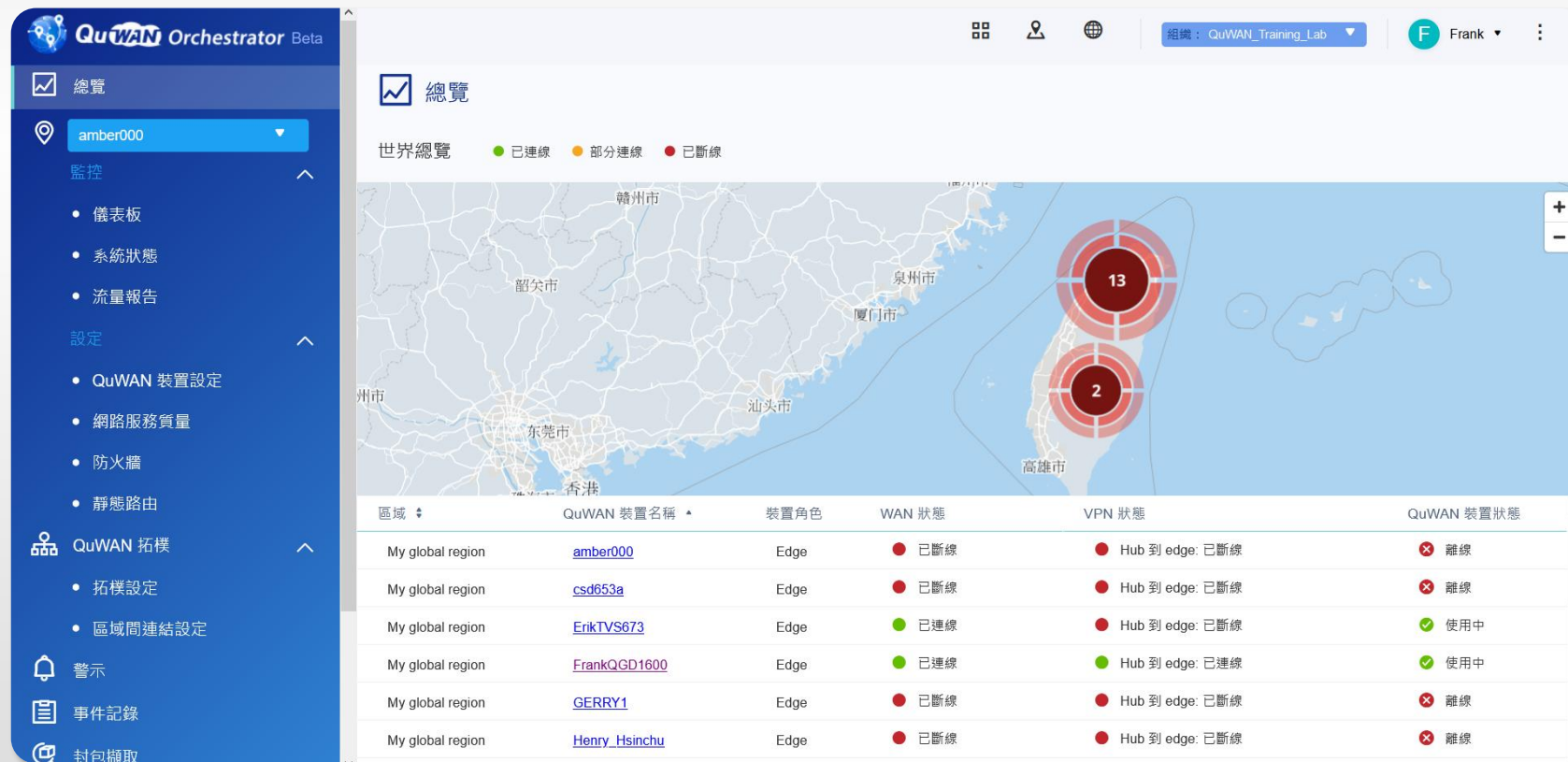
- Surveillance – recording backup easier.
- Backup with strong encryption.



