



Ultrastar® Data102 102-Bay Hybrid Storage Platform

The Next Generation Hybrid Platform for Software-Defined Storage

Designed for High Density and Flexibility

The Ultrastar Data102 is a key element of next-generation disaggregated storage and software-defined storage (SDS) systems, delivering high density and the flexibility to balance performance with cost. The Ultrastar Data102 provides up to 2.0PB¹ of raw storage using our forthcoming 20TB SMR HDDs in a compact and efficient form factor. Western Digital HelioSeal® drives ensure cool running, quiet operation and high reliability. A high performance data tier can be set up for demanding applications by using SSDs in up to 24 of the drive slots.

Features

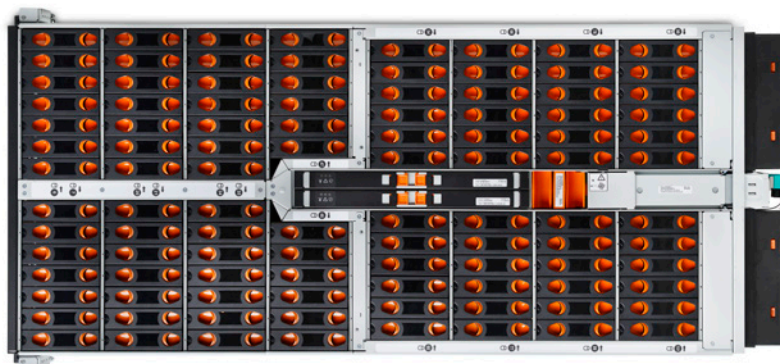
- Up to 102 Ultrastar HDDs (SAS or SATA)
- Hybrid support with up to 24 SSDs (SAS or SATA) for a data acceleration tier
- Up to 2.0PB of raw storage in 4U using forthcoming 20TB SMR HDDs
- Choose dual-port SAS for high availability or single-port SATA for low cost
- 4 rack units, 1047mm depth
- Up to 12 × 12Gb/s SAS-3 host connections
- Up to 4 units may be daisy-chained for a total raw capacity of 8.1PB
- Patented IsoVibe technology ensures maximum performance even in heavy workloads
- Enterprise-grade redundant and hot-swappable PSUs, IO Modules and fans
- Improved cooling from innovative ArcticFlow technology
- Rack-mounted top cover for quick and easy service

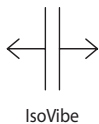
Building on 50+ Years of Storage Design Experience

Conventional dense disk shelves frequently suffer from performance degradation due to induced vibration from adjacent drives. Traditional platforms also have cooling challenges as the cooling air passes over successive rows of drives, losing effectiveness as it gets heated up along the airflow path. Developing storage devices and platforms side-by-side, we address these challenges through Silicon to Systems Design, a set of technologies developed based on a holistic view of devices, platform, and their interactions. The first two of these innovative technologies are IsoVibe™ and ArcticFlow™. IsoVibe reduces vibration-induced performance degradation, while ArcticFlow overcomes the cooling issues by introducing cool air into the middle of the platform. Both these technologies contribute to long-term reliability, enabling our five-year limited warranty on the entire platform.

Designed for the Enterprise and the Cloud

This platform addresses the demanding storage needs of large enterprise customers, storage OEMs, cloud service providers and resellers/integrators that require dense, shared HDD or hybrid storage. The Ultrastar Data102 provides the flexibility to specify the HDD and SSD combinations to balance capacity, performance and cost.





IsoVibe

IsoVibe Patented Vibration Isolation Technology

Precise cuts in the baseboard provide a suspension for the drives in the chassis, isolating them from transmitted vibration. The result is that consistent performance is maintained, even when all the drives are working hard.



ArcticFlow

ArcticFlow Thermal Zone Cooling Technology

By introducing cool air into the center of the chassis, drives operate at lower and more consistent temperatures than conventional systems. This results in lower fan speeds, reduced vibration, lower power consumption, quieter operation and ultimately higher reliability.

Max. Drives	<ul style="list-style-type: none"> • 102 × 3.5" drive bays • Up to 24 can be SAS or SATA SSD
Drive Interface	<ul style="list-style-type: none"> • 12Gb/s SAS • 6Gb/s SATA
Available Drive Capacities	<ul style="list-style-type: none"> • HDD up to 18TB CMR or up to 20TB SMR (forthcoming) • SSD up to 15.36TB
Host Interface	<ul style="list-style-type: none"> • Dual redundant I/O Modules (IOM), • 6 Mini-SAS HD ports per IOM
Weight	<ul style="list-style-type: none"> • Product without drives: 31.8kg (70lbs) • Product with 102 HDDs: 118.8kg (262lbs)
LED Indicators	<ul style="list-style-type: none"> • Front/Rear: Power, ID, Fault • Drive: Activity, Fault
Physical Dimensions	<ul style="list-style-type: none"> • Height: 175mm (6.89") • Width: 447mm (17.61") • Depth: 1047mm (41.25") • Depth in Rack: Max of 1197mm (47.13") w/ dual CMA—includes 2 SAS cables
Management	<ul style="list-style-type: none"> • SCSI Enclosure Services • Redfish (out of band, via RJ45)
Power	<ul style="list-style-type: none"> • Dual 1600W, 80+ Platinum • 200–240V AC input, auto ranging, 50–60Hz
Cooling	<ul style="list-style-type: none"> • 4 main enclosure fans, front-to-rear system cooling with zero-loss backflow prevention • 1 IO module fan • Dual PSUs with built-in fans
Environmental	<ul style="list-style-type: none"> • Operating Temperature: 5°C to 35°C • Non-op Temperature: -40 to 70°C • Humidity: 5 to 85% relative humidity • Operating Altitude: -300m to 3048m (-984 ft to 10,000 ft) • Sound Power: < 7.2Bels @ 23±2°C
Serviceability	Cable-free hot-swappable IOM, power supply, fans and drives

¹ One terabyte (TB) is equal to one trillion bytes and one petabyte (PB) is equal to 1,000 TB. Actual user capacity may be less due to operating environment.