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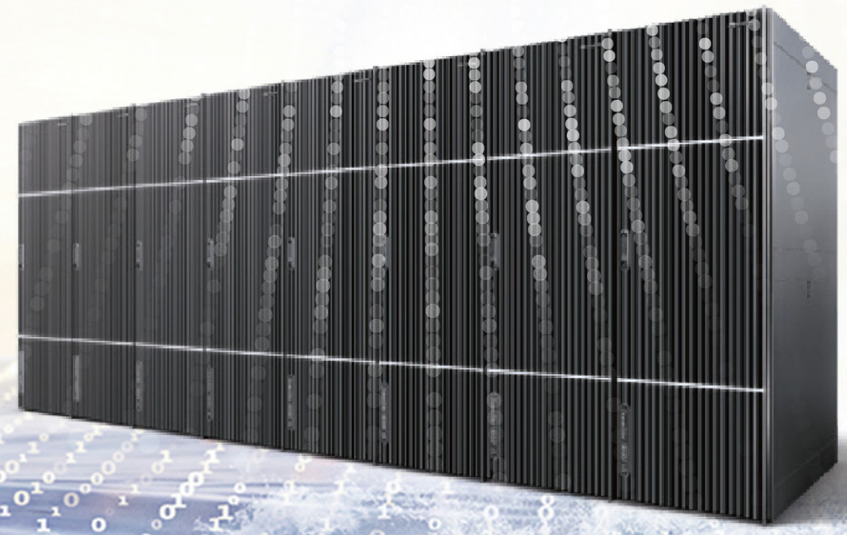
Huawei Enterprise APP

Huawei Data Storage Systems

HUAWEI

Building a Fully Connected, Intelligent World

Huawei Data Storage Portfolio



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CONTENTS

All-Flash Storage

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

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 40M 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

- 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.

OceanStor Dorado 5000/6000 Intelligent All-Flash Storage

Huawei OceanStor Dorado 5000/6000 all-flash storage is a 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.

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 24TB 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.

OceanStor Dorado 2000/2020/2100/3000 All-Flash Storage

Huawei OceanStor Dorado 2000/2020*(SAN), 2100(NAS), 3000(SAN&NAS) are easy-to-use and cost effective storage systems, which are widely applied in small and medium-sized businesses (SMBs). Featuring innovative Huawei hardware and FlashLink® intelligent algorithms, these storage systems combine the intelligence and efficiency of the Smart series with the extremely high reliability of the Hyper series. OceanStor Dorado 2000/2020/2100/3000 make a modern, intelligent, and cloud-ready IT system infrastructure attainable.

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

- 2 U controller enclosure with integrated disks, up to 16 controllers.
- Up to 192 GB cache/dual controllers.
- 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.

OceanStor 5310/5510 Capacity Flash Storage

Huawei OceanStor 5310/5510 Capacity Flash Storage systems are all-flash options for all scenarios. The systems help customers achieve all-flash transformation from hybrid flash setups to build green and secure all-flash data centers. Using capacity-optimized SSDs and the FlashLink® disk-controller collaboration technology, the systems support SAN, NAS, virtualization, and container services, and reach industry-leading performance improvement, space saving, and power consumption reduction. Huawei OceanStor 5310 /5510 Capacity Flash Storage systems provide high-quality services for latency-insensitive tier 1 and tier 2 applications, such as virtualization, containers, files, and backup and archiving.

Green, energy saving, sustainable, and all flash for all scenarios

- 2 U controller enclosure with integrated disks and up to 128 controllers.
- Up to 16 PiB effective capacity per controller enclosure.
- Front-end channel port types: FC, FC-NVMe, iSCSI, NVMe over RoCE, NFS over RDMA, NFS, CIFS, and NDMP.
- Disk type: capacity-optimized SSD.

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

Huawei OceanStor 6810/18510/18810 is a new-gen, high-end hybrid flash storage product designed for key and emerging applications like relational databases, containers, virtualization, and distributed databases. It features an industry-leading SmartMatrix full-mesh architecture, integrated SAN and NAS active-active solution, and a wide range of data security features to ensure 24/7 service continuity. Features like SmartAcceleration and E2E NVMe double the performance seen on the previous generation, and are crucial to the construction of new data centers.

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

- 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.

