QSAN

Data Storage, Security & Performance

XCubeNAS

XN3000T / XN5000T / XN7000T / XN8000T Series

- N+1 hybrid storage: 3.5" SATA HDDs and additional 2.5" SATA SSD for optimizing data processing without sacrificing the storage capacity.
- Flexible host interface with 10GB/40GB/Thunderbolt™ 3.0 options.
- Screw-less HDD/SSD tray design for easy installation and maintenance.
- Brand new enterprise level QSM 3.0 with all new interface and features to empower SMB solutions.
- Unified storage architecture with full virtualization support.

intel Celeron inside | citrix READY | vmware READY STORAGE | Windows Server 2012 Certified

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XCubeNAS Series Tower
Product Overview

The XCubeNAS series (XN3000T / XN5000T / XN7000T / XN8000T) is a simple, solid and stylish NAS system which is designed for Workgroup and SMB applications. The XCubeNAS is powered by specifies hardware N+1(3.5" LFF xN + 2.5" SFF x1) design, with additional onboard SATA SSD slot for blazing performance and capacity expansion that can benefit every workgroup and SMB user.

The XCubeNAS operating system is the brand new, and totally reimagined QSM3.0 brings the enterprise level features into the Work group and SMB storage. QSM3.0 supports comprehensive enterprise level storage features including SSD caching, thin provisioning, auto-tiering, data deduplication and data compression that transform the efficiency of every resource to bring you commercial value.

Customized Hardware Platform
For Enterprise Applications

The XCubeNAS is perfectly designed for Workgroups and SMB by the latest hardware specification. Humanized mechanical design makes the installation and maintenance much easier than you can imagine. Meanwhile, the customized hardware platform with QSAN enterprise level operation system provides efficiently applications, enterprise level storage solutions, and extended network bandwidth for comprehensive office environments. With additional PCIe slots on XCubeNAS, ultra-high-speed data transmission, such as 10GbE, 40GbE and Thunderbolt 3, is also capable for multiple purposes.

The Latest Processor

XN3000T with high performance Intel Celeron processor; XN5000T/XN7000T/XN8000T with Intel latest 7th generation processor to provides abundant resources to meet computational requirements of a wide variety of applications.

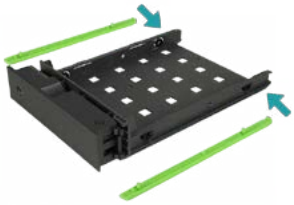
Up to 4 x 1 GbE Network Interface

XN3000T built-in two 1GbE Ethernet ports; XN5000T/XN7000T/XN8000T built-in four 1GbE Ethernet ports which meet iSCSI/NFS/CIFS network data transmission requirements.

Feature Highlight

Effortlessly Installation and Maintenance

Screw-less tray design for 2.5" SSD and 3.5" HDD anyone can install the HDD and boost up performance without IT background.

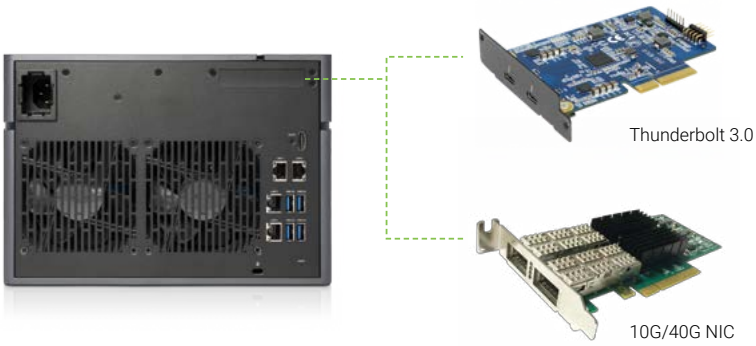


Exclusive Service Door for Memory Upgrade.

XN3000T supports DDR3LSO-DIMM RAM that can be expanded up to 8GB; XN5000T/XN7000T/XN8000T build in 8GB DDR4 SO-DIMM RAM that can be expanded up to 32GB.

Flexible Expansion PCIe Slot

XN5000T/XN7000T/XN8000T have an additional PCIe expansion slots give the XCubeNAS the flexibly to respond to various application demands. Thunderbolt™ 3 and 10GbE/40GbE network adapter cards are supported to greatly enhance the data transmission speeds. Moreover, Thunderbolt 3 adapter cards are also able to enlarge the storage capacity to 246TB.



Innovative (N+1)
Hybrid Storage Capacity

The innovative mechanical design makes the XCubeNAS a versatile hybrid storage device. Without affecting existing large form factor slots, the XCubeNAS positions small form factor bays for SATA SSD at the left side of the system, this way we can ensure that both the demands for capacity and performance can be satisfied.

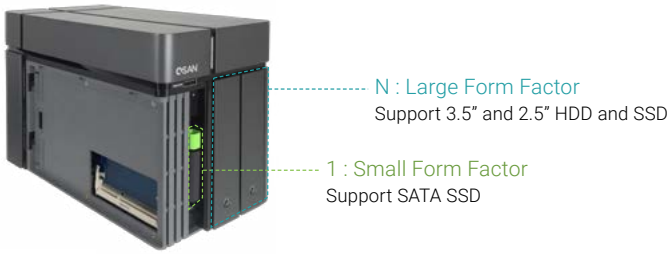
	XCubeNAS	Other Brand Tower NAS
XN3002T	1 SSD Cache + RAID 0 (2 HDD) 1 SSD Cache + RAID 1 (2 HDD)	1 SSD Cache + RAID 0 (1 HDD)
XN3004T, XN5004T, XN7004T, XN8004T	1 SSD Cache + RAID 0 (4 HDD) 1 SSD Cache + RAID 1 (4 HDD) 1 SSD Cache + RAID 5 (4 HDD) 1 SSD Cache + RAID 6 (4 HDD)	1 SSD Cache + RAID 0 (3 HDD) 1 SSD Cache + RAID 1 (3 HDD) 1 SSD Cache + RAID 5 (3 HDD)
XN3006T, XN5006T, XN7006T, XN8006T	1 SSD Cache + RAID 0 (6 HDD) 1 SSD Cache + RAID 1 (6 HDD) 1 SSD Cache + RAID 5 (6 HDD) 1 SSD Cache + RAID 6 (6 HDD)	1 SSD Cache + RAID 0 (5 HDD) 1 SSD Cache + RAID 1 (5 HDD) 1 SSD Cache + RAID 5 (5 HDD) 1 SSD Cache + RAID 6 (5 HDD)
XN3008T, XN5008T, XN7008T, XN8008T	1 SSD Cache + RAID 0 (8 HDD) 1 SSD Cache + RAID 1 (8 HDD) 1 SSD Cache + RAID 5 (8 HDD) 1 SSD Cache + RAID 6 (8 HDD)	1 SSD Cache + RAID 0 (7 HDD) 1 SSD Cache + RAID 1 (7 HDD) 1 SSD Cache + RAID 5 (7 HDD) 1 SSD Cache + RAID 6 (7 HDD)

N : Large Form Factor

Large form factor slots drive trays feature not only 3.5 inch drive support but also 2.5 inch mounting holes are included as standard on all bays on the XCubeNAS. Fitted with up to 10TB drives in the 3.5 inch HDD bays, the XCubeNAS can fulfill capacity demands, and exceed them after adding our XCubeDAS systems.

1 : Small Form Factor

Additional 2.5 inch small form factor are provided in order to enable advanced features without sacrificing storage capacity. In addition to being used for SSD caching for boosting data access performance, our auto-tiering architecture can be utilized to offer a complete ongoing optimization.



Leading Enterprise-level
NAS Operating System

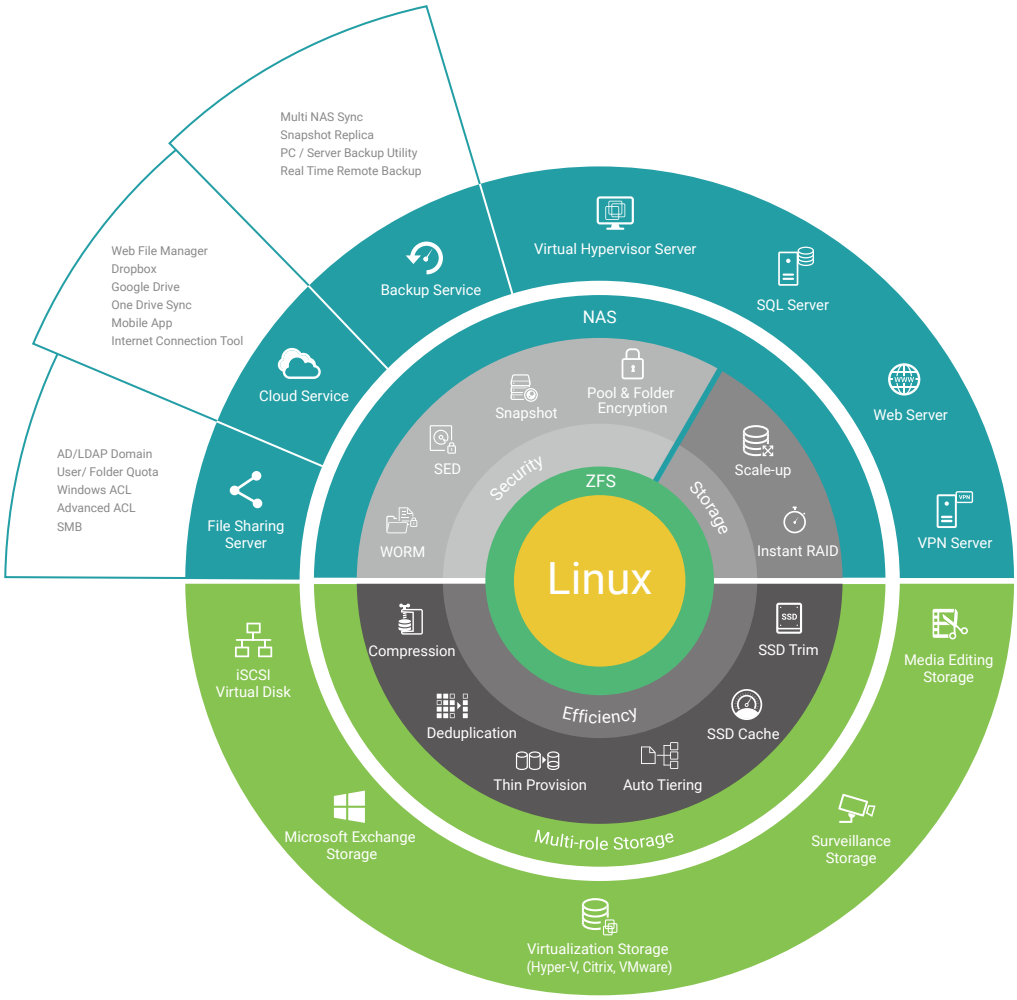
QSM 3.0 (QSAN Storage Manager 3.0) is an innovative storage operating system designed for QSAN XCubeNAS products. Based on Linux and 128-bit ZFS (Zeta-byte File System), QSM 3.0 not only inherits the amazing native features of ZFS but is also adjusted with several bespoke optimization enhancements that make the XCubeNAS series a high-performance, efficient and superior network attached storage device.

QSM 3.0 guarantees data integrity, and security. The built in checksum mechanism can automatically correct corrupted data using file snapshots. A wide range of supported RAID types, file and block level snapshots and various backup solution support ensures that data always well-protected. AES-256 pool encryption, WORM and SED drive support prevent confidential data from being either stolen or modified.

QSM 3.0 utilizes every resource to achieve data efficiency. Data deduplication and compression technology reduce storing duplicate data blocks and files to maximize storage capacity, making the XCubeNAS capable of storing beyond its raw storage capacity.

