



OceanStor F V5 Mid-Range All-Flash Storage Systems

Huawei OceanStor 5300F, 5500F, 5600F, and 5800F V5 mid-range all-flash storage systems (OceanStor F V5 mid-range storage for short) deliver the high performance, low latency, and high scalability that are required in the age of cloud. OceanStor F V5 mid-range storage incorporates all of the high availability (HA) features and enterprise-class functions of Huawei storage, delivering top-of-the-line functionality, performance, efficiency, reliability, and ease of use. It fully satisfies the data storage requirements of large-database OLTP/OLAP, file sharing, cloud computing, and many other applications, making it a perfect choice for sectors such as government, finance, telecommunications, energy, and media. OceanStor F V5 mid-range storage also provides a wide range of efficient and flexible backup and disaster recovery (DR) solutions to ensure business continuity and data security, delivering excellent storage services.

Product Highlights

Outstanding Performance

Flash storage hardware, delivering top-of-industry performance

- **Industry-leading performance and specifications:** OceanStor F V5 mid-range storage employs multi-core processors, cutting-edge PCIe 3.0 buses, 12 Gbit/s SAS 3.0 high-speed disk ports, and a variety of front-end ports such as 32 Gbit/s Fibre Channel and 100 Gbit/s Ethernet front-end ports. OceanStor F V5 mid-range storage can support high-concurrency access to core databases at low latency.
- **Flexible scalability:** OceanStor F V5 mid-range storage supports high-speed enterprise-class SSD drives. A single storage system can be equipped with a maximum of 8 controllers, 4 TB of cache, and 1,500 SSDs, providing up to million-level IOPS as well as other industry-leading specifications.

Flash-oriented system architecture, ensuring rapid response to core services

- **Flash-oriented system architecture:** OceanStor F V5 mid-range storage uses Huawei's innovative flash architecture (featuring an optimized multi-core CPU, adaptive cache algorithm, self-developed SSD algorithm, and optimized drives) to achieve in-depth integration of system software and hardware. It fully utilizes the superior performance of all-flash storage to deliver superb user experience, helping enterprises to easily embrace the era of all-flash storage.

OceanStor F V5 mid-range storage uses proprietary high-performance SSD controller chips with patented algorithms, providing users with reliable and high-performance SSD drives.

Proprietary flash-optimized controllers, an industry-leading system architecture, and multi-controller load balancing design enable the new storage systems to provide powerful all-flash processing capabilities while fully meeting the algorithm processing requirements of all-flash systems. Moreover, advanced processor resource allocation algorithms, LDPC error correction algorithms, and RAID 2.0+ technology increase the life span of SSDs and enable fast I/O response, unleashing the potential of all-flash storage.

Multi-level Convergence

Powered by the latest OceanStor OS, OceanStor F V5 mid-range storage provides converged and unified resource pools with the agility of resource scheduling, enabling free data mobility and helping enterprise IT architectures evolve to cloud-based architectures.

- **Convergence of all types of flash storage:** Huawei has the most complete flash product portfolio and supports interconnection between different types, levels, and generations of flash storage. Convergence of data, management and O&M empowers high-performance and low-latency flash storage arrays, while ensuring the long-term reliability of SSDs.
- **Convergence of SAN and NAS:** SAN and NAS are converged to provide elastic storage, improve storage resource utilization, and reduce the total cost of ownership (TCO). The new OceanStor F V5 mid-range storage not only converges SAN and NAS to support multiple types of services, but also provides industry-leading SAN and NAS performance and functions.
- **Convergence of storage resource pools:** The built-in heterogeneous virtualization function enables OceanStor F V5 mid-range storage to take over the storage arrays of different levels, types, and models from other mainstream vendors, and integrate them into a unified resource pool. This eliminates data silos, achieves unified resource management, and enables automated service orchestration. In addition, data can be automatically migrated from third-party storage to Huawei storage without interrupting services. Huawei's automatic migration tool reduces the migration time by 60% on average.
- **Convergence of multiple data centers:** The converged SAN and NAS active-active solution provides cross-data center service continuity assurance and makes the networking simpler. Active-active data center deployment can be smoothly upgraded to the geo-redundant 3DC layout to achieve the highest level of service continuity protection. Customers can also deploy hierarchical data centers for the purpose of centralized disaster recovery. Currently, Huawei storage supports the backup of data from 64 subordinate data centers to a central data center.

Solid Reliability

- **Load balancing among multiple controllers:** OceanStor F V5 mid-range storage enables load balancing among controllers and eliminates single points of failure, thereby ensuring high system availability and stable service running. Multiple controllers can be used simultaneously to accelerate services for one host, removing performance bottlenecks of a single controller and doubling performance.

