iEi × QNAP

Cyber Security for Industrial Automation

IEI X QNAP can help you prevent virus infections

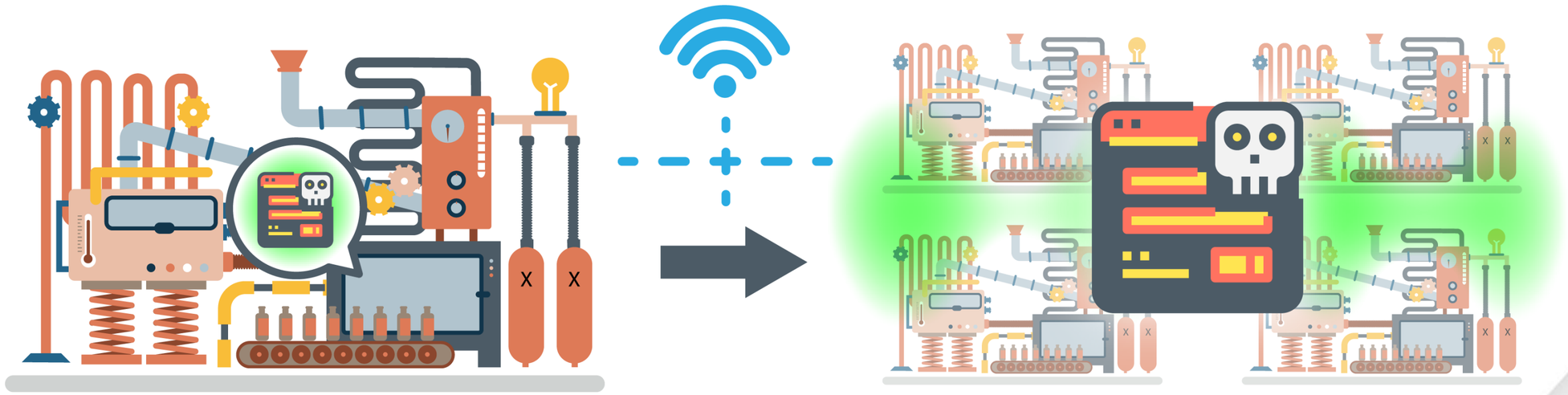
The world’s largest contract chipmaker hit by the WannaCry ransomware

Recently, three of 12-inch wafer production lines in the world's leading semiconductor manufacturing plant was hit by a variant of WannaCry virus. This is the first time a virus had affected the company’s production lines, resulting the shutdown of fabrication tools.
The losses were estimated at 5.2 billion dollars.

A new machine carries a variant of WannaCry

The machine is connected to the network without virus scan

Virus spread to other machines one after another



Do you want to avoid virus intrusion ?
What can you do ?

IEI X QNAP Cyber Security for Industrial Automation - QTS Gateway

- Integrate IEI hardware & QNAP software into one system.
- Easy to manage, adjust manpower and machinery, and improve production.