Cloud management of QuWAN

QuWAN Orchestrator (cloud management):

- Monitor bandwidth, routing, etc. status of QGD-3014-16PT deployed in multiple sites.





Smart Switch & PoE management QuNetSwitch

4 bay HDD



Remote management

Administrator could log on the management portal (myQNAPCloud) or Sign in with smart link from anywhere.

- All device status (health status, etc.).

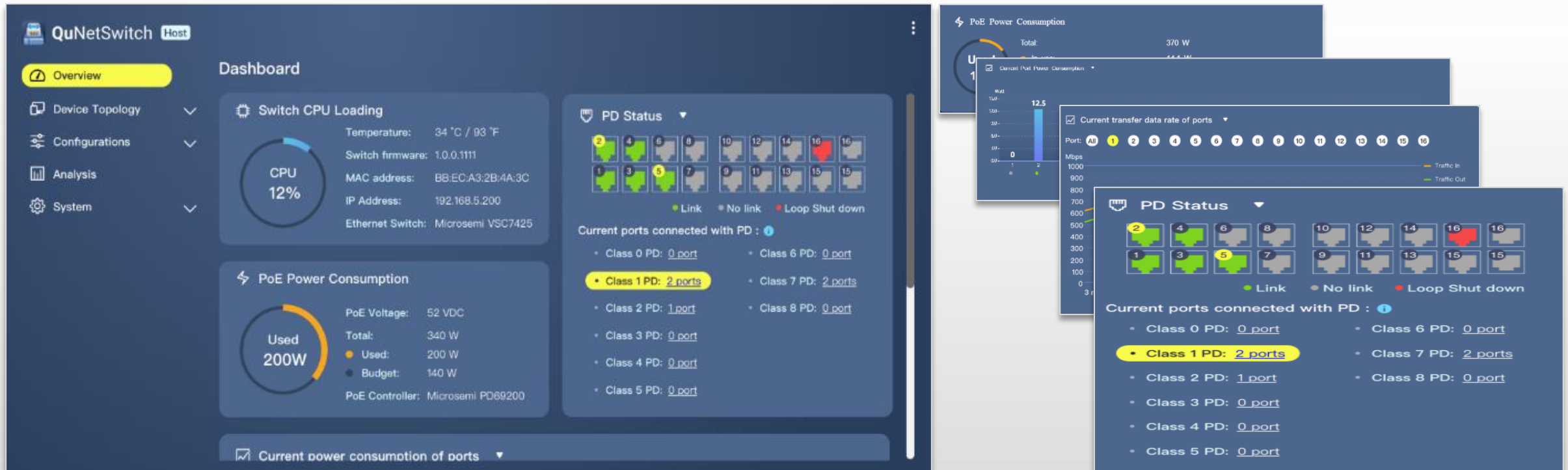


QuNetSwitch

Intuitive graphical management interface

Intuitive and friendly web management interface that allows users to easily perform device monitoring, PoE and networking configuration, firmware updates, and advanced network management functions.

Visualization of all networking and PoE power status data



PoE schedule

PoE ports with calendar-like interface, granularly management with weekdays versus time for PoE device.

The screenshot displays the QuNetSwitch web interface for PoE management. A modal window titled "PoE Schedule Configuration" is open, showing a calendar-like interface for scheduling PoE power consumption. The background interface includes a sidebar with navigation options like Overview, Devices, Configuration, PoE, VLAN, Link Aggregation, Traffic, Security, IGMP, QoS, Port Mirroring, LLDP, and Loop Protection. The main area shows a table of PoE ports with their power consumption status.

