

## Huawei OceanDisk 116P PCIe5.0

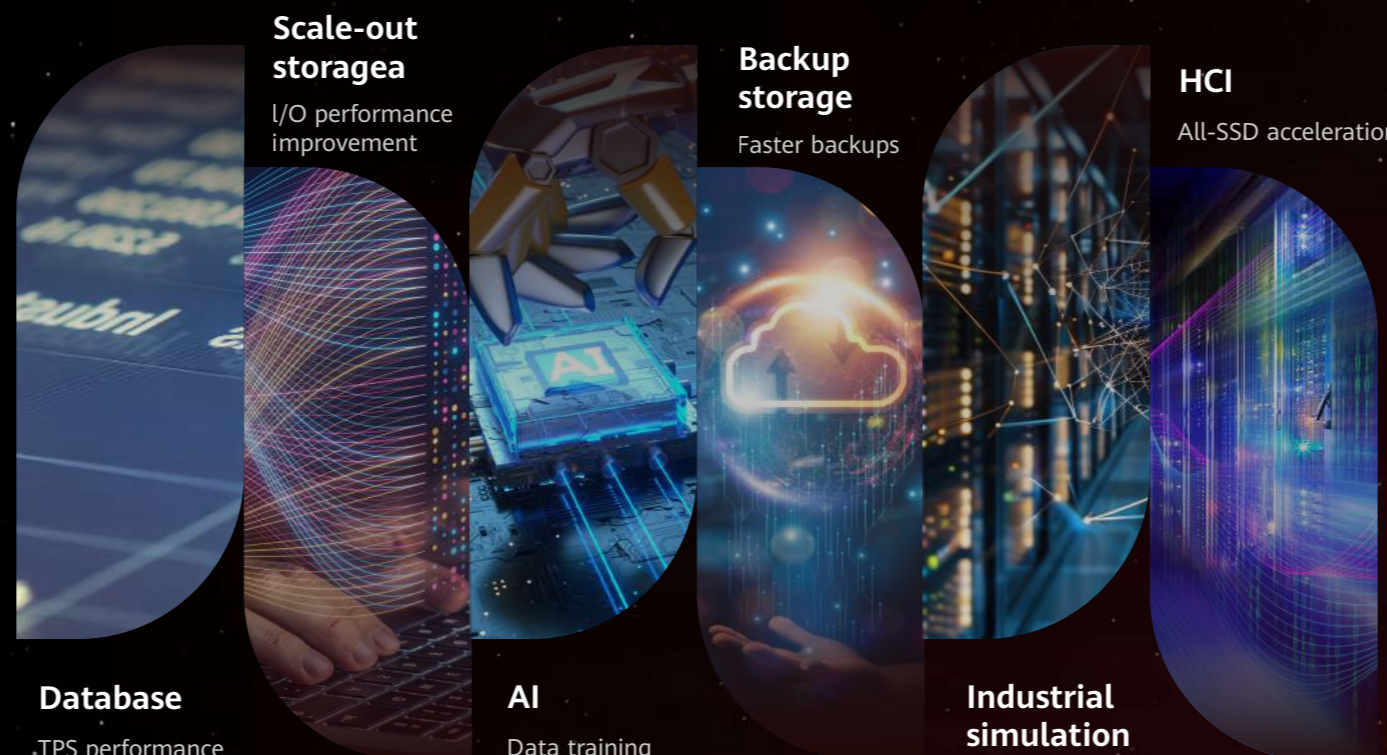
### Basic Specifications

Model Number	HSSD-O1925PA15TN	HSSD-O1925PA30TN	HSSD-O1925DA15TN	HSSD-O1925DA30TN
Form Factor	U.2			
Weight	< 300 g			
NAND Flash	QLC			
Interface Protocol	PCIe 5.0 1*4, NVMe 2.0		PCIe 5.0 2*2, NVMe 2.0	
Capacity	15.36TB	30.72TB	15.36TB	30.72TB
FTL Size	4K	16K	4K	16K
<b>Performance</b>				
Sequential Read Bandwidth @128 KB (GB/s)	13.5	12	12	12
Sequential Write Bandwidth @128 KB (GB/s)	3.2	3.2	3.2	3.2
Random read IOPS @4 KB(k IOPS)	2,500	2,200	2,200	2,200
Random Write IOPS @FTL(k IOPS)	160 @ 4K	40 @ 16K	160 @ 4K	40 @ 16K
Average Read Latency @1 QD (μs)	105	107	105	107
Average Write Latency @1 QD (μs)	8	23	12	25
<b>Reliability</b>				
Enduranc <sup>1</sup>	0.55 DWPD, 5 years	0.55 DWPD, 5 years	0.55 DWPD, 5 years	0.55 DWPD, 5 years
PBW <sup>2</sup>	15.4176	30.8352	15.4176	30.8352
Reliability	MTBF: 2.5 million hours; AFR: ≤ 0.35%; UBER: 10 <sup>-17</sup>			
Temperature	Non-operational: -40°C to 85°C (-40°F to 185°F); operational: 0°C to 83°C (32°F to 181.4°F)			
TRIM	Supported			
Power Failure Protection	Supported			
