

# Huawei Intelligent Data Storage Portfolio



## All-Flash Storage

### OceanStor Dorado 8000/18000 High-End Intelligent All-Flash Storage



- Four controllers per engine, up to **32 controllers**
- Up to **32 TB** cache
- Up to 28 hot-swappable I/O modules per engine
- Up to 6,400 disks
- Front-end channel port types: FC, FC-NVMe, iSCSI, NVMe over RoCE, NFS, CIFS, and NDMP
- Disk types: NVMe SSD and SAS SSD

Huawei OceanStor Dorado 8000/18000 all-flash storage sets new benchmarks for storage performance and reliability, delivering unparalleled data services for critical enterprise applications. It delivers **21M SPC-1 IOPS** and **0.05 ms** latency with innovative hardware, FlashLink® intelligent algorithm, and E2E NVMe design. The global shared distributed file system delivers 30% faster NAS performance than the next-best player. The SmartMatrix full-mesh architecture and the industry's only integrated SAN and NAS active-active solution ensure 24/7 service continuity. OceanStor Dorado 8000/18000 excels in core scenarios such as database and virtualization in finance, carrier, government, manufacturing, and healthcare sectors — putting digital transformation into hyperdrive.

Leading Performance with Innovative Hardware  
Always-On Applications with 5-Layer Reliability  
Efficient O&M with Intelligent Edge-Cloud Synergy

### OceanStor Dorado 5000/6000 Mid-Range Intelligent All-Flash Storage



Suitable for SAN scenarios such as database, server virtualization, and VDI, and high-performance NAS scenarios such as EDA, CAD, and PACS

- 2 U controller enclosure with integrated disks, up to **32 controllers**
- Up to **16 TB** cache
- Up to 12 hot-swappable I/O modules per controller enclosure
- Up to 4,800 disks
- Front-end channel port types: FC, FC-NVMe, iSCSI, NVMe over RoCE, NFS, CIFS, and NDMP
- Disk types: NVMe SSD and SAS SSD

Huawei OceanStor Dorado 5000/6000 all-flash storage is a mid-range product with high-end features. It delivers 30% higher performance (than the previous generation) at a 0.05 ms latency with innovative hardware, FlashLink® intelligent algorithm, and E2E NVMe design. The converged SAN and NAS architecture provides numerous data protection, security, and efficiency boost functions, as well as comprehensive data storage and protection capabilities for customers' block and file systems. The highly stable five-level reliability design provides the industry's only integrated SAN and NAS active-active solution, ensuring service continuity. OceanStor Dorado 5000/6000 can easily handle medium and large enterprise databases OLTP/OLAP, server virtualization, file sharing, and container scenarios across government, finance, healthcare, education, energy, and manufacturing.

### OceanStor Dorado 3000 Entry-Level All-Flash Storage



Cost-effective entry-level all-flash storage with rich features

Huawei OceanStor Dorado 3000 is an easy-to-use, cost effective storage system ready to take on the needs of small and medium-sized businesses (SMBs). Featuring innovative Huawei hardware and FlashLink® intelligent algorithms, the system combines the intelligence and efficiency of the Smart series with the extreme reliability of the Hyper series. OceanStor Dorado 3000 makes a modern, intelligent, and cloud-ready IT system infrastructure attainable.

- 2 U controller enclosure with integrated disks, up to **16 controllers**
- Up to **1,536 GB** cache
- Up to **1,200** disks
- Front-end channel port types: FC, FC-NVMe, iSCSI, NVMe over RoCE, NFS, CIFS, and NDMP
- Disk types: NVMe SSD and SAS SSD

## Hybrid Flash Storage

### OceanStor 6810/18510/18810 New-Gen High-End Hybrid Flash Storage



- Four controllers per engine, up to **32 controllers**
- Up to 28 hot-swappable I/O modules per engine
- Up to **9,600** disks
- Front-end channel port types: FC, FC-NVMe, iSCSI, NVMe over RoCE, NFS, CIFS, and NDMP
- Disk types: NVMe SSD, SAS SSD, SAS, and NL-SAS

Huawei OceanStor 6810/18510/18810 is new-gen, high-end hybrid flash storage designed for key and emerging applications of enterprises. The product features industry-leading SmartMatrix full-mesh architecture, integrated SAN and NAS active-active, and various data security features for 24/7 service continuity. SmartAcceleration and E2E NVMe features offer twice the performance of OceanStor V5. Distributed database and container applications help build new data centers.

