

Oceanspace S5000T Series Storage System



Huawei Symantec



Huawei Symantec's Oceanspace S5000T series (T for short) are new generation of middle-range storage systems. Based on powerful hardware specifications, it consolidates multiple industry leading technologies including TurboModule that provides the ability of high density and hot swap I/O modules, and TurboBoost that provides triple performance boost, and energy saving technologies that provides three kinds of power saving technologies. The T series products can meet the requirements of large scale database including OLTP/OLAP, HPC, digital media, internet service providers, backup, disaster recovery, data migration and other scenarios.

Product Features

High Performance and Scalability

- **Industry Leading Hardware:** Equipped with 64bit multicore processors and high capacity data caches, up to 36GB/s internal bandwidth, supporting 6Gb SAS 2.0 back-end ports, totally eliminating hardware bottleneck
- **Disk Chose on Demand:** FC/SAS/SATA/SSD
- **Optimal Scalability & Flexibility:** Up to 12 I/O modules or 48 I/O ports(including both frontend and backend ports), supporting 4/ 8Gb FC, 1/10GbE and 6Gb SAS2.0 ports. Self developed TurboModule technologies can significantly increase the density of I/O modules and ports in a single enclosure, and provide a flexible number proportioning and slots layout of front-end and back-end I/O modules, significantly reducing maintenance cost
- **TurboBoost Technology:** Performance boosting empowered by high performance hardware components of latest technologies; SmartCache monitors hotspot data and cache them to SSD automatically, achieving several times of performance boosting; Further boosting the performance by using the all SSD RAID group configuration to increase the performance to an ultra high level. With these three level performance boosting mechanisms, users can upgrade the system performance on demand, lowering the TCO

High Reliability & Availability

- **TurboModule Technology:** TurboModule technology provides the ability to swap Controller, I/O, Disk, Fan, Power supply ,Battery modules without powering off the controllers, totally transparent to hosts. Supporting online expansion and maintenance
- **Cache Data Protection:** The internal battery modules ensure that data in the cache is written to the data coffer in case of a power

failure, increasing overall reliability

- **Disk Pre-copy Technology:** Faulty disks are detected in advance and data on the faulty disks is migrated to normal disks to avoid the raid reconstruction and extend disk life
- **Bad Sector Repair:** Repair bad sectors with best effort, reducing the disk failure rate
- **Rich Data Protection Technologies:** HyperImage provides snapshots, HyperCopy provides heterogeneous LUN copy and HyperMirror provides synchronous and asynchronous remote replication

Efficient, Flexible, Easy

- **Unified I/O Modules:** All the products use the same series IO modules, which reduces TCO
- **Enclosure with 24 Disk Slots:** 2U/4U high density disk enclosure(24 disks per enclosure), holding 12 2.5 inch disks in average 1U, reducing the expansion cost by 60% compared to low density enclosures
- **Friendly Management and Maintenance:** Using ISM for management, only 5 steps needed for initial configuration. supporting alarm through sound, light, texting or mail, supporting online upgrading firmware

Green

- **Disk Spin Down:** Based on RAID group workload, the system can spin down the disks in a specified RAID group, reducing power costs by 40%
- **Intelligent 16-step Fan Speed Tuning:** Based on the current system temperature, the system can adjust the fan speed to reduce power costs and noises
- **Intelligent CPU Speed Adjusting:** Based on system workload, the system can adjust the CPU speed and reducing power costs

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Technical Specifications

Model	S5500T	S5600T	S5800T
Hardware Specifications			
Storage Processor	64bit multicore processor		
Number of controllers	2	2	2
Cache Capacity	8GB /16GB/32GB	24GB/48GB	48GB/96GB
Frontend port type	8Gb FC and 1/10GE(iSCSI)		8Gb FC and 1/10GE(iSCSI)
Backend port type	SAS2.0 wide port		4Gb FC or SAS2.0 wide port
Onboard IO port	8*8Gb Frontend FC and 4*SAS2.0 wide port		None
Maximum IO modules	2	10	12
Maximum disks	288	576	1152
Supported disk types	SAS/SATA/SSD		SSD/SAS/SATA/FC
Software Features			
Supported Raid types	0, 1, 3, 5, 6, 10, 50		
Host quantity	512	1024	1024
Lun quantity	2048	4096	4096
Snapshot quantity	1024	2048	2048
TurboBoost	Supported		
TurboModule	Supported		
Functions	HyperImage(snapshot), HyperCopy(Lun copy), HyperMirro(remote replication), HostAgent(host side application aware snapshot and replication managing module), UltraPath(Multipath software), DiskGuard(host side volume protection), SmartCache(SSD cache technology in TurboBoost)		
OS	AIX/HP-UX/Solaris/Linux/Windows		
Physical Specifications			
Size	Control Enclosure(H*W*D) 582mm*446mm*86.1mm		Control Enclosure(H*W*D): 502mm*446mm*175mm
	2U Disk enclosure(height x width x depth): 412mm x 446mm x 86.1mm 4U Disk enclosure(height x width x depth): 412mm x 446mm x 175mm		
Weigh	Control Enclosure≤23.9kg		Control Enclosure≤43.6kg
	2U SAS Disk enclosure≤14.9kg 4U SAS Disk enclosure≤25.2kg		2U SAS Disk enclosure≤14.9kg 4U SAS Disk enclosure≤25.2kg 4U FC Disk enclosure≤24.9kg
Power Supply	AC: 100V ~ 127V or 200V ~ 240V DC: -48V ~ -60V		
Electrical power kva	Control Enclosure ≤539W(with 24 SAS disks) 2U disk enclosure(with 24 300GB SAS): 300W 4U disk enclosures (with 24 600GB SAS): 550W		Control Enclosure ≤830W(without disks) 2U disk enclosure(with 24 300GB SAS): 300W 4U disk enclosures (with 24 600GB SAS): 550W

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