

QNAP

*Optimize backup,
restoration and synchronization
performance with **HBS 3***



Voice of the customers we received



The R&D dept. produces a lot of data everyday; using 1Gbps cable for backup is too slow. how can I assign 10Gbps lines for the task?



I have set up the backup task last night, but it was failed at 10%; not until this morning I came to work did I realized this...



HQ NAS

I plugged in two 10Gbps cables, but HBS 3 only transfer data through the 1Gbps default gateway

Our company has 130TB of data and we transported the data through physical storage to the cloud, but HBS 3 can not recognize it for incremental backup

Summarize the problems from customers

Local → Local

1. Some physical network ports always at high load, but some are not (Poor efficiency).
2. Wanted to assign physical network port but have no idea how to do that .
3. Backup task be interrupted unexpectedly by network disconnection.

Local → Cloud

1. Transmit big data to cloud is time consuming.
2. Transmit big data through physical storage to cloud, but HBS 3 can not make incremental backup.



Backup needs to be fast and uninterrupted

Local → Local

1. Intelligent network optimize the existing.
2. Automatically select more available physical network port to avoid busy ports when job started.
3. Automatic switch to other physical network port when network interrupted, achieve uninterrupted backup process.
4. Assign HBS 3 backup flow manually.

Local → Cloud

1. Big data through cloud seeding to cloud can reduce the transmit time to two weeks.
2. Like normal backup operation of HBS 3, easy to achieve incremental backup.

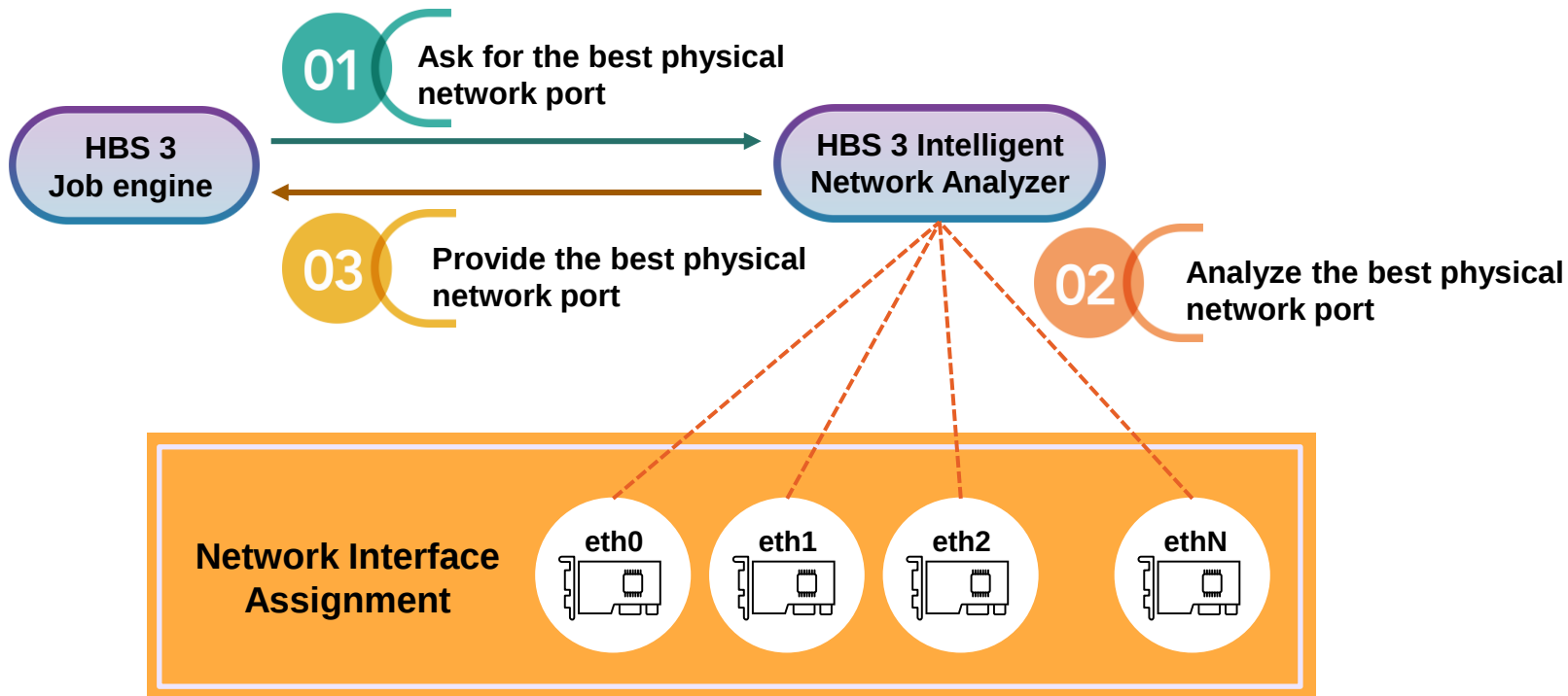




Meet HBS 3

Latest QNAP NAS backup app (v12)