OceanStor 5310/5510/5610 New-Gen Hybrid Flash Storage

Huawei OceanStor 5310/5510/5610 is a new-gen, hybrid flash storage product, which offers wide-ranging convergence capabilities and incorporates SAN, NAS, database storage engines, and computing functions. OceanStor is ideal for medium- and large-sized enterprises that require database OLTP/OLAP, server virtualization, VDI, and resource integration, and has been broadly applied in sectors as diverse as government, finance, healthcare, education, energy, and manufacturing. OceanStor is designed to deliver maximum return on investment (ROI) and is versatile enough to be utilized in a range of emerging service scenarios such as cloud, container, and distributed database environments.

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.

OceanStor 2200/2600/5120/5220 Hybrid Flash Storage

Huawei OceanStor 2200(SAN), 2600/5120/5220* (SAN&NAS) is 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 SMBs to easily address database, virtualization, OA file sharing, and file management demands of today and tomorrow.

Hybrid Flash Storage

- High configuration with low investment: industry-leading performance and various functions compared with peer products.
- 2 U controller enclosure with integrated disks, dual controllers with up to 128GB cache.
- Front-end channel port types: FC, iSCSI, NFS, CIFS, and NDMP.
- Ultimate SAN&NAS convergence and active-active solution.

OceanStor A800 Next-gen High-Performance Distributed File Storage for AI

Huawei OceanStor A800 is a next-gen high-performance distributed file storage for AI, to accelerate large AI model training and inference. Built on an innovative data-control separation architecture with NPUDirect Storage (NDS), this product provides ultra performance of up to 24 million IOPS and 500 GB/s bandwidth per controller enclosure.
OceanStor A800 enables EB-level capacity expansion and allows a single cluster to scale out to 512 controllers. With native support for new data paradigms such as vectors, OceanStor A800 runs on a built-in, large-capacity vector knowledge repository to shorten data retrieval latency to milliseconds and reduce inference hallucinations. Powered by multi-level KV-cache (GB-level on-chip memory to TB-level DRAM to PB-level SSDs), this product implements long-term memory storage and eliminates repeated computing through queries to reduce the workloads of inference computing power, decreasing the time to first token (TTFT) by 78% while improving the throughput per xPU by 60%. One storage system meets the data processing requirements of the entire AI training and inference process.

OceanStor A800 for an Optimal AI Storage Power Foundation

- 8 U, 2 controllers, 64 palm-sized SSDs, and system-wide PCIe 5.0 design.
- Data-control separation architecture with 24 million IOPS for 8x faster training set loading than the leading alternative.
- DataTurbo high-performance parallel client with 500 GB/s bandwidth for 4x faster data resumption from checkpoints than the leading alternative.
- Large-capacity vector knowledge repository for millisecond-level data retrieval and multi-level KV cache for 60% higher throughput per xPU.

OceanStor Pacific 9950

The performance nodes including OceanStor Pacific 9950 provide efficient data access services for scenarios including HPC, Artificial Intelligence (AI) applications, big data analytics, and virtualization and cloud resource pools to databases.

- OceanStor Pacific 9950 is a high-density, all-flash storage product that offers outstanding performance, capacity, and scalability. Each 5 U chassis houses a maximum of 8 storage nodes using all NVMe SSDs. Each chassis provides a raw capacity ranging from 128 TB to 614.4 TB, a bandwidth of up to 160 GB/s, and 6.4 million IOPS for data access performance. It is the perfect choice for mass unstructured data storage.

Scale-out Storage

OceanStor Pacific Scale-out Storage

The Huawei OceanStor Pacific scale-out storage series helps enterprises unlock the value of mass data, offering diversified storage for applications such as High Performance Computing (HPC), video, virtualization and cloud resource pools, big data analytics, content repository, and archiving.

- **Performance Nodes:** OceanStor Pacific 9920
- **Hybrid Nodes:** OceanStor Pacific 9550 | 9546 | 9520
- **Video Storages:** OceanStor Pacific 9350 | 9346 | 9340

OceanStor Pacific 9920 Performance Nodes

The performance nodes including OceanStor Pacific 9920 provide efficient data access services for scenarios including HPC, big data analytics, and virtualization and cloud resource pools to databases.