Remote Management

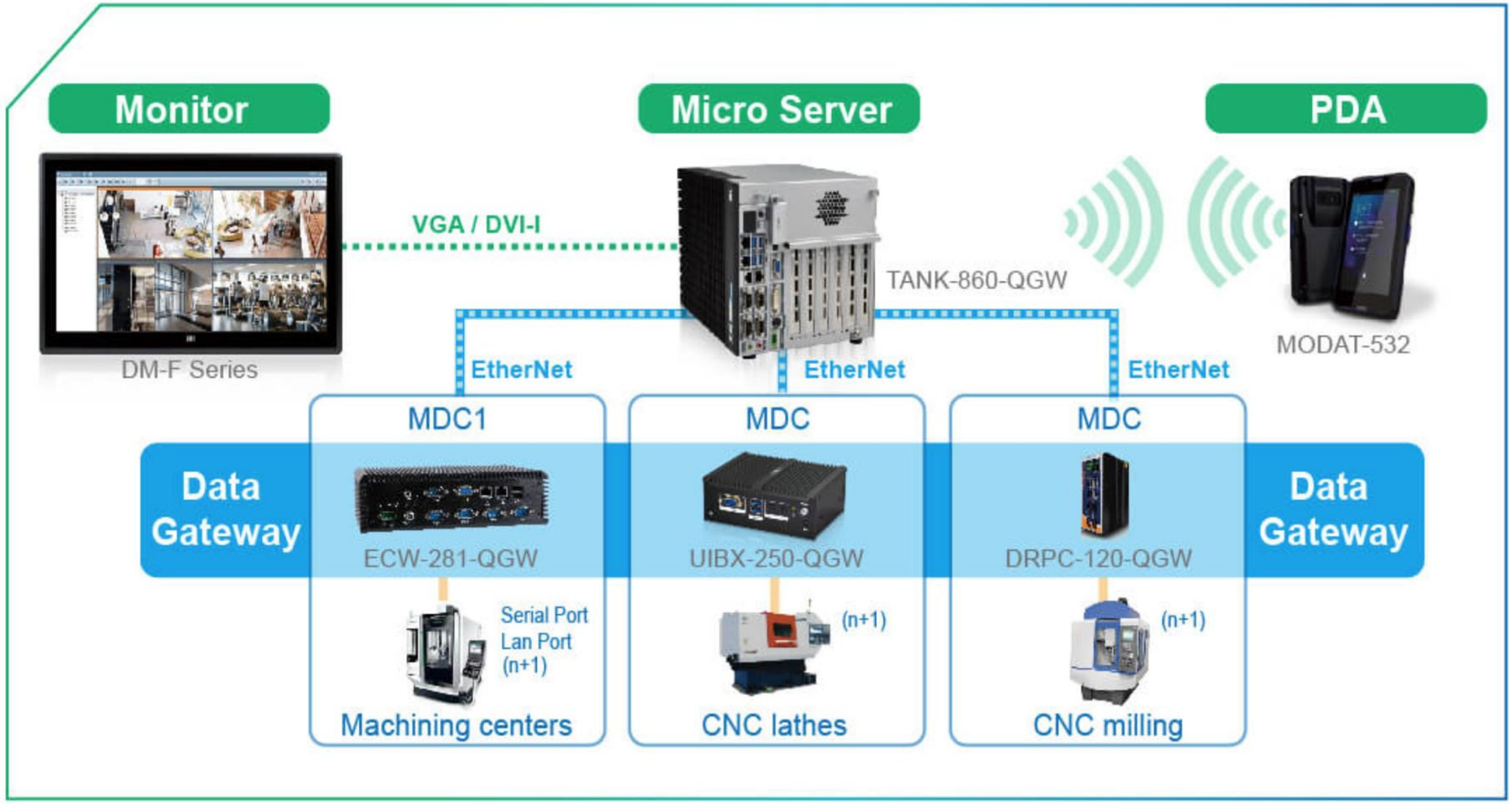
Storage

Computing

Surveillance

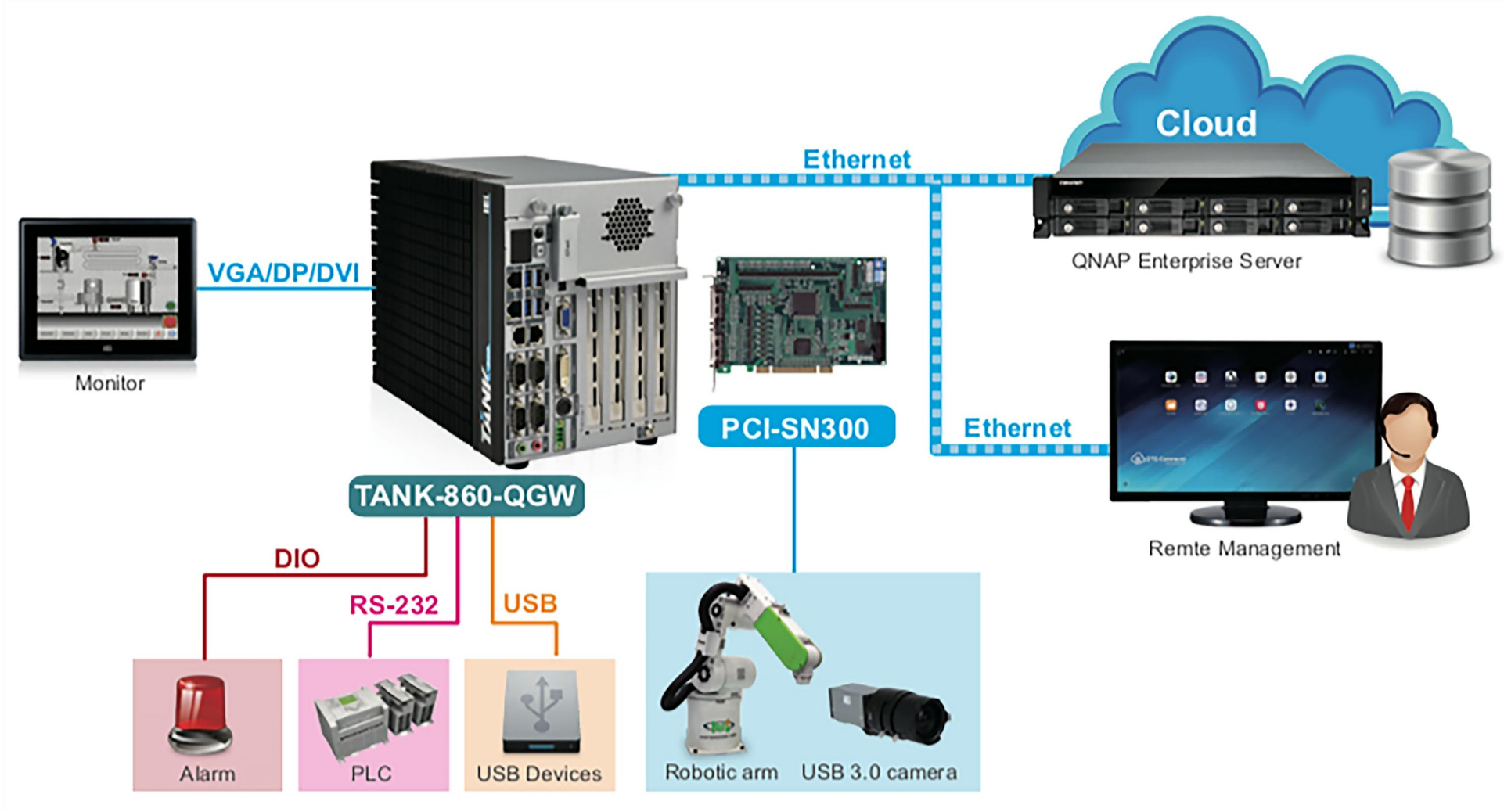
Back up

QTS Gateway Application 1: Surveillance



Products: DM-F Series • TANK-860-QGW • MODAT-532 • DRPC-120-QGW • UIBX-250-QGW

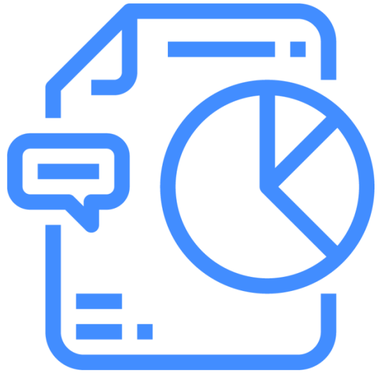
QTS Gateway Application 2: Remote Control



QTS Gateway
Software Application

1. Beforehand
- Prevention

Check system and file security at any time



2. Things happen
-Virus infection

Reboot machine
Reduce the number of infected machines
Reduce the amount of factory losses

3. After the event
-Recovery

Back up with Snapshot

Data protect Total Solution

Operation System Virtualization Station Backup & Snapshot	Data Protection File / iSCSI LUN Snapshot & Vault	Data Backup Hybrid Backup Sync Sync & Backup	File Server Protection Security Counselor Anti-virus

Virtualization Station

Brings an Efficient Virtualization Environment

Core values of Virtualization

Logically dividing the physical computer resource (CPU, memory, storage and network) into several units.

