

I XCubeNAS Overview

The XCubeNAS series is a next generation, high performance, efficiency and security NAS system which is designed for SMB and enterprise applications. And operating system is the brand new, and totally reimagined QSM3.0 (QSAN Storage Manager 3.0) brings the enterprise level features into the enterprise 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 utility efficiency of every resource to bring you commercial value.



I Innovative (N+E) Hybrid Storage Capacity

Additional 2.5 inch small form factor are provided in order to enable advanced features without sacrificing storage capacity. As well as SATA SSD, we have additional NVMe SSD slots delivering lightning speeds (32Gb/s). 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.

I Leading Enterprise-level NAS Operating System

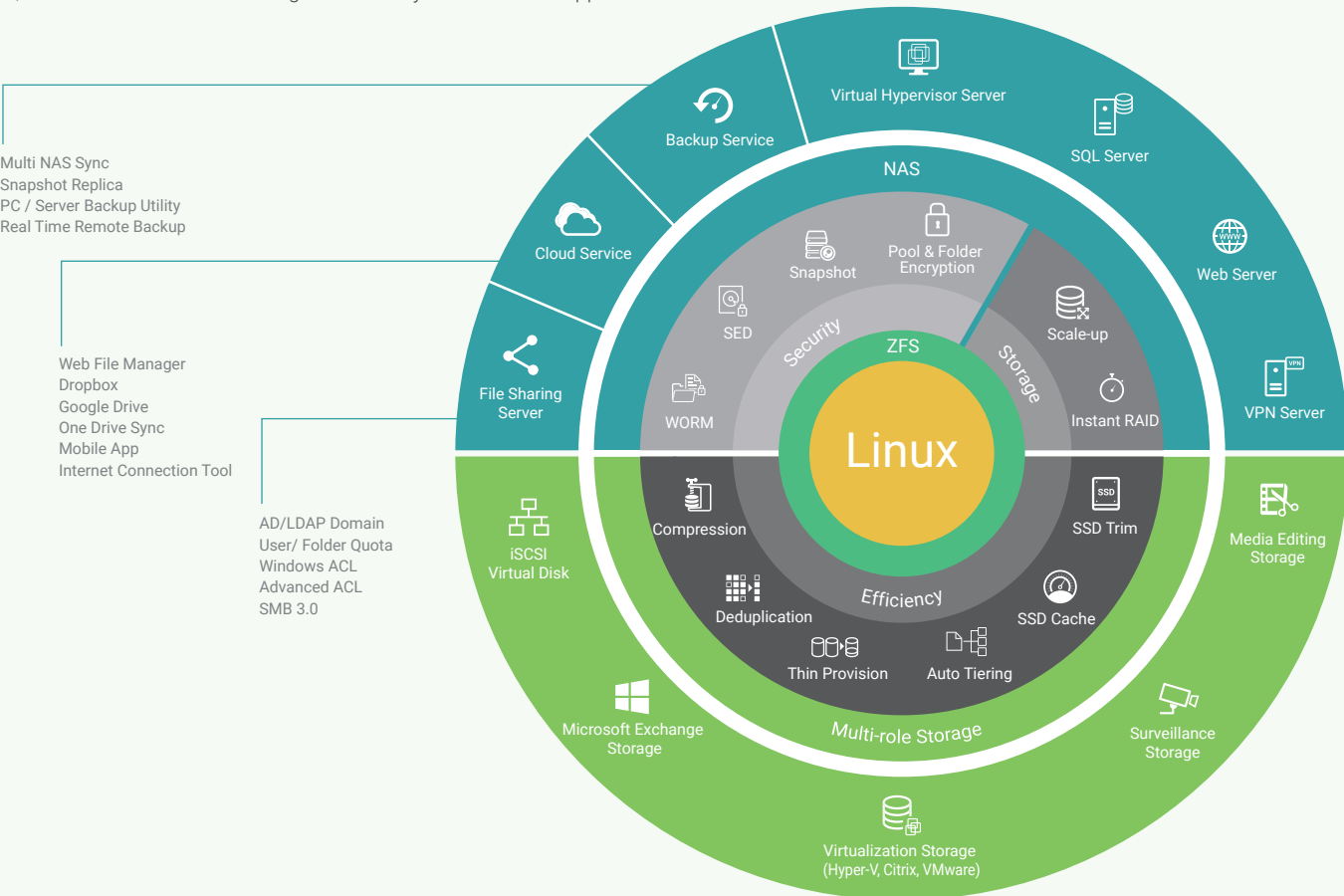
QSM 3.0 (QSAN Storage Manager 3.0) is an innovative storage operating system designed for QSAN XCubeNAS products. Based on Linux and 128-bit ZFS, QSM 3.0 not only inherits the amazing native features of ZFS but is also adjusted with several bespoke optimization enhancements that make the XCubeNAS series 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 support, 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 storing capability storage capacity, making the XCubeNAS be able to capable of storing more beyond its raw storage capacity device limits.