- OceanStor Pacific 9920 is an all-flash (SSD) scale-out storage product with each 2 U chassis housing 1 storage node. A node houses 25 disks and uses Palm NVMe SSDs. A single disk supports a maximum of 61.44 TB. It delivers excellent performance and features flexible component configurations to meet the access requirements of various structured and unstructured workloads.

OceanStor Pacific 9550/9546/9520 Hybrid Nodes

The hybrid nodes including OceanStor Pacific 9550/9546/9520 provide high-availability data access services diverse scenarios, from virtualization and cloud resource pools to HPC and big data analytics.

- OceanStor Pacific 9550 is a hybrid storage product that features ultra-high density and large capacity to deliver optimal cost-effectiveness. Each 5 U chassis houses 2 storage nodes and uses large-capacity HDDs as main storage. Each chassis provides a raw capacity ranging from 720 TB to 2,880 TB, reducing cabinet space consumption by 62.5% compared to general-purpose storage servers. Compared to conventional modes, the system's dual-layer air channel design and counter-rotating booster fans reduce the component failure rate by 50%, while carbon-fiber pads and phase-change Vapor Chamber (VC) heat dissipation improve the heat dissipation capability of the entire system by 20%. In addition, a full Field Replaceable Unit (FRU) design is adopted to allow 24/7 non-disruptive maintenance.
- OceanStor Pacific 9546 is a high-density hybrid scale-out storage product with each 4 U chassis houses 1 or 2 storage nodes. Each chassis has 60 disk slots.
- OceanStor Pacific 9520 is a hybrid scale-out storage product with each 2 U chassis housing 1 storage node. It provides flexible component configurations to meet the access requirements of various structured and unstructured workloads.

OceanStor Pacific 9350/9346/9340 Video Storages

The video storages including OceanStor Pacific 9350/9346/9340 provide high capacity density and flexible component configurations to store both video and image stream data.

- OceanStor Pacific 9350 is a hybrid storage product that features ultra-high density and large capacity to deliver optimal cost-effectiveness. Each 5 U chassis houses 2 storage nodes and uses large-capacity HDDs as main storage. Each chassis provides a raw capacity ranging from 720 TB to 2,880 TB, reducing cabinet space consumption by 62.5% compared to general-purpose storage servers. It is suitable for scenarios that only store mass amounts of video stream data.
- OceanStor Pacific 9346 is a high-density hybrid scale-out storage product with each 4 U chassis houses 1 storage nodes. Each chassis has 60 disk slots. It is suitable for scenarios that only store mass amounts of video stream data.
- OceanStor Pacific 9340 is a hybrid scale-out storage product with each 4 U chassis housing 1 storage node. It provides high capacity density and flexible component configurations to store both video and image stream data.

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 smart city projects, intelligent transportation, and intelligent campus.

- Direct stream storage architecture: One device implements video access, forwarding, and storage, reducing TCO.
- 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 in mere minutes from a site whose nodes failed.

OceanDisk 1500/1600

Huawei OceanDisk 1500/1600 is the industry's first-ever diskless architecture-oriented storage system. It connects to diskless servers via high-speed data buses to enable independent and elastic expansion of compute and storage resources. Designed for cloud and Internet data centers, OceanDisk uses high-speed NoF+ networks and FlashLink® disk-controller collaboration algorithms to provide customers with composable storage capabilities. It delivers a maximum of 3.5 million IOPS and 70 GB/s bandwidth. Thanks to Huawei's continual investment in storage R&D, OceanDisk provides high- performance shared storage components and native disk sub-health management capabilities (quick response to slow I/Os and intelligent slow-disk optimization), ensuring stable performance of >100 thousand disks in large-scale data centers and greatly simplifying O&M. It also supports scenario-specific data reduction using new coding technologies, together with the 23+2 high-ratio EC algorithm engine, greatly improving resource utilization, and reducing footprint and power consumption by 40%.

Enclosure as Storage for Digital Transformation Technical Innovations for Inclusive All-Flash Storage

- Channel port types: 25/100 Gb NVMe over RoCE, 16/32 Gbit/s FC. Max. performance : 3.5 million IOPS, 70GB/s bandwidth.
- Hard disk types : NVMe SSD 1.92/3.84/7.68/15.36 TB /30.72TB. Max. number of namespaces per storage pool: 1024.
- EC support: Intra-enclosure, high-ratio hardware-based EC supports 22+3, 23+2, etc. Storage management software: device O&M (DeviceManager), remote O&M (eService).