- **Unique rapid data restoration technology:** Innovative block-level virtualization is employed to reduce the time needed to reconstruct 1 TB of data from 10 hours to 30 minutes. Compared with traditional storage systems, OceanStor F V5 mid-range storage reduces the risk of data damage caused by disk failures by 95%.
- **A wide range of data protection software:** The Hyper series of data protection software includes snapshot, clone, all-in-one backup, remote replication, and other data protection technologies. They protect user data locally, remotely, inside systems, and across different regions, and achieve 99.9999% availability, maximizing business continuity and data availability.
- **Active-active SAN and NAS for core applications:** Huawei takes the lead to launch a converged SAN and NAS active-active solution, ensuring high availability for databases and file services. The gateway-free HyperMetro solution enables load balancing of active-active mirrors and non-disruptive cross-site takeover, ensuring zero loss of core application data and zero service interruption. In addition, HyperMetro can be effortlessly upgraded to the geo-redundant layout with three data centers.

Intelligent Services

Accelerating the cloud transformation of enterprises

- **Intelligent O&M:** eService enables cloud-based monitoring, around-the-clock proactive monitoring, minute-level fault sensing, automatic fault reporting, and automatic ticket creation. eService can also automatically inspect every aspect of a device's status, provide cloud-ready evaluation services, automatically analyze workload characteristics, generate an analysis report with one click, recommend storage design schemes, offer intelligent trend prediction, and plan expansion in advance.
- **Hybrid cloud solution:** Huawei offers a hybrid-cloud-based storage solution for enterprises, which implements on- and off-premises resource collaboration and data mobility. Public cloud is regarded as a storage tier. Customers can perform cross-cloud data backup and migration, achieving smooth cloud transformation of storage services.

Product Specifications

Name	OceanStor 5300F V5	OceanStor 5500F V5	OceanStor 5600F V5	OceanStor 5800F V5
Controller Enclosure Specifications				
Architecture	All-flash			
Latency	< 1 ms			
Processor	Multi-core processors			
System cache (expands with	64 GB to 512 GB	128 GB to 1,024 GB	256 GB to 2,048 GB	512 GB to 4,096 GB

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the number of controllers)				
Maximum number of controllers	8	8	8	8
Supported storage protocols	Fibre Channel, iSCSI, NFS, CIFS, FTP, HTTP			
Types of front-end ports	8/16/32 Gbit/s Fibre Channel, 1/10/25/40/100 Gbit/s Ethernet			
Type of back-end ports	SAS 3.0 (single port 4 x 12 Gbit/s)			
Maximum number of hot-swappable I/O modules (per controller)	2	2	8	8
Maximum number of front-end ports per controller	20	20	28	28
Maximum number of disks (dual-controller)	750	1,000	1,200	1,500
Disk type	Enterprise-class SSD			
Support RAID levels	RAID 0, 1, 3, 5, 6, 10, 50			
Maximum number of snapshots (LUN)	4,096	4,096	8,192	8,192
Maximum number of LUNs	8,192	8,192	16,384	16,384
Maximum number of snapshots per file system	2,048			
Maximum capacity of a	256 TB			

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file				
Key Software Features				
Data protection software	HyperSnap (snapshot), HyperClone (clone) HyperCopy (copy), HyperMirror (volume mirroring) HyperMetro (active-active arrays), HyperReplication (remote replication) HyperLock (WORM), HyperVault (all-in-one backup)			
Mission-critical business protection	SmartQoS (intelligent service quality control) SmartPartition (intelligent partitioning)			
Resource efficiency improvement software	SmartMigration (intelligent LUN migration), SmartVirtualization (intelligent heterogeneous virtualization) SmartMulti-Tenant (intelligent multi-tenant), SmartQuota (quota management) SmartDedupe (intelligent deduplication), SmartCompression (intelligent compression) SmartThin (intelligent thin provisioning), SmartMotion (intelligent data motion) SmartErase (intelligent data destruction)			
Storage management software	UltraPath (host multipath), BCManager (DR management) DeviceManager (single-device management software), eSight (centralized O&M management software) eService (remote maintenance management)			
Virtualization Features				
Heterogeneous virtualization	Consolidates storage resources of mainstream products to manage and allocate storage resources in a flexible and unified manner.			
Block-level virtualization	Enables balanced data distribution and quick fault recovery.			
Physical Specifications				
Power supply	AC: 200 V to 240 V DC: 192 V to 288 V			
Dimensions (H x W x D)	2 U controller enclosure: 86.1 mm x 447 mm x 750 mm	3 U controller enclosure: 130.5 mm x 447 mm x 750 mm		
	2 U disk enclosure: 86.1 mm x 447 mm x 490 mm			
Weight	2 U controller enclosure: ≤ 37 kg	3 U controller enclosure: ≤ 50 kg		
	2 U disk enclosure: ≤ 20 kg	2 U disk enclosure: ≤ 20 kg		
Operating temperature	5°C to 40°C (altitude: < 1,800 m), 5°C to 35°C (altitude: 1,800 m to 3,000 m)			

Name	OceanStor 5300F V5	OceanStor 5500F V5	OceanStor 5600F V5	OceanStor 5800F V5
Operating humidity	5% RH to 90% RH			

For More Information

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



Huawei Enterprise APP





Huawei IT

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