

# OceanStor T Series Unified Storage Systems



OceanStor T series unified storage

As Huawei's new-generation mid-range and high-end storage products, the OceanStor T series unified storage (T series) provides converged architecture, protocols, and platforms. With leading performance, unique features, and efficient resource utilization, the T series offers comprehensive high-performance solutions. Maximizing customer ROI, the T series applies to OLTP/OLAP databases, high performance computing (HPC), digital media, Internet-based operating, central storage, backup, disaster recovery, and data migration.

## Highlights

### Converged and unified

- Multi-controller architecture: Enables scale-out linear performance growth, meeting business development requirements.
- Heterogeneous virtualization: Consolidates storage resources of heterogeneous devices for unified management and flexible allocation.
- Converged file and block storage: Integrates SAN and NAS protocols and supports both structured and unstructured data.
- Converged storage protocols: Supports multiple storage networking modes and protocols, including iSCSI, FC, NFS, CIFS, HTTP, and FTP.

### Various functionalities

- SmartQoS: Intelligently allocates storage resources based on service priority to optimize resource utilization.
- SmartPartition: Sets cache partition objectives for key services and dynamically allocates cache resources based on the objectives. Cache resources of each service are separated to prevent malicious contention and ensure high performance of important services.
- Second-level RPO: Implements highest-level data protection and enables seconds of RPO.
- SmartMotion: Dynamically relocates data based on service changes to load balance storage system pressure.

- SmartTier: Intelligently migrates data among different storage tiers based on data activity level to diversify the storage performance.
- SmartThin: Thin provisions storage space to improve disk utilization and lower purchase costs.

### Flexible and reliable

- Leading I/O scalability and flexibility: Supports 8 Gbit/s FC, 1 Gbit/s iSCSI, 10 Gbit/s iSCSI (TOE), 10 Gbit/s FCoE, and 6 Gbit/s SAS ports.
- Hot swap design: Allows controllers, fan modules, power supply modules, I/O modules, and disks to be swapped and expanded online without affecting services.
- High-reliability architecture: Employs redundancy design for all components to eliminate single point of failure and data vault and disk health check technologies to further improve system reliability.
- Application-aware optimization: Collaborates with the HostAgent software to implement application-level backup, disaster recovery, and disaster recovery verification, and supports mainstream application systems such as Oracle, DB2, Exchange Server, and SQL Server.

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## Technical Specifications

Model	S2600T	S5500T	S5600T	S5800T	S6800T
<b>SAN storage engine</b>					
Storage controller architecture	Dual-controller SAN architecture	Multi-controller SAN architecture			
Storage processors	Multi-core processor groups				
Cache per controller	8 GB	8 GB/16 GB	12 GB/24 GB	48 GB/96 GB	96 GB/192 GB
Networking modes and protocols	FC, iSCSI, NFS, CIFS, FTP, HTTP				
Front-end port types	8 Gbit/s FC, 1 Gbit/s iSCSI, 10 Gbit/s iSCSI (TOE)	8 Gbit/s FC, 1 Gbit/s iSCSI, 10 Gbit/s iSCSI (TOE), 10 Gbit/s FCoE			
Back-end port types	4 x 6 Gbit/s SAS 2.0 wide ports				
Onboard I/O ports per controller	Front end: 6 x 1 Gbit/s iSCSI ports Back end: 2 x 4 x 6 SAS 2.0 wide ports	Front end: 4 x 8 Gbit/s FC ports Back end: 2 x 4 x 6 SAS 2.0 wide ports	No onboard I/O port		
Max. number of I/O ports per controller	10	8	20	24	24
Max. number of disks	276	528	1152	1440	1440
Disk types	SAS, NL SAS, SSD				
RAID levels	0, 1, 3, 5, 6, 10, 50				
Max. number of snapshots	256	1024	2048	2048	2048
<b>Key software features</b>					
Data protection	HyperSnap (snapshot), HyperCopy (LUN copy), HyperClone (clone), HyperReplication (remote replication supporting second-level RPO)				
Key service assurance	SmartQoS (intelligent service quality control), SmartPartition (intelligent partitioning)				
Resource efficiency improvement	SmartTier (intelligent storage tiering), SmartThin (intelligent thin provisioning), SmartMotion (intelligent data relocation)				
Storage management software	UltraPath (multipathing management), Cloud Service (remote maintenance management), ReplicationDirector (disaster recovery management software)				
<b>Key software features</b>					
Heterogeneous virtualization	Consolidates storage resources of heterogeneous devices for unified management and flexible allocation				
Block virtualization	Balances data distribution and fast recovers data				
Computing virtualization	Supported VMs: VMware, Citrix, Hyper-V Value added features for virtualization environment: VMware VAAI support, vSphere integration, vCenter integration				
<b>File engine</b>					
File engine architecture	Multi-controller clustering architecture				
Number of file engine nodes	2	2, 4	2, 4, 6	2, 4, 6, 8	2, 4, 6, 8
Cache size per node	16 GB	16 GB	24 GB	24 GB	24 GB
FC ports per node	4 x 8 Gbit/s (for block storage)				
Host ports per node	4 x 2 x 10 Gbit/s iSCSI or 4 x 4 x 1 Gbit/s iSCSI				
Number of files per file system	30 million				
File system software	DST (dynamic storage tiering), Snapshot (file system snapshot), Replication (remote file system replication)				
Compatible operating systems	AIX, HP-UX, Solaris, Linux, Windows				
<b>Physical specifications</b>					
Power supply	AC: 100 V – 127 V or 200 V to 240 V DC: –48 V to –60 V				
Power consumption	2 U controller enclosure ≤ 380 W 4 U disk enclosure ≤ 527 W	2 U controller enclosure ≤ 539 W 2 U disk enclosure ≤ 307 W 4 U disk enclosure ≤ 527 W	4 U controller enclosure ≤ 598 W 2 U disk enclosure ≤ 307 W 4 U disk enclosure ≤ 527 W	4 U controller enclosure ≤ 768 W 2 U disk enclosure ≤ 307 W 4 U disk enclosure ≤ 527 W	4 U controller enclosure ≤ 830 W 2 U disk enclosure ≤ 307 W 4 U disk enclosure ≤ 527 W
Power consumption of a file engine	4 U file engine ≤ 830 W				
Dimensions (H x W x D)	2 U controller enclosure: 86.1 m x 446 mm x 582 mm		4 U controller enclosure: 175 m x 446 mm x 502 mm		
	4 U disk enclosure: 175 mm x 446 mm x 412 mm		2 U disk enclosure: 86.1 m x 446 mm x 412 mm 4 U disk enclosure: 175 m x 446 mm x 412 mm		
File engine dimensions (H x W x D)	4 U, 175 mm x 446 mm x 502 mm				
Weight	2 U controller enclosure ≤ 22.98 kg 4 U disk enclosure ≤ 25.2 kg	Controller enclosure ≤ 23.9 kg 2 U SAS disk enclosure ≤ 14.9 kg 4 U SAS disk enclosure ≤ 25.2 kg	Controller enclosure ≤ 43.6 kg 2 U SAS disk enclosure ≤ 14.9 kg 4 U SAS disk enclosure ≤ 25.2 kg		
Operating ambient temperature	5°C to 40°C (altitude: < 1800 m), 5°C to 30°C (altitude: 1800 m to 3000 m)				
Operating ambient humidity	5% R.H. to 95% R.H.				

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