

OceanStor N8000 Clustered NAS Storage System



OceanStor N8300 OceanStor N8500

Huawei OceanStor N8000 clustered NAS storage system is a leading unified storage platform oriented to high-end and medium-range applications. It meets the service requirements of telecom operators, digital media, high-performance computing, governmental entities, and educational and scientific research industries for high performance, high expansion, effective data management, and unified storage.

Product Features

High Performance

- **Leading performance:** In the SPEC sfs2008 benchmark, the storage system shows a leading performance. When the NFS protocol is used, the performance reaches 636,036 OPS. When the CIFS protocol is used, the performance reaches 712,664 OPS.
- **Cluster architecture:** The multi-node Active-Active cluster technology is used. In the cluster, all nodes work in a cooperation 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 the access efficiency of hot-spot data.
- **Highly reliable architecture:** All the components adopt the redundancy design to prevent single points of failure. Software technologies such as data coffer and file system mirror further improve the system reliability.

Scalability

- **Expansible engine node:** The engine nodes can be smoothly expanded online to 16 nodes. The system performance improves with the growth of engine nodes.
- **Expansible storage capacity:** The storage capacity can be expanded to 15 PB.
- **File system capability:** The maximum space of file systems can be 256 TB. Each file system supports up to 1,000,000,000 files.

Efficiency

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

- **File system mirror function:** In a certain storage system, file system mirror can be set to store multiple data and improve the online data reliability.
- **Data deduplication technology:** This effectively improves the storage space usage and saves the customer investment.
- **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 the backup performance and shorten the backup window.

Convergence

- **Unified protocols:** Unified storage refers to unified storage of the SAN or NAS storage protocol. A certain storage system supports structured and unstructured data storage. Multiple storage network protocols such as iSCSI, FC, NFS, CIFS, HTTP, and FTP are supported.
- **Unified management:** The simple graphical interface provides a unified manner to manage files and block data services. The wizard configuration mode helps complete configurations easily.
- **Device monitoring:** The graphical management interface provides the real-time/historical performance measurement function and supports multiple alarm modes such as audible alarms, visual alarms, and email alarms. You can know the device running status at any time.
- **File-level data protection technology:** The snapshot, snapshot recovery, and remote replication functions at the file system level provides multi-level data protection.
- **Block-level data protection technology:** The 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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Product Specifications

Model	N8300	N8500
Hardware Specifications		
System architecture	Multi-node Active-Active cluster architecture	
Number of nodes	2 ~ 6	2 ~ 16
Cache/node	Standard Version: 16GB, up to 24GB Enterprise Version: 16GB, up to 32GB,48GB	Basic Version: 16GB; Standard Version: 24GB Enterprise Version: 48GB; Enhanced Version: 96GB
GE ports/node	Standard configuration: 4 x GE, up to 12 x GE	Standard configuration: 4 x GE, up to 16 x GE
10 GE ports/node	Up to 2 x 10 GE	Up to 6 x 10 GE
Disk type	SSD,FC,SAS,SATA,NL-SAS	
Physical storage capacity	Dynamically expandible, up to 7 PB	Dynamically expandible, up to 15 PB
Supported Protocols		
Storage network protocols	FC, iSCSI, NFS, CIFS, FTP, HTTP	
Access control	NIS, Microsoft Active Directory, LDAP	
Other protocols	NDMP, SNMP, NTP	
Software Specifications		
RAID level	RAID 0, 1, 3, 5, 6, 10, 50	
File system size	Dynamically expandible, up to 256 TB	
Value-added functions	DST(dynamic storage tiering), De-duplication, Snapshot, Mirror, Quota, Replication, SmartCache (dynamic data cache technology), embedded Symantec NetBackup Client, HyperThin(thin provisioning),HyperImage (snapshot), HyperCopy (LUN copy), HyperClone (split mirror),HyperMirror (synchronous/asynchronous remote replication)	
Quota	NFS/CIFS soft/hard quota management	
Maximum number of snapshots	512 (each file system)	
Management mode	GUI, CLI	
Supported operating systems	Windows, Linux, Mac OS, Solaris, AIX, and HP-UX	
Fault alarm modes	E-mail, SNMP, Syslog	
Physical Specifications		
Power	AC:100V ~ 127V/200V ~ 240V	AC:100V ~ 127V/200V ~ 240V DC: -48V ~-60V
Power consumption	Engine	≤ 870 W (single node)
	Storage unit	Controller enclosure: ≤ 830 W; Disk enclosure: ≤ 550 W
Dimensions	Engine	2U, 86.4mm(H) % 482.4mm(W) % 720.6mm(D) (single node)
	Storage unit	4U, 175mm(H) % 446mm(W) % 502mm(D) (dual-node cluster)
	Cabinet	2U, Controller enclosure: 86.1mm(H) % 446mm(W) % 582mm(D); 4U, Controller enclosure: 175mm(H) % 446mm(W) % 502mm(D); 2U, Disk enclosure: 86.1mm(H) % 446mm(W) % 412mm(D); 4U, Disk enclosure:175mm(H) % 446mm(W) % 412mm(D)
Weight	Engine	Clustered NAS engine: ≤ 26 kg/node
	Storage unit (in full configuration)	Dual-node clustered NAS engine: ≤ 43.6 kg 2U, Controller enclosure ≤29.9Kg/enclosure; 4U, Controller enclosure ≤43.6Kg/enclosure 2U, Disk enclosure ≤26.5Kg/ enclosure; 4U, Disk enclosure ≤42.64Kg/enclosure

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