

QNAP

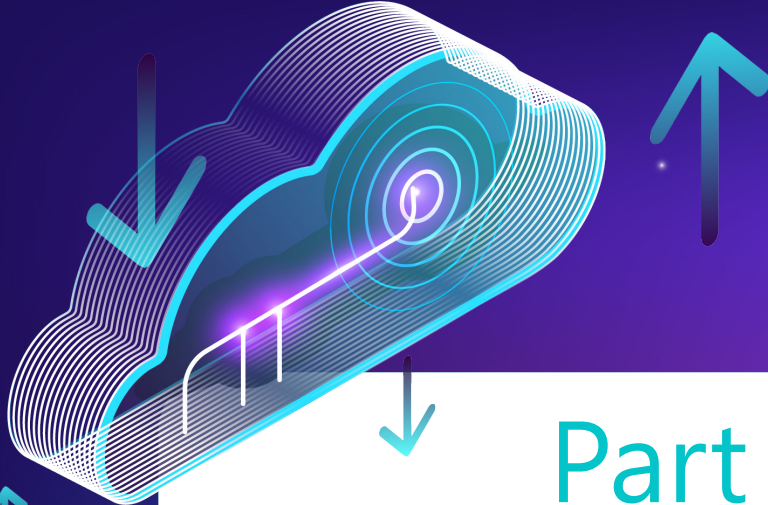
QNAP

×

Archiware

P5 and Pure as an
ultimate backup solution





Agenda

Part 1

1. Does VM backup drive you crazy?
2. 5 reasons to back up VMs with QNAP and Archiware Pure
3. Detailed function introduction
4. Live demo

Part 2

1. Backup challenges for media and entertainment industries
2. 5 reasons to back up media files with QNAP and Archiware P5
3. Detailed function introduction
4. Live demo

Archiware Product Overview



Pure assists you turn QNAP NAS into a backup appliance, and efficiently create a permanent and free VMware virtual machine backup environment



P5 is suitable for the M&E industry, assisting you back up, archive, and synchronize QNAP NAS files to other NAS, tape or public cloud

VM Backup Giving You Headaches?

Backing up VMware VM is important, but you may encounter the following problems...

- ☹ Not enough budget to buy backup software
- ☹ No additional free server
- ☹ Taking too long to install and configure
- ☹ Not sure if previous backups were successful

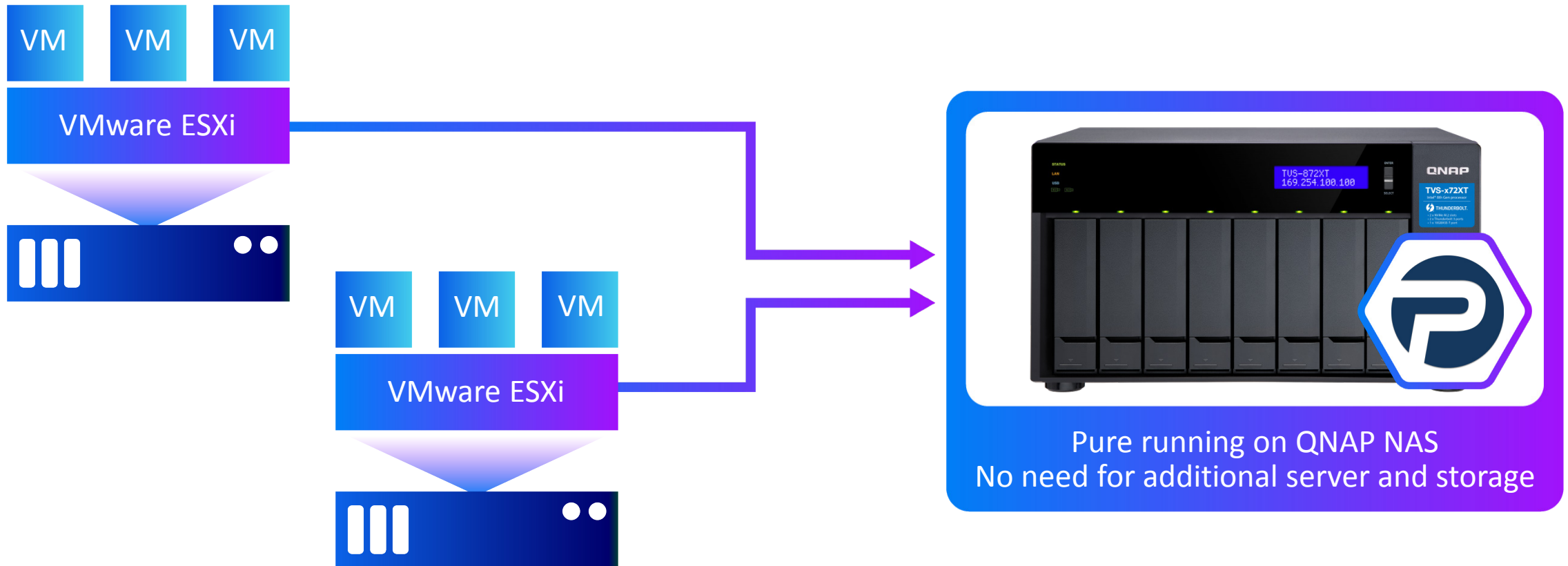


5 Reasons to Use QNAP and Archiware

- 1 Hardware and software close integration
- 2 Free software with full functionality
 - ✓ support unlimited number of ESXi hosts
 - ✓ support unlimited number of virtual machines
 - ✓ optional (paid) technical support
- 3 No need to deploy additional server for backup
- 4 Five-minute installation and setup
- 5 Optionally perform a data verification for each backed up snapshot

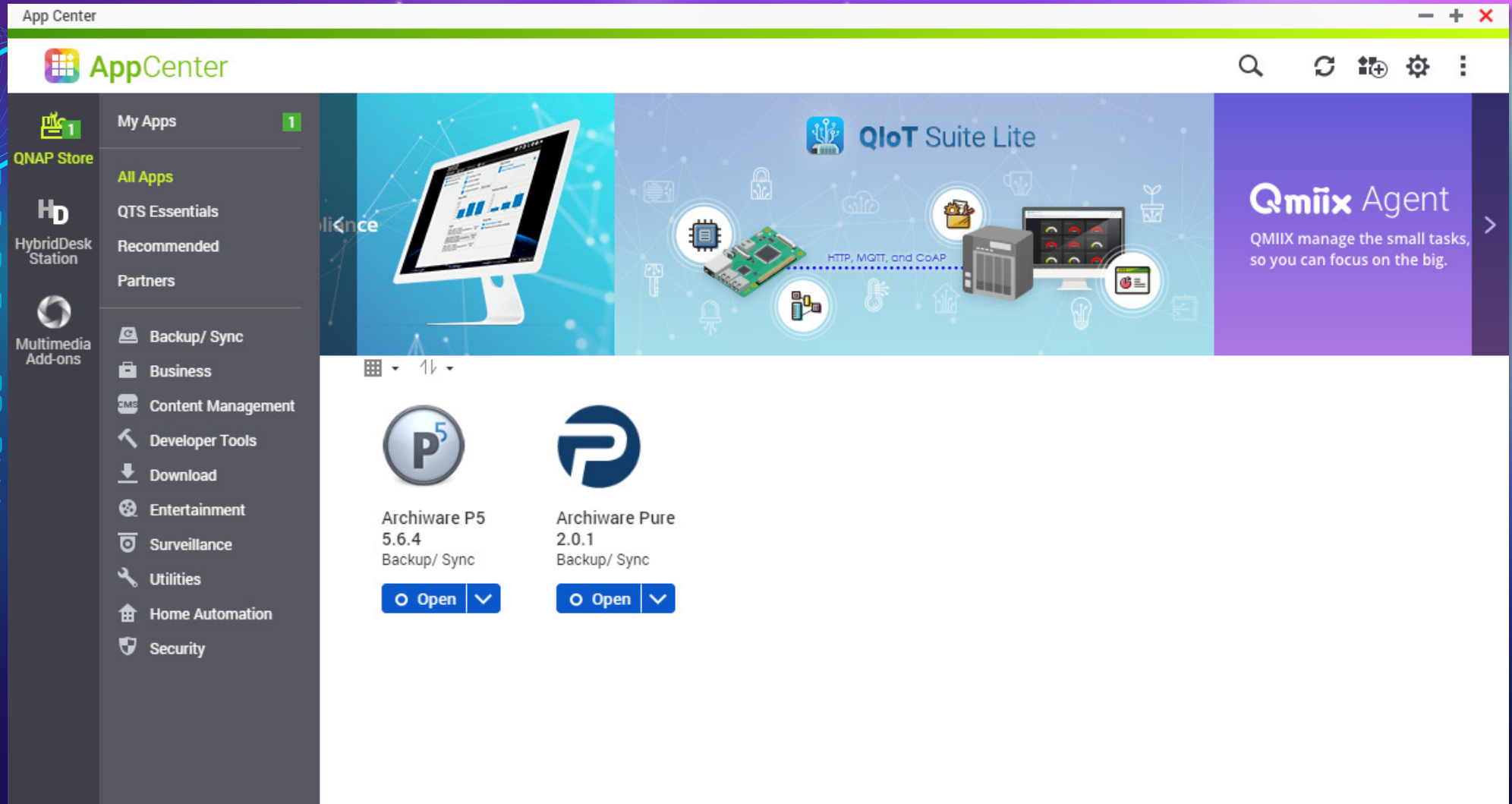
Let us simplify the VM backup so that you can focus on other important tasks