Intelligent network optimization architecture



HBS 3 backup strategy always using default gateway as transmit port in the past few years

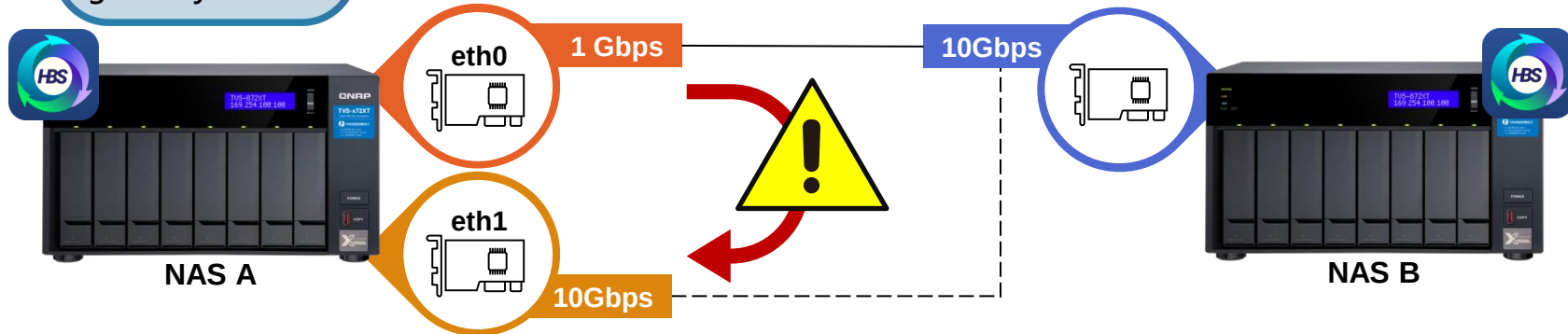
01

When backup job started, HBS 3 get the default gateway eth0(1 Gbps)