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 functionalits such as virtualization capability, multiple server center, centralized file station etc. are also provided that making QSM 3.0 even robust and being able to carry out dedicated applications.



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)



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Data Storage, Security & Performance

XCubeNAS

I Product Guide













Product Highlights

- Innovative hybrid hardware architecture
- Standard LFF(Large Form Factor) bays plus exclusive SFF (Small Form Factor) bays
- Brand new enterprise level QSM 3.0 with all new interface and enterprise features
- Unified storage architecture with full virtualization support
- Completed backup plan for unexpected hardware failure, natural disasters, or simple accidental deletion.
- Optimized storage features : Auto Tiering, Thin Provision, Data deduplication and SSD cache.
- Security enhancement : Pool and disk encryption, WORM technology, Antivirus, VPN service and IP connection filter



Hardware Specifications

Comparison Table	XN3000T Series		XN5000T Series			XN7000T Series			XN8000T Series		
	XN3002T	XN3004T	XN5004T	XN5006T	XN5008T	XN7004T	XN7006T	XN7008T	XN8004T	XN8006T	XN8008T
											
	Tower, 2-bay	Tower, 4-bay	Tower, 4-bay	Tower, 6-bay	Tower, 8-bay	Tower, 4-bay	Tower, 6-bay	Tower, 8-bay	Tower, 4-bay	Tower, 6-bay	Tower, 8-bay
	Intel® Celeron® 1.1GHz Quad-Core Processor		Intel® Celeron® 2.9GHz Dual-Core Processor			Intel® Core™ i3 3.9GHz Dual-Core Processor			Intel® Core™ i5 2.7 GHz Quad-Core Processor		
	4GB DDR3L SO-DIMM (Max 8GB)		8GB DDR4 SO-DIMM (Max 32GB)			8GB DDR4 SO-DIMM (Max 32GB)			8GB DDR4 SO-DIMM (Max 32GB)		
	USB 3.0: 3 (Front:1, Rear: 2) USB 2.0: 2 (Rear)		USB 3.0: 5 (Front: 1, Rear: 4)			USB 3.0: 5 (Front: 1, Rear: 4)			USB 3.0: 5 (Front: 1, Rear: 4)		
	8GB USB DOM		8GB USB DOM			8GB USB DOM			8GB USB DOM		
	1		1			1			1		
	LFF x2 SFF x1	LFF x4 SFF x1	LFF x4 SFF x1	LFF x6 SFF x1	LFF x8 SFF x1	LFF x4 SFF x1	LFF x6 SFF x1	LFF x8 SFF x1	LFF x4 SFF x1	LFF x6 SFF x1	LFF x8 SFF x1
	2 + 1	4 + 1	4 + 1	6 + 1	8 + 1	4 + 1	6 + 1	8 + 1	4 + 1	6 + 1	8 + 1
	30TB	58TB	58TB	86TB	114TB	58TB	86TB	114TB	58TB	86TB	114TB
	SATA 6Gb/s (backward compatible with SATA 3Gb/s)		SATA 6Gb/s (backward compatible with SATA 3Gb/s)			SATA 6Gb/s (backward compatible with SATA 3Gb/s)			SATA 6Gb/s (backward compatible with SATA 3Gb/s)		
	GbE LAN x2		GbE LAN x4			GbE LAN x4			GbE LAN x4		
			PCIe Gen3x8 for 10GbE/40GbE/ Thunderbolt 3.0 adapter cards			PCIe Gen3x8 for 10GbE/40GbE/ Thunderbolt 3.0 adapter cards			PCIe Gen3x8 for 10GbE/40GbE/ Thunderbolt 3.0 adapter cards		
	External Power Adapter, 65W	External Power Adapter, 90W	ATX 200W	ATX 200W	ATX 200W	ATX 200W	ATX 200W	ATX 200W	ATX 200W	ATX 200W	ATX 200W

Comparison Table	XN5000R Series			XN7000R Series			XN8000R Series			
	XN5004R	XN5008R	XN5012R	XN7004R	XN7008R	XN7012R	XN8008R	XN8012R	XN8016R	XN8024R
										
