



The Huawei OceanStor 9000 scale-out NAS storage system features a symmetric distributed architecture that delivers cutting-edge performance, large-scale horizontal expansion capabilities, and a super-large single file system, providing shared storage for unstructured data. The OceanStor 9000 brings superior storage capabilities to industries such as broadcast media, satellite mapping, genetic research, energy exploration, scientific research, and education.

Highlights

Outstanding Performance

- High-performance read/write access: Exclusive InfoTurbo acceleration technology achieves up to 2.5 GB/s in bandwidth over a single client.
- Network acceleration: Support 10 GE, Infiniband and a variety of other networking schemes; supports RDMA mode transmission and TOE offload, to improve system transmission performance
- Linear scalability: Linear increase in system performance as nodes are added with up to 400 GB/s in bandwidth

Flexible Space

- Elasticity: Seamlessly expand from 3 to 288 nodes with one-click deployments, taking 60 seconds to add each additional node
- Expandability: Up to 100 PB capacity for a single file system, validated as the largest single file system in the industry

- Simplicity: All value-added features are configurable from a directory-based catalog, delivering resource-on-demand convenience and flexibility in data management.

Open Convergence

- Superb interoperability: Full synthesis in cloud and Big Data models, achieving compatibility with Amazon and OpenStack cloud environments; interoperability with Hadoop Big Data systems
- Variety of interfaces: Support for NFS, CIFS, NDMP, FTP, HDFS, S3/Swift and numerous other interfaces; support for file, object, and other types of data files
- Multiple node types: Supports IO-intensive, bandwidth-intensive, and high-capacity node types; supports different types of application hosting models.

OceanStor 9000 Scale-out NAS



Technical Specifications of the Distributed Storage System

Model	P25	P36	P12	C36	C72	
Hardware Specifications						
System architecture	Fully symmetrical distributed architecture					
Number of nodes	3 to 288				2 to 144	
CPUs per node	2 x Intel E5 series				2 x Intel Atom	
Cache per node	Standard configuration: 48 GB, scalable to 192 GB		Standard configuration: 32 GB, scalable to 192 GB		Standard configuration: 64 GB	
Data disk type	2.5-inch SSD and SAS disks	3.5-inch SSD, SATA, and NL-SAS disks		3.5-inch SSD, and NL-SAS disks		
Number of disks per node	Standard configuration: 1 x 2.5-inch 400 GB SSD + 24 x 2.5-inch 900 GB/1.2 TB SAS (The SSD/HDD configuration ratio can be adjusted based on actual performance requirements.)	Standard configuration: 1 x 3.5-inch 400 GB SSD + 35 x 3.5-inch 2 TB/4 TB/6 TB/8 TB/10 TB SATA or 2 TB/4 TB NL-SAS (The SSD/HDD configuration ratio can be adjusted based on actual performance requirements.)	Standard configuration: 12 x 3.5-inch 2 TB/4 TB/6 TB/8 TB/10 TB SATA or 2 TB/4 TB NL-SAS (The SSD/HDD configuration ratio can be adjusted based on actual performance requirements.)	Standard configuration: 36 x 3.5-inch 2 TB/4 TB/6 TB/8 TB/10 TB SATA or 2 TB/4 TB NL-SAS		
Front-end network type	10GE, InfiniBand, and 1GE			10GE and 1GE		
Internal network type	10GE, and InfiniBand					
Application scenarios	OPS-intensive	Large-capacity and high-bandwidth	Small-capacity	Video surveillance and archiving		
Software Features						
Data protection level	N+1, N+2, N+3, N+4					
File system	OceanStor DFS, which supports the global namespace and can be dynamically expanded up to 100 PB					
Value-added features	Dynamic storage tiering (InfoTier), Automatic load balancing of client connections (InfoEqualizer), Space quota management (InfoAllocator), Snapshot (InfoStamper), WORM (InfoLocker), Remote replication (InfoReplicator), Performance acceleration (InfoTurbo), Surveillance video and imagery restoration (InfoRevice), Data Migration (InfoMigrator), Anti-virus (InfoScanner)					
Value-added object storage feature	Object-level deduplication, Multi-tenant, HTTPs Encrypted transmission					
Thin provisioning	Support for thin provisioning, which does not need to be configured					
Data self-healing	Automatic, concurrent, and quick data restoration, with maximum restoration speed at 1 TB/hour					
System expansion	One-click online expansion, with less than 60 seconds needed for expansion of a single node					
Global cache	Up to 55 TB of global cache					
Operating system	Windows, Linux, Mac OS, and UNIX					
Supported protocols	NFS, CIFS, FTP, HDFS, S3/Swift, NDMP, NIS, Microsoft Active Directory, and LDAP					
System management	Support for users with different management rights, and domain- and rights-based user management Alarm notification by email, SMS, SNMP, and Syslog					
Bad disk detection	Automatic bad disk detection and alarm notification as well as batch replacement of bad disks, avoiding the need for immediate replacement and freeing up maintenance personnel to handle more pressing tasks.					
Physical Features						
Power supply	200V AC to 240V AC					
Dimensions (H x W x D)	Node	2 U, 86.1 mm x 446 mm x 582 mm (3.39 in. x 17.56 in. x 22.91 in.)	4 U, 175 mm x 446 mm x 582 mm (3.39 in. x 17.56 in. x 22.91 in.)	2 U, 86.1 mm x 446 mm x 582 mm (3.39 in. x 17.56 in. x 22.91 in.)	4 U, 175 mm x 446 mm x 582 mm (3.39 in. x 17.56 in. x 22.91 in.)	4 U, 175 mm x 446 mm x 790 mm (3.39 in. x 17.56 in. x 22.91 in.)
	Cabinet	Maximum size: 2000 mm x 600 mm x 1200 mm (78.4 in. x 23.62 in. x 47.24 in.)				
Node weight	Fully loaded with 2.5-inch disks: ≤ 35 kg (77 lb.)	Fully loaded with 3.5-inch disks: ≤ 70 kg (154 lb.)	Fully loaded with 3.5-inch disks: ≤ 32 kg (71 lb.)	Fully loaded with 3.5-inch disks: ≤ 70 kg (154 lb.)	Fully loaded with 3.5-inch disks: ≤ 96 kg (212 lb.)	
Power consumption	420 W	580 W	260 W	580 W	920 W	
Operating temperature	5°C to 35°C (41°F to 95°F) when the altitude ranges from -60m to +1,800m (-196.85 ft to +5,905.44 ft) When the altitude is higher than 1,800m (5,905.44 ft) but lower than or equal to 3,000m (9,842.4 ft), the ambient temperature drops by 0.6°C (1.08°F) for every 100-m (328.08-ft) increment in altitude.					
Operating humidity	20% RH to 80% RH					

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