Turn Your NAS into a VM Backup Appliance in Seconds



App Center One-click Installation

Enjoy Your VM Backup Journey Immediately



QNAP Advanced Technology to Protect Your VM and Data



Easy to build your 3-2-1 backup Plan
HybridMount, VJBOD Cloud, HBS 3

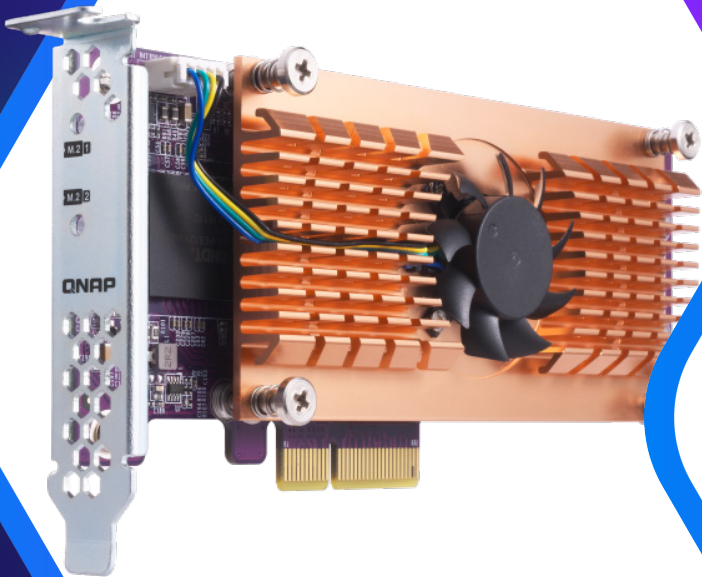


Snapshot

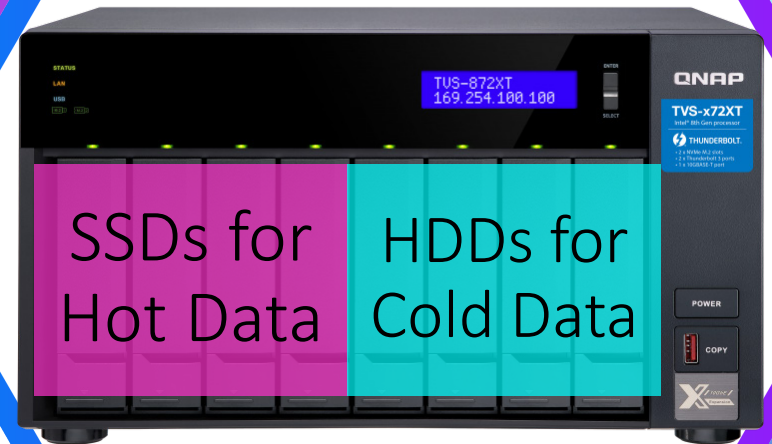
RAID



Support SSD Configuration to Boost Your VM Backup



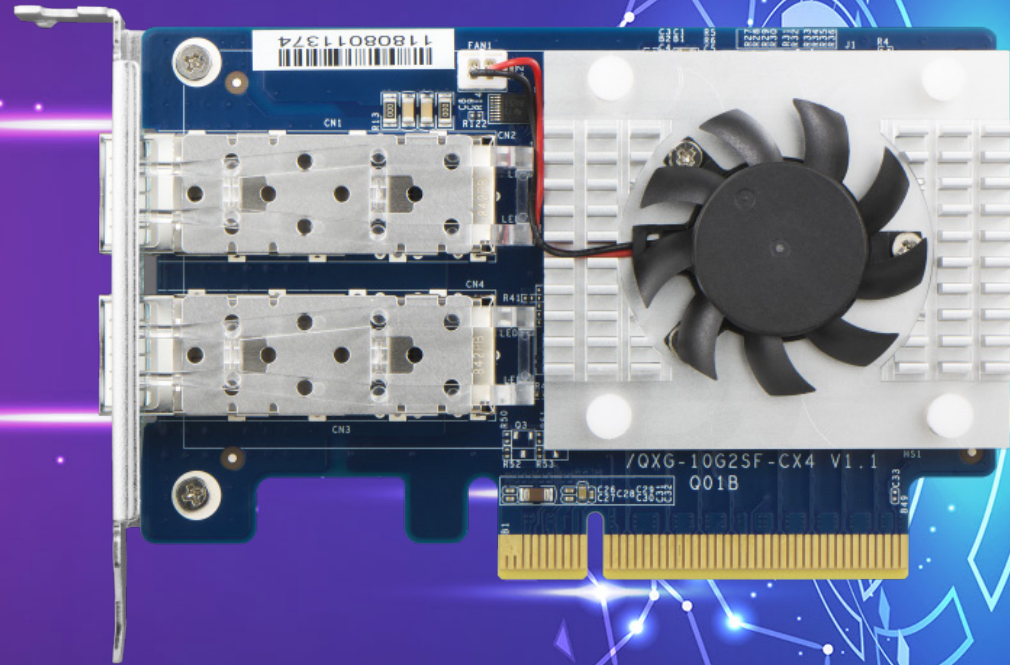
QM2 Expansion Card
(Add M.2 SSD Slots)