Efficiency

- VM deployment
- Disaster recovery

Flexibility

- Compute
- Storage
- Networking

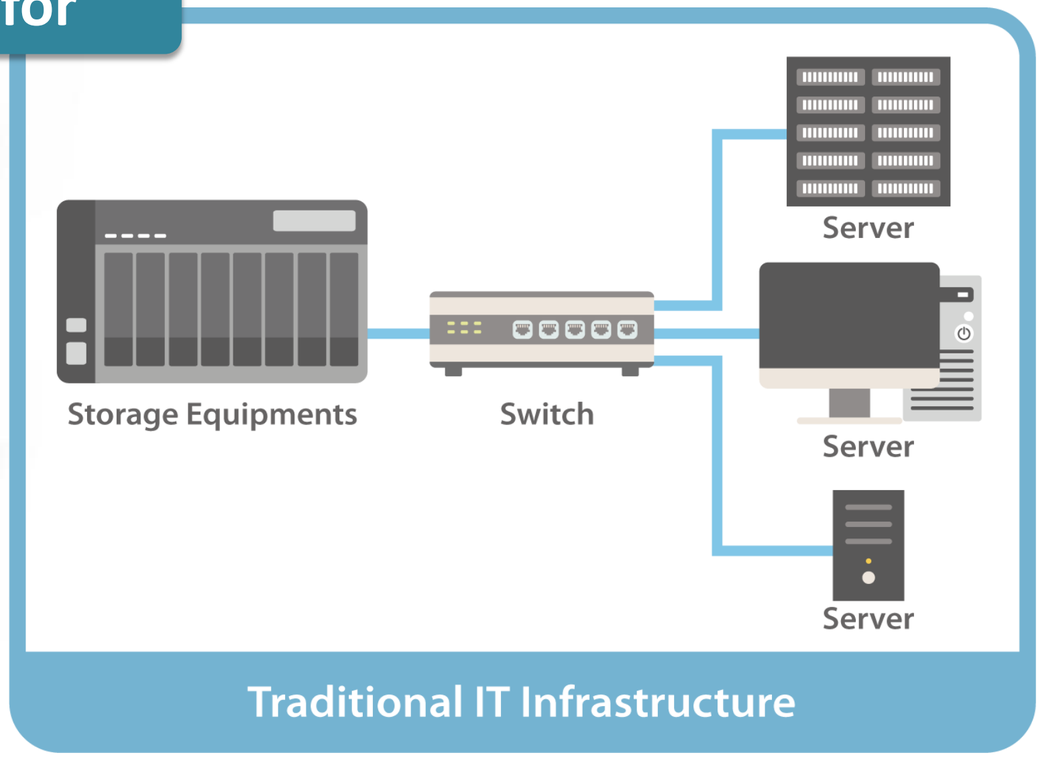
Running VM on the NAS ?

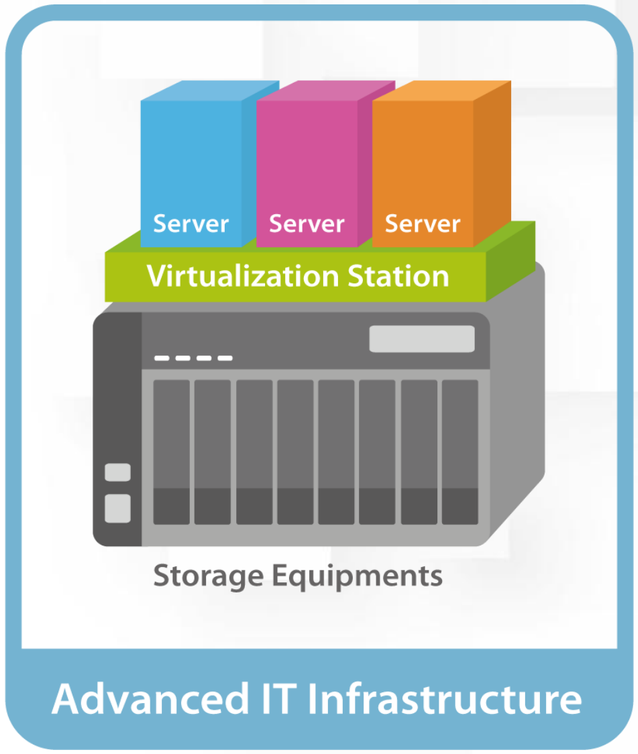
IT infra-integration by virtualizing servers

NAS (storage) + VM (computing) = converged-appliance

NAS VM used for

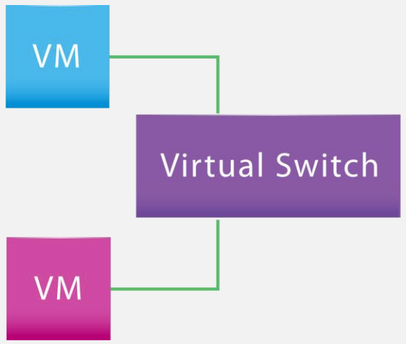
- Server deployment
- 24/7 software
- Temporary systems
- I/O intensive access

