

# OceanStor Pacific Series Intelligent Scale-Out Storage







#### Performance Models

OceanStor Pacific 9950-G OceanStor Pacific 9920-G

#### **Balanced Models**

OceanStor Pacific 9550-G OceanStor Pacific 9546-G OceanStor Pacific 9540-G OceanStor Pacific 9520-G

#### Video Models

OceanStor Pacific 9350-G OceanStor Pacific 9346-G OceanStor Pacific 9340-G

#### Product Overview

#### Performance model:

OceanStor Pacific 9950-G is a high-density, all-flash storage product that offers outstanding performance, capacity, and scalability. Each 5 U chassis houses up to 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 storage1.

OceanStor Pacific 9920-G is an all-flash (NVMe SSD) scale-out storage product, with each 2 U chassis housing 1 storage node. It delivers excellent performance and boasts flexible component configurations to meet the access requirements of various structured2 and unstructured workloads. In addition, it supports 30.72 TB NVMe SSDs, and each node provides a maximum raw capacity of 768 TB and up to 800,000 IOPS data access at a stable latency of 1 ms.

#### **Balanced Models:**

OceanStor Pacific 9550-G is a hybrid storage product that features ultra-high density and large capacity to deliver optimal cost-effective storage. 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 2400 TB, reducing required cabinet space by 62.5% compared to general-purpose storage servers. It is ideal for mass unstructured data storage.

OceanStor Pacific 9546-G is brand-new high-density balanced scale-out storage product. Each 4 U chassis accommodates 1 or 2 storage nodes and uses large-capacity HDDs as main storage. Each chassis provides up to 1200 TB raw capacity and 6 GB/s bandwidth. It is applicable to mass unstructured data storage.

OceanStor Pacific 9540-G is a large-capacity hybrid scale-out storage product. Each 4 U chassis accommodates 1 storage node. It enables high capacity density and flexible component configurations to fulfill the access requirements of a wide range of structured workloads.

OceanStor Pacific 9520-G 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.



#### Video Models:

OceanStor Pacific 9350-G is a hybrid storage product that features ultra-high density and large capacity to deliver optimal cost-effective storage. 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 2400 TB, reducing required cabinet space by 62.5% compared to general-purpose storage servers. It is suitable for scenarios that only store massive amounts of video stream data from cameras.

OceanStor Pacific 9346-G is new-generation 4 U high-density scale-out storage product. Each 4 U chassis accommodates 60 x 3.5-inch large-capacity HDDs, which are used as main storage. It provides a raw capacity of 1200 TB, and reduces required cabinet space by 40% and power consumption by 16% compared to general-purpose 4 U storage servers. OceanStor Pacific 9346 offers you a brand-new storage option that finely balances capacity, performance, and costs. It is applicable to high-performance video and image stream data from cameras.

OceanStor **Paci**fic 9340-G is a hybrid scale-out storage product with each 4 U chassis housing 1 storage node. It enables high capacity density and flexible component configurations to store both video and image stream data from cameras.



# Specifications

General scenarios: Key specifications of scale-out file, object, and HDFS storage products