Support for Building High-speed Backup Networks and Speeding up Data Transfer



Versatile PCIe NIC expansion options for 40GbE/ 25GbE/ 10GbE

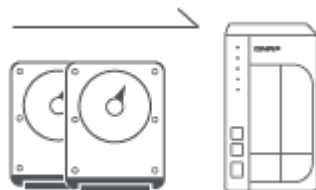


Flexible and Economical Storage Expansion

Attach Expansion Enclosures



Upgrade RAID Capacity



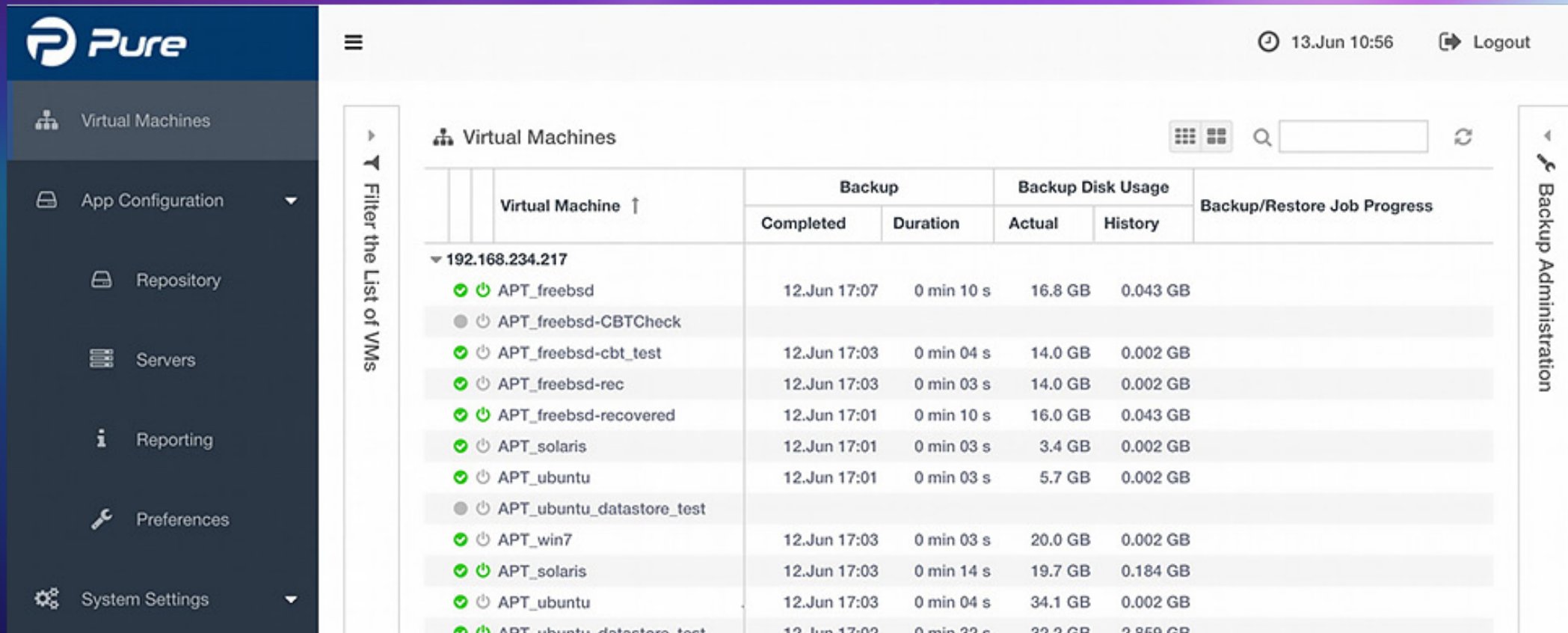
Hot swap lower-capacity drives with larger-capacity drives so that your QNAP NAS can grow with your business.

VJBOD



Use VJBOD (Virtual JBOD) to expand your storage capacity by using the unused storage of other QNAP NAS. Up to 8 QNAP NAS can be mounted as local disks on the NAS.

Browser-based Setup and Operation to Get All Backup Tasks Done



The screenshot displays the Pure Backup Administration web interface. The left sidebar contains navigation links: Virtual Machines, App Configuration, Repository, Servers, Reporting, Preferences, and System Settings. The main content area shows a table of virtual machines under the IP address 192.168.234.217. The table columns are: Virtual Machine (with a status icon), Backup (Completed), Duration, Backup Disk Usage (Actual and History), and Backup/Restore Job Progress. The table lists several VMs, including APT_freebsd, APT_freebsd-CBTCheck, APT_freebsd-cbt_test, APT_freebsd-rec, APT_freebsd-recovered, APT_solaris, APT_ubuntu, and APT_ubuntu_datastore_test, along with their respective backup completion times, durations, and disk usage.

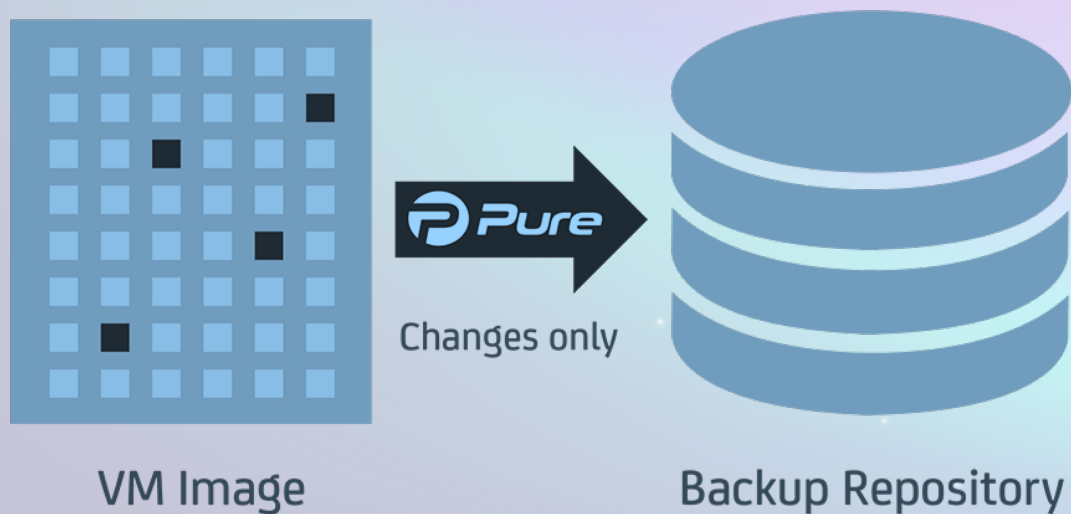
Virtual Machine ↑	Backup		Backup Disk Usage		Backup/Restore Job Progress
	Completed	Duration	Actual	History	
192.168.234.217					
✓ APT_freebsd	12.Jun 17:07	0 min 10 s	16.8 GB	0.043 GB	
● APT_freebsd-CBTCheck					
✓ APT_freebsd-cbt_test	12.Jun 17:03	0 min 04 s	14.0 GB	0.002 GB	
✓ APT_freebsd-rec	12.Jun 17:03	0 min 03 s	14.0 GB	0.002 GB	
✓ APT_freebsd-recovered	12.Jun 17:01	0 min 10 s	16.0 GB	0.043 GB	
✓ APT_solaris	12.Jun 17:01	0 min 03 s	3.4 GB	0.002 GB	
✓ APT_ubuntu	12.Jun 17:01	0 min 03 s	5.7 GB	0.002 GB	
● APT_ubuntu_datastore_test					
✓ APT_win7	12.Jun 17:03	0 min 03 s	20.0 GB	0.002 GB	
✓ APT_solaris	12.Jun 17:03	0 min 14 s	19.7 GB	0.184 GB	
✓ APT_ubuntu	12.Jun 17:03	0 min 04 s	34.1 GB	0.002 GB	
✓ APT_ubuntu_datastore_test	12.Jun 17:02	0 min 32 s	32.2 GB	2.859 GB	

VMware VM Backup for FREE

Archiware Pure 	Others
✓ Support unlimited number of ESXi ✓ Support unlimited number of VMs ✓ Enjoy full functionality ✓ Optional technical support (199USD/yr)	☹️ Complicated pricing models - by CPU or core number - by VM number ☹️ Features are locked based on license types ☹️ Annual subscription fee

Changed Block Tracking

Only save the data that was actually changed since the last backup, speeding up backups and decreasing the required storage



Flexible Backup Task Schedule and Smart Data Verification

Backup Administration

Basic Advanced Overview

VM: win10-c1

☒ Automatic backup is enabled

Backup Windows:

Frequency	St...	Peri...
☒ Run weekly on Sat	00:00	1h
☒ Run weekly on Mon, Tue, W	00:00	1h
☒ Run weekly on Mon	14:15	8h

