



# Lightning Fast Rock Solid

OceanStor Dorado V3 all-flash storage is the ideal storage solution to handle mission-critical businesses for enterprises and organizations. Based on Huawei's unique FlashLink™ technology, it delivers 4 million IOPS, 0.5 ms consistent latency, and its HyperMetro gateway-free active-active solution ensures 99.9999% availability. Inline deduplication and compression technologies help it achieve a 3:1 data reduction guarantee, reducing TCO by 50%.

The OceanStor Dorado V3 is an efficient, reliable, and high-performance product that fully satisfies the storage requirements of databases and virtualization applications. It has been designed to facilitate the transition to all-flash for customers in the finance, manufacturing, carrier, and a host of other sectors.

## Highlights

### Outstanding Performance

Enterprises are finding precise decision-making more and more challenging in the face of today's massive, complex, and rapidly changing data. They are in urgent need of high-performance IT infrastructures to support the quick analysis of massive data and the extraction of valuable information. Huawei's OceanStor Dorado V3 all-flash storage is able to deliver 4 million IOPS, 0.5 ms consistent latency by incorporating SSDs, end-to-end storage and controller optimization, and Huawei's unique FlashLink™ technology. This new system can shorten report generation time by 50% and help managers make decisions in real time, and enterprises can double the efficiency of their online transactions and VDI user scale.

### Stability and Reliability

The adoption of the Cloud and flash technologies has fueled explosive growth in the volume of data and driven the search for ever-higher levels of data reliability. The OceanStor Dorado V3 ensures reliability at the disk, system, and solution levels, attaining 99.9999% availability for mission-critical business and satisfying even the most strict enterprise-class reliability requirements.

### Efficiency and Convergence

The core mission of any IT system is to help enterprises improve their efficiency, and this mission is now more critical than ever. The transition to flash-oriented IT architecture helps enterprises increase their revenue and decrease their expenditures at the same time with increased value and simplified management.

## Features

### Outstanding Performance

#### World's fastest SSD

Huawei is the first in the industry to put NVMe all-flash storage into commercial use. NVMe SSDs provide twice the performance of SAS SSDs. Inside, they use a proprietary Huawei SSD control chip to run the Flash Translation Layer (FTL) algorithm and accelerate the reading and writing of data, delivering the lowest write latency in the industry.

#### Flash-optimized operating system

Most storage solutions in the industry are based on incremental improvements to traditional storage systems. They cannot take full advantage of the capabilities of SSDs. Huawei OceanStor Dorado V3 all-flash storage operating system has an NVMe-based architecture, which supports direct communication between the CPU and NVMe SSDs. This eliminates the need for SCSI-SAS conversion and shortens the data transmission path, lowering end-to-end latency by 200  $\mu$ s. The system also incorporates an industry-leading disk controller collaboration algorithm, which synchronizes the data layout between SSDs and controllers. This design enables it to provide outstanding performance at a consistently low latency, ensuring that mission-critical applications always operate smoothly.

## Linear performance and capacity expansion

The solution to unpredictable business growth is to implement a storage infrastructure that is predictable, scalable, and has high performance. The scale-out architecture of the OceanStor Dorado V3 supports linear expansion to 16 controllers, which provides a linear increase to IOPS.

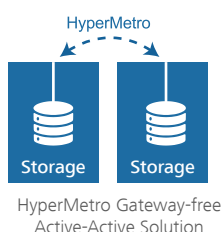
## Stable and Reliable

### World's most reliable SSD

SSD is the carrier of data, so its reliability has always been users' greatest concern. Huawei SSDs leverage global wear-leveling technology to balance the load among all SSDs and extend the lifespan of each. In addition, Huawei's patented anti-wear leveling technology prevents group failures of multiple disks and improves the reliability of the entire system. Huawei SSDs have an MTBF of 3 million hours, outperforming the industry average by 20%, and laying a solid foundation for the entire system.

## Comprehensive security hardening

The flash storage system has been hardened at both the hardware and software layers. At the hardware layer, the full-redundancy architecture supports the hot plugging of ports and NVMe SSDs to eliminate single points of failure. Using larger capacity SSDs can conserve physical space, but it also causes data reconstruction to take more time, increasing the risk of data loss. The OceanStor Dorado V3 incorporates innovative RAID-TP technology which can tolerate the simultaneous failure of three SSDs, guaranteeing the highest level of reliability in industry. In addition, RAID-TP shortens the reconstruction time for 1 TB data to 30 minutes, effectively protecting data from the reliability risk posed by large-capacity disks. The system also supports snapshot without performance compromise that can rapidly generate a copy of the production system.



