intel

Cloud Inspired. Storage Optimized.

Designed for modern cloud storage solutions such as software-defined and converged infrastructures.
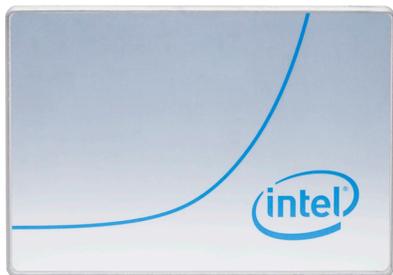
Pairing a new Intel developed controller, unique firmware innovations, and industry-leading 3D NAND density, the Intel® SSD Data Center P4500 Series—a member of the 2nd Gen Intel® 3D NAND SSD family—delivers an all new design to support cloud storage and software-defined infrastructures. The Intel SSD DC P4500 Series is stacked with a combination of performance, capacity, manageability, and reliability to help data centers fast-track their business and meet the overall demands of their digital business.

An SSD Built for Cloud Storage Architectures

The cloud continues to drive innovation, new services, and agility for businesses which are seeing the need to deploy services faster, scale effectively, and reduce the human costs of managing assets. Multi-cloud has become a core element for any enterprise strategy, with top cloud providers openly embracing PCIe*/NVMe*-based SSDs because of the scalable performance, low latency, and continued innovation.

Within the shift to the cloud is an increased adoption of software-defined and converged infrastructures. This fast adoption is being driven by the need to increase efficiency, refresh existing hardware, deploy new workloads, and reduce operational expenditures.

The Intel SSD DC P4500 significantly increases server agility and utilization, while also accelerating applications, across a wide range of cloud workloads.

Optimized for Storage Efficiency Across a Range of Workloads

This cloud-inspired SSD is built with an entirely new NVMe controller, optimized for read intensive workloads and designed to maximize CPU utilization.

With controller support for up to 128 queues, the DC P4500 helps minimize the risk of idle CPU cores and performs most effectively on Intel platforms with Intel® Xeon® processors. The queue pair-to-CPU core mapping supports high drive count and also supports multiple SSDs scaling on Intel platforms.

With the DC P4500, data centers can increase users, add more services, and perform more workloads per server, or quickly repartition to adapt to conditions. Now you can store more and know more.

Manageability to Maximize IT Efficiency

The DC P4500 is built for software-defined cloud infrastructures across the multi-cloud environment to enable greater efficiency within existing server footprints.

New firmware manageability features help reduce server downtime through improved update processes and expanded monitoring capabilities.

SMART management and Intel custom log pages provide advanced drive telemetry to manage thermals, monitor endurance, and track drive health status. Management coverage is now expanded across a wider range of drive states with support for the NVMe-Management Interface (NVMe-MI) specification, an industry standard way to manage the SSD out-of-band.

Industry-leading Reliability and Security

As capacity per server continues to scale, the risk of data corruption and errors increases. With an eye toward this risk, Intel has built industry-leading end-to-end data protection into the DC P4500.[1] This includes protection from silent data corruption which can cause catastrophic downtime and errors in major businesses.

Power Loss Imminent (PLI) provides protection from unplanned power loss, and is obtained through a propriety combination of power management chips, capacitors, firmware algorithms, and a built-in PLI self-test. Intel's PLI feature provides data centers with high confidence of preventing data loss during unplanned power interrupts.

Designed for Today's Modern Data Centers

The DC P4500 is Intel's new 3D NAND SSD for read-intensive workloads in cloud-driven data centers. The mix of performance, capacity, manageability, and reliability make it the ideal solution for software-defined and converged infrastructures. Learn more now at www.intel.com/ssd.

Features At-a-Glance	
Capacity	1, 2, 4 TB
Performance[2,3]	64k Sequential Read/Write – up to 3290/1890 MB/s
	4k Random Read/Write – up to 710,000/68,000 IOPS
Manageability	Support for NVM Express-Management Interface (NVMe-MI), NVMe SMART / Health and Log Pages
Reliability[1]	End-to-end data protection from silent data corruption, uncorrectable bit error rate < 1 sector per 10^{17} bits read
Interface	PCIe 3.1 x4, NVMe 1.2
Form Factors	U.2 2.5in x 15mm (for serviceability, hot-plug, and density)
	Add-in-Card: Half-Height Half-Length, low-profile (for legacy and mainstream server compatibility)
Media	Intel 3D NAND, TLC
Endurance	Random/JEDEC up to 0.7 DWPD / 4.6 PBW, sequential workload up to 4.62 DWPD / 19.8 PBW
Power	Max read/write 10.9W / 18.3W
Warranty	5 year warranty