Data Sheet

OceanStor Dorado 2100 All-Flash Storage System

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Simplified

Simplified configuration and O&M with 20% higher efficiency

- Service configuration in 30 minutes by scanning code
- Intelligent alarm detection, remote handling, and AI-based capacity and performance prediction
- 33% reduction in physical space and weight

Huawei OceanStor Dorado 2100 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 network attached storage (NAS) application scenarios such as file sharing, remote office, data backup, and multi-point file synchronization, Huawei OceanStor Dorado 2100 all-flash storage is a trusted option for small and medium-sized businesses (SMBs) in the medical, manufacturing, government, education, and other fields. The storage system provides cost-effective services, making it ideal for the IT applications of SMBs.

Product Features

Simplified

Simplified configuration: A brand-new GUI greatly simplifies the configuration process of traditional storage. This facilitates storage system configuration in just 30 minutes by scanning code, 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 2100 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 Cloud O&M Platform collects statistics of more than 190,000 devices on the live network in real time and extracts common rules to enhance basic O&M capabilities.

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Reliable

E2E reliability assurance for 24/7 service continuity

- Active-active NAS solution
- 4-layer reliability assurance for disks, architectures, systems, and solutions, ensuring 24/7 service continuity
- Antivirus and ransomware protection

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

Non-disruptive upgrade (NDU): OceanStor Dorado 2100 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 2100 comes at a reduced length of 410 mm, with 33% less physical space and weight respectively 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

99.9999% reliability: Four-layer reliability assurance for disks, architectures, systems, and solutions ensures 24/7 service continuity.

Active-active NAS solution: Huawei OceanStor Dorado 2100 provides the industry's only gateway-free active-active NAS solution. If a single storage system fails, services will fail over within 10 seconds, ensuring high efficiency and reliability of NAS applications. In addition, the solution can be smoothly upgraded to the geo-redundant 3DC DR solution for high-level data protection.

Always-on SSD: Leveraging global wear-leveling technology, Huawei SSDs can balance their loads for a longer lifespan of each SSD. In addition, Huawei's patented anti-wear leveling technology prevents simultaneous multi-SSD failures and improves the reliability of the entire system.

Multiple

Innovative hardware platform: The hardware platform of Huawei storage enables end-to-end (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.

Multiple

Accelerating system through innovative hardware platform and scale-out file system

- Globally shared scale-out file system
- FlashLink® intelligent algorithms
- Complete package of NAS features

Green

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

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

✓ 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.

Innovative scale-out file system: Based on controllers and operating systems, Huawei OceanStor Dorado 2100 runs a globally shared scale-out file system, ensuring NAS performance.

✓ The balancing algorithm evenly distributes directories and files in a file system to each controller, allowing a single file system to fully utilize the resources of a storage cluster. In addition, directories and their subfiles can be assigned to the same controller for I/O processing, preventing cross-controller forwarding.

✓ Intelligent metadata prefetching and eviction algorithms ensure faster directory file search, while the metadata compaction algorithm packs more metadata within 8 KB data blocks to improve cache and prefetch efficiency.

✓ RAID 2.0+ globally distributes data blocks of large files to all disks in the storage pool, providing 50% higher write bandwidth of large files than the second-best player.

Disk-controller collaboration: The data layout between SSDs and controllers is coordinated synchronously. Aggregates multiple discrete data blocks into a unified big data block for disk flushing to reduce write amplification. Ensures that read and write I/Os are always prioritized, shortening the access latency.

High quality: With abundant NAS 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 small- and medium-sized enterprises.

Green

Flash media: The all-flash architecture reduces storage power consumption and operating expense (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 system-on-chip (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%.

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Technical Specifications

Model	OceanStor Dorado 2100
Hardware Specifications	
Maximum Number of Controllers	8
Maximum Cache (Dual-Controller, Expands with Controllers)	128 GB–512 GB
Supported Storage Protocols	NFS, CIFS, NDMP, SMB
Front-End Port Types	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	RAID 5, RAID 6, RAID 10*, and RAID-TP (tolerating simultaneous failures of 3 SSDs)
Number of FS	1024
Value-Added Features	HyperSnap (NAS); HyperReplication (NAS); HyperClone (NAS); HyperEncryption; HyperMetro (NAS); HyperCDP (NAS); SmartCompression; SmartQoS (NAS); SmartErase; SmartMigration (NAS); Antivirus
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 maximum temperature threshold decreases by 1°C for every altitude increase of 220 m
Operating Humidity	10% RH to 90% RH

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

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HUAWEI TECHNOLOGIES CO., LTD.

Bantian Longgang District

Shenzhen 518129, P.R. China

Tel: +86-755-28780808

www.huawei.com