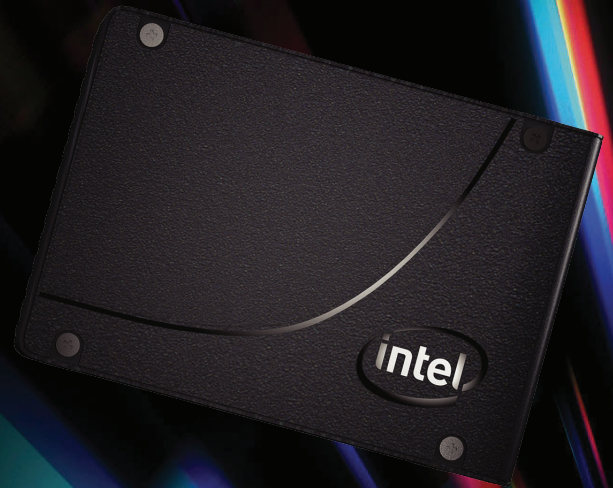# REDEFINING THE DATA CENTER

with Intel® Optane™ Technology

With an industry-leading combination of high throughput, low latency, high QoS, and high endurance, the Intel® Optane™ SSD DC P4800X provides a new data storage tier that allows you to execute larger datasets faster than ever, while reducing system DRAM to significantly lower data center cost.

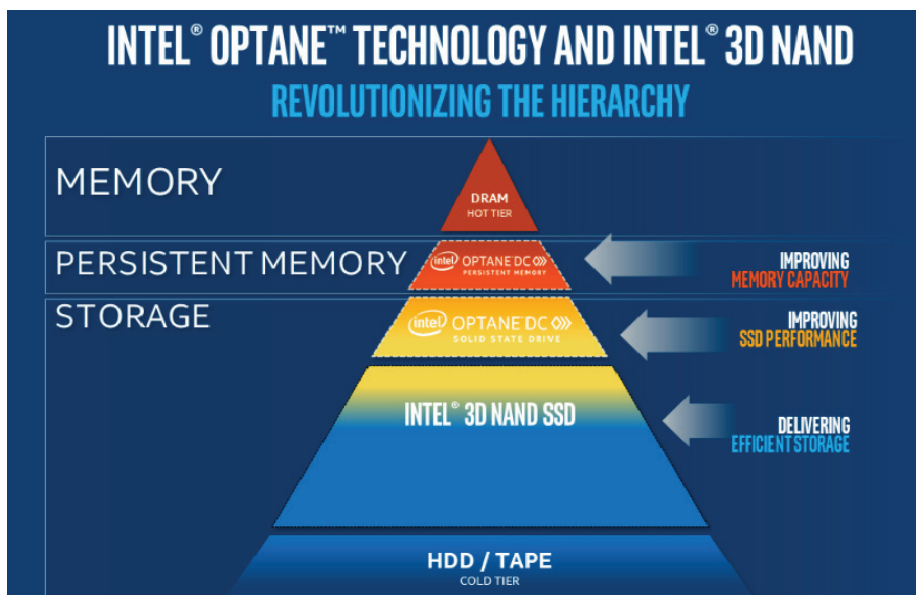| Breakthrough Performance IOPS	High Endurance	Predictably Fast Service QoS	Responsive Under Load Low Latency
UP TO	UP TO	UP TO	UP TO
6x	**20x**	**60x**	**63x**
FASTER AT LOW QUEUE DEPTHS[1]	MORE TOTAL TERABYTES WRITTEN AT SIMILAR CAPACITY[2]	BETTER AT 99% QoS[3]	FASTER RESPONSE TIME UNDER WORKLOAD[4]

ACCELERATE YOUR EXPERIENCE

The first breakthrough in non-volatile memory in over two decades, Intel® Optane™ technology bridges the gap between storage and memory, with higher endurance than NAND and increased density compared to DRAM.

