XN8016D

QSAN

Enterprise-level Unified Storage for Business Environments

QSAN XN8016D is equipped with Intel® Xeon® quad-core processor, dual active controller design and up to 99.9999% availability. Built-in 10GbE network port and Hybrid SSD cache. With fully modular design, the main components can be easily replaced and upgraded. Unified storage supports advanced enterprise technology and comprehensive data security, which is the best large-scale storage and multi-function data center for small and medium-sized enterprises.

Product Features

- High-performance NAS storage system with dual active controllers, high availability design, no single point of failure.
- Intel® Xeon® quad-core processor, built-in 16GB memory per controller which can expand to 128GB memory.
- Cache to flash memory power-loss protection, no additional battery module is required, the data will not be damaged during the unexpected power loss.
- Built-in 10GbE LAN (RJ45) x 2, 12Gb/s SAS wide port x 2.
- Hybrid SSD cache – support both data read and write cache within one SSD.
- Fully modular design-The main components including controller, power supply (80 plus) and fan module can be easily replaced and upgraded without down time.
- Unified Storage - Integrated storage system supports block and file storage simultaneously and following protocols: iSCSI, Fibre Channel, CIFS, NFS, FTP, and AFP.
- Universal and Efficient Data Backup - XMirror supports permission backup , disaster recovery and flexible protection between multiple NAS devices.
- Comprehensive Data Security – Military-level pool encryption with AES-256, Write Once Read Many (WORM) , Self-Encrypting Drive (SED) and local/remote snapshot.
- Advanced Enterprise Storage Technology - Auto-Tiering, Inline Compression, Deduplication and Thin Provision.
- Support up to 424 drives and 5.9 PB raw capacity.
- Load balance – automatically adjust storage configuration for the best performance.

Application areas

- **Virtualization : Certified by the latest Vmware, Hyper-V, and the latest Citrix XenServer. Also ideal for virtualization desktop infrastructure(VDI). Allowing hypervisors to provision data intelligently and run even more VMs with a lower total cost of ownership.**
- **Enterprise private cloud : With seamless file access across different operating system, Windows AD/LDAP domain integration, and permission control. XN8000D is a reliable solution to build private cloud and hybrid cloud for business.**
- **Backup : XN8000D bring built-in features that suit various recovery plans. These services provide backup and disaster recovery plans within a reasonable budget to meet business needs.**

Product Spec of XN8016D

Appearance
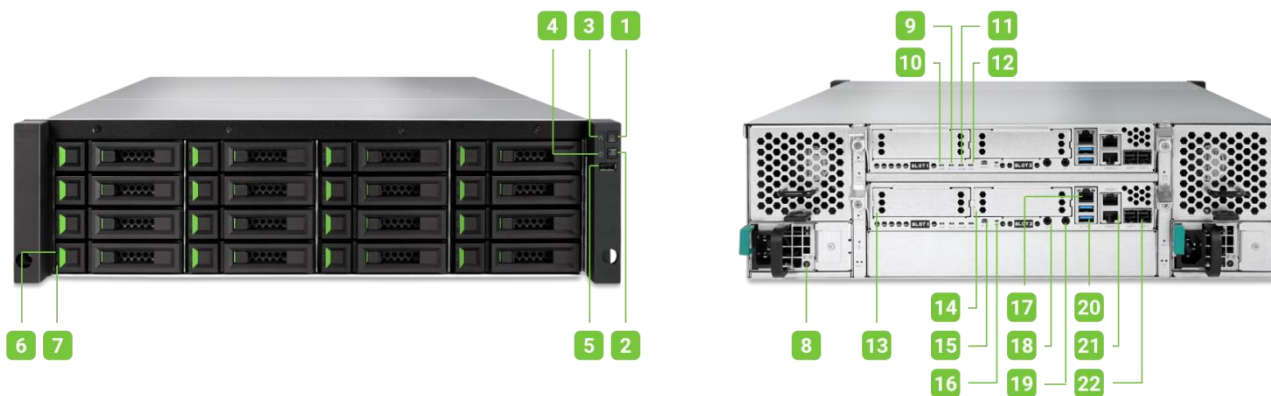
1. Enclosure Power Button / LED	7. Disk Drive Status LED	13. Host Card Slot 1 (host card is an optional part)	19. Service Port
2. UID (Unique Identifier) Button / LED	8. Power Supply Unit – PSU Indicator and Beep Off Button	14. Host Card Slot 2 (host card is an optional part)	20. USB Port
3. Enclosure Access LED	9. Controller Status LED	15. Buzzer Mute Button	21. 10GbE iSCSI Port
4. Enclosure Status LED	10. Master / Slave LED (only for dual controllers)	16. Reset to Factory Default Button	22. 12Gb/s SAS Wide Port
5. USB Port	11. Dirty Cache LED	17. Management Port	
6. Disk Drive Power LED	12. UID (Unique Identifier) LED	18. Console Port	