Form Factor	Rackmount 1U 4-bay	Rackmount 2U 8-bay	Rackmount 2U 12-bay	Rackmount 1U 4-bay	Rackmount 2U 8-bay	Rackmount 2U 12-bay	Rackmount 2U 8-bay	Rackmount 2U 12-bay	Rackmount 3U 16-bay	Rackmount 4U 24-bay
CPU	Intel® Celeron® 2.9GHz Dual-Core Processor			Intel® Core™ i3 3.9GHz Dual-Core Processor			Intel® Xeon® 3.3GHz Quad-Core Processor		Intel® Xeon® 2.2GHz Quad-Core Processor	
RAM	8GB DDR4 U-DIMM (Max 64GB)			8GB DDR4 U-DIMM (Max 64GB)			8GB DDR4 ECC U-DIMM (Max 64GB)		8GB DDR4 ECC U-DIMM (Max 128GB)	
USB	USB 3.0: 4 (Rear) USB 2.0: 1 (Front)			USB 3.0: 4 (Rear) USB 2.0: 1 (Front)			USB 3.0: 4 (Rear) USB 2.0: 1 (Front)		USB 3.0: 2 (Rear) USB 2.0: 1 (Front)	
Flash	8GB USB DOM			8GB USB DOM			8GB USB DOM		8GB SATA DOM	
HDMI	1			1			1		NA	
Tray Type	LFF x4 SFF(SATA SSD) x2 (Front)	LFF x8 SFF(SATA SSD) x4 (Rear) SFF(NVMe SSD) x2 (Rear)	LFF x12 SFF(SATA SSD) x4 (Rear) SFF(NVMe SSD) x2 (Rear)	LFF x4 SFF(SATA SSD) x2 (Front)	LFF x8 SFF(SATA SSD) x4 (Rear) SFF(NVMe SSD) x2 (Rear)	LFF x12 SFF(SATA SSD) x4 (Rear) SFF(NVMe SSD) x2 (Rear)	LFF x8 SFF(SATA SSD) x4 (Rear) SFF(NVMe SSD) x2 (Rear)	LFF x12 SFF(SATA SSD) x4 (Rear) SFF(NVMe SSD) x2 (Rear)	LFF x16	LFF x24
No. of Internal Hard Disks	4 + 2	8 + 4 + 2	12 + 4 + 2	4 + 2	8 + 4 + 2	12 + 4 + 2	8 + 4 + 2	12 + 4 + 2	16	24
Max. Raw Capacity	60TB	122TB	178TB	60TB	122TB	178TB	122TB	178TB	224TB	336TB
Hard Drive Interface	SATA 6Gb/s (backward compatible with SATA 3Gb/s)	SATA 6Gb/s (backward compatible with SATA 3Gb/s), PCIe NVMe 3.0 x4		SATA 6Gb/s (backward compatible with SATA 3Gb/s)	SATA 6Gb/s (backward compatible with SATA 3Gb/s), PCIe NVMe 3.0 x4		SATA 6Gb/s (backward compatible with SATA 3Gb/s), PCIe NVMe 3.0 x4		SAS 12Gb/s and SATA 6Gb/s (backward compatible with SAS 6Gb/s and SATA 3Gb/s)	
Ethernet Ports	GbE LAN x4			GbE LAN x4			GbE LAN x4		1 GbE LAN (RJ45) x1 10 GbE LAN (RJ45) x2	
Expansion Slot	PCIe Gen3x8 for 10GbE/40GbE/Thunderbolt 3.0/SAS adapter cards.	PCIe Gen3x8 for 40GbE/SAS adapter cards. PCIe Gen3x4 for 10GbE/Thunderbolt 3.0 adapter cards.		PCIe Gen3x8 for 10GbE/40GbE/Thunderbolt 3.0/SAS adapter cards.	PCIe Gen3x8 for 40GbE/SAS adapter cards. PCIe Gen3x4 for 10GbE/Thunderbolt 3.0 adapter cards.		PCIe Gen3x8 for 40GbE/SAS adapter cards. PCIe Gen3x4 for 10GbE/Thunderbolt 3.0 adapter cards.		Built-in 2 x 12Gb/s SAS wide ports (SFF-8644) Optional: 4 x 10GbE (SFP+) ports 2 x 10GbE (RJ45) ports 4 x 1GbE (RJ45) ports	
PSU	250W 1+1 redundant	250W 1+1 redundant	250W 1+1 redundant	250W 1+1 redundant	250W 1+1 redundant	250W 1+1 redundant	250W 1+1 redundant	250W 1+1 redundant	770W 1+1 redundant	770W 1+1 redundant