QSM 3.0 effectively addresses the performance demands of various applications. The SSD caching boosts up data access speed. And classifying data by access frequency lets auto-tiering help you fetch frequently used files even faster.

Value-added functionalitys such as virtualization capability, multiple server center, centralized file station etc. are also provided making QSM 3.0 robust and able to carry out dedicated applications.



High Expandability & Scalability

Empowered by the advantages of PCIe expansion slots, the XCubeNAS could instantly and effectively respond to application demands. Using Thunderbolt™ adapter card to connect to remote virtual volume of another XCubeNAS can easily scale storage capacity up. Network speed can be greatly enhanced by using Thunderbolt™, 10G and 40G network adapter cards.

The Next Generation
Thunderbolt™ 3 Solution

QSAN is proud to be providing the latest Thunderbolt™ 3 adapter card as an option for our XCubeNAS series NAS. You can create lightning throughput and reliable connectivity between XCubeNAS storage systems and a work station, MacBook or iMac directly with the QSAN Thunderbolt™ 3 solution.

In addition to the lightning throughput, the Thunderbolt™ 3 ports can be directly attached to the QSAN XCubeNAS series NAS products for expending client's data storage capacity or can hook up as an external device for fast data backup to the XCubeNAS. Thunderbolt™ 3 not only delivers an amazing 40 Gbps data transmission rate but also provides more than a 100% increase in bandwidth than the 2nd generation.

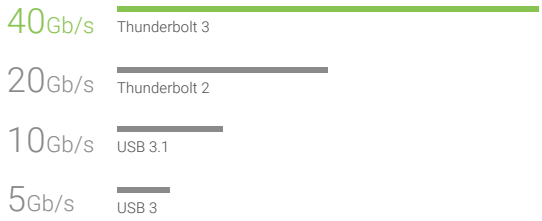
Theoretically the Thunderbolt™ 3 solution is up to eight times faster than USB 3.0. So a XCubeNAS with a Thunderbolt™ 3 adapter is an ideal solution for throughput demanding applications such as video editing and production, music production, digital photography editing, high speed external device data backup to NAS and more.

XCubeNAS Thunderbolt™ 3 Applications

High-Performance: Breaking The I/O Throughput

With next generation Thunderbolt™ 3 technology, you can connect a Thunderbolt™ 3 device to an XCubeNAS directly with a 40Gb/s data transmission rate.

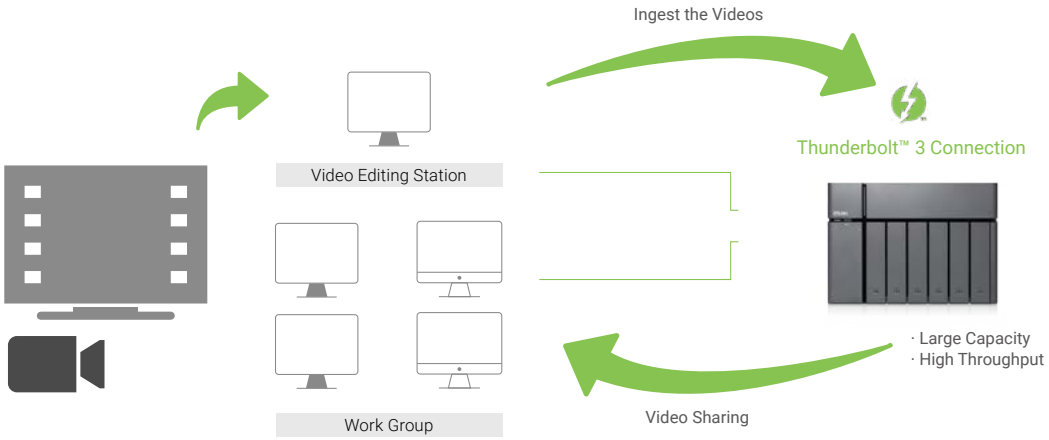
XCubeNAS with Thunderbolt™ 3 is capable of transferring high-resolution video smoothly and handling relative workloads with ease. Copy a 4.7GB DVD video will on average take under a minute.



Type	CD 700MB	DVD 4.7GB	Blue-ray 25GB
Thunderbolt™ 3 (40Gb/s)	0.14	0.95	5
Thunderbolt 2 (20Gb/s)	0.28	1.88	10
Thunderbolt (10Gb/s)	0.56	3.76	20
USB 3.1 (10 Gb/s)	0.56	3.76	20
USB 3.0 (5 Gb/s)	1.12	7.52	40
FireWire 800 (800Mb/s)	7	47	250
USB 2.0 (480Mb/s)	11.66	78.33	416.66

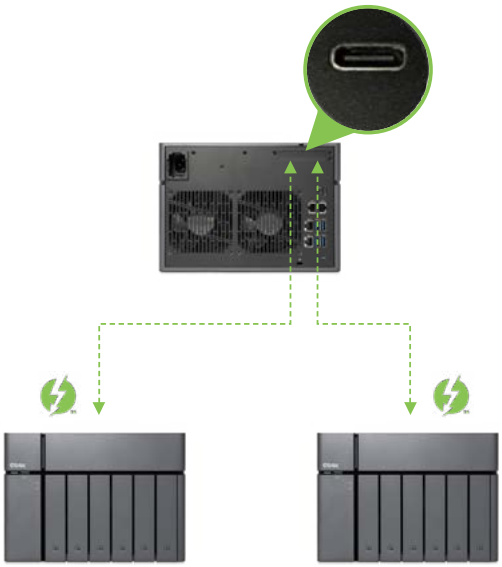
High-efficient: 4K Video Editing

The XCubeNAS fulfils storage and video editing needs with high-speed Thunderbolt™3 . Digital videos can be quickly stored and edited on the XCubeNAS via a stable transmission tunnel without dropping a single frame. So you can are able to achieve blazingly fast transfer speeds to your workstation at up to 40 Gb/s speed with a single cable connection. That's more than enough bandwidth to handle the highest resolution video formats including Ultra HD and 4K, or even the highly demanding stereoscopic 3D files.



High Capacity: Scale-Up Solution

The XCubeNAS provides a massive scale-up capability by connecting other XCubeNAS with the thunderbolt technology. It can support up to whopping 27 disk drives or up to 246 TB of raw storage space by using 10TB HDD drives.

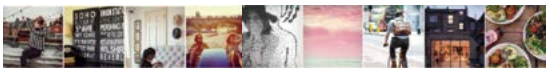


Maximum Raw Storage Capacity

NAS Models	Enclosure Front Factor	Max. No. of Expansion Units	Max. No. of Hard Drives	Max. Raw Capacity	
				LFF 8TB SFF 2TB (SATA)	LFF 10TB SFF 2TB (SATA)
XN8008T XN7008T XN5008T	Tower 8 +1bay (LFF 8 + SFF 1)	2	9+9*2=27	198 TB	246 TB
XN8006T XN7006T XN5006T	Tower 6+1 bay (LFF 6 + SFF 1)	2	7+7*2=21	150TB	186TB
XN8004T XN7004T XN5004T	Tower 4+1 bay (LFF 4 + SFF 1)	2	5+5*2=15	102TB	126TB

Highly Expandability:
Enlarge Your MAC's Capacity

With storage in modern computers at a premium, running out of storage seems like an every day issue. With the XCubeNAS when you are out of storage space, simply connect XCubeNAS it to your MAC via the Thunderbolt port. It can will then provide extra space in a secure and high performance environment. Moreover, Choosing stable Thunderbolt interface to share your MAC's data to another workstation by separating the XCubeNAS from your MAC and attach to the workstation. Using the Thunderbolt connectivity also allows flexibility. To share work between desktops, simply disconnect the cable from your machine, and attach it to another.

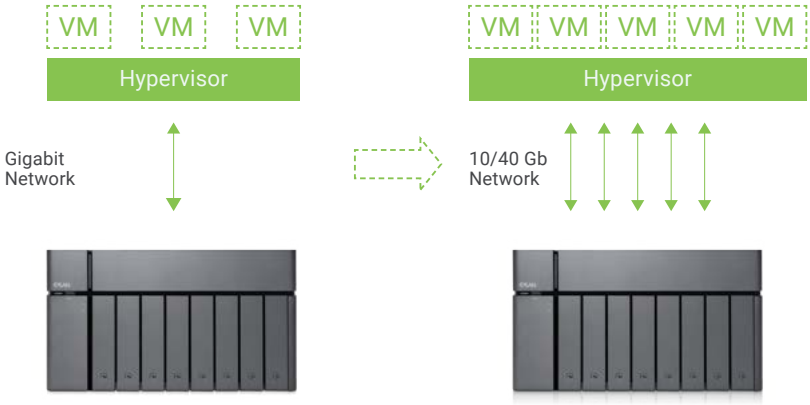


High speed 10GbE/40GbE
High Speed Adapter Card

A 10GbE/40GbE (10 Gigabit/ 40 Gigabit Ethernet) network is essential for businesses that demand high bandwidth for virtualization, and fast backup and restore for an ever-growing amount of data. The XCubeNAS Rackmount series is an affordable and reliable storage solution for deploying a 10GbE / 40GbE environment.

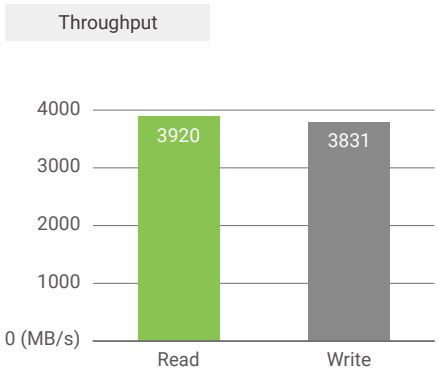
Unleash The Full Potential Of Virtualization

Application and processing requirements constantly evolve, heightening the need for higher performance storage, and with virtualization of IT resources, the need for high performance storage is essential. The XCubeNAS offers class leading hardware matched with unparalleled 10Gbps/40Gbps speed for all virtualization needs. The 10Gbps/40Gbps speed will increase the agility of data transmission in a virtualized environment, therefore intensifying NFS and iSCSI connection performance.

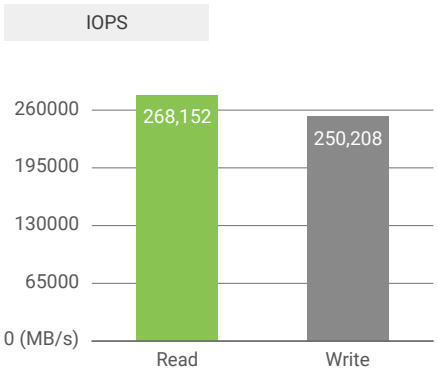


High-Performance I/O Throughput

10/40 GbE high-speed networks are highly beneficial for IOPS-demanding applications such as virtualization, databases, high-resolution video editing, and sharing workflows.



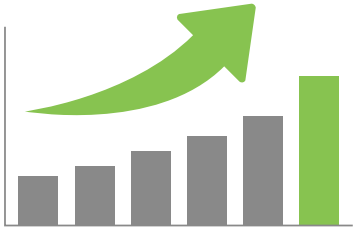
10 Gigabit LAN port x4



10 Gigabit LAN port x4

Efficient Management & Maintenance

With the powerful QSM 3.0 file system and intuitive interface, IT administrator are able to efficiently manage account, storage, network bandwidth and monitor the activities occurring on the XCubeNAS, and react on a moment's notice if something goes wrong.



Intuitive
Interface

It's important for users to easily operate and manage the XCubeNAS. With the simple, clear and intuitive interface such as graphic icons and tablet / phone-like interface, making the XCubeNAS easier and more pleasant for everyone to use without any professional knowledges.

Furthermore, QSM exclusive design **Dock** is the bar of icons that sits at the bottom, you can pin your access most App on Dock. It provides easy way to access your QSM.

