Huawei OceanStor 6800 V3 mission critical storage system is a next-generation unified storage product specifically designed for mission critical applications. Employing a storage operating system built on a cloud-oriented architecture, a powerful new hardware platform, and a suite of intelligent management software, the 6800 V3 mission critical storage system delivers industry-leading functionality, performance, efficiency, reliability, and ease-of-use.

The system is ideal for applications such as large-database Online Transaction Processing (OLTP)/Online Analytical Processing (OLAP), file sharing, and cloud computing. Further, the system offers a wide range of efficient backup and disaster recovery solutions.

With a versatile set of capabilities, the 6800 V3 mission critical storage system can be widely applied in industries ranging from government, finance, telecommunications, energy, to Media and Entertainment (M&E).

**Product Highlights**

**Cloud-Oriented Storage Software**

**Multiple Controllers**
- **Scale-out capability:** Allows resources to be linearly expanded online to a maximum of eight controllers, 4 TB of cache, and 25.6 PB of storage capacity.
- **High-speed interconnection:** In a single controller enclosure, multiple controllers can be expanded using PCIe 3.0 high-speed buses. As many as four controllers are integrated in merely a 6U space. For fast business growth and maximum return on investment, controllers directly exchange data to provide an optimal user experience with low latency, high bandwidth, and robust stability.
- **High availability:** Controllers serve as a hot backup for each other, even allowing for failure of multiple controllers, offering 99.999% system availability, and protecting stability of online services.
- **Load balancing:** Implements load balancing among controllers. Multiple controllers concurrently process the same host service to smash the performance bottleneck of a single controller, significantly improving service processing efficiency.
OceanStor 6800 V3 Mission Critical Storage System

Reliability

- Multi-dimensional business continuity protection: Redundancy among all components prevents single points of failure and ensures stable system operation. In addition, the 6800 V3 mission critical storage system adopts innovative block virtualization that speeds up data reconstruction by 20 times, greatly improving data reliability. The Hyper series data protection software simplifies user needs for local, remote, and multi-branch data protection, with the shortest Recovery Point Objective (RPO) in the industry, ranging from zero to 5 seconds, to maximize business continuity and data availability.

- End-to-end data protection: Ensures comprehensive data integrity all the way from application systems, HBAs, storage systems, to disks. Such end-to-end data protection ensures service integrity for customers.

- 9-intensity earthquake resistance certification: Certification for 9-intensity earthquake resistance from the Seismic Quality Supervision and Test Center of Telecommunications Equipment for Information industry, prevents mechanical vibrations from causing device failures.

Convergence

- Convergence of SAN and NAS: Provides elastic storage, simplifies service deployment, improves storage resource utilization, and reduces Total Cost of Ownership (TCO). Underlying storage resource pools provide both block and file services and shorten storage resource access paths to ensure that the two services are equally efficient.

- Convergence of heterogeneous storage systems: A built-in virtualization function efficiently manages storage systems from multiple vendors and unifies resource pools for flexible, centralized resource allocation and protects their data. In addition, original data can be migrated to OceanStor 6800 V3 so that services can be accelerated. OceanStor 6800 V3 storage supports gateway mode.

- Convergence of high-end, mid-range, and entry-level storage systems: Any size system interworks seamlessly so data can freely flow among storage products of different models without the assistance of third-party systems.

- Convergence of SSDs and HDDs: Combining the advantages of rotating media and solid-state storage, the system offers an optimal balance of performance and cost. In the case of all-flash configuration, high performance and a low latency of 1 ms can be reached.

- Convergence of primary and backup storage: Integrated backup functions achieve efficiency without additional backup software, simplifying backup management.

Intelligence

- Multi-tenant and Service Level Agreement (SLA): Enable intelligent allocation of storage resources in cloud computing environments. The system applies data isolation functions and data security policies such as data encryption and reliable destruction of obsolete data. With four service levels, the system allocates storage resources based on service priorities. High-priority services thus get an assured preference for system resources that minimizes response times.

- Smart series efficiency improvement suite: Leverages dynamic storage tiering (SmartTier), intelligent data migration (SmartMotion), and innovative heterogeneous virtualization (SmartVirtualization) to achieve vertical, horizontal, and cross-system 3D data flow, significantly improving storage resource utilization.

- Advanced active-active solution: HyperMetro implements active-active mirroring with load balancing and cross-site takeover without service interruption, preventing data loss and system breakdown from occurring in critical application systems. The gateway-free design can effectively reduce the purchase cost, simplify the deployment, and enable the active-active solution to be smoothly upgraded to the Disaster Recovery Data Center Solution (Geo-Redundant Mode).

Easy to Manage

- Unified management: Powerful storage management software supports global topology views, capacity analysis, performance analysis, fault diagnosis, and end-to-end service visualization to simplify management of a wide range of devices.
Industry-leading Storage Hardware

- **Outstanding performance**: The system employs next-generation Intel multi-core processors, 16 Gbit/s Fibre Channel, 10 Gbit/s FCoE, and 56 Gbit/s InfiniBand host ports, PCIe 3.0 buses, and 12 Gbit/s SAS 3.0 disk ports. System bandwidth as high as 40 GB/s efficiently handles video and other large files, and supports million-level IOPS performance.

