OceanStor Dorado 2000 All-Flash Storage System (SAN)

HUAWEI

OceanStor Dorado 2000 All-Flash Storage System

Simplified

Simplified configuration and O&M with 20% higher efficiency

- Service configuration in 3 steps
- Intelligent alarm detection, remote handling, and AI-based capacity and performance prediction
- 33% reduction in physical space and weight

Huawei OceanStor Dorado 2000 is an entry-level storage system in the OceanStor Dorado all-flash series. It features an innovative hardware platform and FlashLink® intelligent algorithms, which combine to deliver a 50% higher performance than the previous generation. Intelligent algorithms are built into the storage system to make storage more intelligent during the application operations. Furthermore, the active-active (A-A) architecture and simplified graphical user interface (GUI) design help simplify operations and maintenance (O&M).

Excelling in scenarios such as virtualization, office automation (OA), and branches, Huawei OceanStor Dorado 2000 all-flash storage is a trusted option for small and medium-sized businesses (SMBs) in the carrier, finance, government, manufacturing, and other fields. The storage system provides cost-effective services, making it ideal for the IT applications of SMBs.

Reliable

End-to-end reliability assurance for 24/7 services

- FlashLink® intelligent algorithms
- A complete package of features for more reliable storage
- 4-layer reliability assurance for disks, architectures, systems, and solutions, ensuring 24/7 service continuity

Product Features

Simplified

Simplified configuration: A brand-new GUI greatly simplifies the configuration process of traditional storage. This facilitates storage system configuration in just three steps and resource readiness in just five minutes, without assistance from dedicated personnel. This meets the key requirements of SMBs for simple and easy-to-use IT systems.

Simplified O&M: Huawei OceanStor Dorado 2000 all-flash storage system combines general-purpose cloud intelligence with customized edge intelligence over a built-in intelligent hardware platform, providing incremental training and deep learning for a personalized customer experience. The DME IQ intelligent O&M and management platform collects and analyzes over 190,000 device patterns on the live network in real time, extracts general rules, and enhances basic O&M.

OceanStor Dorado 2000 All-Flash Storage System

Green

30%+ lower power consumption based on optimized all-flash architecture

- 30%+ lower power consumption: 690 W → 530.5 W
- All-in-one CPU, greatly reducing mainboard power consumption

Intelligence throughout service lifecycle: Intelligent management covers resource planning, provisioning, system tuning, risk prediction, and fault location, and enables 60-day and 14-day predictions of performance bottlenecks and disk faults respectively, and immediate solutions for 93% of problems detected.

Non-disruptive upgrade (NDU): OceanStor Dorado 2000 supports load balancing and NDU. O&M personnel do not need to prepare much on the host side before an upgrade, greatly improving O&M efficiency.

Simplified design and architecture:

OceanStor Dorado 2000 comes at a reduced length of 410 mm, taking up 21% less physical space than its previous generation, and 33% less space than other peer storage devices on the market. It can be placed directly in the network cabinet, and is easy for one person to transport.

Reliable

Innovative hardware platform: The hardware platform of Huawei storage enables E2E data acceleration, improving the system performance by 50% compared to the previous generation.

- ✓ The intelligent accelerator module analyzes and understands I/O rules of multiple application models based on machine learning frameworks to implement intelligent prefetching of memory space. This improves the read cache hit ratio by 50%.

- ✓ The intelligent SSD hosts the core Flash Translation Layer (FTL) algorithm, accelerating data access in SSDs and reducing the write latency by half.

- ✓ The intelligent hardware has a built-in Huawei storage fault library that accelerates component fault location and diagnosis, and shortens the fault recovery time from 2 hours to just 10 minutes.

Intelligent algorithms: Most flash vendors lack E2E innate capabilities to ensure full performance from their SSDs. OceanStor Dorado 2000 runs industry-leading FlashLink® intelligent algorithms based on self-developed controllers and operating systems.

- ✓ Many-core balancing algorithm: Taps into the many-core computing power of a controller to maximize the data processing capability.