+ ✎

Create multiple and detailed backup schedules that meet your RTO and RPO requirements

Backup Administration

Basic Advanced Overview

VM: win10-c1

☒ Automatic backup is enabled

New Backup window:

Start: 00:00 e.g. 22:00

Period: 8 hours

Frequency:

☐ Thu ☐ Fri ☐ Sat

☐ Sun

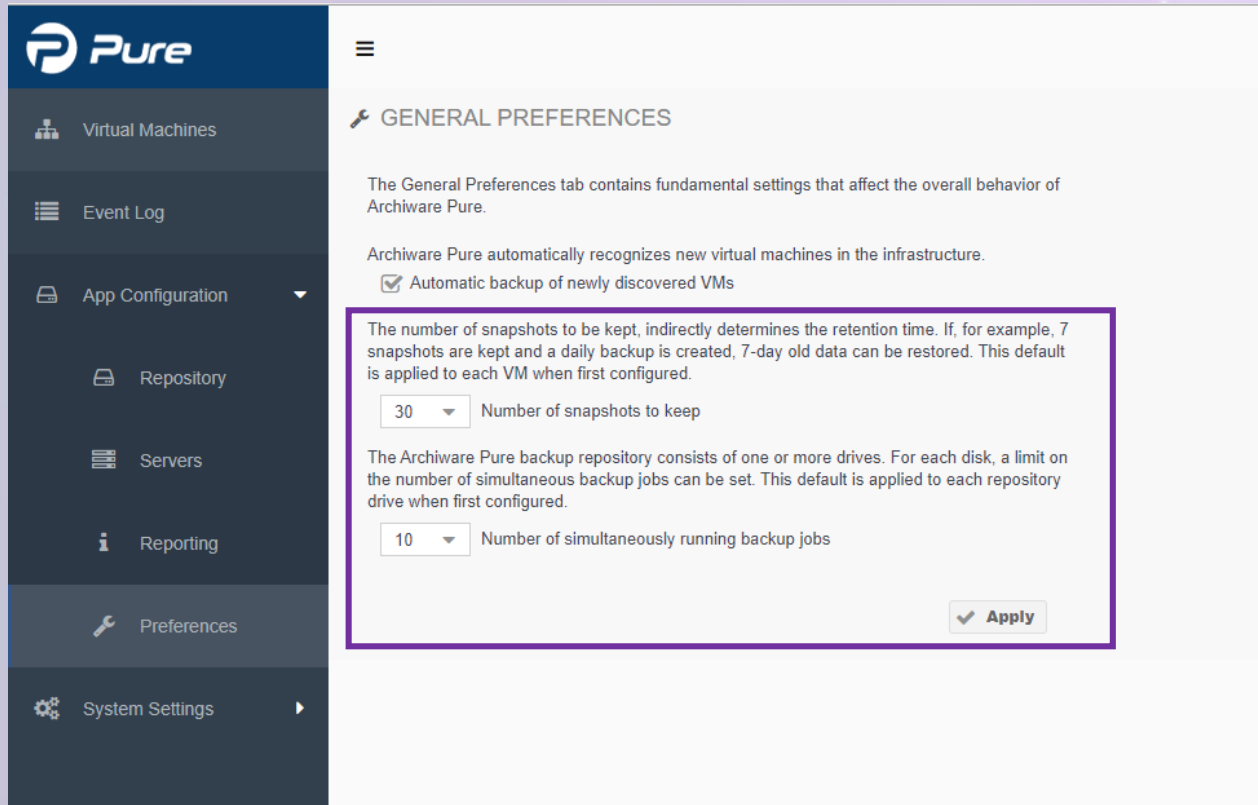
☒ Verify after backup

Cancel ✓

One click to ensure that the data in the backup repository corresponds byte by byte to the actual VM state.



Support Multiple Backup Tasks



```
elif operation == "MIRROR_Y":
    mirror_mod.use_x = False
    mirror_mod.use_y = True
    mirror_mod.use_z = False
elif operation == "MIRROR_Z":
    mirror_mod.use_x = False
    mirror_mod.use_y = False
    mirror_mod.use_z = True

#selection at the end -add back the deselected mirror modifier
mirror_ob.select= 1
modifier_ob.select=1
bpy.context.scene.objects.active = modifier_ob
print("Selected" + str(modifier_ob)) # modifier ob is the active ob

#mirror_ob.select = 0
done = bpy.context.selected_objects[0]
obj.data.objects[0].name = select = 1

print("Please select exactly two objects, the first one gets the mirror modifier")
```

Not Only VMs Can be Restored, But Also Specific File(s) in the VM

Restore

Restore VM

Restore File

The following steps guide you through the process of restoring a virtual machine to a selected point in time:

1. Choose a virtual machine to be restored:

win10-c1

2. Select a point in time to restore:

06-Jan-2020 14:15

3. Select the disk(s) to restore:

☒ All disk(s)

4. Choose the destination host:

172.17.23.117

5. Choose the destination resource pool:

/Resources

6. Select the target datastore:

DS-ES2486dc-VMDS1

Restore a dedicated VM

Restore

Restore VM

Restore File

The following steps guide you through the process of selecting a single file from a virtual machine at a point in time and downloading it to your computer:

1. Choose a virtual machine:

win10-c1

2. Select a point in time:

06-Jan-2020 14:15

3. Select a file to download ↑

硬碟 1

硬碟 2

- msdos
 - \$RECYCLE.BIN
 - System Volume Information
 - Test
 - 10001
 - ☒ image001.png

Restore specific file(s) in the VM

QNAP

Optional Pure Support Package

What is it?

- One-year unlimited number of technical support
- Support in English and German

How to buy?

- Purchase the service directly via Archiware Portal



QNAP

TUS-872N
169.254.100.100

ENTER

SELECT

QNAP

TVS-x72N



5GbE Multi-Gigabit



HDMI

- Intel® Core™ i3 4-core processor
- 2 x NVMe M.2 2280 slots
- 2 x PCIe Gen3 slots
- 5G / 2.5G / 1G Multi-gigabit

Part 1

Live
Demo

Due to the increase of high resolution cameras and large 4K video demand, the inconveniences of storing large files becomes a big issue...

- Worrying about losing your original video or images?
- What's is the backup and archive destination?
- How to back up your videos and images securely?
- How to reuse previous files?



5 Reason to Use QNAP and Archiware P5

1. The most powerful NAS
2. Built-in useful file organization and search tools in the NAS
3. Multiple protections for precious video and image files
4. Easily implement the 3-2-1 backup rule (at least 3 copies, 2 different backup media, and 1 off-site storage)
5. Support NAS file archiving to tape devices, offering you one more option besides backing up to the cloud





The best NAS to help You create the next viral video

Provides high-speed storage solutions
optimized for Video Production with vital
features, data protection, enhanced
collaboration and unprecedented performance



Killer Features

Thunderbolt Ready

Thunderbolt™ 3 NAS features ultra-high transfer speeds, making collaboration between Mac and Windows users faster and simpler

PCIe Expandability

Allows for graphics cards or 40GbE/ 25GbE/ 10GbE adapters to increase application performance.

Support M.2 SSD

Install M.2 PCIe (Gen 3 x2, 2 GB/s) NVMe SSDs (sold separately) to set up caching or storage pools, improving file access efficiency.