Always-On Applications with 4-Layer Reliability  
Leading Performance with Innovative Algorithms  
Future-Oriented Design for Multiple Workloads

### OceanStor 5310/5510/5610 New-Gen Mid-Range Hybrid Flash Storage



Future-Oriented Design for Multiple Workloads  
High Efficiency with Premium Quality  
Simplified O&M with Intelligence Enablement

- 2 U controller enclosure with integrated disks, up to **16 controllers**
- Up to 6/12/12 hot-swappable I/O modules per controller enclosure
- Front-end channel port types: FC, FC-NVMe, iSCSI, NVMe over RoCE, NFS, CIFS, and NDMP
- Disk types: NVMe SSD, SAS SSD, SAS, and NL-SAS

Huawei OceanStor 5310/5510/5610 is new-gen, mid-range hybrid flash storage. The product provides efficient data foundation, ROW large-block sequential write, and SmartAcceleration for various service scenarios such as enterprise database, virtualization, file sharing, and container, offering twice the performance of OceanStor V5. The A-A architecture with full load balancing, distributed file system, non-disruptive upgrade (NDU), integrated SAN and NAS active-active, and various security features provide high-quality services. Three-layer, intelligent O&M in device-cloud synergy makes the storage system more simple and easy to use.

### OceanStor 2600 Entry-Level Hybrid Flash Storage



Entry-Level Hybrid Flash Storage

- 2 U controller enclosure with integrated disks, up to **8 controllers**
- Up to **512 GB** cache
- Standard configuration: 8 x GE + 4 x 10GE (optical modules in full configuration) host ports, and two interface cards per controller
- Front-end channel port types: FC, iSCSI, NFS, CIFS, and NDMP

Huawei OceanStor 2600 is entry-level hybrid flash storage with ultimate convergence. The product provides powerful SAN&NAS convergence capabilities, various data protection functions, and intelligent management software. The series enabled medium-sized customers to easily address database, virtualization, OA file sharing, and file management demands of today and tomorrow.

### OceanStor 2200 Entry-Level Hybrid Flash Storage



Cost-effective storage platform tailored for SMBs

- High configuration with low investment: industry-leading performance and various functions compared with peer products
- 2 U controller enclosure with integrated disks, dual controllers, 16/32 GB cache
- Standard configuration: 4 x GE + 2 x 10GE (optical modules in full configuration) host ports, and two interface cards per controller
- Ultimate SAN&NAS convergence and SAN active-active solution

Huawei OceanStor 2200 is entry-level intelligent hybrid flash storage that supports applications such as database OLTP/OLAP, Exchange, server virtualization, and video surveillance for SMBs in the flash era.

## OceanStor Distributed Storage

### OceanStor Pacific Series Intelligent Distributed Storage



- Seamless multi-protocol interworking: Eliminates data copying and migration when accessing the same data over **file, object, and HDFS** protocols
- High-density design: Delivers up to 160 GB/s bandwidth and **6.4 million IOPS** per chassis for ultra-fast data access
- Multi-level reliability assurance: Ensures six-nines availability
- Elastic Erasure Coding (EC) data redundancy protection: Achieves up to **91%** disk space utilization

Huawei OceanStor Pacific series is the latest and greatest intelligent distributed storage product with outstanding scale-out capabilities to provide elastic on-demand services powered by cloud infrastructure, meeting enterprise-grade critical workload requirements. It helps build a reliable, efficient, and intelligent brand-new storage service platform for agile, on-demand access to massive amounts of data in an intelligent world.

### OceanStor 9000 Scale-Out NAS Storage



- Supports **288 nodes** with **100 PB-level** capacity expansion
- Supports up to TB/s throughput for superb performance
- Tolerates simultaneous failure of up to **4 nodes**
- Searches hundreds of billions of images in seconds and supports third-party streaming software

OceanStor 9000 features a fully symmetric, distributed architecture and extensive scale-out capabilities that deliver superior performance and provide a super-large single file system for shared storage of unstructured data. It is ideal for diverse applications and storage resource sharing fields, such as film and TV, satellite mapping, genome sequencing, energy exploration, scientific research, education, video surveillance, as well as backup and archiving.