Account Setting
& Management

Users are allowed to create multiple user accounts and share folders, and authorized by those shared folders with the support of privilege settings. There are features that IT administrators can set the access control on the XCubeNAS.

Privilege Setting

The XCubeNAS has the ability on setting user's windows permission of the specific share folder and its subfolder, or limit user to access specific services. Ensure the data security on the XCubeNAS and prevent the invasion of privacy among every user.

User And Folder Quota

By adding quotas (limits) to users, the XCubeNAS can decide the storage space on the individual user folder and limit the storage capacity in each volume. With this feature, the admin will has the ability of complete control on the NAS storage allocation.

Quality of Service
(QOS)

Streaming media or editing files online may lower the input/output speed. To prevent being cut into the bandwidth, the XCubeNAS provides services that allows users to take control of the bandwidth. Service binding is a technique for binding a particular service (like SMB/CIFS or FTP or etc.) to a specific port, each service can use specific port. This effect dedicates the full bandwidth of the LAN port to that specific service.

Smart
Monitor

Monitor Center

The XCubeNAS has its system monitor center for users to efficiently monitor the resource status(like CPU, RAM , memory, pool status...), hardware information, network service (like WebDAV, Rsync, NFS, FTP...), and view all the system logs.

Dashboard

Graphically presenting system health, hardware/ network information, system logs and notifications on desktop, the XCubeNAS provides dashboard that can inform the IT administrator of the latest system information in real-time.

System
Notification

The IT administrator must always have the most comprehensive and up-to-date information about their XCubeNAS. The XCubeNAS supports Buzzer alert email and SNMP service that can ensure them to respond to incidents immediately and more efficiently.

Buzzer Alert

The XCubeNAS will make buzzer alert to notify the user when detecting the abnormal situation on the system. Allowing users to figure out that something problems happened on their NAS at the shortest time.

Notification Via Email

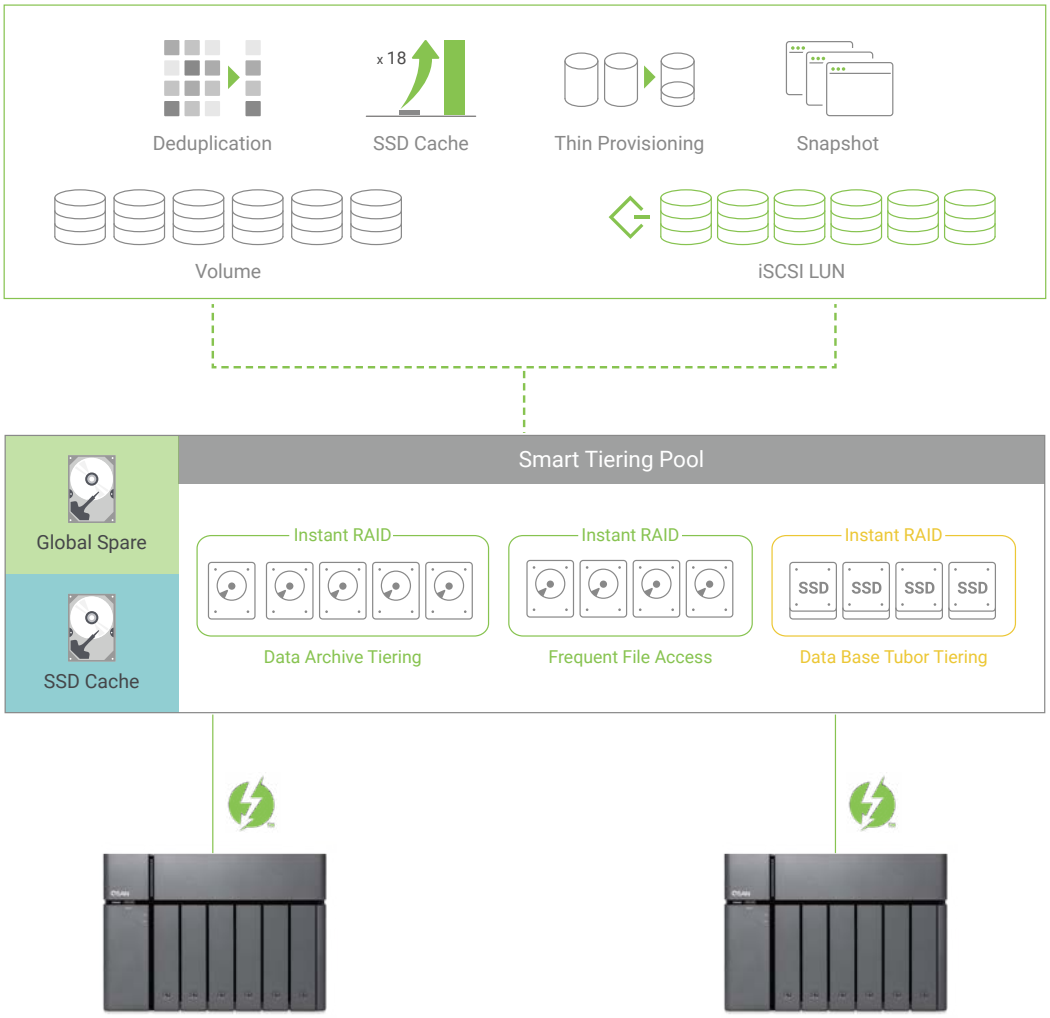
When encountering some system problems, the administrator can get the notification at the same time via email with the support of email alert services such as Gmail, Yahoo, Outlook and other custom settings.

SNMP Service

XCubeNAS supports SNMP (Simple Network Management Protocol) service that allows network administrators to use any SNMP-based NMS (Network Management System) to monitor the status of the connected XCubeNAS with network management software. With SNMP trap capability provided, XCubeNAS can send notification to NMS actively when the pre-defined levels of events occur.

Define Your Own Business
With Advanced Storage Technology

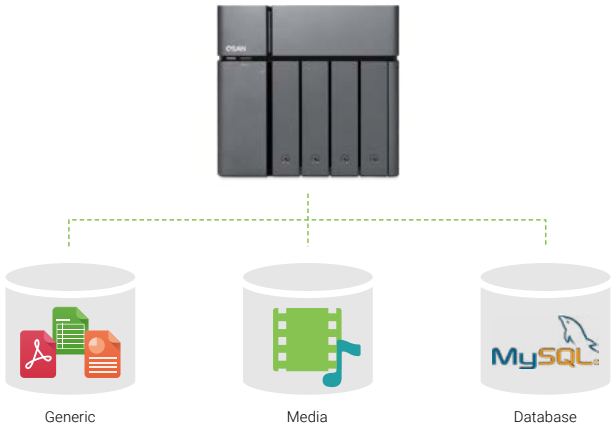
XCubeNAS tailor-made storage pool technology effectively caters to diverse storage demands on data integrity, scalability, high performance and availability. Comprehensive RAID levels are supported to ensure data integrity under every application scenario. Pool capacity could be expanded on the fly, rapidly responding to growing needs of for capacity. The design of the XCubeNAS allows for creating customized storage pools and auto categorization of data based on usage. “Hot” data will be moved to front line storage while “cold” data is stored on slower disks. All this is done automatically with the XCubeNAS.



User Defined Pool

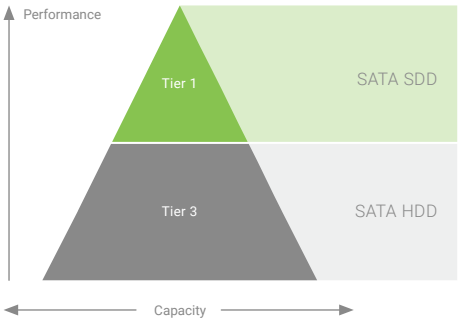
Thinking ahead to common usage situations, the XCubeNAS provides three optimized solutions for pools to achieve high performance and availability for dedicated storage

- Generic: Default type for generic file service or backup usage.
- Media: Optimize IOPS for small packets of sequential RW and throughput for large, random packets.
- Database: Data is synchronized between the memory cache and disks in real time for assurance of database Integrity.



Auto Tiering

Increase the performance of your business related applications by using auto-tiering; without crippling your budget. The XCubeNAS features auto-tiering technology that continuously analyzes how often data has been accessed. Frequently-used data would will then be automatically moved to drives with higher access speeds, while rarely-used data would be is moved to large capacity, slower drives. Demanding workloads of your business applications could can be dramatically reduced and the performance increased without heavy investment in expensive All Flash storage devices - this is all done by the XCubeNAS's intelligent auto-tiering technology.

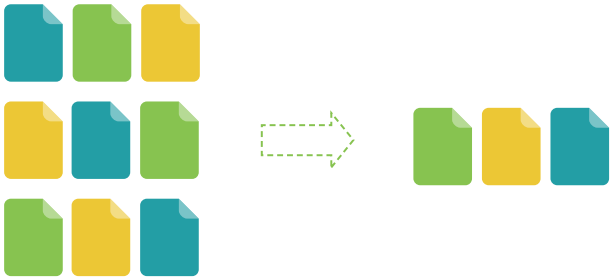


Thin Provision

"Take whatever you need." That's the philosophy of thin provisioning. Thin provisioning lets various services and applications use the same storage space without limiting how much of the quota can be used by each. With thin provisioning, space resources are dynamically distributed to the most demanding, responding to your business applications with higher flexibility and promising potentials.

Data Deduplication

The data deduplication feature of the XCubeNAS is an in-line, block-level function that checks the block similarity of data as it enters the system When duplicate blocks are found, they are not written to disk, therefore saving space.



Data Compression

With compression, data will be compressed into fewer bytes on transmission to ensure the faster transfer speed and save storage space.

SSD Cache

SSD cache is a large secondary cache that boosts data access speed by positioning SSD drives between primary DRAM memory cache and hard disks.

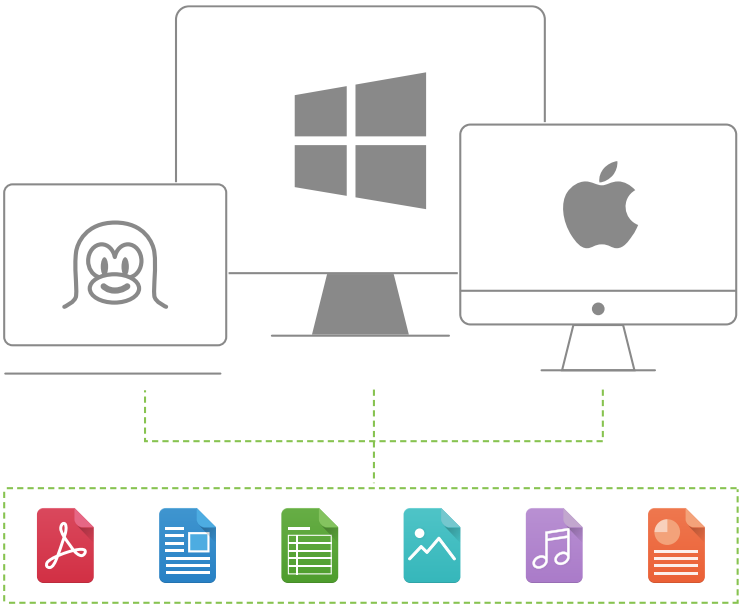
Centralized Data Storage & File Sharing

A centralized data storage system, the XCubeNAS eliminates either physical gaps or virtual boundaries to provide a secure flattened platform that enables your data to be easily accessed from anywhere at anytime via the internet, with maximum security.

The XCubeNAS provides lightning fast and secure ways to share files with anyone, anywhere. You can explore, organize, and move files between your computer and the XCubeNAS, all the while, being able to customize access rights to enhance security. A seamless integrated system allows for file sharing across different computing environments, including Windows, Mac, Linux, Android and iOS.