4K Ready

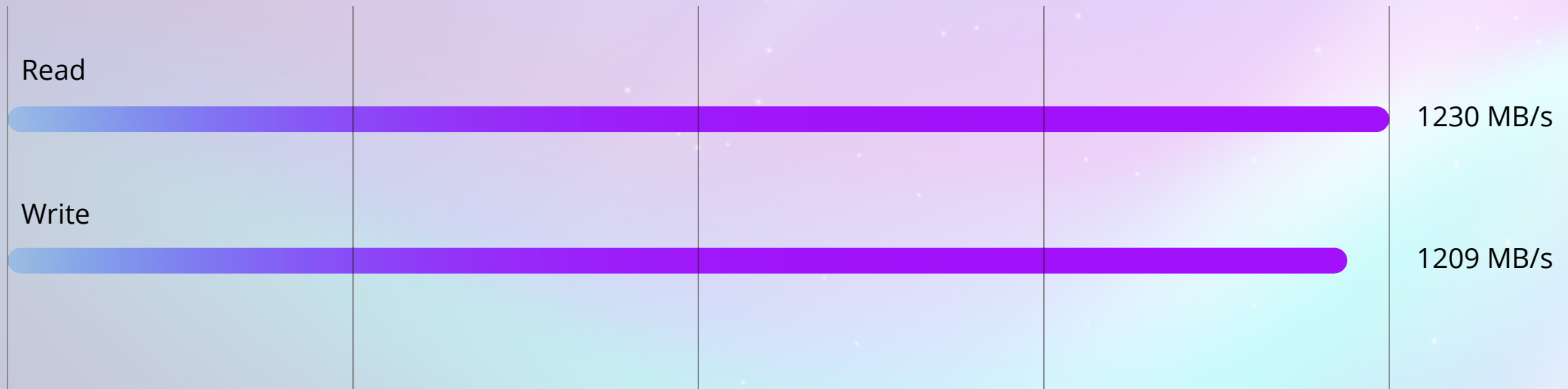
4K media playback and real-time transcoding; directly view creative works on an HDTV via HDMI 2.0 (4K @60Hz) output.

Snapshot

Fully record system status and data, allowing you to protect files and data from accidental deletion and malware attacks.

Recommended Model: TVS-872XT

TVS-872XT Offering Unprecedented Performance for Media Editing



Test Environment:

NAS: TVS-872XT

OS : QTS 4.4.0

Volume type: RAID 5; 8 x SAMSUNG SSD 860 PRO 512GB

Mac-NB :

MacBook Pro® (15-inch, 2016), Intel® Core™ i7 2.9GHz CPU, macOS: 10.13.5 High Sierra, 16GB RAM

AJA System Test (Version 2.1) resolution 5120*2700 5K RED and 10bit YUV (1GB) codec

QTS Built-in Qfiling Simplified File Organization

Create your Qfiling rules in 3 steps

Step1

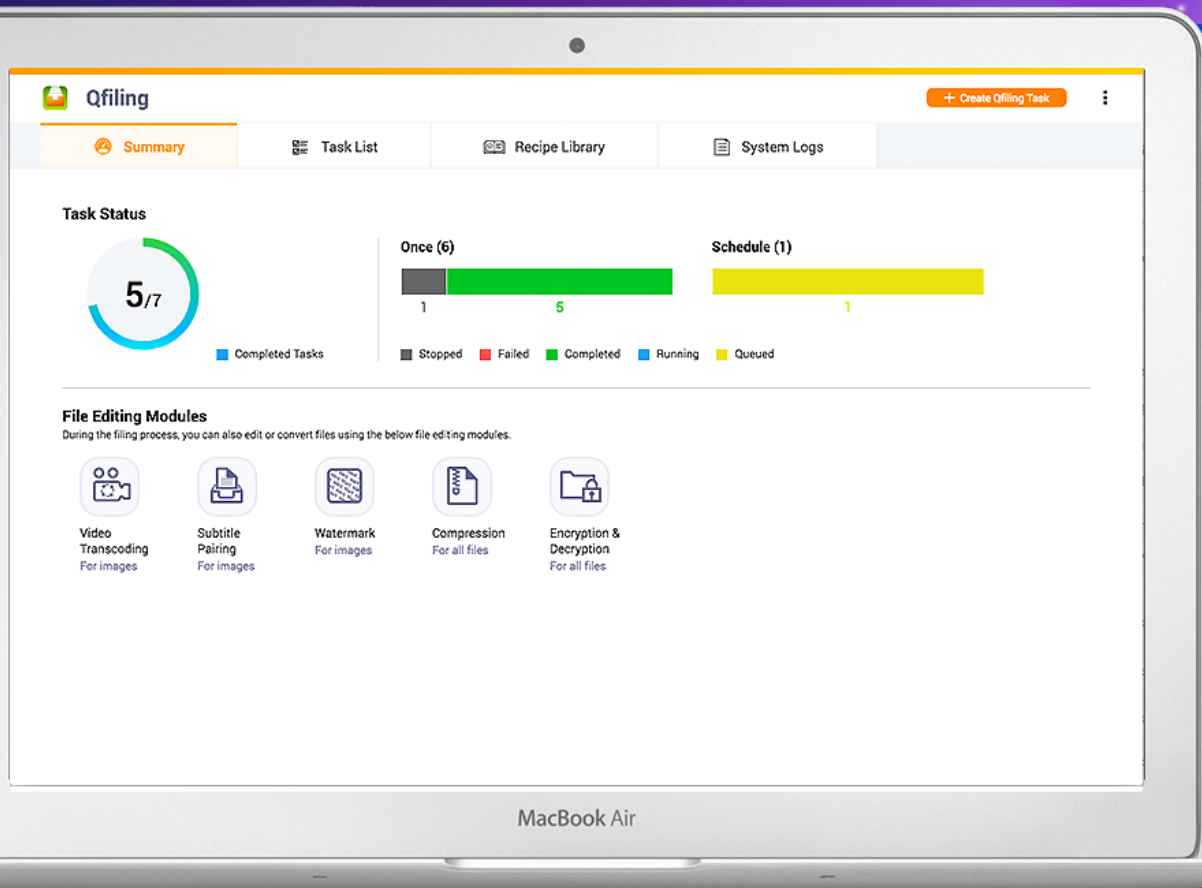
Qfiling provides various filters to determine the files you want to organize, including file name, file size, modified date and more.

Step2

Several editing modules are available for you automate the editing task throughout the file organization process, including video transcoding, encryption & decryption, compression and more.

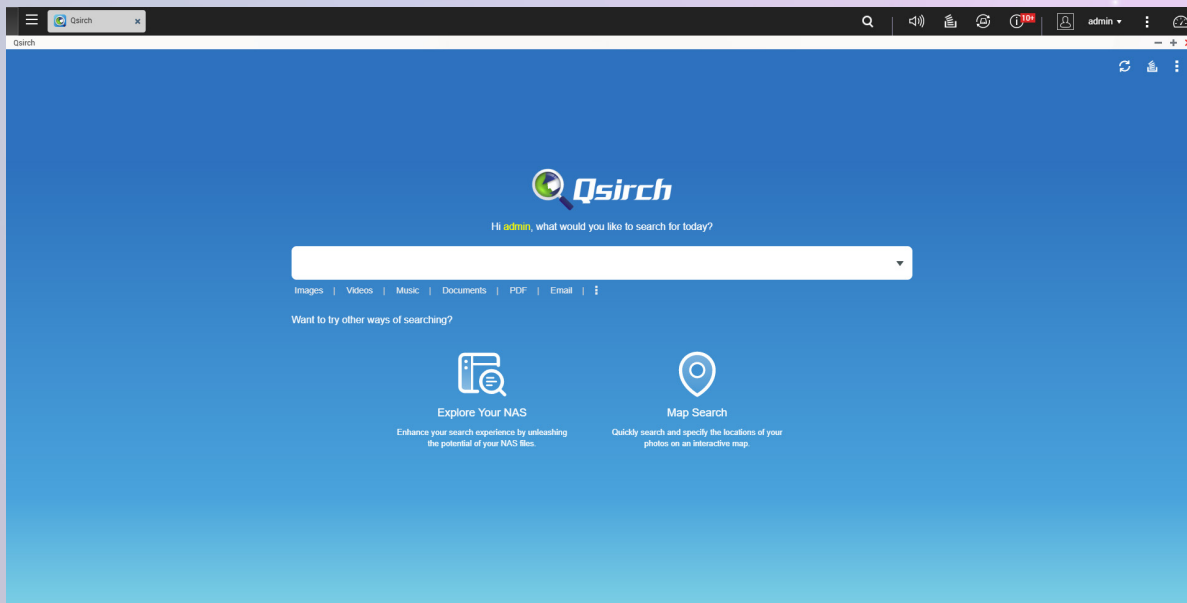
Step3

Set the destination path, folder structure, and add more options (such as renaming all the files) and your files will automatically be organized to the right folder.