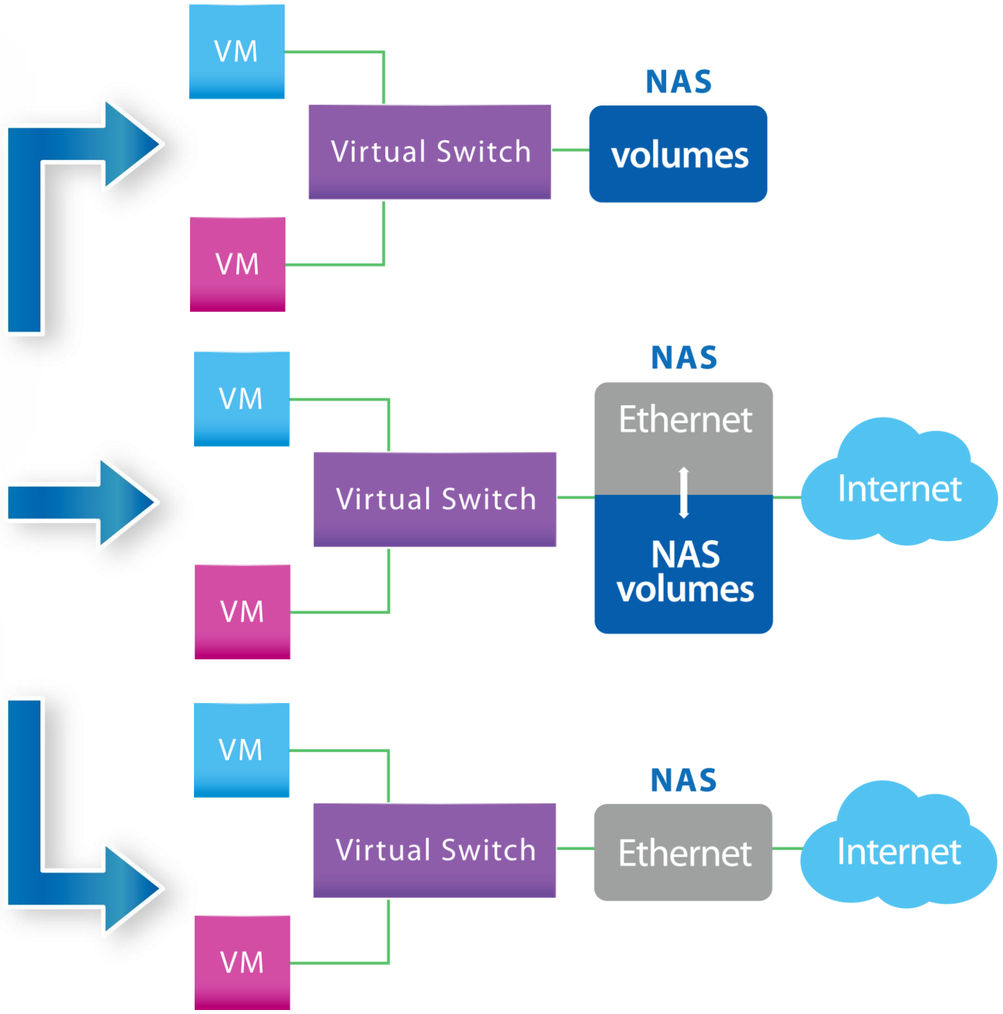




Custom virtual switch

Provides different networking modes.





Host

- Internal high-speed network between NAS and VM

Bridged

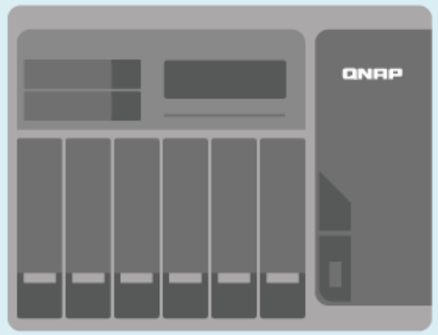
- Internal high-speed
- Connects Ethernet interface

External-only

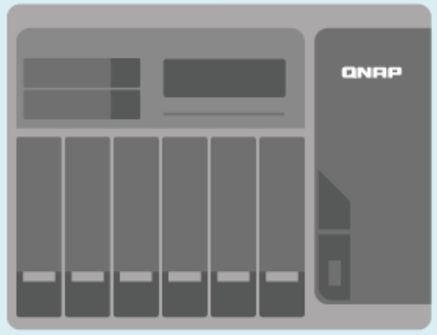
- Dedicated bandwidth for VM

Non-stop VM backup, non-stop applications

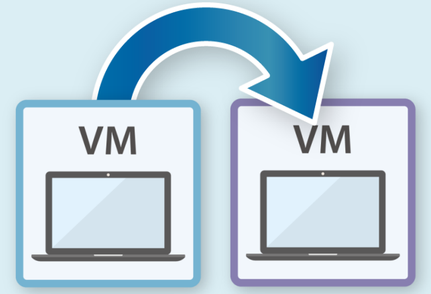
Scheduling VM backup w/o powering off

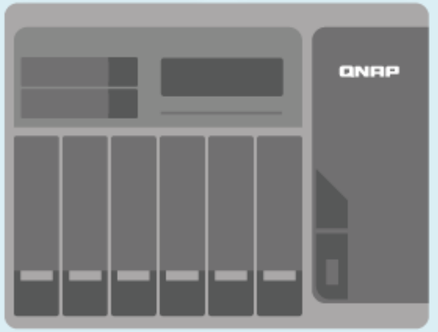


Keeping multiple VM backups



Remote site recovery





Using QNAP Local and Remote Snapshot To Fully Protect Your Data

The Reason of Using Snapshot: RTO

In the survey of 300 Enterprise and SMB at Taiwan:

- **60%** have used Remote Replication as Backup Plan.
- **50%** of business expected the recovering time should be within **1 Hour**.
- But **also 50%** of business experience actual recovery time > **1 Day**!

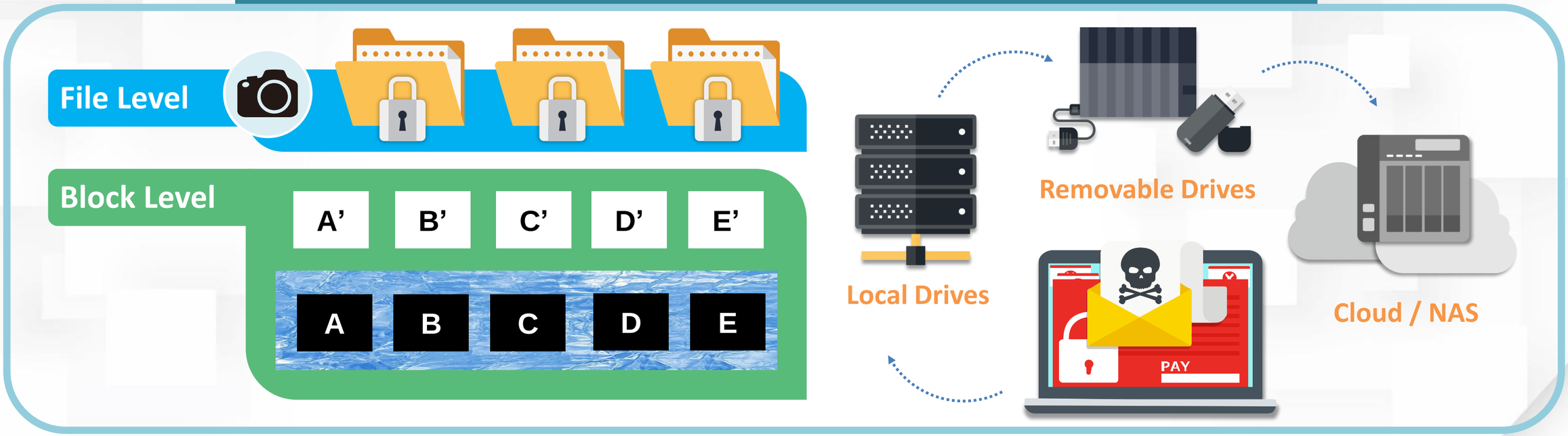
Restoration time matters for both personal and business users.