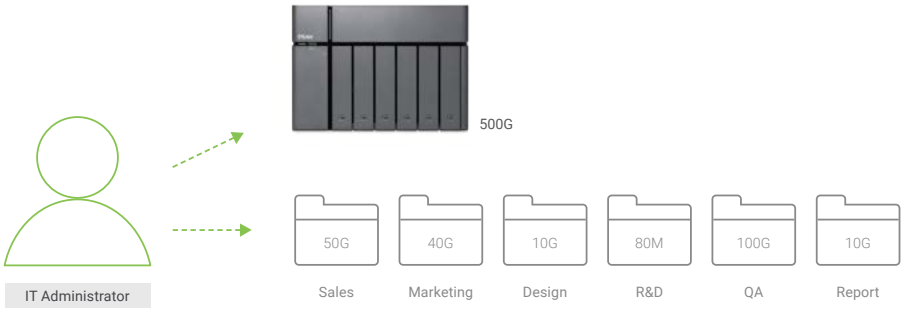
Cross Platform
Access

The XCubeNAS provides seamless file sharing across Windows®, Mac®, Linux®, iOS and Android platforms by supporting multiple file access protocols including FTP, SAMBA, CIFS, AFP, NFS and WebDAV.



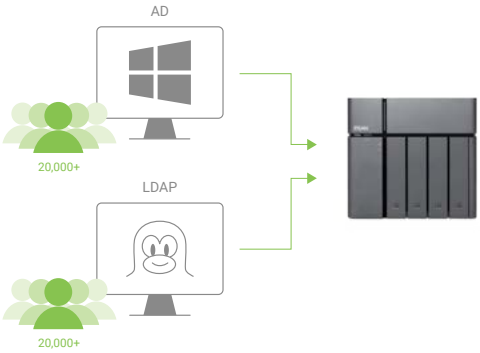
Quota Control On Accounts And Share Folders

Take control of your storage space, by adding quotas (limits) to the amount of data a user can store. Users can be limited on how much data a folder can store or the quota can apply to the entire system, thus empowering the admin with complete control of what is stored on the XCubeNAS.



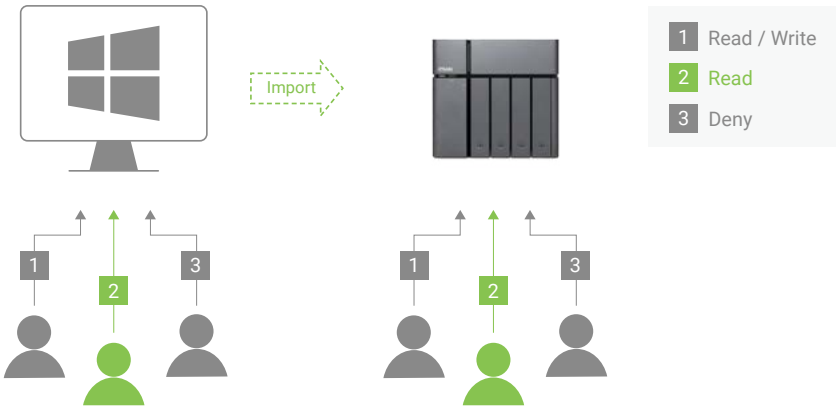
Windows AD and LDAP Directory Services Support

By supporting Windows AD and LDAP, the XCubeNAS enables seamless account integration. Up to 200,000 domain accounts can be joined onto the XCubeNAS and their Home folder is automatically created, helping IT administrators reduce duplicated sets of credentials and minimizing their workload in giving default account settings and new user setup.



Windows ACLs And Advanced ACLs

Access Control List (ACL) is a permission list specifying what actions specific accounts take on folders and files. Advanced ACL lets you set permissions on subfolders, whereas Windows ACL enables you to apply Windows file permission mechanisms on files and folders. With both kinds of ACL supported, IT administrators can flexibly regulate file access rules no matter what operating system they use, protecting your data from unauthorized access or theft.



Powerful
Web File Explorer

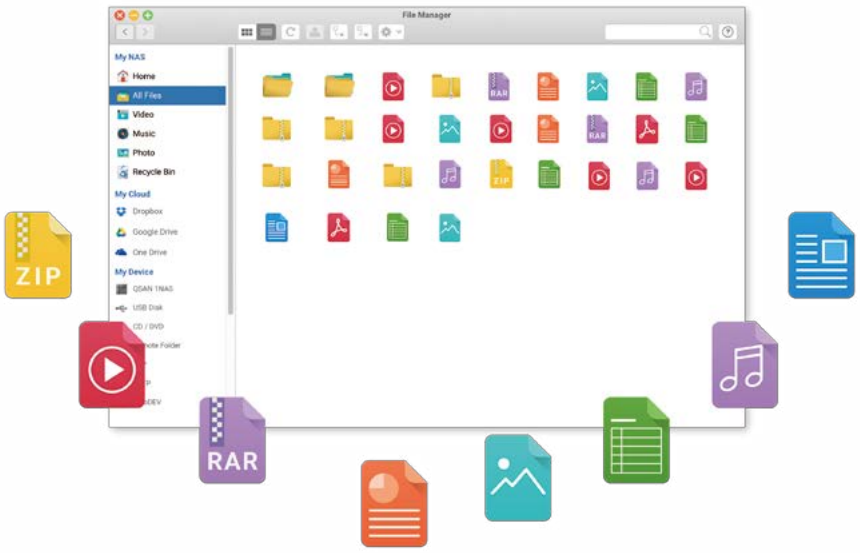
Connect / share files via the web from anywhere in the world. The XCubeNAS has a web-based File Manager that allows users to access their data and easily share it with anyone. They can also set links to be valid in a specified time period or forever.

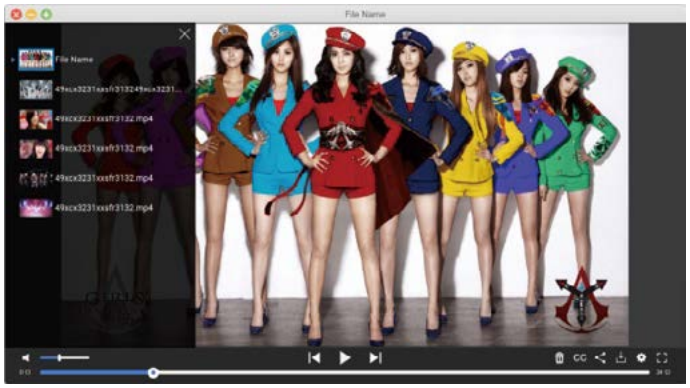
File
Manager

The XCubeNAS provides comprehensive cross-platform file storage and sharing on File Manager. The web-based management interface allows you to remotely manage, store and share files via web browser from anywhere.

Intuitive Interface

In file manager, everyone can easily rename, delete, copy and share every files with a simple click. Moreover, you are allowed to upload, download and manage all the file with drag-and-drop on the user interface just like the operation on PC, it makes the management on the XCubeNAS much easier, saving more time to increase productivity.





Online Photo And Office File Preview

It is possible to preview Microsoft Office files in the browser with File Manager. The XCubeNAS supports file types such like: .doc, .docx, .xls, .xlsx, .ppt, and .pptx, and it also supports your photo preview. With speeds of up to 40GbE using any Mac or PC with a Thunderbolt™ port, fast read and write speed on data editing can be ensured without any data loss.

Multiple Ways On File Sharing

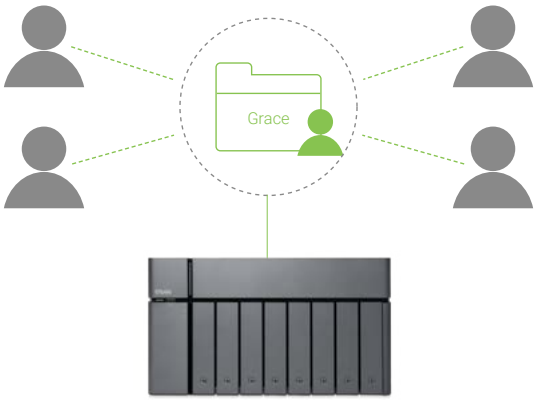
To improve file sharing and teamwork efficiency, the QSM File Manager allows users to access and share files on both internal and external networks. By sending a simple link across the internet via email, or attaching them to Facebook, Twitter can make it easier to share files with your colleagues and customers. You can even set an expiration time for those shared files.

Multimedia Management

With File Manager, the XCubeNAS is the perfect media server for everyone to easily manage the multimedia, it will arrange your media file automatically you show photos, stream music on the media player and transcode the video to play on different devices.

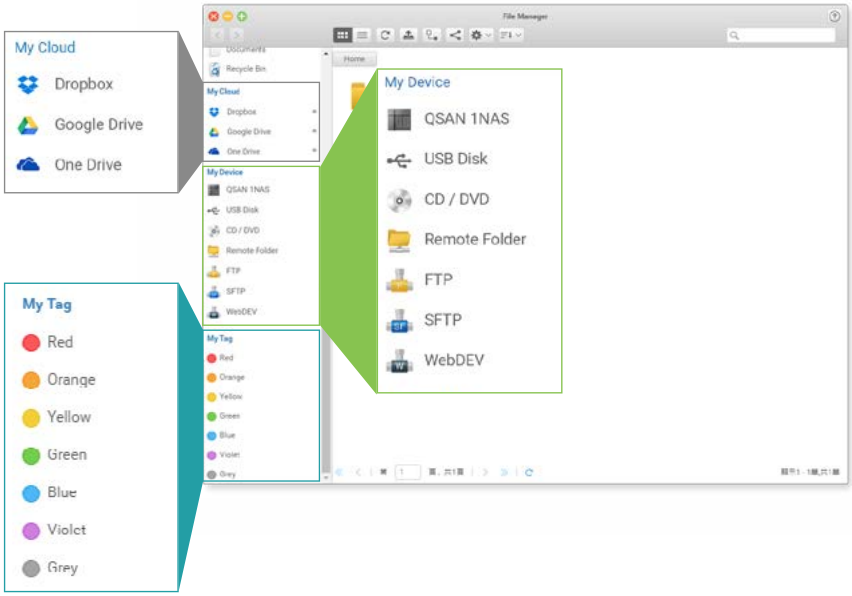
Team Folder Sharing

With the “User Home Folder” feature, a personal folder will be created automatically when a user logs in to the XCubeNAS for the first time. It effectively saves time for individual users, enabling them to get set-up quicker and thus share files with each other as soon as possible.



Connect To Your Cloud

The file manager can also be used as a cloud client to browse and download remote data on third party cloud services such as Google Drive, Dropbox and OneDrive.



File Tag

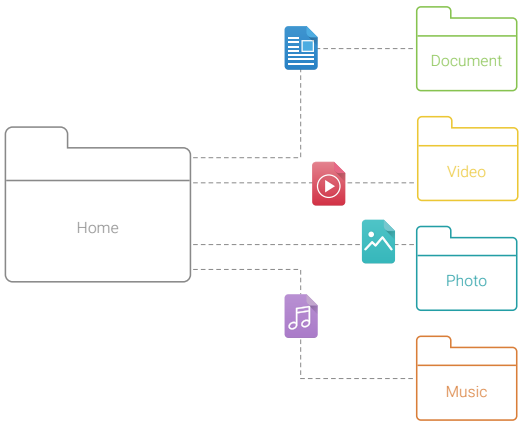
With File Manager Tag function, you can organize files by project or purpose, without having to move them into a specific folder. Your tags automatically show in the File Manager menu bar, so it's easy to manage tagged files no matter where they're located.