QTS Built-in Qsirsch

Assist You Efficiently Find the Right File



After Qsirsch is enabled, it will automatically index all the files on NAS, allowing users to quickly find the files they need anytime. Qsirsch and QTS share the same privilege settings, so users can only find the files which they are authorized to. Admin can flexibly remove Qsirsch shared folders from getting indexed to protect sensitive data. The Admin can also exclude backup folders from getting indexed to avoid using too much system resource.

HBS 3 Multi-cloud Backup

Data deduplication, instant restoration and flexible synchronization

- QuDedup greatly reduces backup and recovery time
- Back up multiple versions even faster
- Directly view deduped data on computers using the QuDedup Extract Tool
- Expedited cloud backup with TCP BBR support
- Over 20 integrated cloud services
- Easy to build your 3-2-1 backup strategy and recovery plan

The screenshot displays the HBS 3 Overview dashboard. It features a sidebar with navigation icons and a main content area with three panels: Job Status, Storage Spaces, and Alarm Log.

Job Status

My Jobs	Success	Incoming Jobs
2	0	0
0	Running	0
1	Stopped	0
0	Error	0
0	Warning	0
2	Not Started	0

Storage Spaces

Remote NAS	Amazon S3	Google Drive
4	3	2
1 1 2	3 0 0	2 0 0

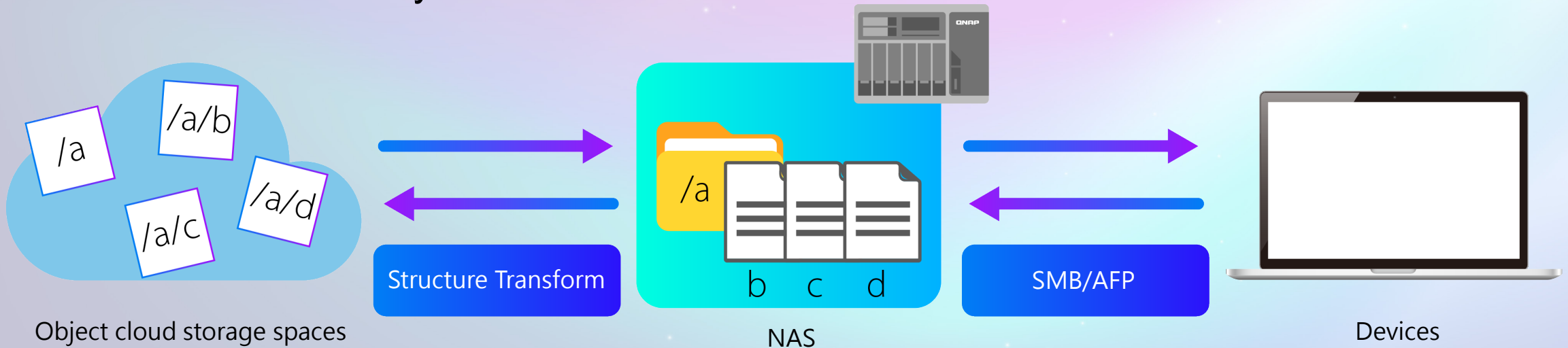
Alarm Log

Type	Date	Message
Error	2019/05/09 18:28:29	[Hybrid Backup Sync] Failed to complete Backup job: "L...
Error	2019/05/09 18:28:11	[Hybrid Backup Sync] Failed to complete Backup job: "L...
Error	2019/05/07 17:14:26	[Hybrid Backup Sync] Failed to complete Backup job: "L...
Error	2019/04/29 17:45:40	[Hybrid Backup Sync] Failed to complete Sync job: "One...
War...	2019/04/29 17:42:34	[Hybrid Backup Sync] Failed to complete Sync job: "One...
War...	2019/04/29 17:39:28	[Hybrid Backup Sync] Failed to complete Sync job: "One...
War...	2019/04/29 17:36:22	[Hybrid Backup Sync] Failed to complete Sync job: "One...

HybridMount

Hybrid Cloud File-Based Gateway

Supports SMB, NFS, and AFP file transfer protocols for mounting the cloud storage to your NAS. The NAS cloud storage gateway now allows you to seamlessly access cloud-based files on your PC.



Backup vs Archive vs Synchronize

What Should You Choose?

	Backup	Archive	Synchronize
	Duplication of data used for daily production	Migration of finished productions	A way to keep data sets identical in two locations (data distribution locally or worldwide) including failover
Needs	• Multiple file versions protection • Access rights and ACLs backup • Offsite backup to another NAS or public cloud	• Data archive to tape for long-term protection • Automatic backup of archive indexes for effective search and retrieval	• No restore is required • Sync to remote location • Cloud enabled