Taiwan iThome survey 2017

How Snapshots Protect Data From Ransomware Attack

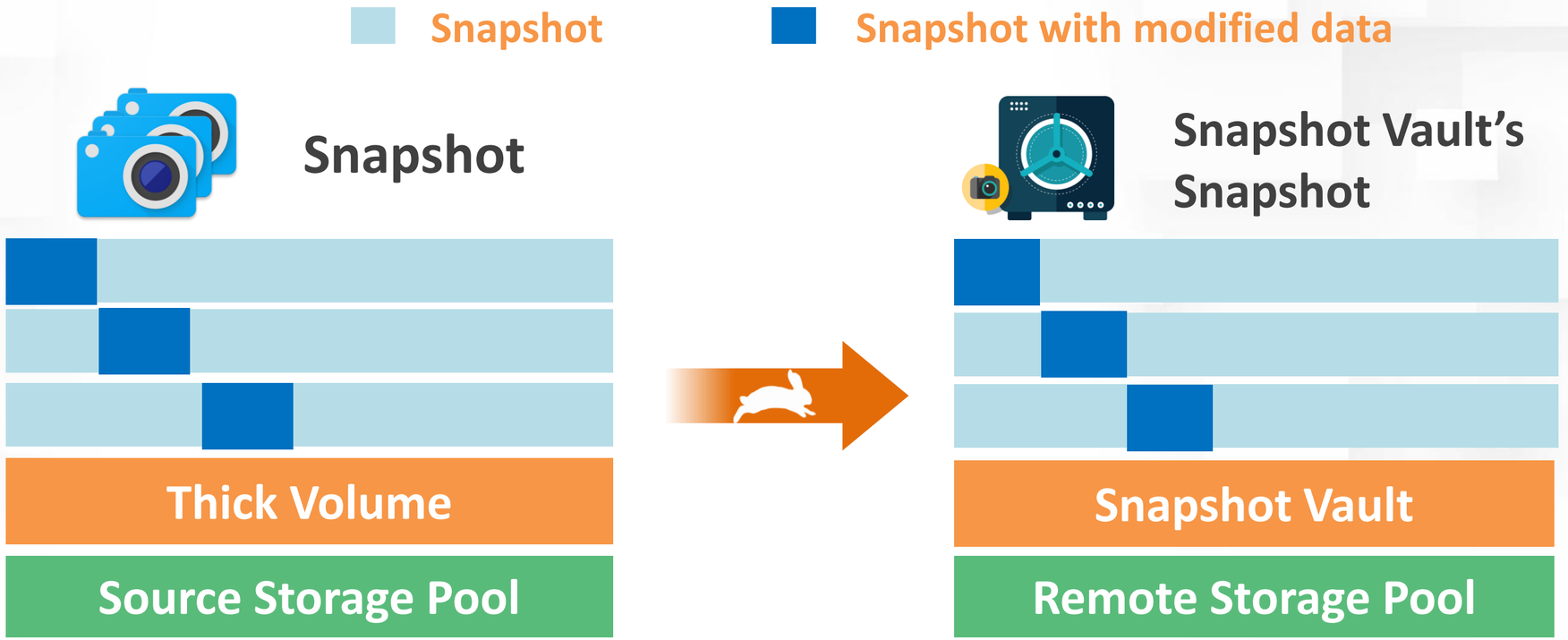
- Snapshots are stored out of volume and cannot be seem normally at the file system level
- This not only keeps snapshots from accidental modifications, but further from ransomware attacks

Ransomware cannot overwrite snapshots which are stored out of volume



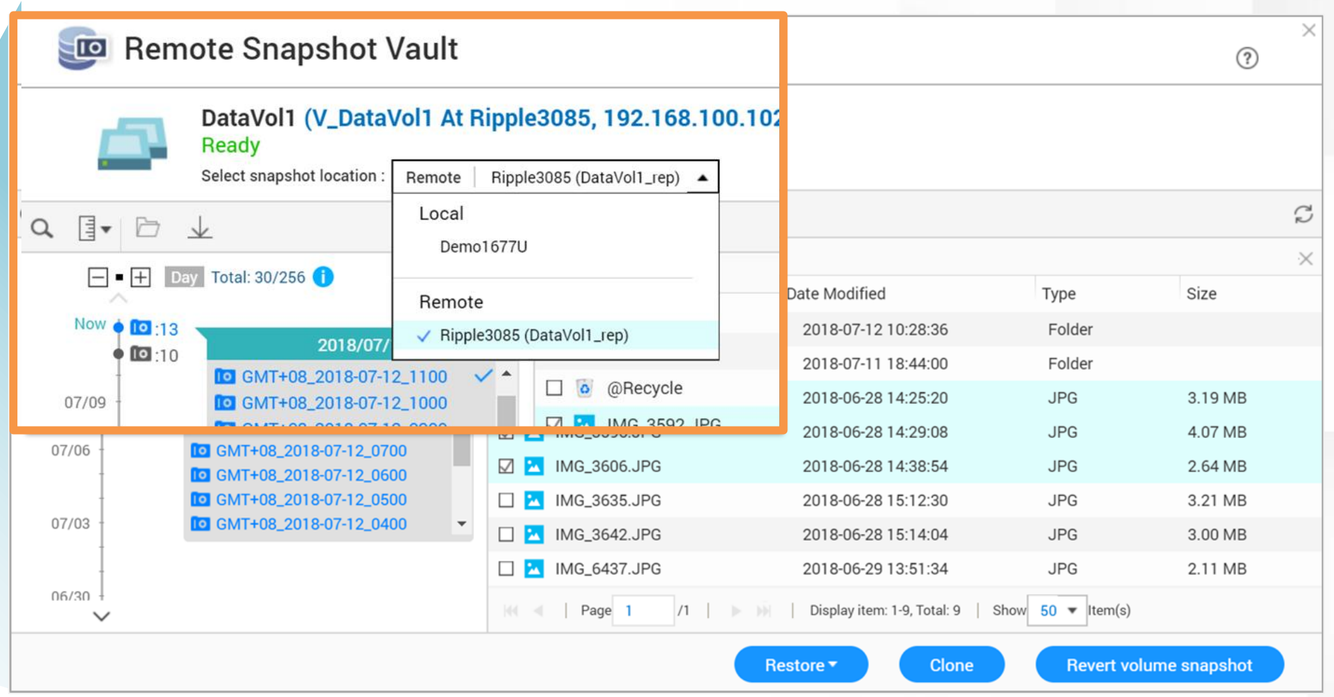
Create a Fast Backup Solution for Your Production Site