PoE Schedule Configuration

Bottom:

Ports	1	3	5	7	9	11	13	15
Selected	☐	☐	☐	☐	☐	☐	☐	☐

Schedule:

Time	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon.	On							Off																
Tue.	On							Off																
Wed.	On							Off																
Thu.	On							Off																
Fri.	On							Off																
Sat.	On																							
Sun.	On																							

☐ Activate schedule now

☐ On ☐ Off

Save **Cancel**

Guardian Smart PoE Network switch

PoE features

**Support IEEE 802.3at
PoE**

**Remote wake up of
Camera**

**Scheduled on/off plan
for PoE devices**

**Prioritize power
consumption for PoE
devices**

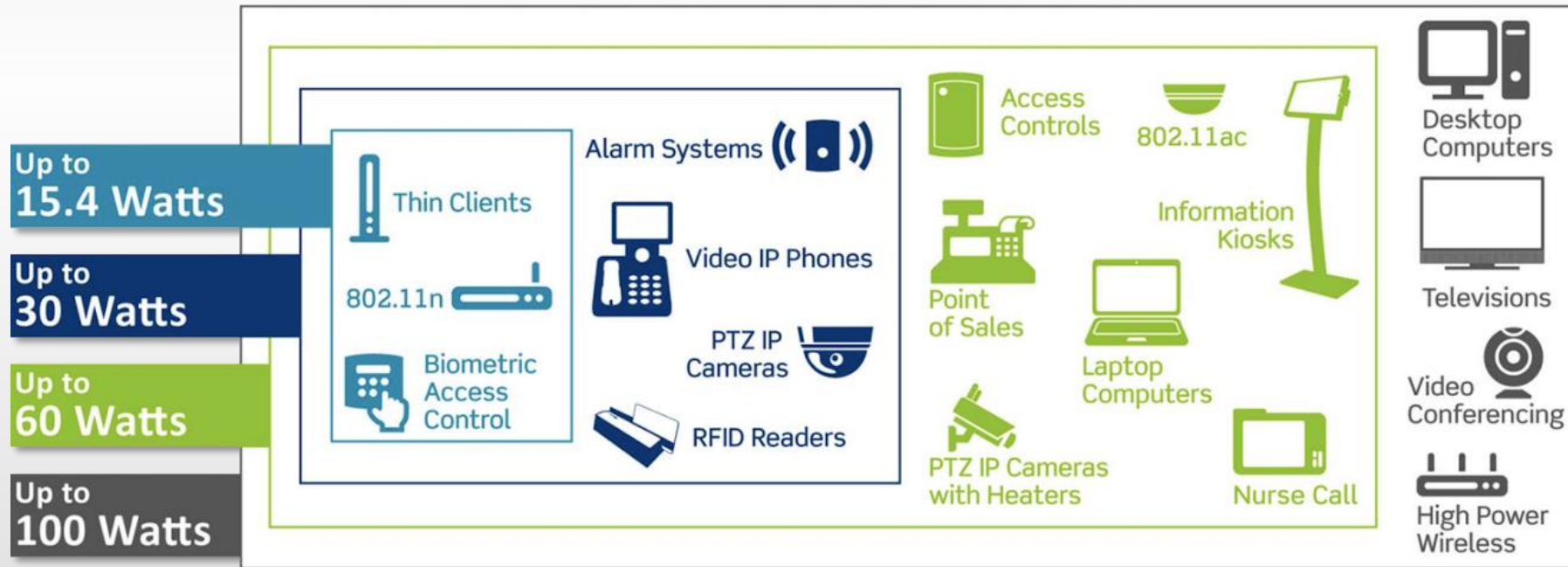
**Total PoE budget
140-watt PoE**

**Remote monitoring
and management**



QGD-3014-16PT support 802.3at PoE

- 16 port PoE port with IEEE 802.3at.
- Total PoE budget is up to 140 watt for PoE Powered Devices (PDs).



Remote PoE device control

Operator can remotely control the PoE.

e.g. Reboot the abnormal PoE camera or power-on the standby PoE camera remotely.