Model	OceanStor Pacific 9950-G	OceanStor Pacific 9920-G	OceanStor Pacific 9550-G	OceanStor Pacific 9546-G	OceanStor Pacific 9520-G		
System Architecture	Fully symmetric scale-out architecture						
Max. Raw Capacity per Chassis	614.4 TB	768 TB	2400 TB	1200 TB	280 TB		
Height per Chassis	5 U	2 U	5 U	4 U	2 U		
Number of Nodes per Chassis	8	1	2	1 or 2	1		
Max. Number of Main Storage Disks per Node	10	25	60	30 or 60	14		
Number of Processors per Node	1 x Kunpeng 920 processor	2 x Kunpeng 920 processors	1 x Kunpeng 920 processor	1 or 2 x Kunpeng 920 processors	1 x Kunpeng 920 processor		
Max. Memory per Node	512 GB	512 GB	256 GB	256 GB	256 GB		
Max. Cache per Node	N/A	N/A	4 x Half-palm NVMe SSDs	4 x Palm-sized NVMe SSDs	4 x NVMe SSDs		
Number of System Disks per Node	2 x 480 GB SSDs	2 x 480 GB SSDs	2 x 480 GB SSDs	2 x 480 GB SSDs	2 x 480 GB SSDs		
Data Disk Types	Half-palm NVMe SSDs	Palm-sized NVMe SSDs	3.5-inch HDDs	3.5-inch HDDs	3.5-inch HDDs		
Front-End Service Networks1	25GE, 100GE TCP/IP 100GE RoCE 100Gb/s InfiniBand	10GE, 25GE or 100GE TCP/IP 10GE, 25GE or 100GE RoCE 100Gb/s, 200Gb/s InfiniBand	10GE, 25GE TCP/IP 25GE, 100GE RoCE 100Gb/s InfiniBand	10GE, 25GE or 100GE TCP/IP 25GE, 100GE RoCE 100Gb/s, 200Gb/s InfiniBand	10GE, 25GE TCP/IP 10GE, 25GE RoCE		
Storage Interconnection Networks	100GE TCP/IP 100GE RoCE 100Gb/s InfiniBand	10GE, 25GE or 100GE TCP/IP 10GE, 25GE or 100GE RoCE 100Gb/s, 200Gb/s	25GE, 100GE TCP/IP 25GE, 100GE RoCE 100Gb/s InfiniBand	10GE, 25GE or 100GE TCP/IP 10GE, 25GE or 100GE RoCE 100Gb/s, 200Gb/s	10GE, 25GE TCP/IP 10GE, 25GE RoCE		
Data Redundancy Protection Mechanism	InfiniBand InfiniBand  EC: N + M (M is 2, 3, or 4), applicable to SSDs or HDDs used as main storage						
Storage Access	NFS, SMB/CIFS, POSIX, MPI-IO, HDFS, Amazon S3, and FTP						
Protocols  Key Features	Elastic EC, SmartQuota (quotas), SmartTier (storage tiering), SmartQoS (service quality), SmartEqualizer (load balancing), SmartMulti- Tenant (multi-tenancy), SmartEncryption (data encryption), SmartAuditlog (audit logs), HyperLock (WORM), HyperSnap (snapshots), HyperReplication(A) (asynchronous replication), SmartIndexing (metadata indexing), Recycle Bin, SmartInterworking (multi-protoco interworking), DIF (end-to-end data integrity verification), Object Versioning (versioning)2, SmartTakeover (intelligent takeover)3, SmartCompression (scenario-specific compression), HyperGeoMetro (multiple active sites)4, HyperGeoEC (cross-site EC)4, SmartCach (intelligent SSD caching), and SmartSync (replication to the cloud)						
Data Self-Healing		Automatic con	current data reconstruction	at 2 TB per hour			
Chassis Dimensions (H x W x D)	219.5 mm x 447 mm x 926 mm	86.1 mm x 447 mm x 830 mm	219.5 mm x 447 mm x 1030 mm	178 mm x 447 mm x 835 mm	86.1 mm x 447 mm x 83 mm		
Max. Weight per Chassis (with Disks)	≤ 115 kg	≤ 38 kg	≤ 164 kg	1-chassis, 1-node model: $\leqslant$ 98 kg 1-chassis, 2-node model: $\leqslant$ 102 kg	≤ 48 kg		
Operating Temperature	5°C to 35°C	5°C to 35°C	5°C to 35°C	5°C to 35°C	5°C to 35°C		
Operating Humidity	5% to 90% RH (non-condensing)	8% to 90% RH (non-condensing)	5% to 90% RH (non-condensing)	5% to 90% RH (non-condensing)	8% to 90% RH (non-condensing)		

# Intelligent video and image scenario: Key specifications of scale-out file and object storage products

Model	OceanStor Pacific 9340-G	OceanStor Pacific 9346-G	OceanStor Pacific 9350-G		
System Architecture	Fully symmetric scale-out architecture				
Max. Raw Capacity per Chassis	720 TB	1200 TB	2400 TB		
Height per Chassis	4 U	4 U	5 U		
Number of Nodes per Chassis	1	1	2		
Max. Number of Main Storage Disks per Node	36	60	60		
Number of Processors per Node	2 x Kunpeng 920 processors	1 or 2 x Kunpeng 920 processors	1 x Kunpeng 920 processor		
Max. Memory per Node	256 GB	256 GB	256 GB		
Max. Cache per Node	4 x NVMe SSDs	4 x Palm-sized NVMe SSDs	4 x Half-palm NVMe SSDs		
Number of System Disks per Node	2 x 600 GB HDDs or 2 x 480 GB SSDs	2 x 480 GB SSDs	2 x 480 GB SSDs		
Data Disk Types	3.5-inch HDDs	3.5-inch HDDs	3.5-inch HDDs		
Front-End Service Networks	10GE or 25GE TCP/IP	10GE or 25GE TCP/IP	10GE or 25GE TCP/IP		
Storage Interconnection Networks	10GE or 25GE TCP/IP 10GE or 25GE RoCE	10GE or 25GE TCP/IP 10GE or 25GE RoCE	25GE TCP/IP 25GE RoCE		
Data Redundancy Protection Mechanism	EC: N + M (M is 2, 3, or 4)				
Storage Access Protocols	NFS, SMB, and Amazon S3				
Key Features	SmartQuota (quotas), SmartQoS (service quality), SmartEqualizer (load balancing), SmartMulti-Tenant (multi-tenancy), SmartAuditlog (audit logs), SmartIndexing (metadata indexing), SmartInterworking (multi-protocol interworking), SmartEncryption (data encryption), and DIF (end-to-end data integrity verification)				
Data Self-Healing	Automatic concurrent data reconstruction at 2 TB per hour				
Chassis Dimensions (H x W x D)	175 mm x 447 mm x 790 mm	178 mm x 447 mm x 835 mm	219.5 mm x 447 mm x 1030 mm		
Max. Weight per Chassis (with Disks)	≤ 65 kg	1-chassis, 1-node model: ≤ 98 kg	≤ 164 kg		
Operating Temperature	5°C to 35°C	5°C to 35°C	5°C to 35°C		
Operating Humidity	8% to 90% RH (non-condensing)	5% to 90% RH (non-condensing)	5% to 90% RH (non-condensing)		