- **Exclusive SmartIO cards**: Each SmartIO card supports 8 Gbit/s Fibre Channel, 16 Gbit/s Fibre Channel, 10 Gbit/s Ethernet and 10 Gbit/s FCoE.

- **Industry-leading deduplication/compression cards**: An accelerator card supports deduplication, compression. Users can configure accelerator cards based on site requirements, efficiently reducing data storage costs.

### Technical Specifications

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<th>6800 V3</th>
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<td><strong>Model</strong></td>
<td>6800 V3</td>
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<tr>
<td><strong>Controller Enclosure Specifications</strong></td>
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<tr>
<td>Storage Processors</td>
<td>Multi-core processors</td>
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<tr>
<td>System Cache</td>
<td>256 GB to 4,096 GB</td>
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<td>(expanded by adding controllers)</td>
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<tr>
<td>Maximum Number of Controllers</td>
<td>8</td>
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<tr>
<td>Supported Storage Protocols</td>
<td>Fibre Channel, FCoE, iSCSI, InfiniBand, NFS, CIFS, HTTP, and FTP</td>
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<tr>
<td>Front-end Port Types</td>
<td>1/10 Gbit/s Ethernet, 10 Gbit/s FCoE, 10 Gbit/s TOE, 8/16 Gbit/s Fibre Channel, and 56 Gbit/s InfiniBand</td>
</tr>
<tr>
<td>Back-end Port Type</td>
<td>SAS 3.0 (each port supports 4 x 12 Gbit/s)</td>
</tr>
<tr>
<td>Maximum Number of Hot Swappable I/O Modules per Controller</td>
<td>6</td>
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<tr>
<td>Maximum Number of Front-end Ports per Controller</td>
<td>20</td>
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<tr>
<td>Maximum Number of Disks Supported by Two Controllers</td>
<td>3,200</td>
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<tr>
<td>Disk Types</td>
<td>SSD, SAS, and NL-SAS</td>
</tr>
<tr>
<td>Max. Raw Capacity (All-SSD Configuration)</td>
<td>11.5 PB</td>
</tr>
<tr>
<td>Max. IOPS (All-SSD Configuration)</td>
<td>8,000,000</td>
</tr>
<tr>
<td>Gateway Mode</td>
<td>Supported</td>
</tr>
<tr>
<td>Supported RAID Levels</td>
<td>0, 1, 3, 5, 6, 10, and 50</td>
</tr>
<tr>
<td>Maximum Number of Snapshots (LUN)</td>
<td>32,768</td>
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<tr>
<td>Maximum Number of LUNs</td>
<td>65,536</td>
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<tr>
<td>Maximum Number of Snapshots per File System</td>
<td>2,048</td>
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<tr>
<td>Maximum Capacity of a Single File</td>
<td>256 TB</td>
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</tbody>
</table>
## Model

### 6800 V3

### Key Software Features

#### Data Protection Software
- HyperSnap (snapshot), HyperCopy (LUN copy), HyperClone (clone), HyperMirror (volume mirror), HyperReplication (remote replication), HyperLock (WORM), HyperMetro (active-active storage arrays), and HyperVault (integrated backup)

#### Mission-critical Service Protection
- SmartQoS (intelligent QoS control), SmartPartition (intelligent partitioning), and SmartCache (intelligent SSD caching)

#### Resource Efficiency Improvement
- SmartTier (intelligent storage tiering), SmartThin (intelligent thin provisioning), SmartMotion (intelligent data migration), SmartMulti-Tenant (multi-tenant), SmartMigration (LUN migration), SmartCompression (online compression), SmartDedupe (online deduplication), SmartQuota (quota management), and SmartErase (data destruction)

#### Storage Management Software
- UltraPath (multipathing management), Cloud Service (remote maintenance and management), BCManager (disaster recovery management software), DeviceManager (manage a single device), and eSight (manage multiple devices)

## Virtualization Features

### Heterogeneous Virtualization
Consolidates storage resources of mainstream products to manage and allocate them in a flexible and unified manner

### Block Virtualization
Balanced data distribution, quick fault recovery

### Support for Computing Virtualization
Supported virtual machines: VMware, Citrix, Hyper-V, and FusionSphere
Value-added features related to virtual environments: support for VMware VAAI and integration of VSphere and VCenter

## Physical Specifications

### Power Supply
- AC: 200V to 240V
- DC: 192V to 288V

### Dimensions (H x W x D)
- 6U controller enclosure: 263.9 mm x 447 mm x 750 mm (10.39 in. x 17.60 in. x 29.53 in.)
- 2U disk enclosure: 86.1 mm x 447 mm x 490 mm (3.39 in. x 17.60 in. x 19.29 in.)
- 4U disk enclosure: 175 mm x 447 mm x 790 mm (6.89 in. x 17.60 in. x 31.10 in.)

### Weight
- 6U controller enclosure: ≤ 95 kg (209.48 lb)
- 2U disk enclosure: ≤ 20 kg (44.10 lb)
- 4U disk enclosure: ≤ 40 kg (88.20 lb)
- 4U high-density disk enclosure: ≤ 91 kg (200.66 lb)

### Operating Temperature
- 5°C to 40°C at altitudes below 1,800m (5,905.44 ft.)
- 5°C to 35°C at altitudes from 1,800m (5,905.44 ft.) to 3,000m (9,842.40 ft.)

### Operating Humidity
- 5% RH to 90% RH