- In survey, 30% IT mangers are not satisfied with long time data backup
- Snapshot Replica backup snapshot to remote QNAP NAS
- A differential backup solution that support restore from source solution directly with QTS 4.3.5.



Restore From Remote Snapshot Vault

- The Snapshot Manager now actively connected to Snapshot Vault
- Support Monitor and restore select folder and files at the Source NAS directly!

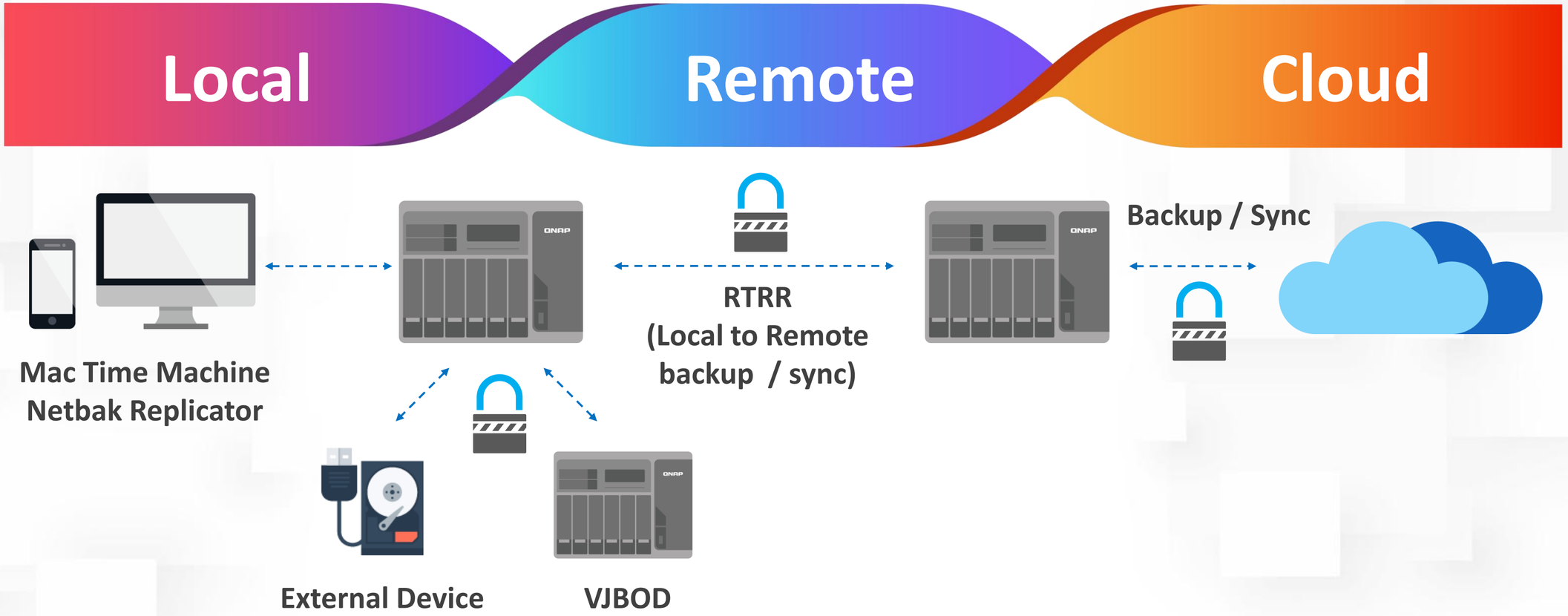


Both the source and destination NAS must be upgraded to 4.3.5 to support this function

