OceanStor S6800T Storage System

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Huawei OceanStor S6800T is a new generation of high-end enterprise-class storage system. Based on its industry-leading hardware specifications, the S6800T integrates the advanced technologies of high-density disk design, TurboModule (high-density and hot-swappable I/O modules), and TurboBoost (three-level performance boost), and multi-level data protection, satisfying the application requirements of large OLTP/OLAP databases, high-performance computing, digital media, Internet operation, centralized storage, backup, disaster recovery, and data migration.

Highlights

High Performance and Scalability

- **Industry-leading hardware:** Equipped with 64-bit multi-core processors, high-speed and large-capacity cache, and, high internal bandwidth, improving overall performance by 50%
- **Diversified disk types:** FC, SAS, NL SAS, SATA, and SSD, allowing customers to choose in various scenarios
- **Outstanding scalability and flexibility:** Up to 12 I/O modules, 48 front-end and back-end I/O ports that support 4 or 8 Gbps FC, GE or 10GE, and 6 Gbps SAS 2.0 wide ports. The unique TurboModule technology enables the density of I/O modules to reach the maximum and the number of front-end and back-end I/O modules to be adjustable in proportions, cutting maintenance cost significantly
- **TurboBoost technology:** Industry-leading hardware empowers the S6800T to deliver solid system performance, the SmartCache boosts read performance notably by continuously monitoring hotspot data and caching it to SSDs, and the RAID groups consisting of only SSDs further improve the performance to a new high. The three-level performance boost technology greatly contributes to the proven system performance, lowering the total cost of ownership (TCO)

High Reliability and Availability

- **TurboModule Technology:** TurboModule technology allows customers to swap the controller, hard disk, I/O module, fan module, power module, or BBUs without powering off the system or interrupting services. Online expansion is applicable to hot-swappable I/O modules.
- **Cache data protection:** The BBUs ensure that cache data is written to the data coffer in case of a power failure, increasing overall reliability.
- **Disk pre-copy technology:** The systems detects failing disks and copies data on these disks to their spare disks to prevent from RAID degradation and data loss.
- **Advanced data protection technologies:** HyperImage and host agent software provide consistent snapshots and instant data recovery

from snapshots for application systems. HyperClone and HyperCopy implement local data backup and recovery, and HyperCopy across storage platforms enables data protection between heterogeneous storage. HyperMirror achieves synchronous and asynchronous remote replication for backup and disaster recovery

Efficient, Easy, and Flexible

- **Unified I/O modules:** The S6800T products use the same I/O modules, reducing the TCO to the maximum
- **High disk density:** A 2 U or 4 U disk enclosure can house up to twenty-four 2.5-inch or 3.5-inch disks, decreasing the expansion cost by 60% compared with low-density disk enclosures
- **Thin Provisioning:** HyperThin extends storage capacity automatically and increases disk usage, allowing customers to purchase storage on demand and maximize the return on investment (ROI)
- **User-friendly OAM tool:** The S6800T supports the OceanStor Integrated System Manager (ISM) for unified management and maintenance, remarkably reducing the OAM costs. The ISM enables you to complete initial configuration in five steps and upgrade dual controllers' firmware online just in one click. In addition, the ISM supports audible and visual alarms, SMS alarms, and email alarms

Energy Saving

- **Disk spin-down:** Hard disks automatically spin down in off-peak hours, lowering power consumption by 40%
- **16-step intelligent fan speed control:** The fans automatically adjust rotational speed according to system temperature. This helps reduce power consumption and noise
- **CPU frequency control:** The CPU intelligently adjusts working frequency according to the workload. In off-peak hours, it lowers working frequency to reduce power consumption

Technical Specifications

Model	S6800T
Hardware Specifications	
Storage processor	Multi-core processors
Cache capacity	48GB/96GB/192GB
Maximum flash memory	4.8TB
Number of controllers	2
Front-end port types	8Gbps FC, GE/10GE (iSCSI)
Back-end port types	4Gbps FC, 6Gbps SAS 2.0 wide ports
Number of onboard I/O ports	None
Maximum number of I/O modules	12
Maximum number of disk slots	1440
Supported disk types	FC, SAS, NL SAS, SATA, SSD
Software Feature	
RAID levels	0, 1, 3, 5, 6, 10, 50
Maximum number of snapshots	2048
TurboModule	Supported.
Functional software	HyperImage (snapshot), HyperCopy (LUN copy), HyperClone (split mirror), HyperMirror (remote replication A/S), HyperThin (thin provisioning), UltraPath (multipathing), DiskGuard (host-side data protection software), SmartCache (dynamic data caching in TurboBoost)
Supported operating systems	AIX, HP-UX, Solaris, Linux, Windows, and so on
Virtualization environment	VMware VAAI support for VSphere and VCenter integration
Physical Specifications	
Power supply	AC: 100V ～ 127V, or 200V to 240V DC: −48V ～ −60V
Power consumption	4 U controller enclosure: ≤ 830W 2 U disk enclosure: ≤ 249W (fully configured with 300GB SAS disks) 4 U disk enclosure: ≤ 441W (fully configured with 600GB SAS disks)
Dimensions (H%W%D)	Control enclosure: 4 U,175mm%446mm%502mm Disk enclosure: 2 U, 86.1mm%446mm%412mm Disk enclosure: 4 U,175mm%446mm%412mm
Weight	Controller enclosure: ≤ 43.6kg 2 U SAS disk enclosure: ≤ 14.9kg 4 U SAS disk enclosure: ≤ 25.2kg 4 U FC disk enclosure: ≤ 24.9kg