FusionCube 1000 (Kunpeng)

Designed for data centers, FusionCube 1000 (Kunpeng) is built on a scale-out architecture to provide full-stack IT capabilities for enterprises. FusionCube 1000 complies with open architecture standards. It pre-integrates virtualization platforms, management software, and scale-out storage engines to provide on-demand resource configuration and linear expansion for IT infrastructure. It can be used for virtualization, cloud desktops, and databases to help enterprises achieve simplified, efficient digital transformation.

- Multi-architecture computing platform: x86 and Kunpeng dual stack management in the same pool, enabling the smooth evolution of various computing capabilities
- Resilient and reliable: Active-active solution + built-in backup deliver I/O-level data reliability for mission-critical applications
- Ultra-high performance: 600,000 and even higher IOPS per node, high-ratio EC, and
- deduplication and compression for up to 92% available capacity
  Simplified O&M: Pre-integration before delivery, and one-click O&M

Data Protection

OceanProtect X3000/X6000/X8000/X9000/E8000 Backup Storage

Huawei OceanProtect Backup Storage adopts an E2E-accelerated, active-active high-reliability architecture that features rapid backup and recovery, efficient reduction, and solid resilience. It simplifies backup and recovery, slashes TCO, and excels in industries like government, finance, carrier, healthcare, and manufacturing.

- 155 TB/hour physical backup bandwidth, 310 TB/hour logical backup bandwidth, and 172 TB/hour recovery bandwidth.
- Multi-layer inline variable-length dedupe, feature-based compression, and byte- level compaction technologies achieve industry-leading data reduction ratios and greatly improve logical capacity; source dedupe and deduplicated replication reduce network bandwidth consumption.
- The active-active architecture supports a failover within seconds in the event of a single-controller failure without interrupting backup tasks.
- The industry-leading ransomware protection solution provides protocol/replication link/array encryption, secure snapshot, write once read many (WORM), and Air Gap features, ensuring copy security and availability.

A New Benchmark for Dedicated Backup Storage
with Fast Speed and Efficient Reduction

OceanProtect X3000/X6000/X8000/X9000 Appliance

The OceanProtect X3000/X6000/X8000/X9000 Appliance is built on Huawei Backup Storage's active-active architecture and adds embedded backup software on top of it. The appliances integrate backup software, hardware, and ransomware protection features to accelerate backup and recovery from end to end. Featuring rapid backup, high resilience, and premium compatibility, the appliances help enterprises quickly back up and use data at an affordable price, making them ideal for the government, finance, telecom, healthcare, and manufacturing sectors.

- Concurrent multiple backup data streams and non-synthetic forever incremental backup enable 10 PB-level ultra-large big data cluster backup and table-level restoration.
- Backup copies in native format are instantly available, allowing quick recovery of mission-critical services; no need to scan file differences; block-level incremental backup; file retrieval from 10 billion files in seconds; minute-level RTO.
- Multi-layer inline variable-length deduplication, feature-based compression, and byte-level compaction technologies achieve an industry-leading data reduction ratio and greatly improve logical storage capacity; source deduplication and deduplicated replication delete duplicate data before transmission, reducing link bandwidth usage by 90% compared to conventional solutions.

Protection of emerging application data | Instant availability of mass data | High resilience and reliability

- The industry's only active-active architecture implements minute-level failover of backup tasks from end to end; flexible data anonymization policies, ransomware detection, and data anti-deletion and anti-tampering capabilities ensure the resilience and availability of data copies.
- Greatly improved configuration efficiency thanks to unified management of backup, replication, and tiering policies.

OceanCyber 300 Data Security Appliance

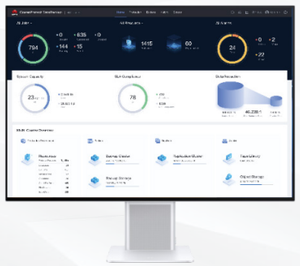
The Huawei OceanCyber Data Security Appliance is a security engine that offers security policy configuration management, detection and analysis, and ransomware defense for various types of storage devices. It enables users to deploy ransomware protection features and creates a last line of defense for data resilience using storage devices.