Mount Server

Being able to share files across computers and multiple platforms is vital, so file manager allows users to mount CD/DVD ISO files, folders, remote server's on the XCubeNAS with support for CIFS/SMB, FTP, SFTP and WebDAV protocols to quickly transfer and share files on different operating systems without constraints.

Media Library

File Manager can serve as your centralized photo station, allowing you to create albums to manage all the photo by categories and display them with your friends and clients. Free yourself from the limits of traditional photo storage services. Music in shared folders can be displayed succinctly on Media Library. The system will index all the multimedia files in database and manage them by categories automatically so that you can search and organize huge amount of multimedia files more quickly without too many efforts.



Universal & Efficient Data Backup

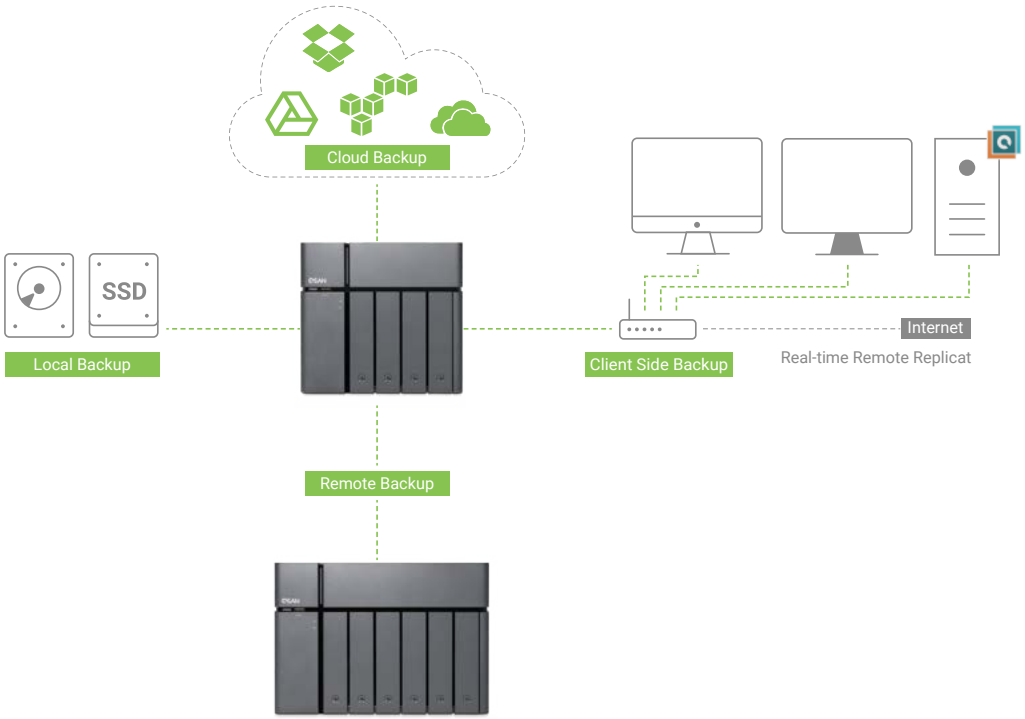
Modern businesses' data faces many potential threats such as unexpected hardware failure, natural disasters, or unintended deletion, which might cause loss of your critical digital assets. The mainstream adoption of cloud, remote and external storage devices for storing documents makes data fragmented.

The explosion in data volume sizes and their demands for efficient data retention methods mean that the XCubeSAN is the perfect solution to fit modern data requirements.

Backup
Your Business

The XCubeNAS effectively addresses the above challenges by providing comprehensive and effective backup solutions that assist you design a complete and efficient backup solution to minimize the risk of data loss. Various storage devices, remote servers, public clouds even other XCubeNAS can be seamlessly integrated into your XCubeNAS, achieving an all-encompassing backup solution allowing data to be freely, safely and efficiently preserved.

- Client backup
- Remote backup
- Cloud backup
- Local backup
- Disaster recovery

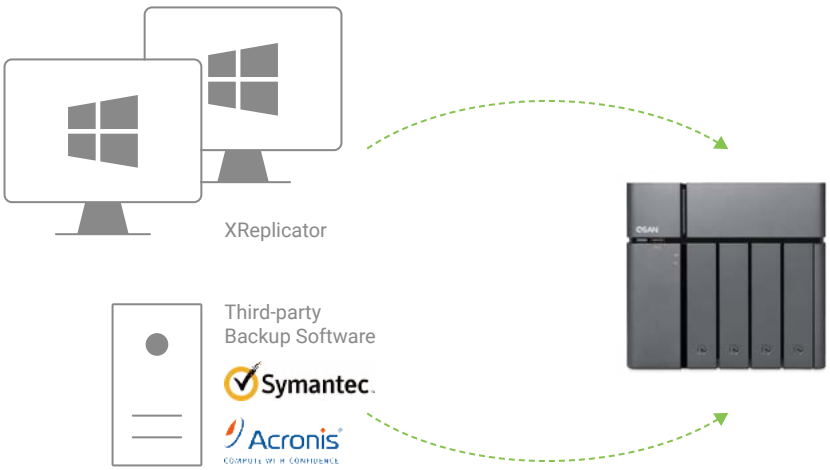


Client
Backup

Client Backup to Your XCubeNAS - XReplicator

The most common cause of data loss is HDD failure, OS crashes or most commonly, accidental deletion. Comprehensive data backup is the solution to all your data loss woes. Backup all your data on your computer to your XCubeNAS with QSAN's free untility, XReplicator.
XReplicator is a free utility that's is provided to help you easily backup an image of a disk,partition, folder or file. XReplicator is also able to backup an entire PC to the XCubeNAS as a bare metal backup. There is a way to quickly and simply recover your entire system, disk or file when using the XReplicator utility and the XCubeNAS solution.

- Supported Windows XP or higher & Win Server 2008 or higher.
- Expert backup solution.
  - Backup image only stored on XCubeNAS.
  - Opened file backup support.
  - Scheduling backup support (Monthly, weekly, daily, automatically).
  - Backup configuration for fast upload speeds (Single version, incremental and differential).
  - Personal key encryption.
  - Version control and clean up.
  - Backup filter.



3rd Party Backup Software

With supports of multiple backup softwares like CA Brightstor ARCserve Backup, EMC Retrospect, Symantec Backup Exec and LaCie Silverkeeper that delivers reliable data backup and recovery for business with different operating systems (Windows®, Linux®, Mac®, NetWare®). The entire servers can be restored quickly in the event of a disaster with Intelligent Disaster Recovery, and deduplication assists in minimizing the size of backups.

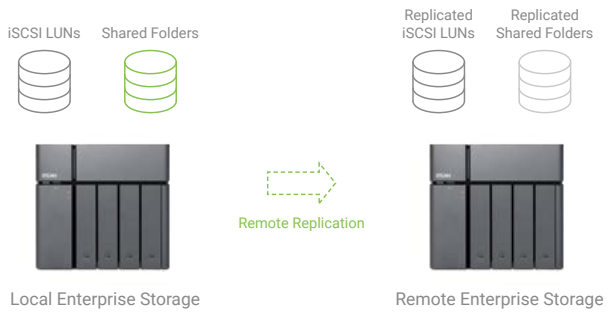
Time Machine

It's very easy and to use Apple Time Machine with QSM unified storage.The XCubeNAS supports Time Machine for Mac OS X 10.5 or later for concurrent backup of Mac. By enabling this feature on the XCubeNAS, the up-to-date copies of the photos, music, videos, documents, settings and applications on your Mac can be backed up automatically to the NAS. You can also recover the data from the NAS to your Mac anytime.

Remote
Backup

Real-time Remote Replication

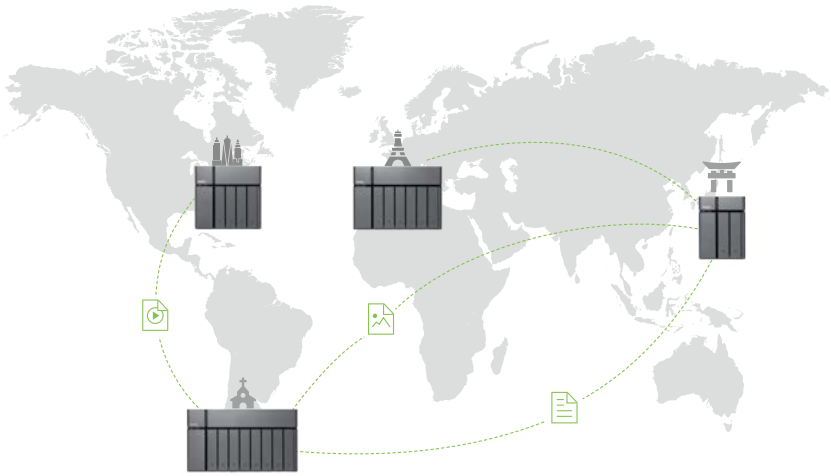
Data copies can be distributed to your trusted storage locations through real-time remote backup. By periodically copying data to different branches, your data can be recovered in the unfortunate event that a disaster happens. Data availability is ensured, offering businesses more options for a contingency and recovery plan.



XMirror

XMirror regularly synchronizes a volume or the contents of a folder between multiple XCubeNAS devices, any modification to documents will be replicated to other XCubeNAS. By using XMirror, data on different XCubeNAS systems, data consistency and availability is ensured ability.

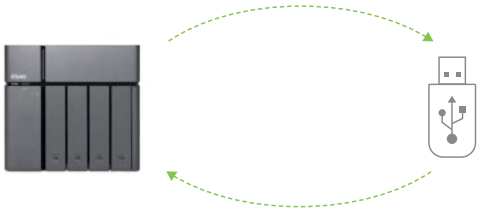
- Support Volume and Folder mirror.
- 1-way (unidirectional): data modification of the local NAS will be synchronized to the remote, but any data modification of remote NAS will not be reflected.
- 2-way (bi-directional): any data modification of a NAS will be synchronized to the others.
- Version control (64 versions).



Local
Backup

USB One Touch Backup

Connect an external USB storage device to your XCubeNAS, you can backup all the files to either the NAS or the USB device. This 2-way data transfer enables quick and easy-to-use copy methods for every user to protect their data.



- Version control and clean up.
- Backup filter.

Cloud
Backup

Amazon® S3 Backup

The XCubeNAS comes integrated with Amazon's award-winning enterprise cloud service, Amazon® S3 enables users to backup the whole array to a remote site instead of another NAS or devices.

Hybrid Cloud Solution

Using Google Drive, OneDrive, and Dropbox, you can build a hybrid cloud which allows you to access and backup the files on mobile devices, PCs, or thin clients anytime and anywhere. The XCubeNAS can be a cloud gateway to bridge your public cloud and private content and act as a central access point.

Disaster
Recovery

Snapshot Replica

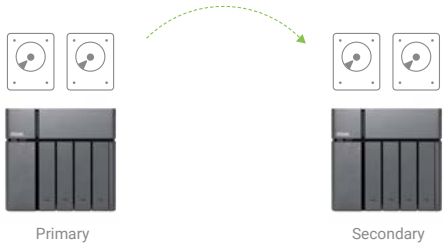
Snapshots record the status of shared folders and iSCSI LUNs as changes happen on write. By periodically taking snapshots, administrators can better control data versions and execute point-in-time recovery on folders and LUNs, these can be flexibly restored to previously known good states. Replica can transport the version information to the target XCubeNAS, enabling administrators to utilize storage space based on their retention policies and space requirements.

Fast Rebuild

When a drive fails in a RAID set, the XCubeNAS is capable of rebuilding the data blocks that have been used, and not the entire RAID set. This helps reduce the risk of data loss during the rebuilding process.

Pool Roaming

Unfortunate hardware failure is something no one wants, however with the XCubeNAS, recovery is simple. With disk roaming technology, your data and system configuration can be easily migrated to another XCubeNAS without having to worry about disk order or a lengthy reconfiguration.



