

Optimize Analytics Processing & Realize SDS/HCI with Ultrastar® DC SN620 NVMe™ SSDs

At A Glance

- Industry-standard PCIe Gen3.0 x4 interface
- Compliant to NVMe™ 1.2 protocol
- Up to 1.7GiB/s sequential read throughput
- Up to 132K sustained, mixed 4KiB random IOPS
- Low 10W typical, 5.6W idle power consumption
- Enterprise-grade data and power protections

Applications

- Hyper-converged Infrastructure
- OLAP and Business Intelligence
- Software Defined Storage

The Ultrastar DC SN620* is an enterprise-class SSD optimized for next-generation and traditional data center workloads such as Hyper-converged Infrastructure (HCI), On-line Application Processing (OLAP) databases, and Software Defined Storage (SDS). Its NVMe interface allows it to maximize the performance of these applications, while its low power and hot-swappable form factor help keep costs down. It is backed with enterprise-class data protection features, a 5-year limited warranty, and certifications for Windows Server® 2016, RedHat Enterprise Linux®, and VMware vSphere® and VMware vSAN™.

Decreased Operational Costs

Over the typical five year lifetime of a server, ongoing costs such as power and cooling can often dwarf the initial server cost. The Ultrastar DC SN620's low average power of 10W is half that of other 20W NVMe SSDs, saving up to 876 kWh per drive. In data centers where racks are power-limited, the Ultrastar DC SN620's savings may allow for a higher number of servers per rack, shrinking colocation costs.

Maintenance is simplified thanks to the Ultrastar DC SN620's U.2 form factor, which allows for front panel serviceability and hot swapping of drives to minimize down time. The drive also helps keep costs down with its enterprise-grade 2 million hour MTBF and 5-year limited warranty.

Getting Data Faster

The legacy SATA interface simply wasn't built to handle the extreme bandwidth, IOPS, and parallelism needed by modern applications. By moving to NVMe, an industry standard interface based on PCIe, the Ultrastar DC SN620 avoids the SATA bottleneck and can deliver its full 1.7GiB/s of bandwidth and up to 250K random read IOPS. NVMe has support in all major operating systems and virtualization hypervisors, easing adoption and upgrades.

Data for Applications

The Ultrastar DC SN620 has been designed and optimized for both modern and legacy workloads including virtualization, traditional OLAP databases, NoSQL databases, and scale-out storage. It can provide an excellent mix of power and performance without the legacy throttling of SATA slowing down database operations, or the power overload of high-end NVMe SSDs causing thermal and power cost headaches at scale.

Store Data for Hyper-converged Infrastructure

Accelerate data to hyper-converged infrastructure either as part of an ultra-fast, all-flash cluster, or serving as a cache for scale-out hard drives. The Ultrastar DC SN620 is fully VMware ESX® 6.5 and VMware vSAN 6.5 certified for users wishing to build their own clusters using custom configurations. For a fully configured private cloud including servers, storage, and network, a fully tested and supported VMware vSAN ReadyNodes™ are available.

*Previously known as Skyhawk™ and Skyhawk Ultra from the SanDisk brand

Speed Data to OLAP and Business Intelligence

Run business intelligence using traditional SQL or modern NoSQL databases with the Ultrastar DC SN620's high sustained bandwidth and low power. Its small size allows for multiple drives to be installed in single systems, increasing potential per-server bandwidth massively. With a lower power budget than traditional NVMe devices, it can dramatically affect operational expenses in large scale NoSQL clusters. Unlike consumer-class drives, the Ultrastar DC SN620 has power loss protection, allowing traditional databases to avoid data loss on the drive during unexpected power downs.

Share Data with Software Defined Storage

Deploy all-flash software defined storage systems economically, or selectively speed up massive object and block stores with the Ultrastar DC SN620s. Enterprise-scale all-flash RedHat Ceph™ or GlusterFS deployments with the Ultrastar DC SN620 provide performance without the hassle of tiering or caching. For workloads where massive archives are required can also take advantage of the speed of NVMe using their built-in data migration tools or caching.

Conclusion

Workloads like SDS, HCI, and OLAP all depend on data. The faster that data can be made available, the faster business problems can be solved. The Ultrastar DC SN620 can provide data for these workloads both quickly, thanks to its NVMe interface, and cost-effectively, thanks to its low power and front-loading form factor.

Capacity ³	1.6TB, 1.92TB, 3.2TB and 3.84TB
Sequential Reads/Writes (MiB/s, 128KiB, QD128)	Up to 1,700 MiB/s / Up to 1,200 MiB/s
Random Reads/Writes (IOPS, 4KiB, QD128)	Up to 250,000 / Up to 83,000
Interface	NVMe, PCIe Gen 3, x4
Form Factor	SFF 2.5-inch drive
Operating Systems & Hypervisors	RedHat Enterprise Linux 7.x Microsoft Windows Server 2016 See interoperability guide for complete list
Other Certifications	VMware vSphere ESXi 6.5 VMware vSAN 6.5
Enterprise Features	2,000,000 hour MTBF 5-year limited warranty Power-loss protection Instant Secure Erase

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