NAS default gateway is eth 0

02

The data flow through eth0 from NAS A to remote NAS B

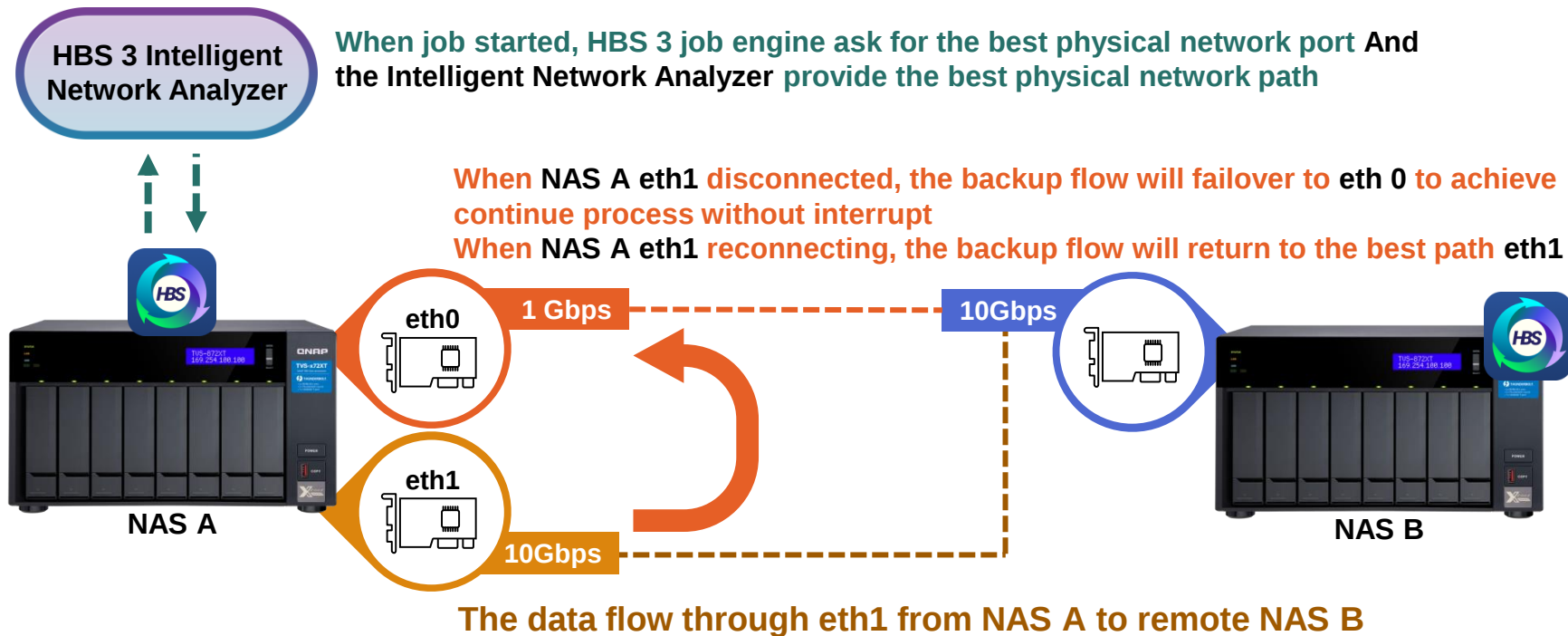


03

When eth0 disconnected then the job fails

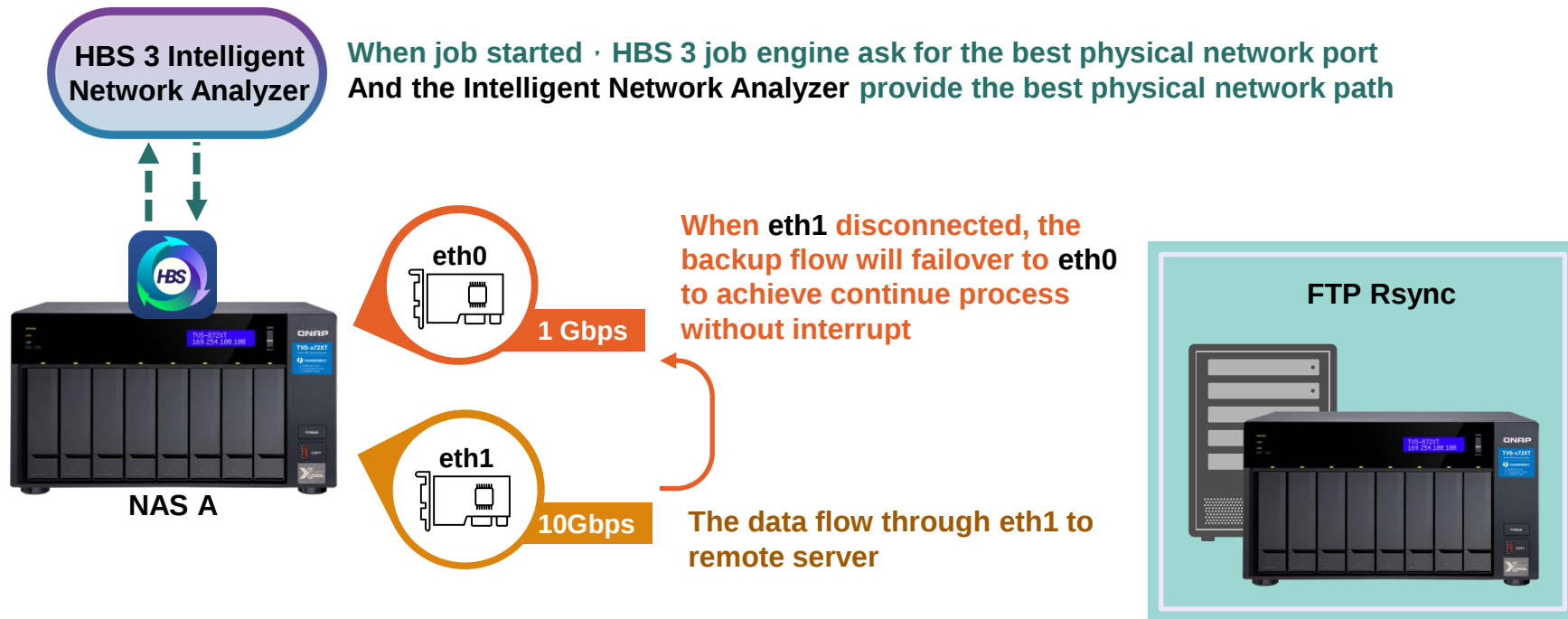
Even NAS A has another active physical network port, still can not failover

Intelligent network optimization focus on Dedup Job to improve the behavior of HBS 3