Media Failure Protection	Supported			
<b>Power Consumption</b>				
Average Power Consumption	5 W (idle) , 25 W (Active)			
<b>Certification</b>				
China: RoHS; Europe: WEEE, RoHS, REACH, and CE; North America: NRTL; UK: UKCA; Japan: VCCI; Canada: IC; Australia: RCM; IEEE Member States/Regions: CB				

Notes: The specifications are subject to change without notice. Performance results are based on internal testing and use. Results and performance may vary according to configurations and systems, including device capacity, operating system versions, and test tools.

1. DWPD represents drive writes per day tested according to the JESD219 standards. An SSD can be used for five years if the DWPD stays below the specified value; otherwise, the SSD service life will be affected.

2. Petabytes written (PBW) are tested with 4 KB I/O size and alignment.



#### Database

TPS performance improvement

#### AI

Data training acceleration

#### Industrial simulation

Data read/write acceleration



Huawei Enterprise App



Huawei IT

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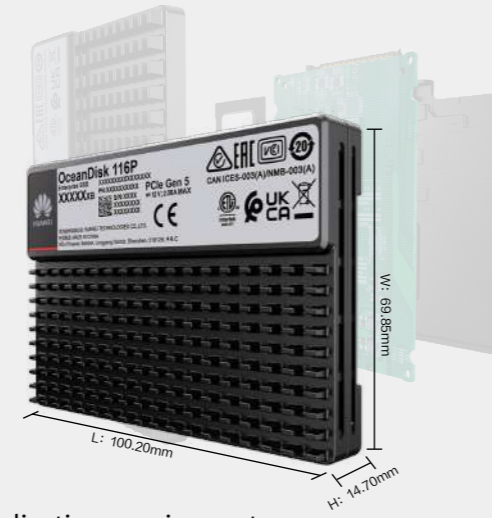
## High-Capacity Data Center SSD