QuNetSwitch smart switch function 1/2

IGMP Snooping

Optimizing multicast performance helps in-line media streaming, VoIP and other bandwidth-intensive applications that are sensitive to time delays.

Link Aggregation

Combine two physical lines to form a high-speed virtual data transmission path, increasing transmission speed and enhancing network connection reliability.



VLAN

Enhance network security by isolating traffic within the enterprise based on requirements such as administrators, general users, employees, or visitors.

QoS

Different network usage priorities can be configured according to the port or VLAN group to ensure the quality of service and optimize network transmission efficiency.

QuNetSwitch smart switch function 2/2

Access-Control List (ACL)

Support for access control mechanisms, you can set multiple access rules, specify specific protocols, IP addresses, subnet masks, and port access conditions.

Port Mirroring

Allows network administrators to capture data (packets) for specific ports to monitor the network or troubleshoot.



Loop Detection and Protection

When the network generates a loop, the network that generates the loop will be closed, effectively avoiding network interruption.

Jumbo Frame

Support Jumbo frame huge packet selection, which helps improve overall data transmission efficiency.

QNAP

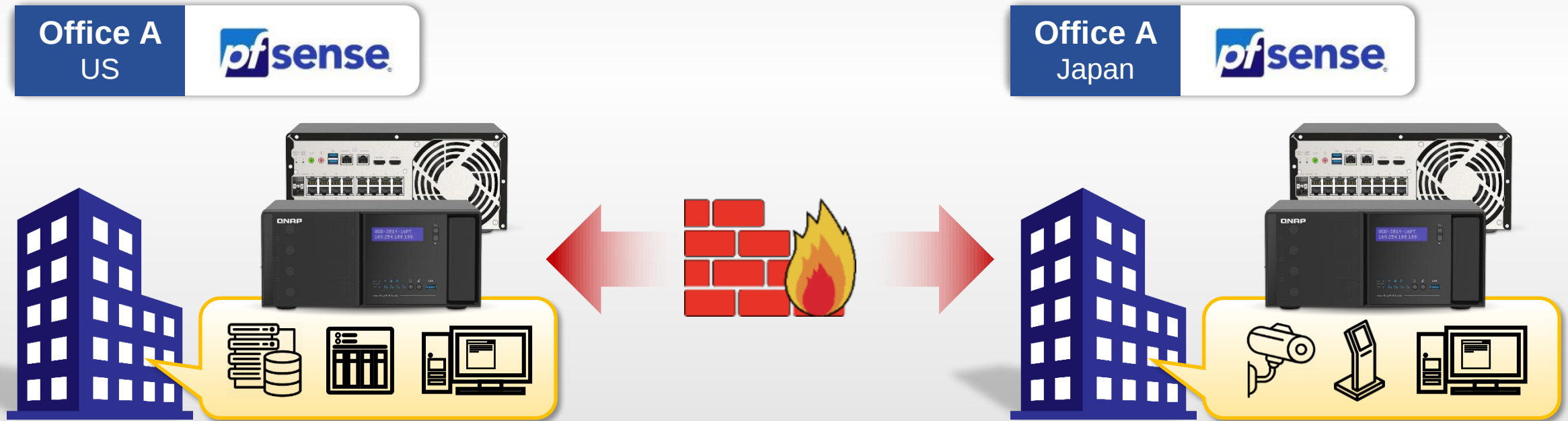
QGD-3014-16PT Virtualization platform

4 bay HDD



Guardian X pfSense solution

QGD-3014-16PT supports the installation of pfSense firewall software as of virtual machines to effectively block external network intrusion threats.



Run virtual machines and containers: multiple applications in a box

Virtualization Station and Container Station lead a full range of hybrid virtual application solutions. For your versatile needs, you can rely on QNAP's complete virtualization application support. Choosing the right deployment strategy for your virtualization needs can be easy!