Unified ransomware protection management for up to eight devices in a data center

- Unified security management: The appliance supports unified access of OceanStor Dorado All-flash Storage, OceanStor Hybrid Flash Storage, OceanStor Pacific Scale-out Storage, and OceanProtect Backup Storage; visualized management and risk alarms; unified configuration and management of security policies.
- Detection and analysis: The machine learning-based algorithms developed by Huawei ensure an up to 99.9% ransomware identification rate for file systems.
- Proactive response: Real-time display of alarms for blocklist interception, abnormal read/write behavior, and file damage; multiple types of data recovery, such as snapshot copies (file system) and shared recovery (cloned file system).

OceanProtect DataBackup Software

Huawei OceanProtect DataBackup is a data protection software designed for next-generation enterprise data centers and multicloud environments. By prioritizing ultimate protection and efficient data utilization, this software helps customers build all-scenario data protection solutions that provide efficient offline and online collaboration at the edge, center, and multicloud environments.



- Comprehensive Application Protection: The software is used in edge/branch, data center, and cloud scenarios, covering backup recovery and copy management of traditional databases, virtualization, and file systems, as well as unified backup protection of emerging applications such as distributed databases, big data, data warehouses, AI, and SaaS.
- Unified Cloud Protection: Unified data backup and operation in multicloud environments; backup recovery, tenant resource isolation, and SLA services for cloud hosts, cloud databases, cloud data warehouses, containers, and cloud storage; free flow of backup data on and off the cloud.
- High Resilience: Comprehensive data protection measures that include storage-network security collaboration, encryption, WORM anti-tampering, anti-deletion, and Air Gap; ransomware detection (99.9% accuracy) and defense; flexible data anonymization policies to meet regulatory requirements.

DCS

DCS Full-Stack Data Center Solution

Huawei ‘s DCS full-stack data center solution combines virtualization software and ICT hardware into a unified solution that helps enterprises build a modern, lightweight, diversified, and open infrastructure. The solution is designed for virtualization, full-stack data centers scenarios. It focuses on data to develop core competitive features such as multimodal data collection, resilient data mobility, end-to-end data resilience, and automatic data cleaning and labeling. The solution provides the optimal infrastructure for digital transformations.

- Efficient: NUMA, enhanced DRX, 30% higher NoF+ performance, and latency < 1 ms .
- Resilient: 6-layer ransomware protection through network-storage-compute collaboration.
- Reliable: ROW snapshot, live migration, and all-scenario DR and backup .
- Innovative: Full-lifecycle AI data management provided by Huawei-developed big data solution.

DCS Big Data Solution

The DCS big data solution provides lightweight, one-stop big data platforms — a basic platform, a governance platform, and a unified management platform. The DCS data center foundation provides unified compute, storage, and network resource pools. The DCS big data solution enables one-click installation and unified management of the big data platforms. It also provides customers with big data analytics and compute components (such as Kafka, Flume, Hive, Spark, Flink, HBase, Redis, ClickHouse, and HashData) and big data governance functions. Additionally, it offers both coupled and decoupled storage-compute deployment options.

- One-stop platforms: a big data platform, a data governance platform, and an efficient data warehouse, covering the entire data analysis process (collection, storage, compute, management, and use).
- Efficient storage and fast compute: a layered and decoupled architecture that starts with a minimum of three nodes and enables flexible deployment; an innovative decoupled storage-compute solution for 1.7x higher resource utilization.
- Full-process governance: covering the full lifecycle of data assets based on Huawei's data governance methodology validated by 16 years of application, with support for offline, real-time, and interactive analysis.

DCS eCampusCore Solution

Conventional campuses face problems such as isolated systems, scattered data, single deployment solution, and insufficient openness. The DCS eCampusCore solution is equipped with all of the core capabilities that are needed to operate a digital campus platform. It leverages the DCS unified resource pool to provide connectivity services, data services, and unified O&M. It creates and reconstructs models of people, machines, objects, and events in campuses and opens ICT capabilities, data, and services.

- Simplified integration and fast delivery: The platform can be installed within one day and it adapts to partners' applications within 3 days.
- Accelerated service rollout: Pre-integrated ICT components simplify application development and shorten the service rollout time from months to weeks.
- Optimized campus operations: The platform converges data from multiple systems. Equipped with nine types of data model, it displays the campus operating status graphically in real time and analyzes data from ten themed applications, making campus operations 20% more efficient.