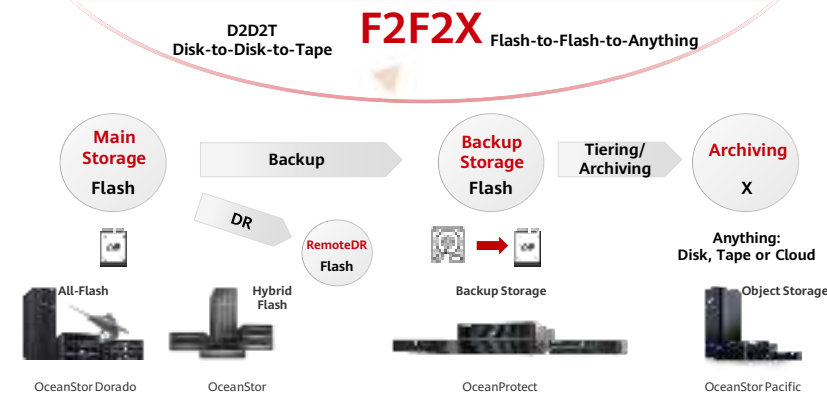
### IVS3800



IVS3800 utilizes an open architecture design to provide platform-based resource sharing and on-demand scheduling services. Additionally, it leverages advanced technologies such as cloud computing, cloud storage, and big data, to build video cloud solutions featuring cross-domain collaboration, hardcore innovation, and data intelligence. This makes IVS3800 an ideal choice for a wide range of scenarios including Safe City, intelligent transportation, and intelligent campus

- Ample storage space: SuperCoding performs high-resolution encoding on foreground moving objects and low-resolution encoding on the background based on the ROI technology, enabling 1 TB of storage space to store **3 TB worth of data**
- Stable storage capability: DR allows a site with a backup node to take over services from a site whose nodes failed in mere minutes
- Accurate algorithm applications: Four-in-one omni-data structuring increases computing power capacity by 100% and service accuracy by 10%

## F2F2X Solution



The traditional data tiering strategy is D2D2T, means the storage systems using disk in primary and secondary storage system, and tape in backup system. The main pain points of D2D2T are:

- Explosive data volumes and limited budget growth
- Long backup time, unchanged backup window, insufficient support for new applications and scenarios
- Time-consuming and unpredictable recovery
- Low reliability: interruptions cause mandatory restart of backup tasks at night or the next working day, impacting application performance

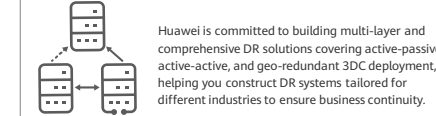
As one of Storage Industry leaders, with huge investment in R&D, Huawei introduced a new concept "F2F2X: Flash-to-Flash-to-Anything". The users can choose All-Flash storage with high performance to build DC-DR center with unified SAN & NAS services. Also, All-flash storage can be used as backup storage with shorter data backup and restore window. Besides, the data could be archived to anything like Object Storage and Cloud with high flexibility. The main advantages for F2F2X are:

- **High capability** dealing with the explosive data with lower TCO
- All-flash storage provide **high performance** and **low latency** primary storage to satisfy the future business development
- All-flash backup storage can offer high performance to shorten the **backup window** and increase the **data restore** speed
- Archive to Anything provide **flexibility** for the archive choices and make archive data easy to use

## OceanProtect Data Protection

Huawei OceanProtect Data Protection Solution provides Disaster Recovery (DR), backup, and archiving throughout the entire data lifecycle. Built on the concept of full DR of hot data, quick backup and restore of warm data, and warm archiving of cold data, OceanProtect ensures uninterrupted services without data loss, and delivers long-term data retention in the intelligent world.

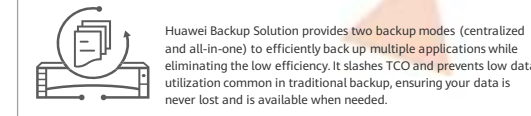
### DR Solution



Huawei is committed to building multi-layer and comprehensive DR solutions covering active-passive, active-active, and geo-redundant 3DC deployment, helping you construct DR systems tailored for different industries to ensure business continuity.

- Zero service disruption: **Gateway-free** active-active architecture for both **SAN and NAS** ensures always-on services
- Zero fault impact on hosts: Failover within **seconds** in the event of production storage failures, without affecting upper-layer services
- Visualized management: **Simplified O&M** with visualized global topology, and one-click DR drill and failover

### Backup Solution



Huawei Backup Solution provides two backup modes (centralized and all-in-one) to efficiently back up multiple applications while eliminating the low efficiency. It slashes TCO and prevents low data utilization common in traditional backup, ensuring your data is never lost and is available when needed.