Beyond the Xtreme for Data Acceleration

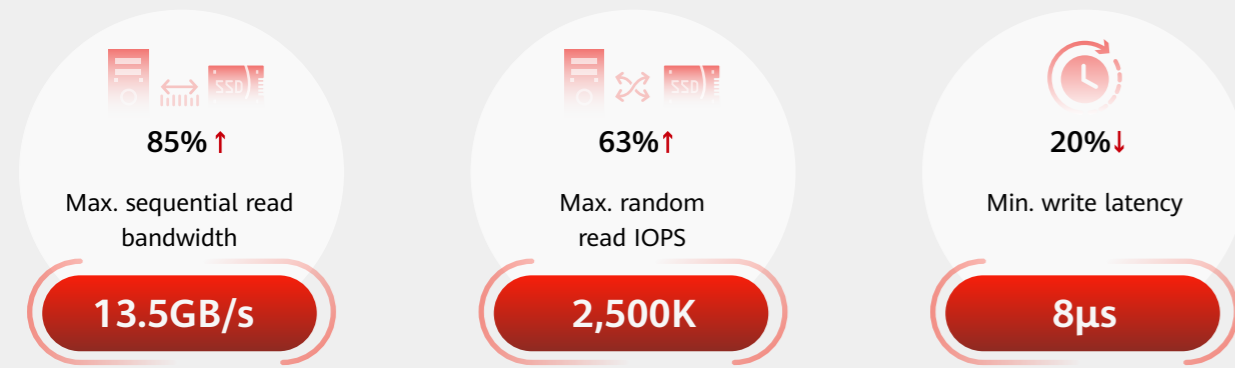
# Huawei OceanDisk 116P

OceanDisk 116P is a Data Center NVMe PCIe SSD. It features high performance, fast response, and high reliability, greatly improving storage I/O performance. The SSD product can seamlessly fit into mainstream operating systems (OSs) and virtualization systems to enhance performance for database, virtualization, and HPC applications, helping reduce system TCO. With enhanced device management, the OceanDisk 116P supports OS-native drivers. It also supports comprehensive hot swap for easy maintenance.



Huawei OceanDisk 116P provides multiple capacity options to meet different application requirements. Single-disk capacity: 15.36TB and 30.72 TB

## Superb Performance

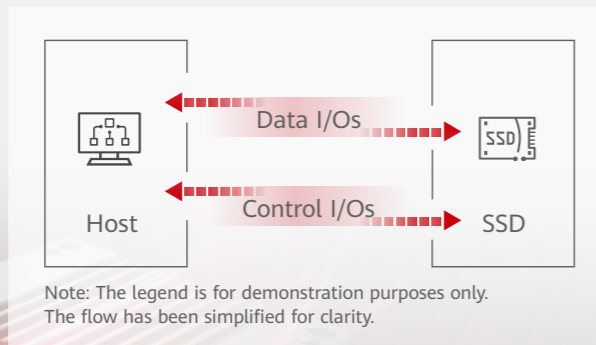


Leveraging the standard NVMe protocol and PCIe 5.0 high-speed interface, combined with a Xtreme Link technical framework, OceanDisk 116P provides higher bandwidth and lower latency. It effortlessly handles efficient reads and writes of mass files, concurrent multi-task processing in complex environments, and critical application scenarios with heavy-load, high-performance demands. This product ensures a smooth and efficient user experience.

## Optimized SSD performance with hardware and software combination

### Microcode-based control channel

The data and control I/O paths are decoupled, which reduces loads on each channel and delivers 10% higher energy efficiency under full load compared to similar products.



## PCIe 5.0

Efficient four-channel transmission

## NVMe 2.0

Standard protocol

## Intelligent prediction and prefetch

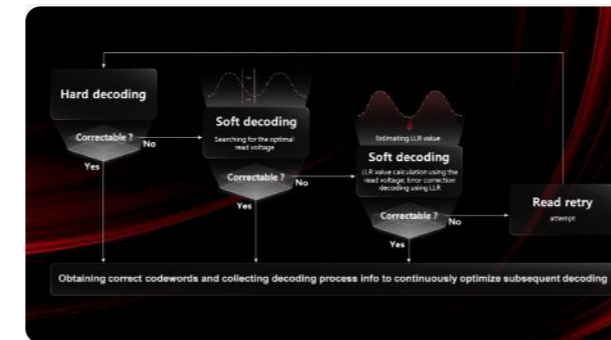
Intelligent pre-fetch loads the data that may be read to the DDR cache in advance. Once the data is hit, the data is quickly read from the DDR and returned immediately. This reduces the sequential read latency by 90%, and greatly improves the data read efficiency.



## Ultimate Reliability



With 20 years of expertise in data storage, Huawei has developed advanced technologies that deliver high stability, durability, and reliable data protection for complex environments and demanding workloads. These advanced technologies include the enhanced Low-Density Parity Check (LDPC) algorithm, intelligent wear leveling, intelligent multi-streaming and reclamation, and end-to-end data protection.