Single Entry for Solid Data Protection

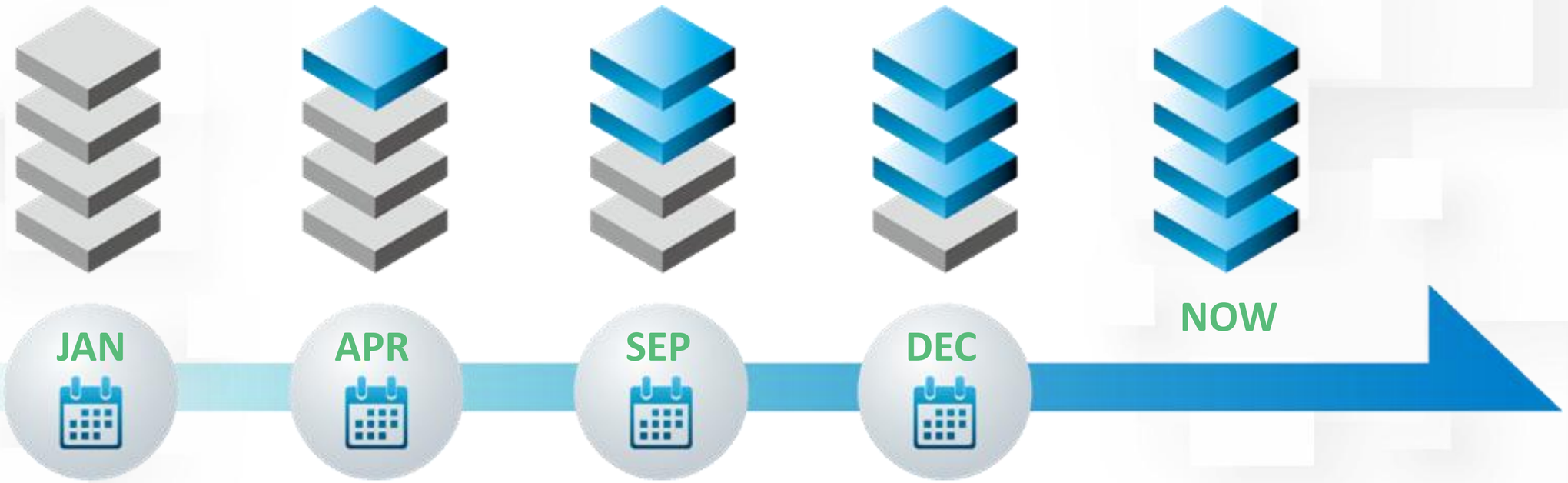
Hybrid Backup Sync

QNAP's Complete Data Protection Plan Complies with the 3-2-1 Principle



Easy to Restore by Multi-version Backup Retention Plan

- Simple Versioning
- Smart Versioning

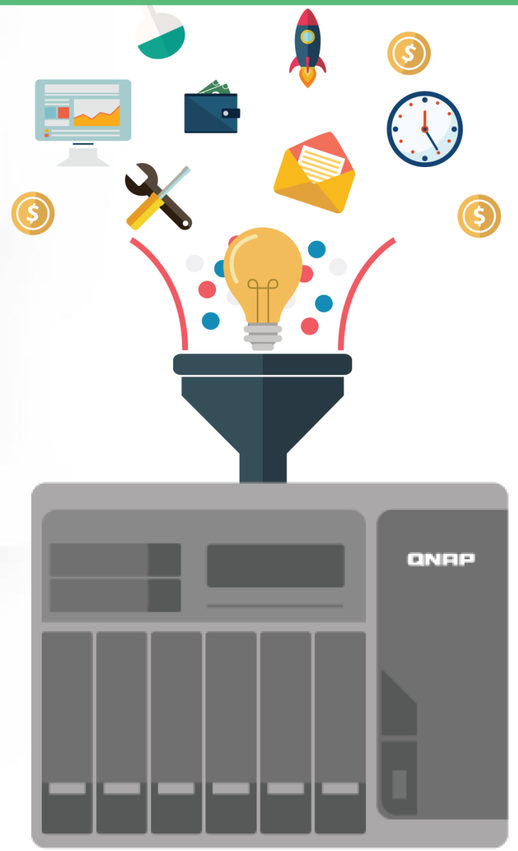


Secure Your Data by Data Encryption

- Secure connection
- Server-side encryption
- Client-side encryption is supported for all backup task

Use Active Sync to Preserve Data Centrally

Support status



Remote services

QNAP NAS / FTP / CIFS(SMB)

Cloud services

OneDrive / OneDrive For Business /

Google Drive / Dropbox / Amazon Drive /

Yandex. Disk / HiDrive / Blackblaze B2 /

ShareFile / Amzon S3 / Alibaba Cloud /

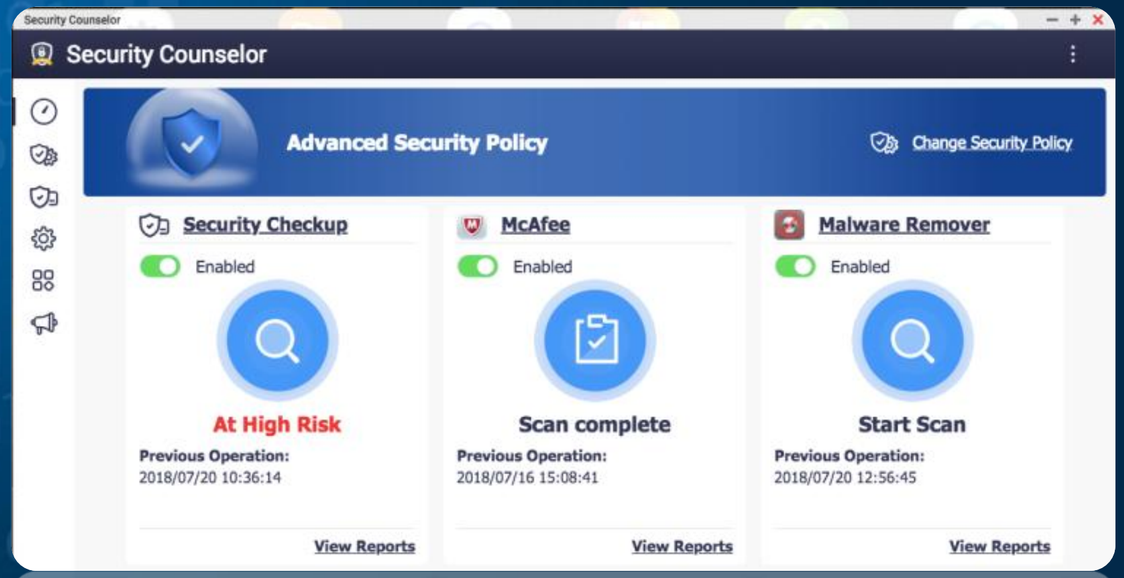
hubiC

QNAP
Security Counselor

Most efficient method for data protection，enjoy the service of QNAP NAS without any security concern！

What is Security Counselor ?

Security Counselor is a Security Issue Management center QPKG.
It scans the security risk in the NAS and provides solutions to decrease the chance for NAS being exposed on the internet.