- **Ultimate performance:** Multi-node distributed parallel architecture implements multi-stream parallel backup. The front-end DTOE tech releases the CPU resources. The back-end parallel scheduling of a multi-core CPU implements core grouping and task partitioning to improve the node processing capability
- **Efficient data reduction:** Proprietary optimized data reduction algorithms significantly improve the data reduction ratio
- **Simplified management:** Unified backup, replication, and archive protection policies drive automatic data protection. Intelligent capacity and disk fault prediction greatly simplifies O&M

### Archiving Solution



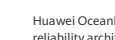
Huawei provides an archiving solution that features instant access, high security, and easy O&M, meeting customers' requirements for long-term archiving of cold data and regulatory compliance.

- **Quick access to archived data:** Archived data is stored on disks and can be accessed in real time. Archived data does not need to be scheduled for reading, meeting the requirements for quick query and analytics
- **Linear expansion:** Archive storage uses a distributed architecture that supports on-demand node expansion. The capacity and performance can be linearly expanded, effectively reducing customers' initial investment and facilitating massive data archiving

### OceanProtect Backup Storage



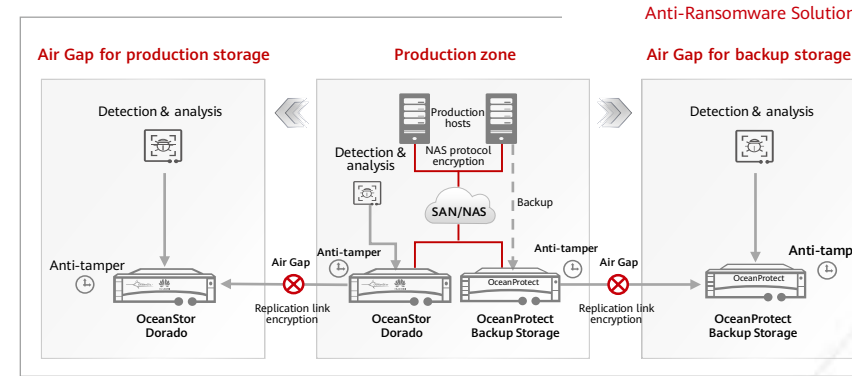
Evaluator Group



Huawei OceanProtect Backup Storage adopts an active-active high-reliability architecture that facilitates rapid backup and recovery, efficient data reduction, and high reliability. It simplifies backup and reduces TCO, and excels in industries like government, finance, carrier, healthcare, and manufacturing

- System backup and recovery bandwidths of up to **155 TB/hour** and **172 TB/hour**, respectively
- Multi-layer inline variable-length dedupe and feature-based compression achieve **industry-leading data reduction** ratio and greatly improve logical capacity
- The active-active architecture for **high reliability**, failover within seconds, and uninterrupted backup tasks

## Anti-Ransomware Solution



### Customer Pain Point

- Frequent ransomware attacks, huge threats, and difficult defense A ransomware attack takes place every 11 seconds. Phishing and zero-day vulnerability attacks are difficult to defend against
- Huge ransomware payout The ransom for a single extortion can reach \$70 million. Brand image and reputation damage would cost 23 times as much as the ransom
- Long service interruption and slow recovery The average system downtime is 16 days. Even when ransom is paid, the recovery is slow due to poor server performance

### Huawei Storage Anti-Ransomware Solution Key Features

- Comprehensive protection - **4 levels** of protection using ransomware interception, secure snapshot, backup, E2E data encryption and isolation zone
- Accurate detection - **99.9% detection rate** with intelligent interception, and real-time and in-depth detection of ransomware attacks
- Rapid recovery - **Second-level recovery** using secure snapshots and **5x** faster recovery using backup storage

## Data Management

### Data Management Engine (DME)



Huawei DME is an intelligent, converged, and open data management platform that simplifies storage management, improves data centers' operational efficiency, and enables autonomous driving storage throughout the storage lifecycle

- Converged: Users can use one GUI to manage storage throughout its lifecycle, simplifying multi-device storage management. AI model training on the cloud and real-time model updates ensure more accurate risk and fault prediction.
- Intelligent: Multi-dimensional intelligent risk prediction and optimization eliminate threats before they happen to ensure stable operation of production services
- Open: Service-oriented capabilities to third-party platforms through over 100 combined APIs, such as O&M, service catalog, and data lifecycle management