Cloud Inspired. Optimized for Low Power Storage.

The cloud continues to drive innovation, new services, and agility for businesses, which need to deploy services faster, scale effectively, and reduce the human costs of managing assets. Software-defined and converged infrastructures are central to cloud solutions that help businesses meet these goals. In addition, today’s data centers face space and power constraints.

To meet these challenges, Intel offers space and power optimized SSD options in a variety of form factors to give solution designers choices to reduce Opex, increase agility, and reduce Capex.

**Power-Efficient, High-Performance SSDs for Cloud Storage**

The Intel® Solid State Drive Data Center P4501 Series—a member of the 2nd Gen Intel® 3D NAND SSD family—combines a new Intel-developed controller, unique firmware innovations, and industry-leading 3D NAND density in efficient, low power, small form factor designs. These drives are optimized for the storage needs of cloud and software-defined infrastructures and enable data centers to do more per server. To minimize service disruptions and help efficiently manage at scale, the Intel SSD DC P4501 Series integrates industry-leading reliability, durable performance, and advanced manageability features.

The DC P4501 Series is optimized for the read intensive workloads of cloud storage solutions and is architected to maximize CPU utilization. With controller support for up to 128 queues, these SSDs minimize the risk of idle CPU cores and perform most effectively on Intel® Xeon® processor-based platforms.

**Solutions Optimized for Space and Power Efficient Capacity**

Available in U.2 (2.5 in x 7mm) and M.2 (110mm) form factors, the DC P4501 Series enables data centers to optimize for space and power efficient capacity. The drives pack up to 4 TB in 7mm U.2 form factors, so data centers can deliver up to 4x more storage in the same space compared to current generation PCIe*-based SSDs. Optimized for power efficiency, the drives can free up to 45% of a rack’s power budget at equivalent capacity to standard power drives. This savings enables data centers to increase rack compute capability to address the needs of emerging workloads or increase storage density.

**Manageability to Maximize IT Efficiency**

DC P4501 drives are built to maximize IT efficiency within existing server footprints. New firmware manageability features—including improved firmware updates, health monitoring, and secure erase—help reduce server downtime through improved update processes and expanded monitoring capabilities. In addition, the DC P4501 is platform-compatible with Intel® Volume Management Device (VMD) which delivers seamless management of PCIe-based NVMe* SSDs and enables enhanced serviceability and hot-plug to minimize service interruptions during drive swaps.
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 NVM Express* 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 P4501. 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.

Future Proof Your Data Center with Low Power Storage Solutions

Built with the same cloud inspired design as the Intel® SSD DC P45000 Series, the low power Intel® SSD DC P4501 Series enables energy and space efficient storage solutions to help data centers do more per server, minimize service disruptions and efficiently manage at scale.

Learn more now at [www.intel.com/ssd](http://www.intel.com/ssd)