Virtualization Station



Container Station

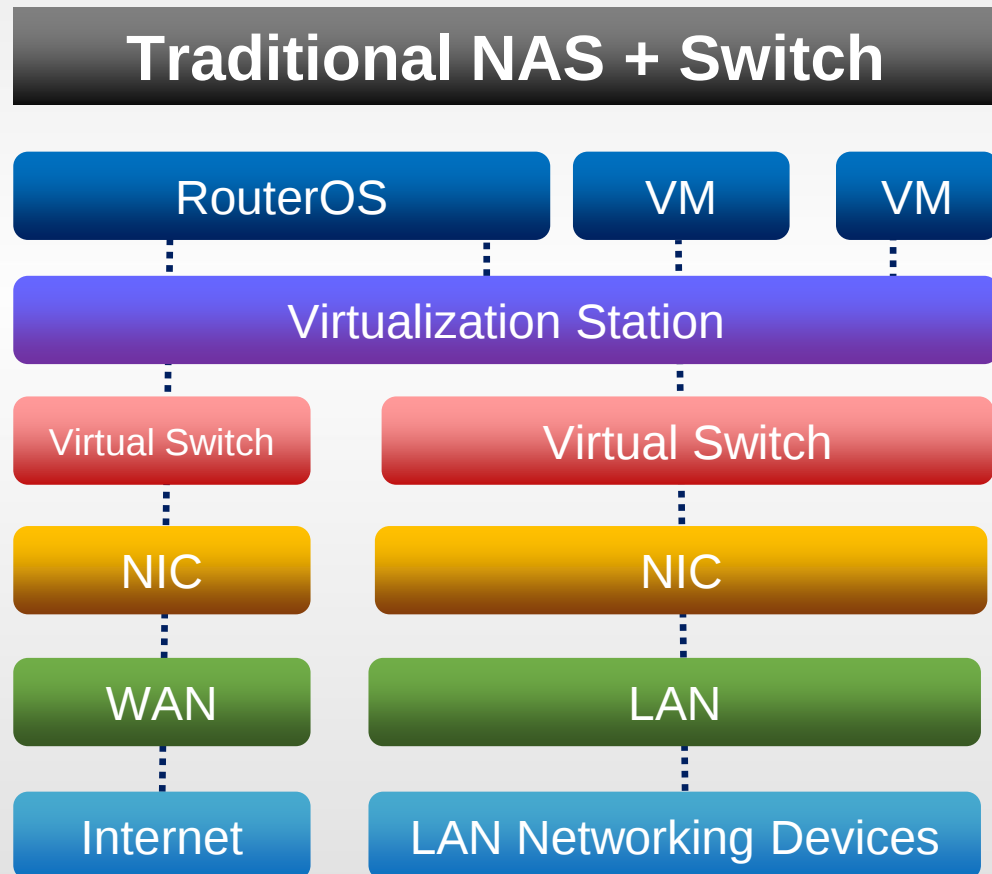


OpenWrt
Wireless Freedom

MikroTik
RouterOS

pfSense

Guardian All-in-one VM solution





QGD-3014-16PT

Use cases

4 bay HDD



Guardian solution for SMB and workstation



PoE

Surveillance

Power multiple cameras and integrating QVR Pro solution



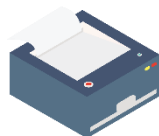
Wi-Fi PoE AP

PoE powered with installation of AP Controller software



Network device

IP Printer, VoIP Phone with network access management



Firewall

Protect internal network via firewall without making any IP address changes on other devices.



Remote Wake-up / Restart

Remotely restart devices while in abnormal operation or wake up the device.



Guardian solution for SMB and workstation

- With HBS 3, backup important data between multiple QGD-3014-16PT.
- Recover the data from backup server.