Hardware Spec

Architecture	Active-Active dual-controller
CPU	
CPU	Intel® Xeon® 64-bit Quad-Core (Also support 8 core model)
Memory	
System Flash	16GB USB DOM
Memory Module Pre-installed	16GB DDR4 ECC DIMM (per controller)
Total Memory Slots	4 (per controller)
Memory Expandable up to	128GB (per controller)
Storage	
Drive Bays	3.5" Slot x 16
Maximum Drive Bays with Expansion Unit	424
Compatible Drive Type	3.5" SAS HDD / SAS SED HDD, 3.5" NL-SAS HDD / NL-SAS SED HDD, 2.5" SAS SSD / SAS SED SSD 2.5" SATA SSD / SATA SED SSD (*), 2.5" SAS HDD / SAS SED HDD, 2.5" NL-SAS HDD / NL-SAS SED HDD (*) In dual-controller system, 2.5" SATA HHD need 6G MUX board
Drive Interface	SAS 12Gb/s
Maximum Internal Raw Capacity	256TB
Maximum Raw Capacity with Expansion Units	5,968TB
Hot Swappable Drive	Yes
External Port	
USB 2.0 **Port**	1 (Front)
USB 3.0 **Port**	2 (Rear)
Others	UPS Port x 1 · Controller port x 1
Connective port	
1GbE RJ45 LAN Port	1 (Onboard)
10GbE RJ45 LAN Port	2 (Onboard) / 2 iSCSI (Option：HQ-10G2T)
10GbE SFP+ LAN Port	4 iSCSI (Option：HQ-10G4S2)
25GbE SFP28 LAN Port	2 iSCSI (Option：RHCE25P2) (Will be launch in the 4th quarter of 2020)
16Gb SFP+ Fibre Channel	4 FCP (Option：HQ-16F4S2) / 2 FCP (Option：HQ-16F2S2) (Will be launch in the 4th quarter of 2020)
32Gb SFP28 Fibre Channel	2 FCP (Option：RHCF32P2) (Will be launch in the 4th quarter of 2020)

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Expansion Port	
12Gb/s SAS Wide Port	2 (onboard)
PCIe Expansion	
Gen3x8 Slot	1
Gen2x4 Slot	1
Appearance	
Dimension (H x W x D) (mm)	130.4 x 438 x 515
Chassis Form Factor	19" Rackmount 3U16 bay
Net Weight (kg)	22
Gross Weight (kg)	31.1
Memory Protection	
Cache-to-Flash Module	Yes (Does not need Battery Backup Module)
Others	
System Fan	4 pcs
Replaceable System Fan	Yes (hot-swappable)
Power Recovery	Yes
Scheduled Power On/Off	-
Wake on LAN/WAN	Yes
Power Supply Unit / Adapter	770W/850W x 2 (80 PLUS Platinum)
Redundant Power Supply	Yes (hot-swappable)
AC Input Power Voltage	100V-240V
Power Frequency	50-60 Hz · Single Phase
Power Consumption	534W
British Thermal Unit	1,822BTU
LCM Support	Yes
Environment Temperature	
Operating Temperature	0 to 40°C
Storage Temperature	-10°C to 50°C
Operating Relative Humidity	20% to 80% non-condensing
Non-operating Relative Humidity	10% to 90%
Certification	
Certification	CE、FCC、CCC、BSMI、VCCI、KCC
Warranty	
Standard warranty	3 years