Dedup Job definition : Backup job(click dedup function)

Intelligent network optimization can also failover on Non-Dedup Job

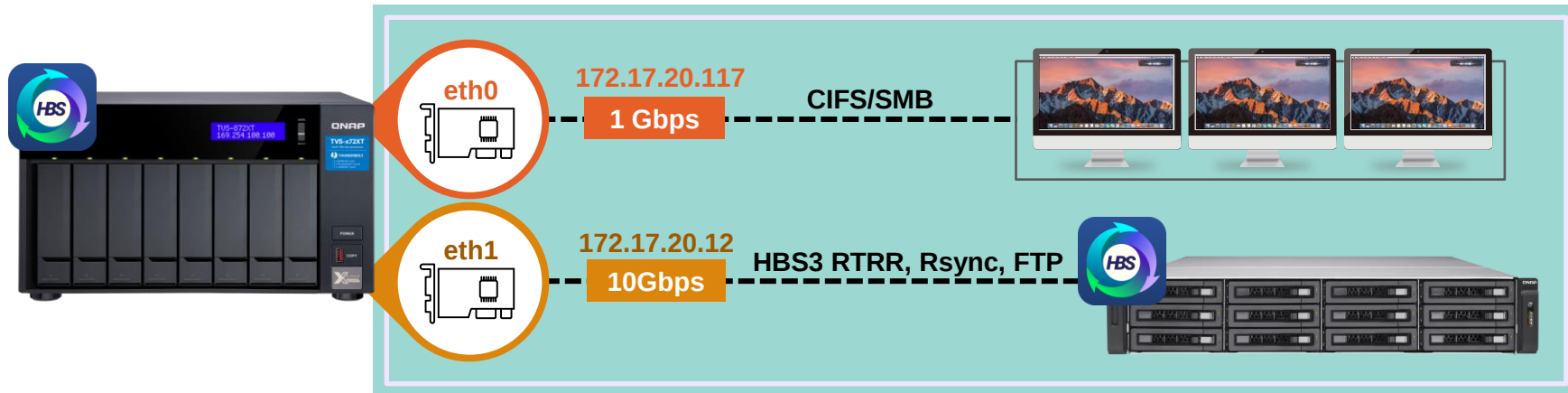


Non-Dedup Job definition : Backup job(without click dedup function), One-way sync, Active sync, Two-way sync

You can also assign physical network port manually

Default Gateway: eth0
HBS 3 assigned by manually: eth1

The default gateway will be chosen by using 1Gbps port, but you can assign other physical network port in HBS 3