## Gateway-free active-active solution

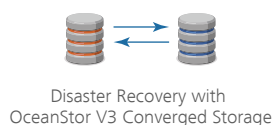
Flash storage is designed for mission-critical businesses that cannot tolerate any loss or interruption, and the active-active solution is the inevitable choice. The gateway-free design of the solution simplifies deployment and reduces the total number of possible points of failure. The solution balances the load between active-active mirrors and permits non-disruptive cross-site takeover. It also ensures 99.9999% availability, protecting core applications from system breakdown.



## Convergence and High Efficiency

### Data reduction

Inline deduplication and compression technologies release the storage capacity occupied by redundant data. This effectively improves utilization and reduces power consumption, cooling, and maintenance fees, saving end-to-end TCO by 50%. For customers who buy OceanStor Dorado V3 all-flash storage, Huawei guarantee 3:1 data reduction ratio,\* helping them lower their investment while achieving higher ROI.



## Interoperability

Deploying all-flash systems at both active and passive sites will increase the cost of data centers. To solve this problem, the OceanStor Dorado V3 supports interoperability with OceanStor V3 converged storage, helping users build cost-effective disaster recovery protection schemes and protecting their investment.

## Wide compatibility

Upgrading existing storage systems to all-flash involves migrating data between different storage models using different operating systems and application software. This brings critical challenges to the system compatibility. In addition, customers often cannot tolerate any interruption to their business or deterioration in the user experience during migration. The OceanStor Dorado V3 is compatible with over 300 mainstream storage systems and 98% of IT infrastructures, enabling smooth upgrades that do not affect business and helping data centers transition easily to flash.

\*For details about the 3:1 data reduction guarantee, see the Huawei OceanStor Dorado V3 Effective Capacity Guarantee Program Guide.

## Technical Specifications

Model	OceanStor Dorado5000 V3		OceanStor Dorado6000 V3	
Hardware Specifications				
Maximum number of controllers	16*			
System Cache (dual-controller ~ system)	256 GB~2 TB	512 GB~4 TB	512 GB~4 TB	1 TB~8 TB
Supported storage protocols	FC, iSCSI, InfiniBand, HTTP, FTP			
Type of front-end ports	8Gbps/16Gbps FC, 10GE iSCSI, 56Gbps InfiniBand			
Type of back-end ports	SAS3.0	PCIe 3.0	SAS3.0	
Maximum number of SSDs	800	200	2400	
Supported disk types	600 GB/900 GB/1.8 TB/3.6 TB/7.68 TB* SAS SSD	1 TB/2 TB/4 TB NVMe SSD	600 GB/900 GB/1.8 TB/3.6 TB/7.68 TB* SAS SSD	
Software Specifications				
Supported RAID level	RAID5, RAID6, and RAID-TP (tolerating simultaneous failure of 3 SSDs)			
Maximum number of hosts	8,192			
Maximum number of LUNs	16,384			
Value-added features	SmartDedupe (intelligent inline deduplication) SmartVirtualization (intelligent heterogeneous virtualization) SmartMigration (intelligent LUN migration) HyperMetro (gateway-free active-active solution)		SmartCompression (intelligent inline compression) SmartThin (intelligent thin provisioning) HyperSnap (snapshot) HyperReplication (remote replication)	
Storage management software	DeviceManager (device management) eService (remote maintenance management)		UltraPath (multi-path management)	
Operating system compatibility	AIX, HP-UX, Solaris, Linux, Windows			
Supported virtualization environment software	Huawei FusionSphere, VMware, XenServer, Hyper-V, and other virtualization platforms VMware VAAI, VASA, SRM, and Hyper-V and other value-added features Integration with vSphere and vCenter			
Physical Specifications				
Power supply	AC: 200~240 V DC: 192~288 V or -48~ -60 V		AC: 200~240 V DC: 192~288 V or -48~ -60 V	
Power consumption	Controller enclosure (NVMe) : 700 W Controller enclosure (SAS) : 630 W Disk enclosure: 240 W		Controller enclosure:936 W Disk enclosure: 240 W	
Dimensions (H x W x D)	Controller enclosure:748 mm x 447 mm x 86.1 mm Disk enclosure: 488 mm x 447 mm x 86.1 mm		Controller enclosure: 750 mm x 447 mm x 130.5 mm Disk enclosure: 488 mm x 447 mm x 86.1 mm	
Weight	Controller enclosure ≤ 40 kg Disk enclosure ≤ 20 kg		Controller enclosure ≤ 50 kg Disk enclosure ≤ 20 kg	
Operating temperature	5 ℃ to 40 ℃ (altitude: < 1800 m), 5 ℃ to 30 ℃ (altitude: 1800 m to 3000 m)			
Operating humidity (relative humidity)	5% RH to 95% RH			

\*16 controllers and 7.68 TB SAS SSDs will be supported in the next version.

### For More Information

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



Huawei Enterprise APP




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