QNAP X Archiware P5 can easily meet all the above needs

You Can Use the Fully Featured P5 as a Backup Assistant



Backup

Create
secure copies of
files for quick
restoration



Archive

Migrate inactive NAS
data offline to cost-
effective LTO tape or
Cloud



Synchronize

Clone time-
critical data to
create a failover
solution

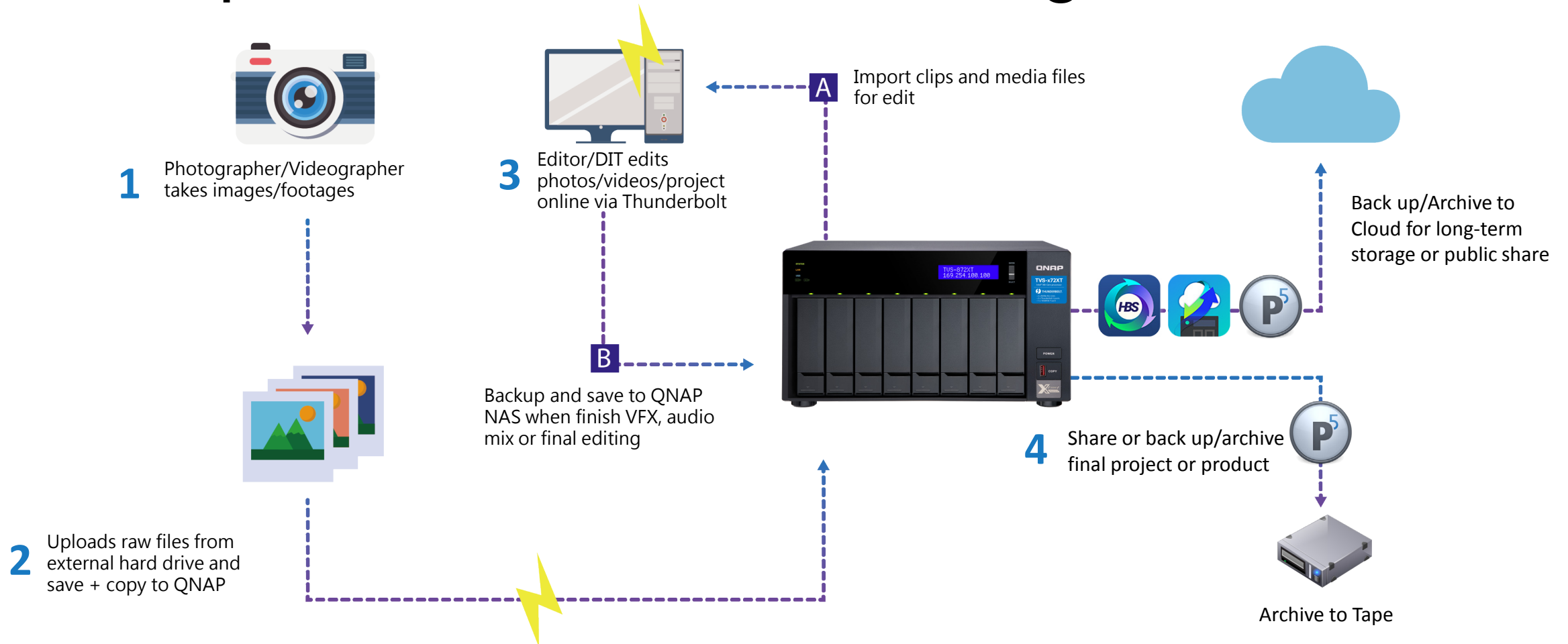


Backup2Go

Backup
desktop and
laptop data
to central NAS

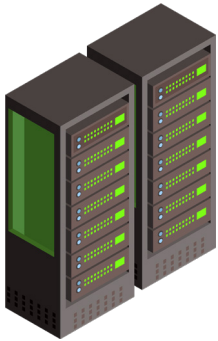
QNAP X Archiware P5

Optimize Your Media Editing Work Flow



Target Storage Supported by P5

Disk Array



Any NAS and SAN
storage vendor

Tape



All LTO generations Tape
drive and library

Cloud



Amazon S3 / Amazon Glacier
Microsoft Azure / Backblaze B2
Any S3 compatible (Wasabi,
Alibaba)

Which Module is Right for You?

It depends on 'How long can you be without your data?'

Minutes	Cloning/ Failover NO Restore necessary	 Synchronize
Hour(s)	Backup to Disk or Tape or Cloud	 Backup
Day(s)	Long-term Archiving with off-site Storage to Tape or Cloud	 Archive

Tape Backup Advantages You Should Know

✓ High security

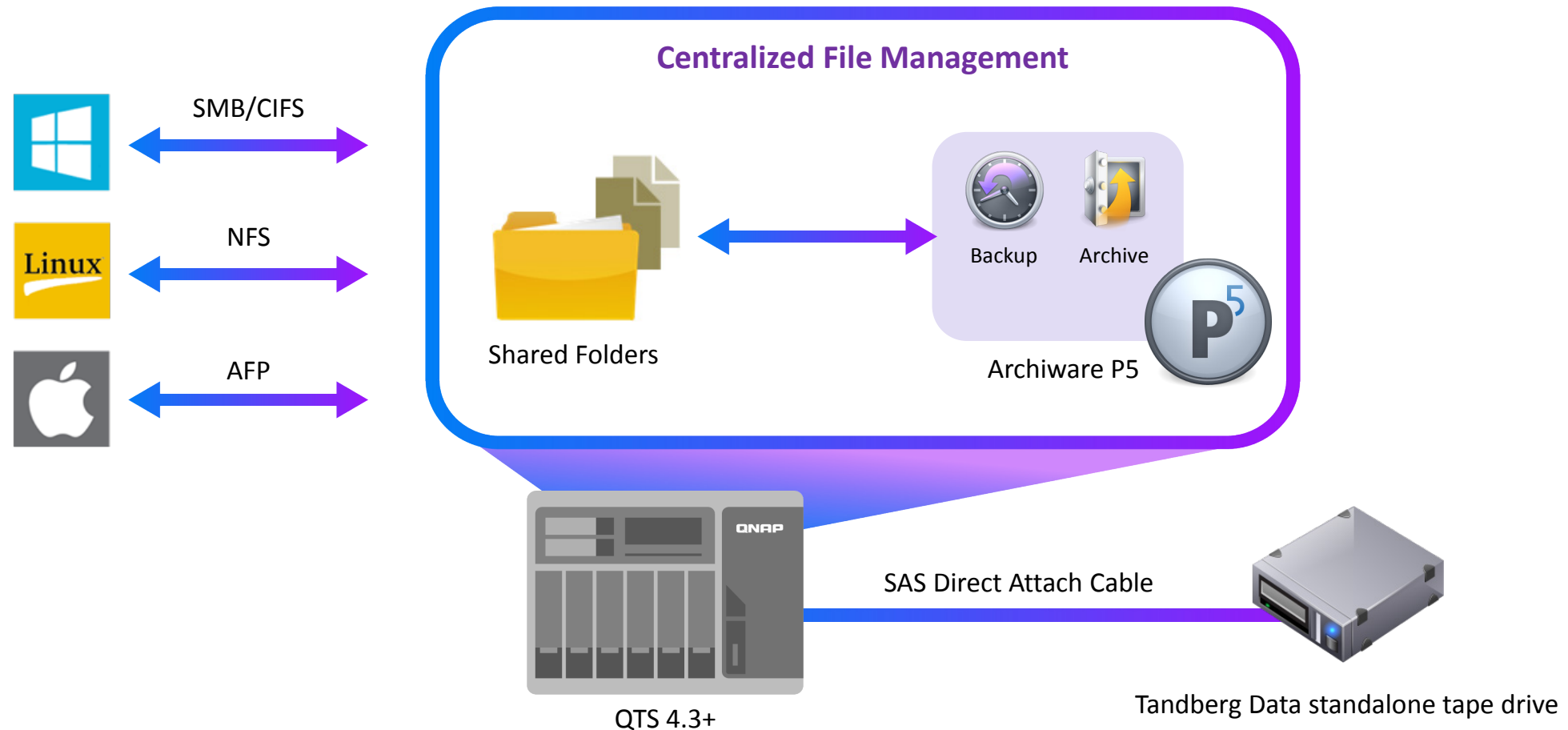
Data cannot be easily stolen and erased by hackers from outside. Enterprise and institutions, such as banks, insurance companies, national file archive and scientific research institutions, that have much more concerns about data security still use tape to backup and archive data

✓ Incredible durability and stability

Compared with hard drives, a normal-used and well-preserved magnetic tape can be used for decades.