Software Specifications

Operating System	64bit embedded Linux
Unified Storage Server	NAS application server (Gigabit/10GbE NIC) 、iSCSI、Fibre Channel storage (FCP)
File Server	File sharing across Windows/Mac/Linux/UNIX and centralized management
FTP Server	Supports data access from remote location via FTP / Bandwidth Control / Connection control / FTP with SSL/ TLS (explicit) mode / FXP supported / Passive FTP port range control
Backup Server	Snapshot and Replication Block-Level Snapshot and Replication / Schedule Snapshot / Snapshot retention policy / Xmirror / Time machine* Public Cloud backup*: Alibaba Cloud OSS, HiCloud S3, Amazon S3 and S3 compatible Public Cloud synchronization*: Google Drive, Microsoft OneDrive, Dropbox
Connection	IPv4、IPv6* and DDNS* / UPNP* QSAN Cloud*
Networking	VLAN / Link aggregation (support 11 bonding modes) / Multi-IP settings / Gigabit Jumbo Frame
File System	ZFS / EXT2 / EXT3 / EXT4 / FAT / NTFS / HFS
Supported Operating Systems	Windows / Mac OS X / Linux (2.6 or later) and UNIX
Storage Management	RAID 0、1、5、6、Z3、10、50、60 Global and Dedicated spare disk / Disk management / Disk S.M.A.R.T check / Instant RAID / RAID Fast Rebuild Multi-pool and volume management / Build in iSCSI initiator and target Storage capacity management / Pool and Volume threshold notification / Online Pool expansion and migration / Online volume expansion Auto-tiering* / External storage device management / Pool encryption / Disk caching / Data scrubbing Hybrid SSD cache / Deduplication(Volume and LUN) / Snapshot (Folder and LUN) Compression (Volume and LUN) / Thin Provision for LUN / Self-Encryption Drive (SED)
High availability	• Dual Active(Active/Active) NAS controller • support ALUA • Management port fault migration • Fault-tolerant and redundant module components for NAS controllers, PSU, FAN modules, and dual-port disk interfaces • Dual port hard disk tray connector • Multipath I/O and load balancing support (MPIO、MC/S、Trunking and LACP) • Firmware update without system downtime • Cache-to-Flash memory protection
User Management	Local / domain user and group management / Local & domain application privilege / Home folder Windows AD and LDAP support Trust domain and support up to 200,000 domain user
Folder Management	Advanced ACL / Windows ACL / Hide shared folder on Windows network / Folder quota / WORM (Write Once Read Many protection) / File retention
System Tool	SNMP / Anti-Virus* / IP access control Real-time Resource (CPU, Memory, Storage, Pool, Process)/ Hardware/ Network resource monitor
Power Management	Power scheduling / Wake on LAN / UPS settings
System Optimization Settings	Service binding* / User application mode* / SSD Trim
Log	System log / System connection and data transfer log
Notification	email、SNMP、syslog 、RESTful API
File Manager	File Manager (Web UI)
Service	iSCSI、FCP*、CIFS、AFP*、NFS、FTP*、WebDAV*、Bonjour*
Virtualization	Windows: Hyper-V, storage space, VMware ready, VAAI, SRM*, Citrix ready
Multi-Browser Support	Internet Explorer / Safari / Firefox / Google Chrome
Utility	XFinder, XInsight, XReplicator
Mobile App	XAccess (iOS、Android)
Notes	* will be supported in the later firmware