Guardian solution for Restaurant / Retail Store



PoE

Surveillance

Power Camera and management



Electronic menu

Provide power and networking capabilities PoE



POS

Consumption behavior analysis and data storage



Wi-Fi Access

Power Wi-Fi AP with installation of AP controller



Digital Signage

Provide power and content management



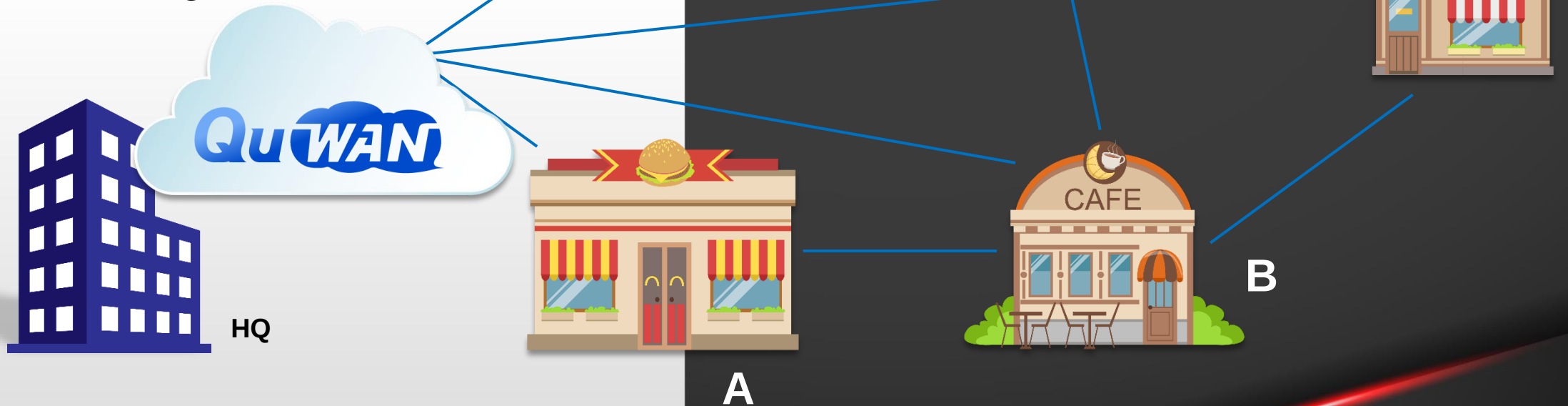
Data/Surveillance storage/backup

Save customer data, work documents, letter materials



Guardian solution for Restaurant / Retail Store

- QuWAN connects all branch as Intranet.
- All linked storage server can be playing the backup role.
- Cloud managed.

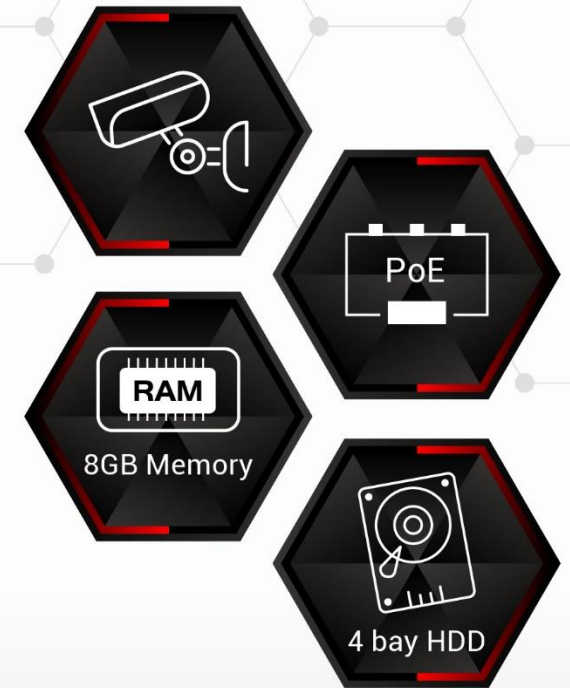


QNAP

QGD-3014-16PT

Your Best Choice!

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Intel J4125 CPU



MICROCHIP

Switch controller