QNAP

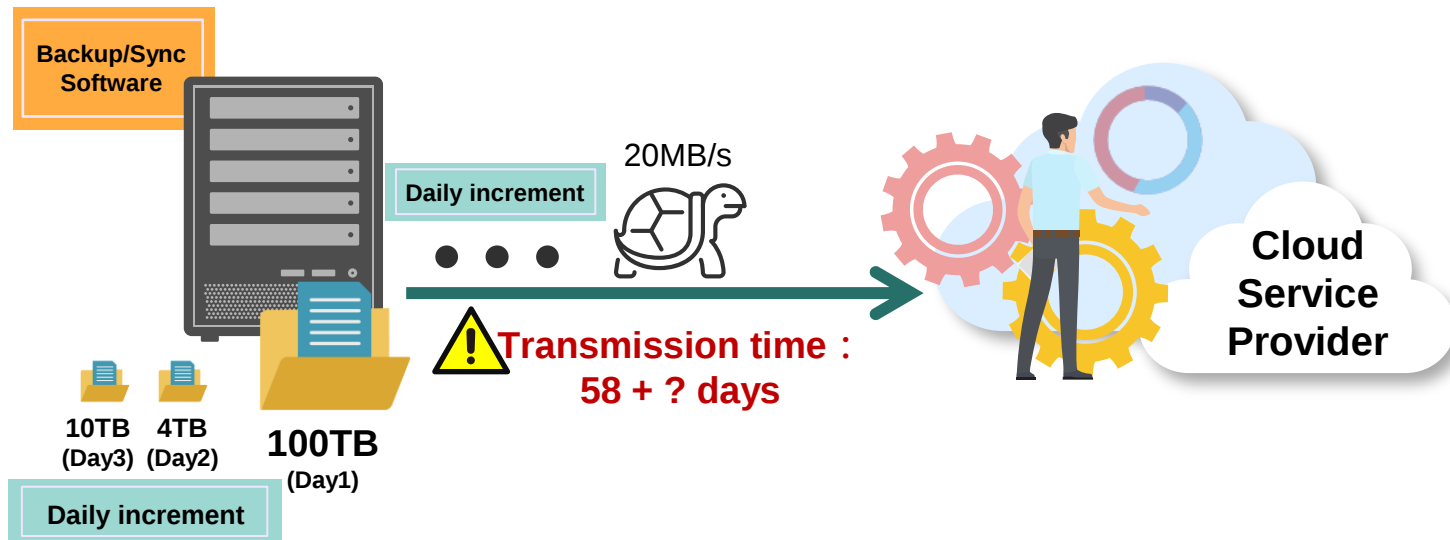
Intelligent network optimization

DEMO

Hundred of Terabyte data transmit to cloud is time consuming

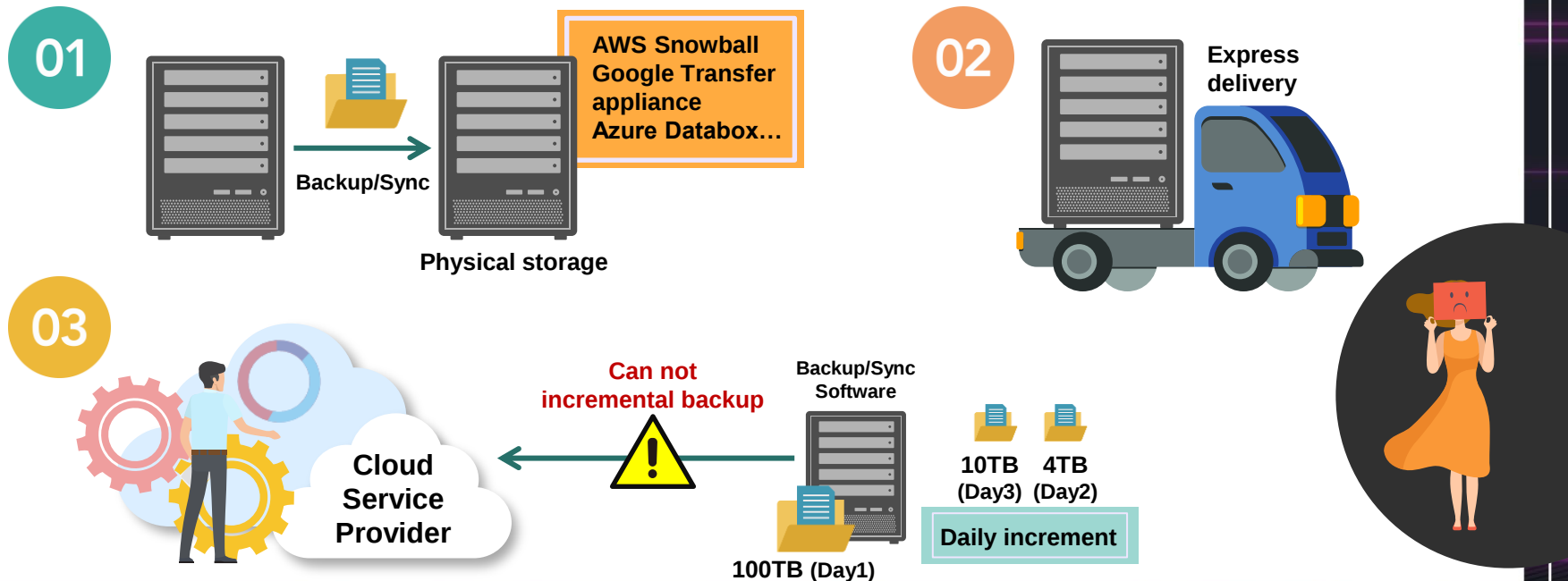
Big data transmission may take weeks or months by using backup software only.

For example : 100TB data to cloud, upload speed is 20MB/s, it proximately take 58 days to finish.



The incremental backup problem when big data store in physical storage after transport to cloud data center

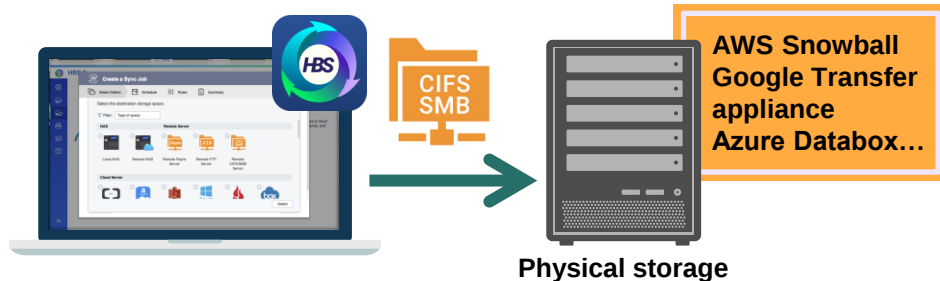
Store big data into external physical storage after shipping to cloud service provider, it may take two weeks to finish transmission. But the local backup software did not recognize cloud data, thus there has incremental problem.