- ✓ Cache acceleration algorithm: Accelerates batch processing with the intelligent module to bring intelligence to storage systems during application operations.
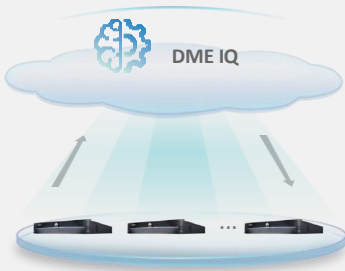
The data layout between SSDs and controllers is coordinated synchronously.

- ✓ Large-block sequential write algorithm: Aggregates multiple discrete data blocks into a unified big data block for disk flushing, reducing write amplification and ensuring stable performance.

- ✓ Independent metadata partitioning algorithm: Effectively controls the performance compromise caused by garbage collection for stable performance.

- ✓ I/O priority adjustment algorithm: Ensures that read and write I/Os are always prioritized, shortening the access latency.

FlashLink® intelligent algorithms give full play to all flash memory and help Huawei OceanStor Dorado achieve unparalleled performance for a smoother service experience.

Linear increase of performance and capacity: Unpredictable business growth requires storage to provide simple linear increases in performance as more capacity is added to keep up with ever-changing business needs. OceanStor Dorado 2000 supports scale-out of 8 controllers, and IOPS increases linearly as the quantity of controller enclosures increases, matching the performance needs of future business development.

E2E full redundancy design: Interface modules, controllers, and disks are used to ensure service continuity.

99.9999% reliability: Four layers of disks, architectures, systems, and solutions ensure 24/7 service continuity.

High quality: With abundant SAN features and functions, the entry-level all-flash storage system delivers similar quality to that from a high-end storage system, meeting the needs of 80% of small- and medium-sized enterprises.

Green

Flash media: The all-flash architecture reduces storage power consumption and OPEX by 30% and 20%+, respectively, compared with the industry average.

Low-power hardware platform: The all-in-one CPU supported by the low-power SoC design slashes mainboard power consumption.

Fan speed adjustment: The fan supports automatic speed adjustment and can cool down quickly, improving the product's energy efficiency by 4% to 9%.

Technical Specifications

Model	OceanStor Dorado 2000
Hardware Specifications	
Maximum Number of Controllers	8
Maximum Cache (Dual-Controller, Expand with Controllers)	64 GB–512 GB
Supported Storage Protocols	FC, iSCSI
Front-End Port Types	8/16/32/64 Gbps FC, 1/10/25 GbE
Back-End Port Types	SAS 3.0
Maximum Number of Hot-Swappable I/O Modules per Controller Enclosure	4
Maximum Number of Front-End Ports per Controller Enclosure	28
Maximum Number of SSDs	400
SSDs	960 GB/1.92 TB/3.84 TB/7.68 TB/15.36* TB SAS SSD
Software Specifications	
Supported RAID Levels	RAID10, RAID 5, RAID 6 and RAID-TP (tolerating simultaneous failures of 3 SSDs)
Number of LUNs	2,048
Value-Added Features	SmartDedupe, SmartCompression, SmartThin, SmartQoS, , SmartErase, SmartMigration, HyperSnap, HyperReplication, HyperClone, HyperEncryption, HyperMetro, HyperCDP
Storage Management Software	DeviceManager, UltraPath, DME IQ
Physical Specifications	
Power Supply	Controller enclosure: 200 V–240 V AC±10%, 192 V–288 V DC Disk enclosure: 100 V–240 V AC±10%, 192 V–288 V DC
Dimensions (H x W x D)	SAS SSD enclosure: 86.1 mm x 447 mm x 410 mm
Weight (Incl. Disk Units)	SAS controller enclosure: ≤ 30 kg SAS SSD enclosure: ≤ 20 kg
Operating Temperature	−60 m to +1800 m altitude: 5°C to 35°C (cabinet) or 40°C (enclosure) 1800 m to 3000 m altitude: The max. temperature threshold decreases by 1°C for every altitude increase of 220 m
Operating Humidity	10% RH to 90% RH

*For further details on specifications with an asterisk for a specific project, please contact Huawei sales.

To learn more about Huawei storage, please contact your local Huawei office or visit the Huawei Enterprise website: http://e.huawei.com.

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