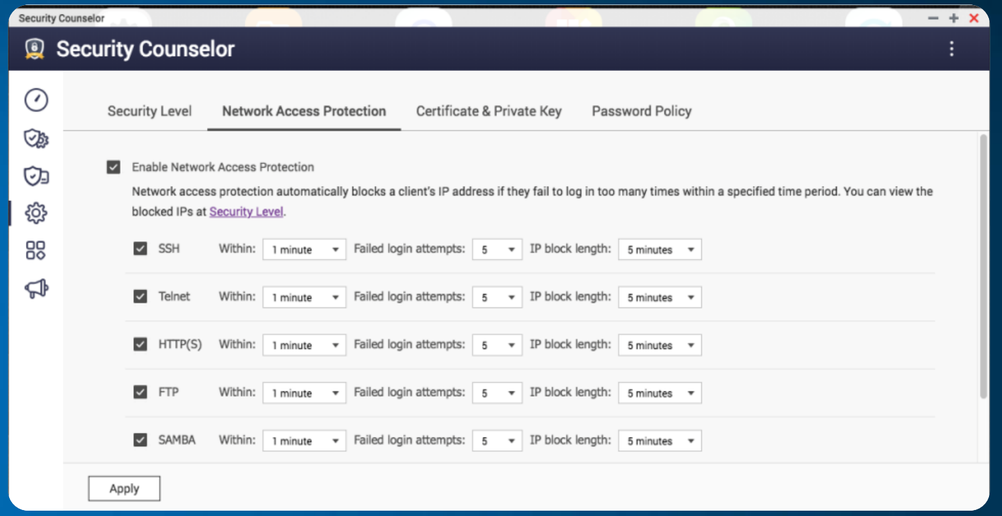


Risks to be prevented

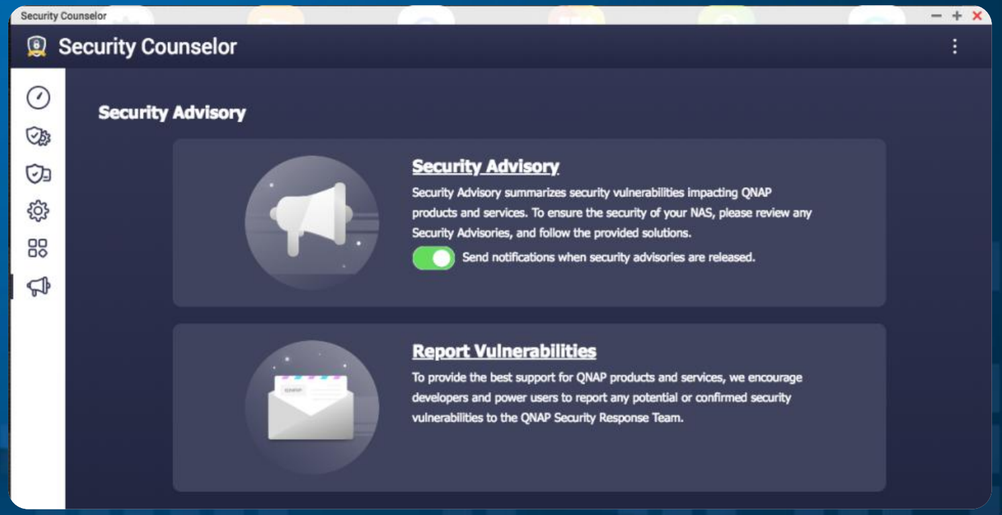
- Data exposed
- Unknown log in
- Access information Exposed
- Software with risks

Prevent

Safty setting



Security Document

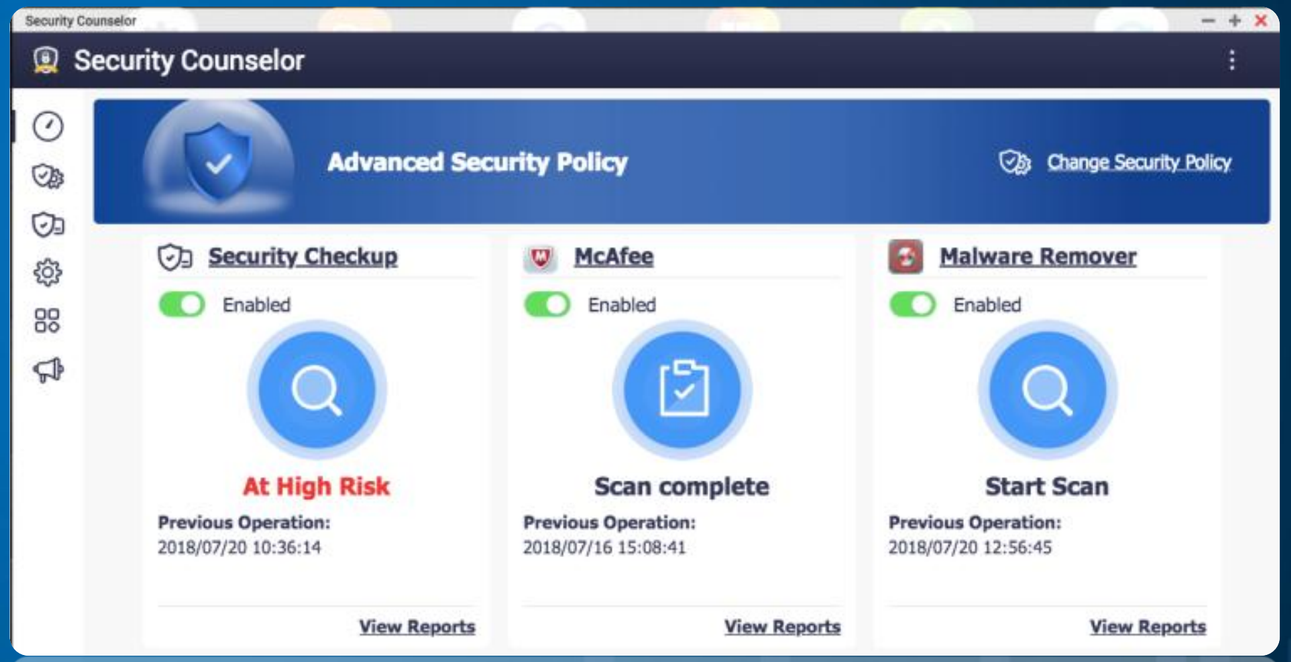


QNAP Security Counselor

Protection Software

Anti-virus

Malware Remover



QNAP Security Counselor