QNAP HBS 3 Cloud Seeding solution focus on hundred of Terabyte data transmission to cloud

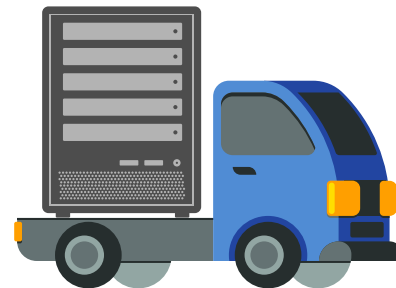
01

Create CIFS/SMB storage space for physical storage devices in HBS 3, and backup/sync these data into physical storage through HBS 3



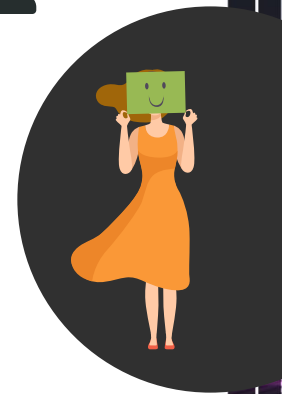
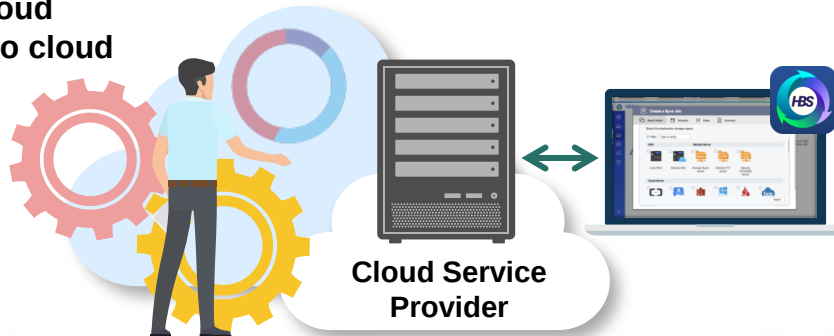
02

Express delivery the physical storage to cloud data center

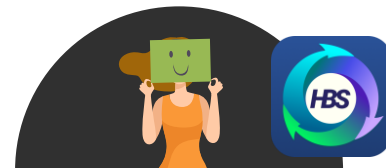


03

Sync : Create a **sync job** to cloud
Backup : Create a **relink job** to cloud



Normal cloud terabyte solution vs. HBS 3 Cloud Seeding



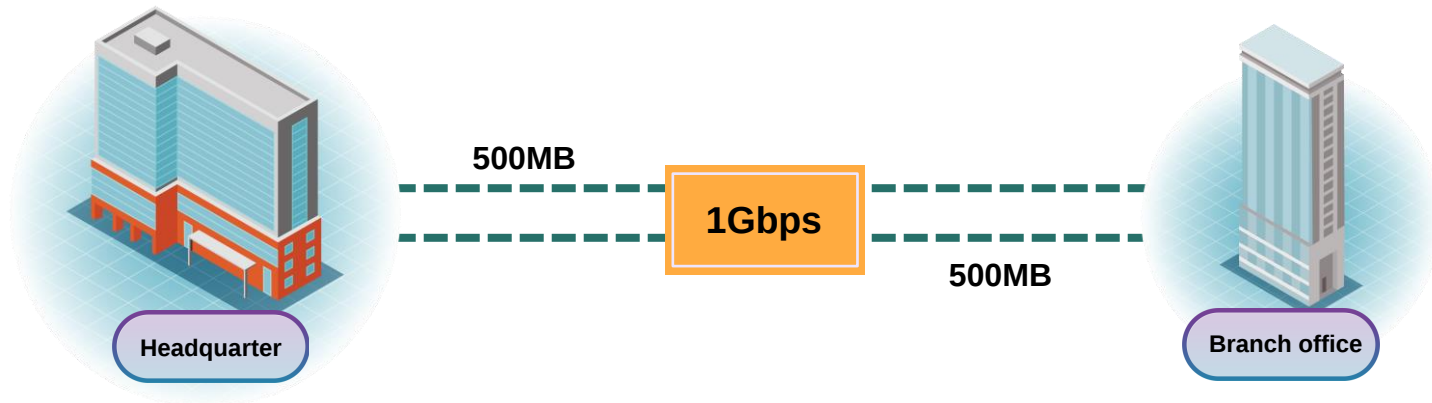
	Transmit data through backup software directly	Transmit data through physical storage after transport to cloud	HBS 3 Cloud Seeding
Pros	1. Normal operation in backup software. 2. Incremental backup	1. Two weeks to finish backup task 2. No bandwidth occupation 3. Not affect other internal system operations	✓ Significant time saving ✓ No bandwidth occupation ✓ Not affect other internal system operations
Cons	1. Really time consuming 2. You never know when it will be finished, because of daily increment. 3. Bandwidth occupation affects other internal system operations	1. Can not incremental backup	✓ Normal operation in HBS 3 backup/sync ✓ HBS 3 can incremental backup

