

# OceanStor N8500 Clustered NAS Storage System



OceanStor N8500

Huawei's OceanStor N8500 clustered NAS storage system is a leading unified storage platform oriented to high-end and medium-range applications. It meets the service requirements of telecommunications operators, digital media, high-performance computing, governmental entities, and educational and scientific research industries. It provides high performance, high expansion, effective data management, and unified storage.

## Highlights

### High Performance

- **Leading performance:** The storage system provides top performance in the SPECsfs2008 benchmark. When the NFS protocol is used, performance reaches 3,064,602 OPS.
- **Cluster architecture:** Multinode Active-Active cluster technology is used. In the cluster, all nodes work in a cooperative manner to implement concurrent data access.
- **Globally shared storage:** All nodes can access the same storage at the same time. The engine node provides the load balancing function. After load balancing is implemented, the load caused by hot-spot data access is evenly distributed to all nodes. This improves access efficiency of hot-spot data.
- **Highly reliable architecture:** Redundant components prevent single points of failure. Software technologies such as data coffer and file system mirror further improve system reliability.

### Scalability

- **Expansible engine node:** Engine nodes can be smoothly expanded online to 24 nodes. System performance improves with the addition of engine nodes.
- **Expansible storage capacity:** Storage capacity can be expanded to 15 PB.
- **File system capability:** Maximum file system space is 256 TB. Each file system supports up to 1,000,000,000 files.

### Efficiency

- **Dynamic Storage Tiering (DST):** Bidirectional dynamic migration is implemented between different storage media based on file access frequency and time policy. It is transparent to applications and reduces enterprise CAPEX.

- **File system mirror function:** In certain storage systems, a file system mirror can be set to store multiple data file systems and improve online data reliability.
- **Soft/hard quota management:** This implements flexible user space allocation and use.
- **Domain management:** AD/NIS/LDAP is supported.
- **Backup solution:** The Symantec NetBackup Client can be embedded in the NAS engine node to optimize backup performance and shorten the backup window.

### Convergence

- **Unified protocols:** Unified storage refers to unified storage of the SAN or NAS storage protocol. Certain storage systems support structured and unstructured data storage. Multiple storage network protocols such as iSCSI, FC, FCoE, NFS, CIFS, HTTP, and FTP are supported.
- **Unified management:** A simple graphical interface provides a unified way to manage files and block data services. A wizard configuration mode helps complete configurations easily.
- **Device monitoring:** The graphical management interface provides real-time/historical performance measurement and supports multiple alarm modes such as audible alarms, visual alarms, and email alarms. A device's operating status can be monitored at any time.
- **File-level data protection technology:** Snapshot, snapshot recovery, and remote replication functions at the file system level provide multilevel data protection.
- **Block-level data protection technology:** Smart Cache dynamic data cache technology and value-added features such as LUN-based snapshot, copy, and synchronous/asynchronous remote replication are provided for block-level data.

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## Technical Specifications

Model	N8500	
<b>Hardware Specifications</b>		
Architecture	Multinode Active-Active cluster architecture	
Number of nodes	2 – 24	
Cache/node	Basic Version: 16 GB Standard Version: 24 GB Enterprise Version: 48 GB Enhanced Version: 96 GB up to 192 GB	
GE ports/node	Standard configuration: 4 x GE, up to 16 x GE	
10 GE ports/node	Up to 6 x 10 GE	
Disk type	SSD, FC, SAS, SATA, NL-SAS	
Physical storage capacity	Dynamically expandable up to 15 PB	
<b>Software Features</b>		
RAID levels	0, 1, 3, 5, 6, 10, 50	
File system size	Dynamically expandable up to 256 TB	
Maximum number of snapshots	512 (per file system)	
Storage network protocols	FC, FCoE, iSCSI, NFS, CIFS, FTP, HTTP	
Access control	NIS, Microsoft Active Directory, LDAP	
Other protocols	NDMP, SNMP, NTP, SMI-S	
Value-added functions	DST, Snapshot, Mirror, Quota, Replication, SmartCache (dynamic data cache technology), embedded Symantec NetBackup Client, De-Duplication, Compression, Anti-Virus, WORM, HyperThin (thin provisioning), HyperImage (snapshot), HyperCopy (LUN copy), HyperClone (split mirror), and HyperMirror (synchronous/asynchronous remote replication)	
Quota	NFS/CIFS soft/hard quota management	
Management mode	GUI, CLI	
Compatible operating systems	Windows, Linux, Mac OS, Solaris, AIX, and HP-UX	
Fault alarm modes	Email, SNMP, and Syslog	
<b>Physical Specifications</b>		
Power supply	AC: 100 V to 127 V/ 200 V to 240V DC: -48 V to -60 V	
Power consumption	Engine	≤ 830 W (dual-node cluster)
	Storage unit	Controller enclosure: ≤ 830 W; Disk enclosure: ≤ 550 W
Dimensions (H x W x D)	Engine	4U, 175 mm x 446 mm x 502 mm (dual-node cluster)
	Storage unit	2U, Controller enclosure: 86.1 mm x 446 mm x 582 mm
		2U, Disk enclosure: 86.1 mm x 446 mm x 412 mm
		4U, Disk enclosure: 175 mm x 446 mm x 412 mm
Cabinet	42U, 205 cm x 57.5 cm x 118 cm	
Weight	Engine	Dual-node clustered NAS engine: ≤ 43.6 kg
	Storage unit (in full configuration)	2U, Controller enclosure ≤ 29.9 kg/enclosure 4U, Controller enclosure ≤ 43.6 kg/enclosure 2U, Disk enclosure ≤ 26.5 kg/ enclosure; 4U, Disk enclosure ≤ 42.64 kg/enclosure
Operating temperature	5°C to 40°C	
Operating humidity	5% RH to 90% RH	

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