Security & Data Protection

The growing tide of data breaches, leaks, and malicious software means your data security systems and procedures are vital. Our QSM for XCubeNAS was built on a security-first ideology, it can offer you full protection of the data within your XCubeNAS. Tools are provided to prevent protect the system from hacking, and interception of data, theft, and accidental deletion.

Furthermore, using the inbuilt Anti-Virus, you can add tasks, scanning the entire NAS or selected folder with specific schedule.

Combined with Pool Encryption and SED drive support, the XCubeNAS provides a range of mechanisms to protect your data against intrusion.

Developing a comprehensive enterprise security strategy can facilitate greater control over your threat management activities and help improve the protection of your critical data assets. QSAN helps you to minimize the risk of data breaches with comprehensive protection solutions on both your data and the entire system.

QSAN supports AES 256-bit encryption that gives you the highest level of security and privacy for your important data. All data stored in encrypted folders will be automatically encrypted and secured to the highest of standards. The Self-Encrypting Drive (SED) and WORM provides full data protection even under worst case scenarios like, losing your NAS or hard disks to theft, your important data is still protected and wont fall into the wrong hands.

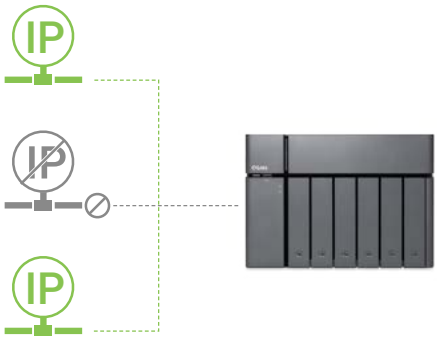
With the rise in the threat to digital assets, QSM provides unified authentication for user management combined with private SSH, the one time password authentication mechanism forces two part authentication and protects the system from intrusion.

Also enables you to install and run endpoint protection, eliminating the cost and complexity of connecting an external endpoint protection server. Features including service binding, IP-blocking, firewall, internal SSL and antivirus, providing all users with a highly available solution that keeps their data fully accessible.

Network Environment
Protection

IP Connection Filtering

Network ban list denies onnections from specific IP addresses or subnets to your NAS. You can block an IP for a certain period of time or forever if the IP fails to login from a particular connection method. This feature helps administrator block suspicious connections in order to enhance system security.



Service Binding

Service binding enhances system security by letting administrators determine which services can be connected through which network interfaces. The security of sensitive applications as well as bandwidths of critical services are firmly protected.

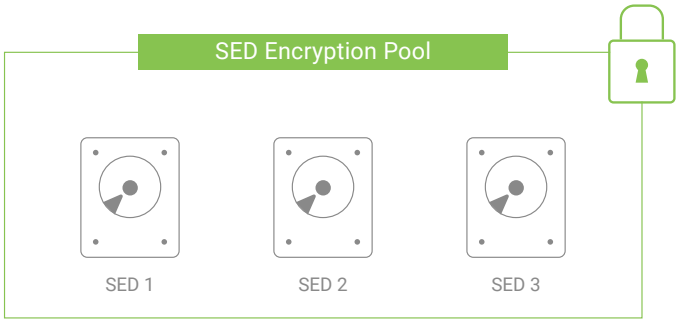
Data Security
& Anti-Virus Protection

Pool Encryption with AES-256

XCubeNAS pool encryption mechanism ensures secured storage environment any user who wants to modify data must first pass authentication. The XCubeNAS supports up to AES 256-bit encryption for internal drives and external USB/ eSATA drives, and adopts a military level FIPS 140-2 validated encryption, which is considered to be the highest security certification for compliance.

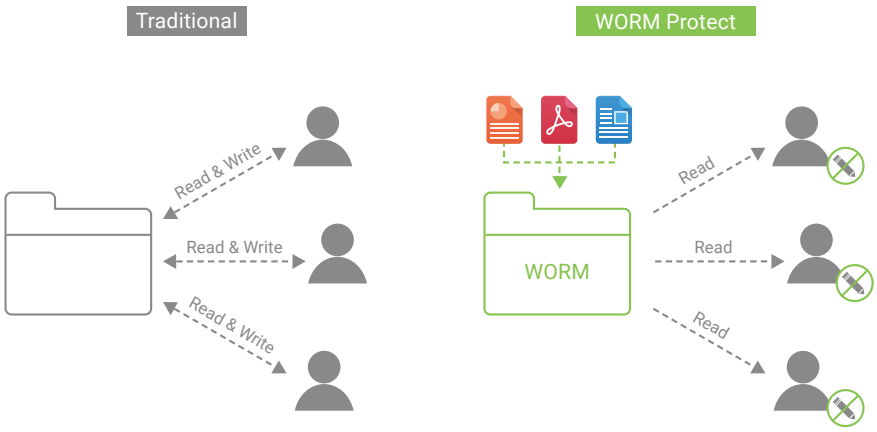
Hard Drive Encryption Across System

XCubeNAS can be much safer more than you can image with the disk self-encrypting technology called SED (Self-Encrypting Drive). With the technology, even if the physical drive is stolen or misplaced, the data on it remains protected against data breach by generating the authentication key (AK) to prevent the unauthorized access. However, the SED offered by QSAN provides the secured pools migration between different XCubeNASs and easy to manage the key by exporting AK for more efficient.



Complete Folder Encryption – WORM (Write Once Read Many)

WORM technology is design to prevent intentional or accidental modification of data in a certain period. Files and folders under WORM's protection can only be read in a user defined period, it's unable to modify any files or folders until the period has expired. WORM it can protect your data from encryption-based ransomware that installs covertly on a victim's system and encrypt their files, making them inaccessible. WORM will protect your confidential data from unauthorized modification and threat, ensuring the correctness and integrity of your data.



Antivirus Protection

The built-in antivirus function periodically scans files that it will automatically put suspicious files to quarantine to prevent system from potential threats.

Transmission
Protection

Unified Authentication

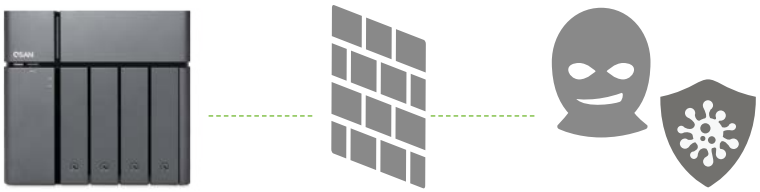
Unified authentication can verify the claimed identity of users and components. Utilising the use of passwords and the exchange of digital keys on the NAS system, once users have entered their username and credentials such as a password or private SSH key to login, they are then allowed to use all the services on the NAS without further authentication.

Traffic Encryption - Internet SSL

SSL certificates deliver secured tunnels for data transmission ensuring that critical data and information cannot be intercepted or modified during the transfer process.

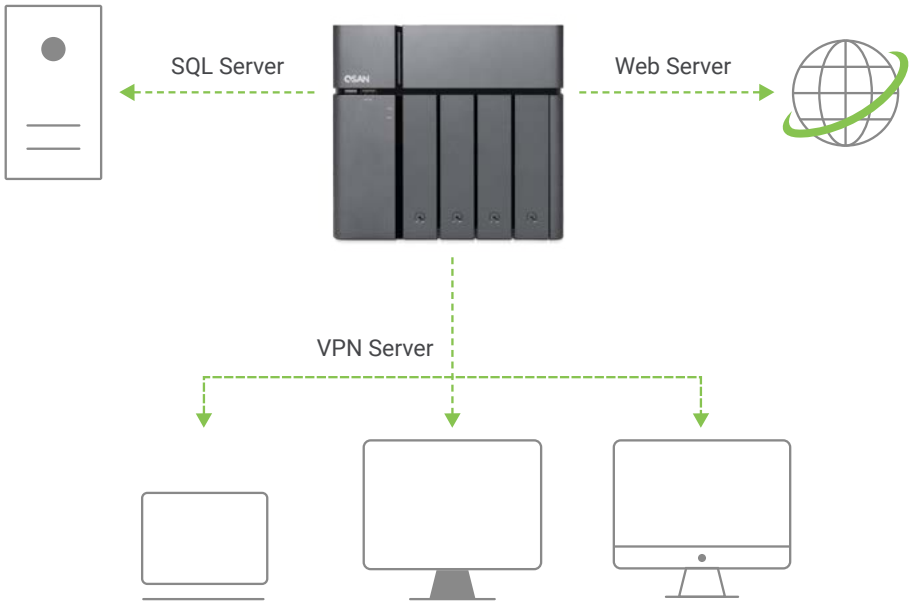
Firewall

Firewall guarantees system security by blocking suspicious connections, either malicious attacks or unwanted intrusion.



Comprehensive Business Solution

Since having a dedicated machine for each specific task rapidly becomes an expensive and inefficient solution, XCubeNAS allows you to enable comprehensive applications and services on your NAS, whenever you need them. Everything from file sharing to data storage, even hosting a website, the XCubeNAS can do it all.



SQL Server

Instead of outsourcing your web hosting to another company, the XCubeNAS built-in SQL service allows the user to build their own website. Building a website for personal use or for the business purpose is easier than you can have imagined.

VPN Server

With VPN service, you can access and share your NAS files with your families and friends via the secured private network, access websites without the Internet blocking mechanism in certain areas.

Web Server

QSAN supports web server service together with PHP support, allowing users to enter their NAS or the personal web page with provided links. With the virtual host service on web server, users can host multiple websites on the same XCubeNAS.

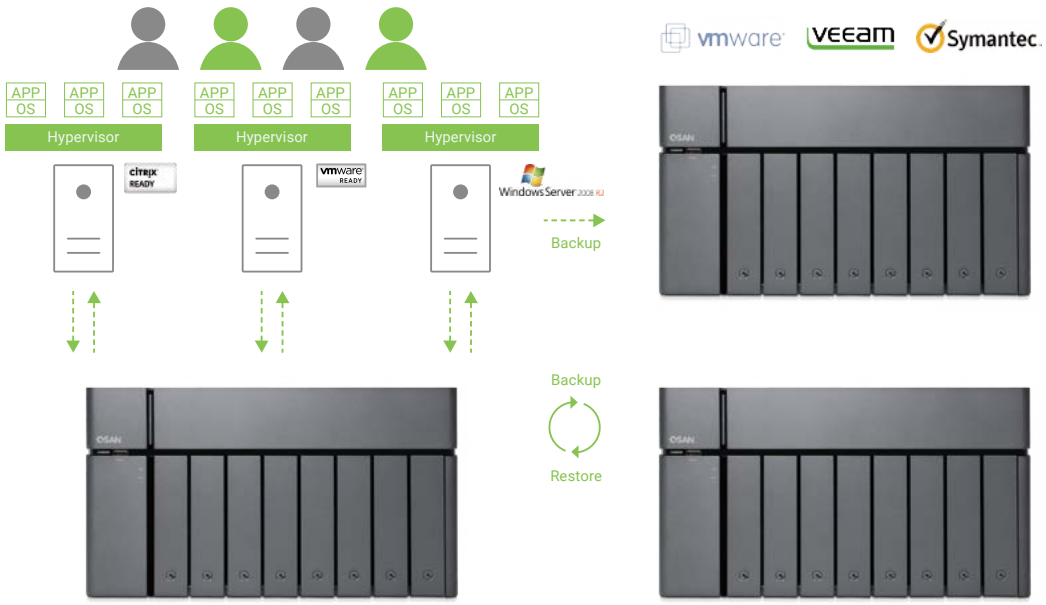
Virtualization

XCubeNAS is an ideal and economical storage solution that can be used as a shared network storage or IP-SAN storage for virtualization environments. Officially certified with VMware® Ready™, Citrix® Ready™, and Microsoft® Hyper-V™, the XCubeNAS it is a stable and efficient data storage system. Virtualized data centers can perform faster and more efficiently with XCubeNAS's assistance on provisioning, migration and management of virtual machines.