QuWAN x HBS 3 WAN aggregation with network acceleration

QNAP QuWAN (SD-WAN) x HBS 3 solution :

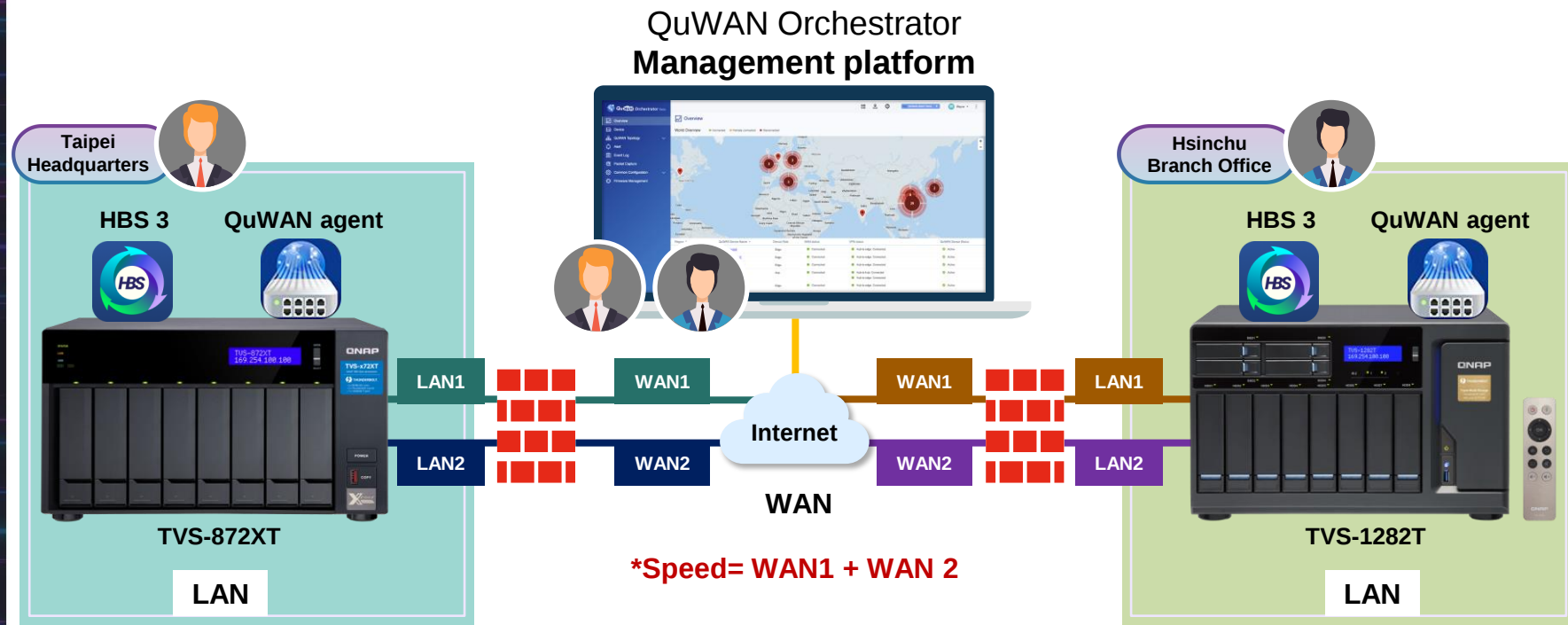
QuWAN WAN aggregation combine the bandwidth of different ISPs to get high bandwidth utilization for HBS 3. For example using two extranet lines :

1. When one of the extranet line disconnected, the transmission can continue process without interrupt
2. QuWAN will automatically establish a VPN Tunnel when the extranet line is restored, WAN will be aggregated again and continue process without interrupt.