DCS eSphere Virtualization Solution

Huawei ‘s DCS virtualization platform provides computing virtualization (FusionCompute), container (eContainer), storage virtualization (eStorage), hardware SDN, backup (eBackup), and disaster recovery (UltraVR). Elastic resource pools of VMs and containers are formed to implement automatic resource orchestration, scheduling, and management.

- Simplified: Lightweight and easy to be integrated, boosting DC resource utilization cost-effectively.
- Ultra-fast: Multiple performance tuning techniques, ensuring high virtualization performance.
- Multi-architecture Computing: Support for differentiated,high-performance, and innovative computing capabilities for government and enterprise digital transformation.

Data Management

DME Data Management Engine

DME is a one-stop, intelligent IT infrastructure and data management software deployed in a data center. It helps customers improve O&M efficiency and proactively prevent risks. In addition, DME offers capabilities including unified management, quick retrieval, and security protection for mass data, comprehensively enhancing the operational efficiency of IT infrastructure.

- **Device management:** DME uses AIOps to proactively identify system risks and prevent accidents. The comprehensive intelligent health check enables accurate identification of system exceptions. Technologies such as built-in knowledge graphs help customers quickly demarcate and rectify complex performance issues.
- **Data management:** DME provides a unified global data view across data centers and clusters, rich data labels, and customized retrieval. This enables file retrieval from tens of billions of files within seconds and automatic identification of expired, duplicate, and hot or cold data, ultimately reducing TCO.
- **Security policy management:** DME delivers unified data copy management and rapid recovery, including snapshots, disaster recovery, and ransomware protection, and provides the industry's first Multilayer Ransomware Protection (MRP) solution built on network-storage collaboration to safeguard customers' core data assets.

DME IQ Intelligent Cloud O&M Platform

DME IQ provides customers with a brand-new intelligent O&M experience and helps partners reduce costs and increase revenue. The cloud-based intelligent IT infrastructure management platform enables users to manage devices anytime and anywhere through an app. The platform can also identify risks in advance for proactive prevention and automatically create service requests (SRs) to quickly respond to and handle problems. In addition, the platform supports deployment by scanning barcodes and provides remote intelligent O&M to help partners improve delivery and O&M efficiency. Last but not least, the platform can offer capabilities such as migration and planning to help partners build professional service capabilities.

- Deployment by scanning barcodes: Wizard-based planning and design on the cloud and onsite barcode scanning for quick configuration delivery and loading enable efficient device deployment.
- O&M anytime and anywhere: Unified device management enables users to monitor device status through a mobile app anytime and anywhere, providing ubiquitous intelligent O&M experiences.
- Proactive O&M: 14-day disk prediction, 2-month performance prediction, and 1-year capacity prediction proactively eliminate fault risks.
- Quick response: Automatic SR creation enables minute-level response and 24/7 remote technical support from Huawei.
- Intelligent fault locating: Complex issues can be quickly resolved through intelligent diagnosis based on AI technologies.

SSD

eKitStor Xtreme 300 / OceanDisk 300 Series Standard U.2 SSD for Servers

A standard SSD for servers offers multiple capacity options, delivering much better performance and optimized power consumption than HDD. It is compatible with mainstream servers.

- Fast: U.2 interface with support for NVMe, SATA and SAS protocols, delivering ultra- high random read/write IOPS and ultra-low write latency.
- Intelligent: intelligent multi-stream to implement fine-grained service I/O adaptation and quality of service (QoS).
- Flexible: multiple capacity options and support for hot swapping, native OS driver, and plug and play.

Unlock the Data Potential of SMEs in Distribution Market

eKitStor Xtreme 200E M.2 NVMe SSD

An industry-leading M.2 NVMe SSD with high performance, high reliability, and low power consumption is designed to unleash powerful computer performance for a wide array of application scenarios such as server system disks, PCs, laptops, and DIY.