### Key specifications of scale-out block storage products

Model	OceanStor Pacific 9520-G	OceanStor Pacific 9540-G	OceanStor Pacific 9920-G		
System Architecture	Fully symmetric scale-out architecture				
Max. Raw Capacity per Chassis	320 TB	576 TB	768 TB		
Height per Chassis	2 U	4 U	2 U		
Number of Nodes per Chassis	1	1	1		
Max. Number of Main Storage Disks per Node	16	36	25		
Number of Processors per Node	1 x Kunpeng 920 processor 2 x x86 architecture processors		2 x Kunpeng 920 processors		
Max. Memory per Node	256 GB	512 GB, 768 GB, or 1 TB	512 GB		
Max. Cache per Node	4 x NVMe SSDs	4 x NVMe SSDs or SAS SSDs	N/A		
Number of System Disks per Node	2 x 600 GB HDDs or 2 x 480 GB SSDs	2 x 600 GB HDDs or 2 x 480 GB SSDs	2 x 480 GB SSDs		
Data Disk Types	3.5-inch HDDs	3.5-inch HDDs	Palm-sized NVMe SSDs		
Front-End Service Networks	10GE, 25GE TCP/IP 25GE RoCE	25GE TCP/IP 25GE RoCE	10GE, 25GE TCP/IP 25GE, 100GE RoCE 100Gb/s InfiniBand		
Storage Interconnection Networks	10GE, 25GE TCP/IP 25GE RoCE	25GE TCP/IP 25GE RoCE	10GE, 25GE TCP/IP 25GE, 100GE RoCE 100Gb/s InfiniBand		
Data Redundancy Protection Mechanism	EC: N + M (M is 2, 3, or 4), applicable to SSDs or HDDs used as main storage Multi-copy: 3-copy mode				
Storage Access Protocols	iSCSI, SCSI, and OpenStack Cinder				
System Security Policies	Disk, node, and cabinet levels				
Key Features	SmartThin (thin provisioning), SmartDedupe & SmartCompression (data reduction), SmartQoS (service quality), SmartAuditlog (audit logs), SmartEncryption (data encryption), HyperSnap (snapshots), HyperClone (linked clone), HyperMetro (scale-out active-active), HyperReplication(A) (asynchronous replication), HyperReplication(S) (synchronous replication), MultiPool (multiple resource pools), DIF (end-to-end data integrity verification), and SmartMove (online volume migration)				
Data Self-Healing	Automatic concurrent data reconstruction at 4 TB per hour				
Deployment Scheme	Decoupled and coupled deployment of compute and storage resources				
Compatible Platforms	Huawei FusionSphere, VMware vSphere, Microsoft Windows Hyper-V, OpenStack, and containers5				
Chassis Dimensions (H x W x D)	86.1 mm x 447 mm x 830 mm	Kunpeng model: 175 mm x 447 mm x 790 mm x86 model: 175 mm x 447 mm x 748 mm	86.1 mm x 447 mm x 830 mm		
Max. Weight per Chassis (with Disks)	≤ 48 kg	Kunpeng model: ≤ 65 kg x86 model: ≤ 65 kg	≤ 38 kg		
Operating Temperature	5°C to 35°C	5°C to 35°C	5°C to 35°C		
Operating Humidity	8% to 90% RH (non-condensing)	5% to 90% RH (non-condensing)	5% to 90% RH (non-condensing)		

Note:

1.NFS, SMB, HDFS, S3, and DPC support TCP, RoCE, and InfiniBand networks. Block storage allows the front-end service network and storage interconnection network to be of the same network type.

2.Object Versioning is applicable to object storage.

3.SmartTakeover is applicable to HDFS storage.

4.HyperGeoMetro and HyperGeoEC are applicable to object storage.

5.ISCSI can be used to connect containers



## Ignite future, connect world



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