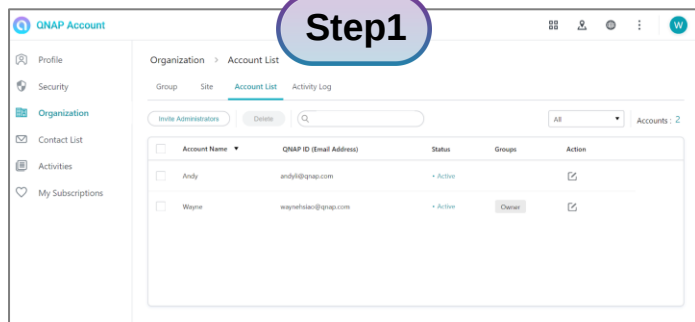


QuWAN Orchestrator x HBS 3

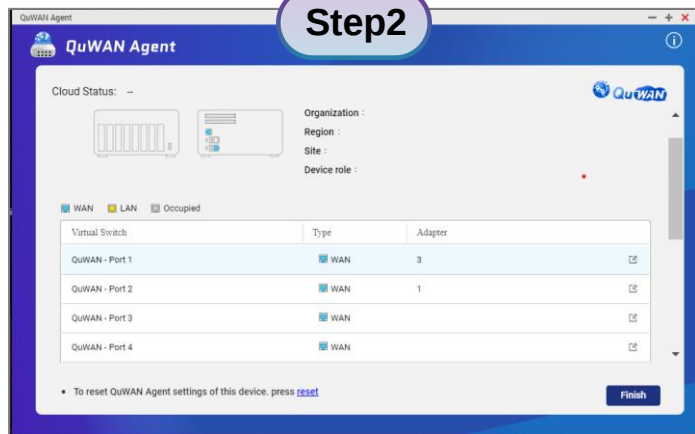
Real world infrastructure



QuWAN configurations and accelerations



1. Login your QID in QNAP Account Center web site
2. Click organization and create an org.
3. Joined two NASs into your org. One as a hub, another as an edge

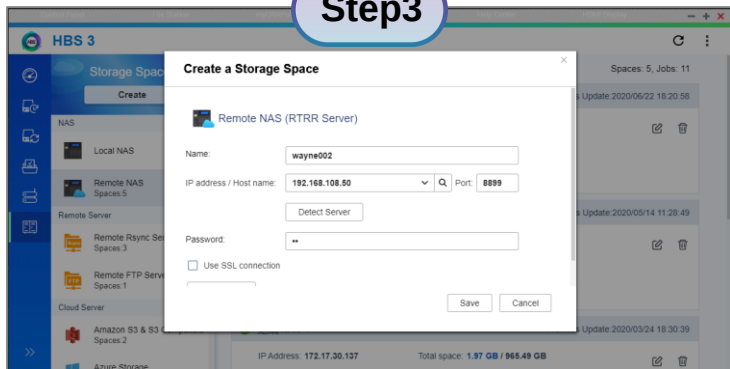


1. Both headquarter and branch office NAS install QuWAN agent app
2. QuWAN Port1, Port2 connect with LAN, and confirm with IT that these two LANs will correspond to different WAN1, WAN2
3. QuWAN Port8 connect with PC (for logging in to NAS)

Note: QuWAN can support up to 7 WANs for bandwidth aggregation (QuWAN Port1~Port7)

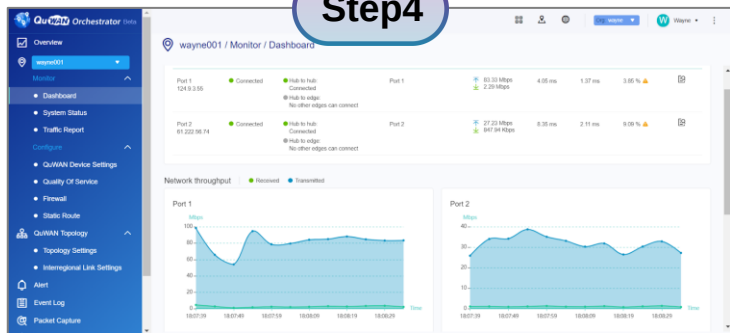
QuWAN configurations and accelerations

Step3



1. Create a remote storage space on HBS 3
2. The IP address is QuWAN Port8 LAN IP on the branch NAS
3. Create an RTRR task and start transferring data

Step4



Enjoy QuWAN WAN aggregation to achieve transmission acceleration



Intelligent backup for reducing RPO & RTO

HBS3 gives you the utmost peace of mind