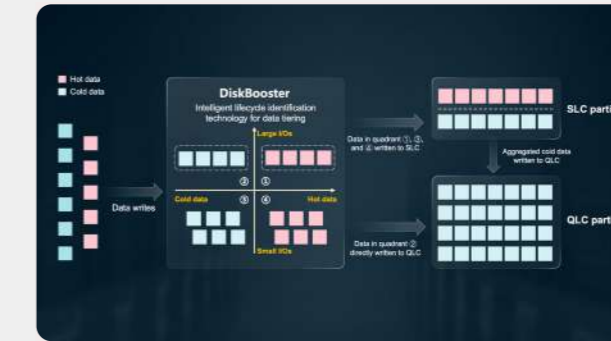
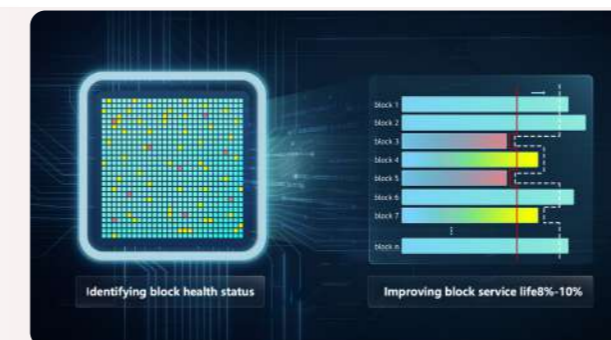


### LDPC+FSP 3.0

Powerful bottom-layer error correction capability ensures that correct data is read at one time, ensures reliability at the end of the particle life cycle, and increases the PE cycle of the particle to 4500 times.

## Intelligent wear leveling

This technique identifies block health status and aligns the block Program/Erase (P/E) policy to improve the overall P/E cycles by 10%.

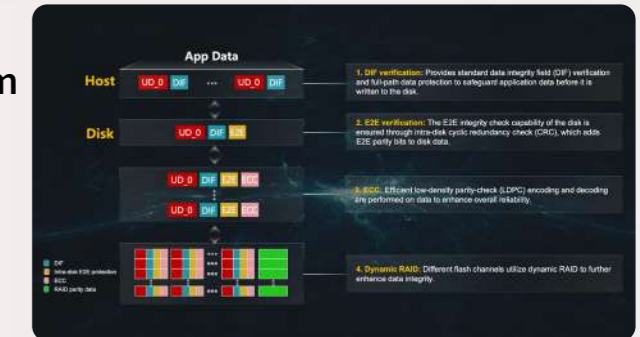


## Intelligent multi-streaming and reclamation

Intelligent hot and cold data identification and multi-dimensional judgment for reclamation help reduce write amplification by 20%+.

## Four-layer dataprotection mechanism

The four-layer data protection mechanism, including DIF, intra-SSD CRC, ECC encoding and decoding, and dynamic RAID, ensures end-to-end data resilience.



## Intelligent Management

Huawei DiskBooster is an AI-powered O&M tool that reliably predicts failures and lifespan of disks. By detecting slow disks, it reminds IT personnel to replace or repair disks or back up data to improve service performance. This reduces the impact of faulty or sub-healthy disks on services, ensuring data resilience and service continuity.



### Pre-failure detection

By analyzing over 20 key indicators, including wear degree, UNC threshold-crossing, and die failure, the impact of disk faults on services is halved.



### Disk life prediction

Over 10 disk lifespan indicators and advanced lifespan prediction algorithms ensure disk lifespan is accurate to within five days (down from over a month).



### Slow disk detection

Over 10 slow disk criteria are collected and analyzed by decision and processing algorithms, delivering a detection accuracy of 99%.



### Disk logical failure repair

The multi-level incremental repair policy reduces the fault return rate by 50%.

DiskBooster