New Option for Long-term Data Storage: You Can Archive NAS Data to Tape Devices

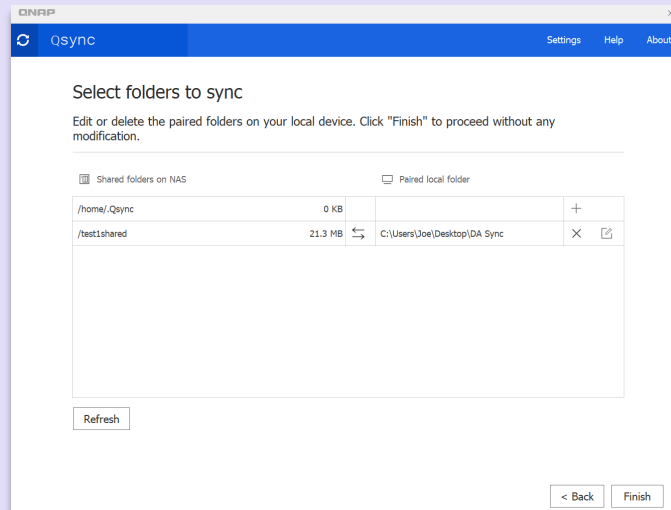


Manage Media File Life Cycle Through QNAP Applications

Data Life Cycle

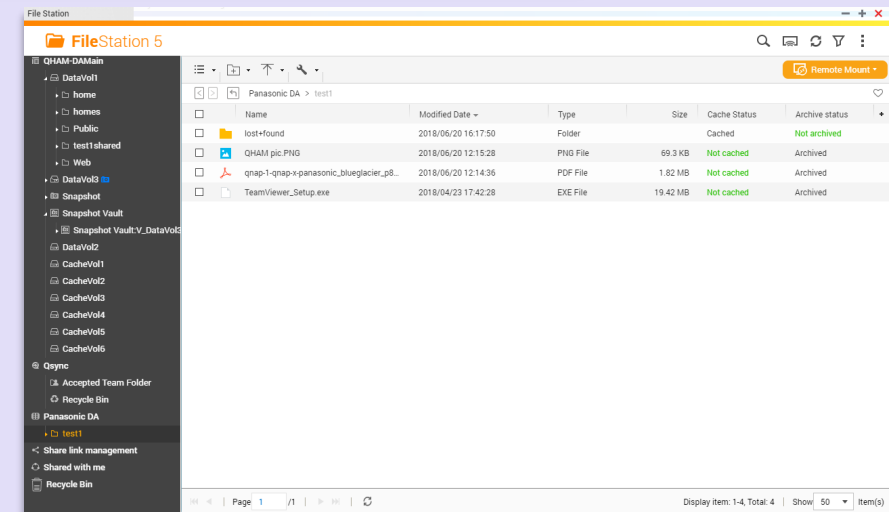
Data Generated

File management



Qsync

Sync client data to NAS



File Station

Manage all files stored in NAS

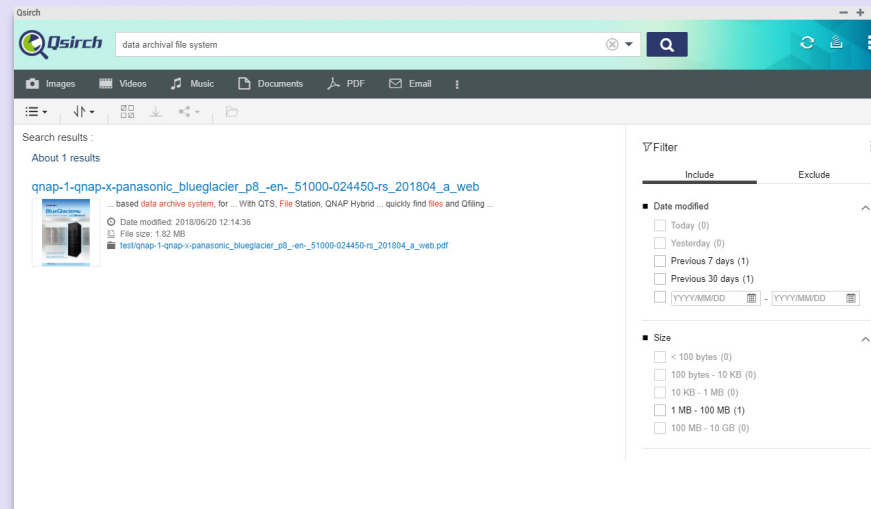
Manage Media File Life Cycle Through QNAP Applications

Data Life Cycle

Bulk Data

File re-organization

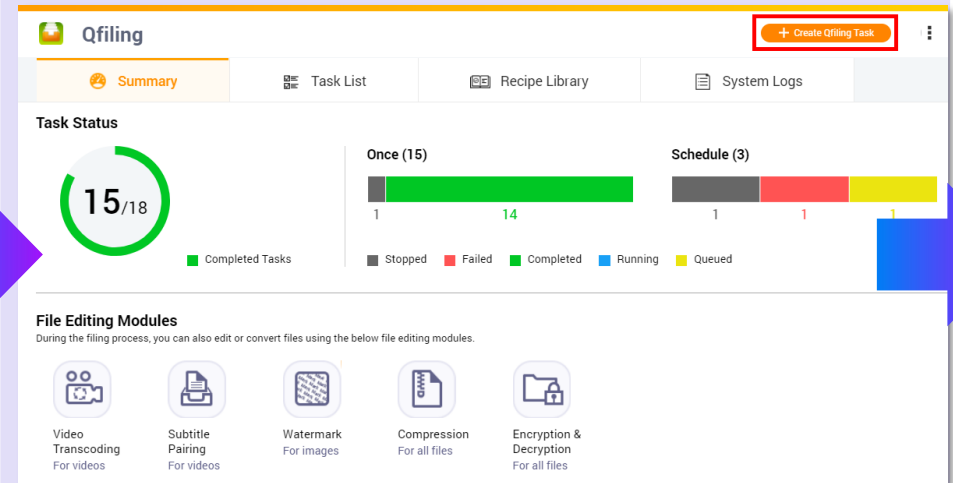
File Mgmt.



Qsirch

Search desired information from accumulating files

QNAP Apps



Qfiling

Automates your file organizing tasks. All you need to do is categorize your files and set a schedule

Manage Media File Life Cycle Through QNAP and P5 Applications

Data Life Cycle

Backup or Archive to Cloud

File Mgmt.

QNAP / Archiware
Apps

The image displays two overlapping software interfaces. The background interface is HybridMount, showing an 'Overview' page with sections for 'Licensed Connections', 'Cache Space', and 'Remote Mount Connections'. The foreground interface is HBS 3, showing an 'Overview' page with 'Job Status', 'Storage Spaces' (including Remote NAS, Amazon S3, and Google Drive), and a 'Backup overview' table.

Client	Backup Plan	Last Run	Last Successful	Directories	Last Pool	Next Run	Next Pool
localhost	Amazon S3	Finished	4 hours ago (0 bytes)	/share/ZFS3_DATA/Public/SourceData	Amazon_S3_bck	09-Jan 12:00	Amazon_S3_bck

Below the table is a 'Pool usage' section for 'Amazon_S3_bck' showing a progress bar for 960.00 KB used / 50.00 GB free.

HybridMount / HBS 3 / Archiware P5

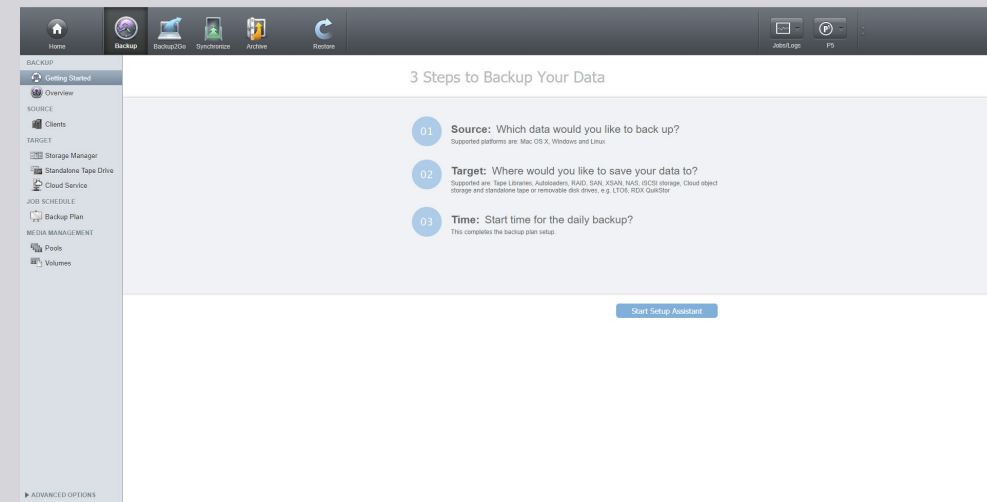
Manage Media File Life Cycle Through P5 Applications

Data Life Cycle

Archive to Tape

File Mgmt.

Archiaware App



Tape drive or library

Archiware P5
Easy archive file to tape

QNAP

TUS-872N
169.254.100.100

ENTER

SELECT

QNAP

TVS-x72N



5GbE Multi-Gigabit



HDMI™

- Intel® Core™ i3 4-core processor
- 2 x NVMe M.2 2280 slots
- 2 x PCIe Gen3 slots
- 5G / 2.5G / 1G Multi-gigabit

Part 2

Live
Demo



QNAP x Archiware

Best Backup Solution to Secure Your VMs and Digital Assets

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