- Superb performance: up to 7,000 MB/s read performance
- Durability and reliability: up to 400 TBW SSD life expectancy
- Multiple options: 512 GB/1 TB

Redefining High-End Experience with DRAM-less SSDs

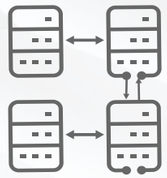
Solution

Data protect Solution

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 comprehensive, multi-layered DR solutions covering active-passive, active-active, geo-redundant 3DC and 4DC deployment, and Storage + Optical Connection Coordination (SOCC). Our aim is to develop DR systems customized to different industries, thus ensuring service 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 interrupting host links or affecting upper-layer services
- Visualized management: Centralized monitoring of device fault alarms with visualized global topology; simplified O&M using one-click DR drill and failover

Backup Solution

Huawei Backup Solution provides two backup modes (backup storage and all-in-one backup) to efficiently back up multiple applications (blocks, file systems, VM, and big data) while eliminating low efficiency. It slashes TCO and prevents low data utilization of backup, preventing data loss and ensuring 24/7 availability.

- E2E acceleration: The front-end DTOE tech releases CPU resources, and 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 data reduction ratios.
- Simplified management: E2E process automation driven by service level agreement (SLA) pre-configuration; only three recovery steps with unified application-centric view; capacity prediction and fault self-detection and self-recovery.

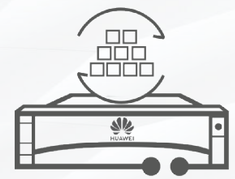
Ransomware Protection Storage Solution

Ransomware attacks that hold data hostage are some of the world's greatest threats to cyber security. As the ultimate carrier of data, storage is the last line of defense for data security. Huawei Ransomware Protection Storage Solution uses technologies such as pattern recognition and machine learning to identify ransomware, and uses data security features such as ransomware detection, secure snapshot, data isolation, and data recovery to provide logical and physical protection for data. As the final stop of data, it is critical to build storage security protection capabilities.

- Comprehensive protection: The solution boasts an industry-leading four-layer protection system.
  - Layer 1: Detection and analysis intercept ransomware, preventing it from entering the system.
  - Layer 2: Secure snapshots on production storage enable recovery in seconds and protect data from tampering.
  - Layer 3: Local backup copies ensure fast recovery with no data loss.
  - Layer 4: Air Gap isolation keeps data offline and invisible to ransomware.
- Accurate identification: Detection for both SAN and NAS architectures, combined with NAS-based honeyfiles, provides 99.99% accurate, rapid, and proactive ransomware identification and protection.
- Rapid recovery: Local secure snapshots ensure recovery in seconds, powered by Huawei backup storage's 172 TB/h recovery bandwidth.

Container Storage Solution

Working with container ecosystem partners, Huawei provides a state-of-the-art container storage solution powered by its Container Storage Interface (CSI), Container Disaster Recovery (CDR), and Container Storage Monitor (CSM) components. The solution is underpinned by Huawei's OceanStor storage products that deliver optimal performance, simplified O&M, easy sharing, and robust reliability. Huawei storage is able to interwork with mainstream container management platforms, including Kubernetes, OpenShift, VMware Tanzu, Rancher, CCE Agile, DCS, BoCloud, QingCloud, DaoCloud, and Alauda. Additionally, Huawei provides best practices for deploying containerized applications such as MySQL and Kafka. This helps you quickly deploy and stably run containers.



- Agility and ease of use: on-demand provisioning of storage resources and a wide range of enterprise-class features at a speed 100% faster than the competition. Reliability: the industry's only cross-cluster active-active DR for containers as well as cross-array all-in-one backup capabilities.
- Performance: 30% better than the competition in scenarios involving massive amounts of small files, such as development, testing, and channel exchange, with no drops in performance even under high concurrency. Data resilience: three-layer tenant isolation, the industry's most comprehensive four-layer ransomware protection, and support for mainstream commercial antivirus software.

Fibre Channel (FC) Switch

OceanStor SNS3664/SNS3764/SNS3696E/ SNS5604/SNS5704/SNS5608/SNS5708 FC Switch

Huawei OceanStor SNS switch adopts industry-leading FC and Fabric Vision technologies, working with storage devices to provide a convenient, reliable, high-performance service experience.

- Higher port speeds, from 16 Gbit/s to 32 Gbit/s
- 24/48/96-port FC switches available; up to 384 ports on a high-end subrack with multi-mode optical modules
- Dual hot-swap, redundant power supplies
- Default configuration cascading