The XCubeNAS provides virtualization solutions allowing you to maximize resource utilization to flexibly deliver application services. The built in hypervisor manager provides a simple and quick way to deploy virtual resources into your infrastructure. This ability means that you can save on listening costs, by moving virtual resources onto the XcubeNAS and free up valuable resouces on your hypervisor.

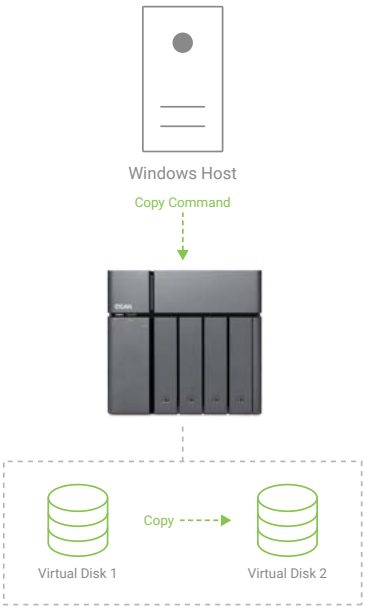
Virtualization
Ready Storage

XCubeNAS is verified with VMware® Ready™, Citrix® Ready™, and Microsoft® Hyper-V™ certified. No matter which virtualization environment you've adopted, the XCubeNAS is a practical and efficient storage system for you to deploy in any virtualization platform. XCubeNAS can be used for primary storage repositories and as a backup to existing primary storage. As a backup storage device, the XCubeNAS supports a comprehensive list of 3rd-party virtual machine backup software to ensures that your VMs and data are never at risk of loss.



Offload Data Transfer
(ODX)

With ODX support, users using Windows Server 2012 R2 are able to conduct data operations, such as moving large files and virtual machines, directly between iSCSI LUNs. Handled by XCubeNAS, the progress need not be interfered with hosted servers thus can be rapidly finished. So can Windows servers perform faster and handle more tasks since being benefit from reduced resource consumption.



Full VMware
Support

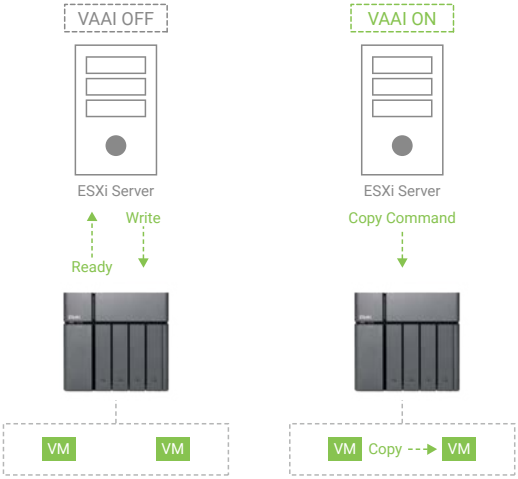
As a qualified VMware® TAP Elite partner, QSAN put innovative technologies into the XCubeNAS aiming to facilitate VMware®'s feature-rich virtualization environments. By supporting VMware® storage packages, XCubeNAS integrates with vSphere hosts solutions such as disaster recovery, offload capabilities and storage.

- VMware 6.0 Certified
- Site Recovery Manager (SRM) certified
- vStorage APIs for Array Integration (VAAI) certified
- Support SPC-3
- Support MPIO, MC/S

VMware® vSphere Storage Array Integration (VAAI)

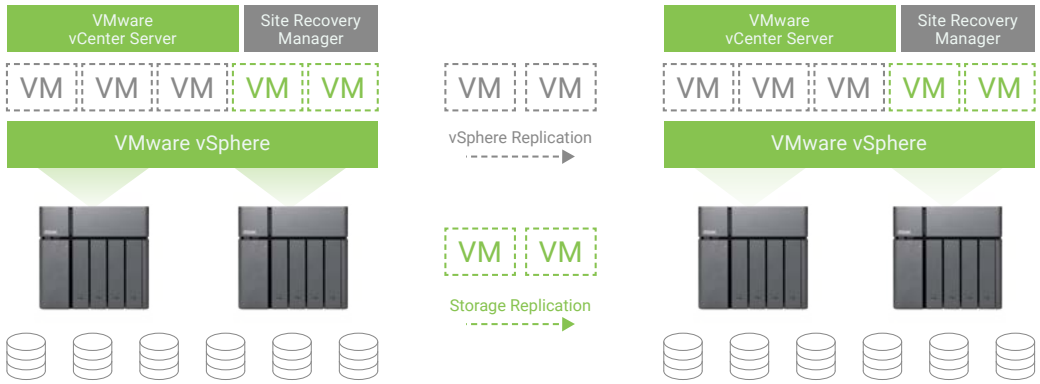
The XCubeNAS supports VAAI (iSCSI and NFS) which enables VMware® ESXi servers to offload specific storage operations onto the XCubeNAS. Commands such as data copy are delegated to the XCubeNAS without passing through the host every time, thus greatly reducing CPU, memory and bandwidth expenditure. The conserved resources can be further distributed to virtual machines, dramatically enhancing their performance.

- VAAI Block (iSCSI) supports Full Copy, Block Zeroing, Hardware-assisted Locking and Thin Provisioning with Space Reclamation
- VAAI NAS (NFS) supports Full File Clone, Extended Statistics and Reserve Space



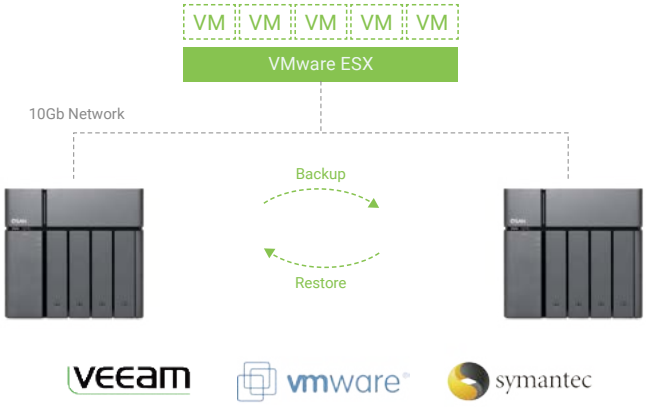
Site Recovery Manager (SRM)

Site Recovery Manager (SRM) is a disaster recovery mechanism designed to guarantee virtual machine configurations can be properly recovered whenever accidents happen. Dedicated data centers and storage arrays are assigned to store states of virtual machines and data. If the original data center fails, critical services on virtual machines can still be recovered to their original condition. The XCubeNAS ensures the recovery progress can be correctly and rapidly executed.



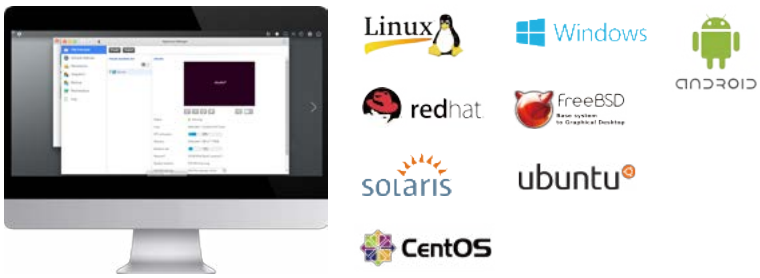
Professional Virtual Machine Backup Software

Professional virtual machine backup software such as symantec, Veeam and official VMware Data Recovery (VDR) can all be used with the XCubeNAS for storing and managing virtual machine images.



Hypervisor Manager

The built-in Hypervisor Manager is an easy-to-use application enabling you to create and manage virtual machines that run directly on the XCubeNAS. Being capable of hosting multiple virtualized environments ensures various customized services and applications being presented at the same time without additional hardware investment. In addition, those virtual machines are isolated reducing the risk of potential data leaks or operation interference. These features make the XCubeNAS an ideal multi-tenant environment for deploying business applications.



Access Your Data Anywhere

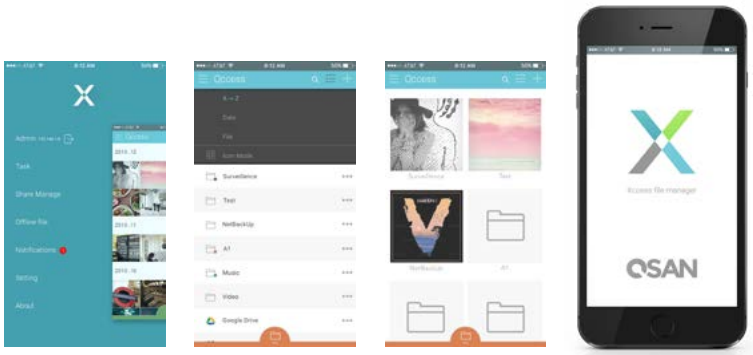
XCubeNAS provides free DDNS services so you can pick your own hostname and easily connect from anywhere. This is rather useful when the your broadband has a floating IP address that changes frequently. Furthermore you can use your DDNS domain name to access your XCubeNAS via the Xccess Mobile app for Android and iOS.

Reach XCubeNAS
Via QSAN Cloud

XCubeNAS supports DDNS and UPnP port forwarding. You can access your XCubeNAS from everywhere with Internet connection by registering a QSAN customized domain name or a signed in a 3rd party DDNS domain.

Mobile
On The Go

Liberate your work from the confines of the office. No matter where you are, open Xccess and you can start your work immediately. Files can even be directly uploaded to your XCubeNAS from the public cloud. With Xccess, any changes made to a file is automatically synced between your mobile devices.



Access Your XCubeNAS Via Xccess

You can use your QSAN Cloud hostname to access NAS without any setting. It's very easy to start your work and entertainment anywhere.

Auto Upload

Automatically upload photos to your XCubeNAS whenever you take new photos. It works as a real-time backup of your precious photos.

Organize Your Multimedia Contents

Xccess will index all the multimedia files such as photos, music and videos in a database then, manage them by categories automatically so that you can search and organize huge amount of multimedia files more quickly without too many efforts.

Play Multimedia On Demand

Xccess features real-time streaming, its easy to connect to the XCubeNAS and play your music, photos and video collection with simple operations. Immediately turning your Xccess app into your media player anytime and anywhere.

Home Entertainment

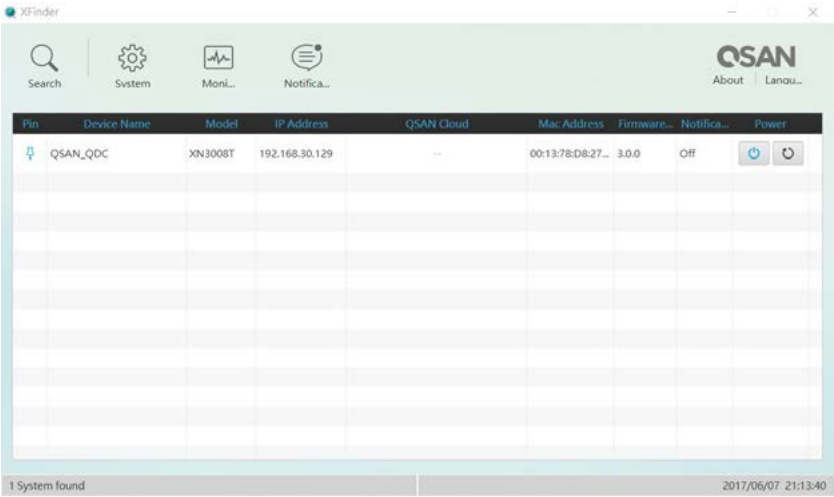
Xccess supports Airplay and Chromecast. It allows you to easily stream the movies or other videos stored on the XCubeNAS to your TV, while using your mobile devices as a remote control to manage playback. Before going out or traveling, you can also pre-download videos and watch them under offline mode.

Utility

Find
NAS Tools

Local Access – Xfinder

XFinder is a desktop utility that searches for QSAN XCubeNAS devices in the local area network. It helps you to set up and install QSM on your XCubeNAS, connect to network or setup Wake on LAN (WOL), Notification (SNMP) or view monitored resources (Network, CPU, RAM...) of your XCubeNAS.



Internet Access - Web Finder

Web Finder is a browser based utility that searches for QSAN XCubeNAS devices in the local LAN, you don't need install any software, just open the browser then you can find your NAS. It also helps you to set up and install QSM on your XCubeNAS.

Web Finder: http://find.qsan.com/

Accessory

Category	Model Name	Product Name	P/N	Description	Selected Models
System Cache Memory	DIM-SD3L4GB	RAM - DDR3L 4G SO-DIMM	92-DIMD304G-00	4GB DDR3L RAM, SO-DIMM	XN3000T
	DIM-SD44GB	RAM - DDR4 4G SO-DIMM	92-DIMD404G-01	4GB DDR4 RAM, SO-DIMM	XN5000T, XN7000T, XN8000T
	DIM-SD48GB	RAM - DDR4 8G SO-DIMM	92-DIMD408G-01	8GB DDR4 RAM, SO-DIMM	XN5000T, XN7000T, XN8000T
Host card	XN-TB302	Thunderbolt 3.0 Adapter Card	92-HCQTB3TC-20	Thunderbolt 3.0 adapter card	XN5000T, XN7000T, XN8000T
	XN-E1002	10GbE Ethernet Adapter Card	92-HCQ10GS2-20	Dual-port SFP+ 10 GbE network adapter card	XN5000T, XN7000T, XN8000T
	XN-E4002	40GbE Ethernet Adapter Card	92-HCQ40GQP-20	Dual-port QSFP 40 GbE network adapter card	XN5000T, XN7000T, XN8000T
Cable	CBL-TB3	Thunderbolt Cable	92-CBLTPCH0-50	Thunderbolt cable (type C), 50cm	XN5000T, XN7000T, XN8000T
	CBL-10SFP200	10GbE Ethernet Cable	92-CBLCSPH2-00	Passive copper cable, ETH 10GbE, 10Gb/s, SFP+, 2m	XN5000T, XN7000T, XN8000T
	CBL-40QSFP200	40Gb Ethernet Cable	92-CBLCQPH2-00	Passive copper cable, ETH 40GbE, 40Gb/s, QSFP, 2m	XN5000T, XN7000T, XN8000T
	GBC-SFP+10Gb	10GbE SFP+ GBIC	92-GBC10GS2-00	Optical module, ETH 10GbE, 10Gb/s, SFP+, LC-LC, 850nm, SR up to 300m	XN5000T, XN7000T, XN8000T
	GBC-QSFP+40Gb	40GbE QSFP GBIC	92-GBC40GQP-00	Optical module, 40Gb/s, QSFP, MPO, 850nm, up to 30m	XN5000T, XN7000T, XN8000T

Hardware Specifications

NAS Technology	XN3000T Series				XN5000T Series		
	XN3002T	XN3004T	XN3006T	XN3008T	XN5004T	XN5006T	XN5008T
Form Factor	Tower, 2-bay	Tower, 4-bay	Tower, 6-bay	Tower, 8-bay	Tower, 4-bay	Tower, 6-bay	Tower, 8-bay
CPU	Intel® Celeron® 1.1GHz Quad-Core Processor				Intel® Celeron® 2.9GHz Dual-Core Processor		
RAM	4GB DDR3L SO-DIMM (Max 8GB)				8GB DDR4 SO-DIMM (Max 32GB)		
USB	USB 3.0: 3 (Front:1, Rear: 2) USB 2.0: 2 (Rear)				USB 3.0: 5 (Front: 1, Rear: 4)		
Flash	8GB USB DOM						
HDMI	1						
Tray Type	3.5" HDD x2 2.5" SSD x1	3.5" HDD x4 2.5" SSD x1	3.5" HDD x6 2.5" SSD x1	3.5" HDD x8 2.5" SSD x1	3.5" HDD x4 2.5" SSD x1	3.5" HDD x6 2.5" SSD x1	3.5" HDD x8 2.5" SSD x1
No. of Internal Hard Disks	2 + 1	4 + 1	6 + 1	8 + 1	4 + 1	6 + 1	8 + 1
Max. Raw Capacity	22TB	42TB	62TB	82TB	42TB	62TB	82TB
Hard Drive Interface	SATA 6Gb/s (backward compatible with SATA 3Gb/s)						
Ethernet Ports	GbE LAN x2		GbE LAN x4				
Expansion Slot	-				PCIe Gen3x8 for 10GbE/40GbE/ Thunderbolt 3.0 adapter cards		
PSU	External Power Adapter, 65W	External Power Adapter, 90W	ATX 200W				

Hardware Specifications

NAS Technology	XN7000T Series			XN8000T Series		
	XN7004T	XN7006T	XN7008T	XN8004T	XN8006T	XN8008T
Form Factor	Tower, 4-bay	Tower, 6-bay	Tower, 8-bay	Tower, 4-bay	Tower, 6-bay	Tower, 8-bay
CPU	Intel® Core™ i3 3.9GHz Dual-Core Processor			Intel® Core™ i5 2.7 GHz Quad-Core Processor		
RAM	8GB DDR4 SO-DIMM (Max 32GB)					
USB	USB 3.0: 5 (Front: 1, Rear: 4)					
Flash	8GB USB DOM					
HDMI	1					
Tray Type	3.5" HDD x4 2.5" SSD x1	3.5" HDD x6 2.5" SSD x1	3.5" HDD x8 2.5" SSD x1	3.5" HDD x4 2.5" SSD x1	3.5" HDD x6 2.5" SSD x1	3.5" HDD x8 2.5" SSD x1
No. of Internal Hard Disks	4 + 1	6 + 1	8 + 1	4 + 1	6 + 1	8 + 1
Max. Raw Capacity	42TB	62TB	82TB	42TB	62TB	82TB
Hard Drive Interface	SATA 6Gb/s (backward compatible with SATA 3Gb/s)					
Ethernet Ports	GbE LAN x4					
Expansion Slot	PCIe Gen3x8 for 10GbE/40GbE/Thunderbolt 3.0 adapter cards					
PSU	ATX 200W					

| Software Specifications

Unified Storage Server

- NAS application server (Gigabit/10GbE/40GbE NIC)
- iSCSI storage (Gigabit/10GbE/40GbE NIC)
- Direct attached storage with Thunderbolt 3.0 (40GbE/s)

File Server

- File sharing across Windows/ Mac/ Linux/ UNIX and centralized management

FTP Server

- Supports data access from remote location via FTP
- FTP with SSL/ TLS (explicit) mode
- FXP supported
- FTP bandwidth control and connection control
- Passive FTP port range control

Backup Server

- 3rd party backup software support: Acronis True Image, CA Brightstor ARCserve Backup, EMC Retrospect, Symantec Backup Exec, LaCie Silverkeeper
- Snapshot replica
- Time machine backup server
- External storage device backup
- Block-level real time remote replication supports instant, schedule backup management
- XMirror (Multi-side data synchronization)
- Cloud backup: Amazon S3
- Cloud synchronization: Google Drive, Windows OneDrive, Dropbox

Web Server

- Built-in phpMyAdmin

SQL Server

- MariaDB database server

VPN Server

- Supports OpenVPN, PPTP and IPsec+L2TP

Virtualization Server

- Virtual machine import/export
- Virtual machine backup
- Virtual machine Snapshot
- User-based permissions settings
- Support virtual switch
- Supports access from IE, Safari, Firefox, Chrome
- Windows, Linux, UNIX and Android

Operating System

- Linux-embedded system

NAS Discovery

- Utility
- Cloud web page

Connection

- IPv4, IPv6 and DDNS domain name registration (QSAN Cloud)
- Auto port forwarding

Networking

- VLAN
- Link aggregation (support 7 bonding modes)
- Multi-IP settings
- Gigabit Jumbo Frame

File System

- ZFS file system
- EXT2 (Virtual Volume)
- EXT3 (Virtual Volume)
- EXT4 (Virtual Volume)
- FAT (Virtual Volume)
- NTFS (Virtual Volume)

Supported Operating Systems

- Windows
- Mac OS X
- Linux (2.6 or later) and UNIX

Disk Management

- Single disk, RAID 0 (Disk Striping), RAID 1 (Disk Mirroring), RAID 5, RAID 5 + hot spare, RAID 6, RAID 10, RAID 50, RAID 60 and JBOD (Linear Disk Volume)
- Multiple volume and storage pool
- Pool type : Generic, Media streaming, Database
- Online pool/ volume Capacity Expansion
- Pool/ volume usage threshold notification
- Self-encrypting drives (SED) pool level protection
- Pool write cache
- Scrub pool
- Convert cloned volume
- Virtual volume (mount disk from remote iSCSI target)
- Set free and replace disk
- HDD S.M.A.R.T.
- Built-in iSCSI target and initiator service
- External device management
- Global and dedicate hot spare disk
- Zero time RAID creation and quick rebuilding
- Auto Tiering
- SSD read / write cache
- Deduplication (volume and LUN)
- Snapshot (folder and LUN)
- Compression (volume and LUN)
- Thin Provision for LUN

User Management

- Local / domain user and group management
- Local / domain application privilege
- User quota for local and domain user
- Home folder
- Windows AD and LDAP
- Trust domain and support up to 200,000 domain users

Folder Management

- Advanced ACL
- Windows ACL
- Hide shared folder on Windows network
- Unicode support
- WORM (Write Once Read Many protection)
- Folder usage threshold notification
- Folder quota

System Tools

- NTP time settings
- Notification: Email alert (SMTP authentication), syslog, and SNMP
- System firmware update
- Back up, restore, reset system settings
- Import system configuration
- Antivirus
- Smart fan
- IP access control
- Policy-based unauthorized IP blocking
- Secure remote login by SSH connection
- Connection list management
- USB, SNMP UPS support
- Network recycle bin
- Import SSL certificate
- Real-time Resource (CPU, Memory, Storage, Pool, Process) / Hardware/ Service/ Network resource monitor

Power Management

- HDD hibernation
- Power schedule
- Wake on LAN
- UPS settings
- Recover from power outage

System Optimization Settings

- Service binding
- User application mode
- SSD Trim

Log

- System log
- System connection and data transfer log

Multilingual Support

- Chinese (Traditional & Simplified), English, French, German, Italian, Japanese, Korean, Russian, Polish

File Manager

- File preview
- Embedded file player
- Filter
- Mount Cloud (Google Drive, OneDrive, Dropbox)
- ISO image mount
- CIFS, FTP, SFTP and WebDAV client
- Share link
- Team folder sharing
- Publish to facebook, twitter, weibo
- Media library
- Media streaming
- Online doc preview and editing
- Transcoding (online/offline), compression

Service

- Data service: CIFS, AFP, NFS, FTP, WebDAV
- Backup service: Rsync
- Discover service: Bonjour

Virtualization

- Windows: Hyper-V, storage space
- VMware: VMware 6.0 ready, VAAI, SRM
- Citrix: Citrix 7.0 ready

Multi Browser Support

- Internet Explorer
- Safari
- Firefox
- Google Chrome

Utility

- XFinder
- XReplicator (Windows backup utility)

Mobile App

- Xcess (iOS, iPad and Android)

QSAN Technology, Inc. | **Learn more by visiting www.qsan.com**

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