MULTIPLE DESIGNS FOR MULTIPLE USE CASES

Because no two use cases are exactly the same and storage needs vary widely, Intel® Optane™ SSDs come in a variety of form factors to support data center demands.

2 Form Factors
Add-in card (AIC), half height, half length, low profile; U.2 2.5-inch

Intel® Optane™ Technology
Capacities up to 750GB

Up to 550/500k IOPS
4 KB random, queue depth 16, read/write: up to 550/500k IOPS

Latency (typical) R/W
<10µs

NVMe* Interface
Compatible with PCIe*

5-Year Warranty

INTEL® OPTANE™ TECHNOLOGY AND INTEL® 3D NAND
REVOLUTIONIZING THE HIERARCHY

MEMORY — DRAM HOT TIER

PERSISTENT MEMORY — (intel) OPTANE DC PERSISTENT MEMORY — IMPROVING MEMORY CAPACITY

STORAGE — (intel) OPTANE DC SOLID STATE DRIVE — IMPROVING SSD PERFORMANCE

INTEL® 3D NAND SSD — DELIVERING EFFICIENT STORAGE

HDD / TAPE COLD TIER

For more info visit – http://intel.com/optane

THE IDEAL CACHING SOLUTION

Intel OPTANE ⟫⟫

| ↓ LOWER AND MORE CONSISTENT LATENCY | + HIGHER ENDURANCE | = MORE EFFICIENT |

Average Read Latency Under Random Write Workload[4]

■ Intel® Optane™ SSD DC P4800X
■ Intel® SSD DC P4600
⌐ Random Write

8x lower

63x lower

Y-axis (left): 0, 100, 200, 300, 400, 500, 600, 700
Y-axis (right): 200, 400, 600, 800, 1000, 1200, 1400 — Average Read Response Time (us)
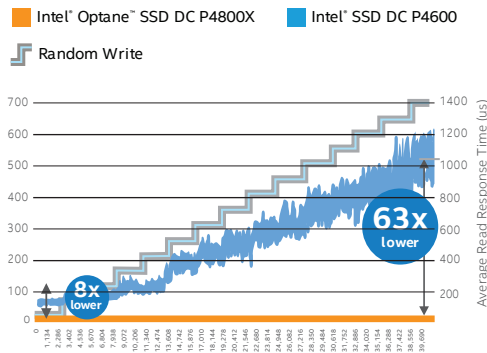
Drive Writes Per Day (DWPD)[5]

Intel® Optane™ SSD DC P4800X **UP TO 60 DWPD**

Intel® SSD DC P4600 (3D NAND) **3.0 DWPD**
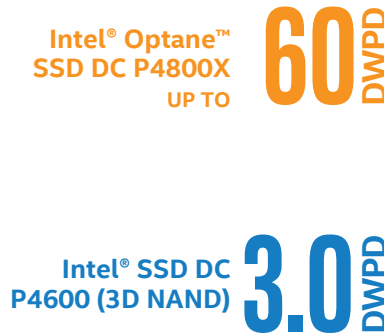
Cache as a % of Storage Capacity[6]

storage — Intel® Optane™ SSD DC P4800X cache

storage — Intel® SSD DC P4600 (3D NAND) cache
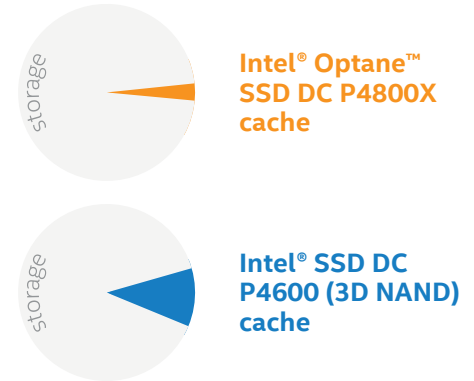
ACCELERATING THE CACHE TIER WITH INTEL® OPTANE™ SSD

VMware vSAN* Solution

Intel® Optane™

VMware vSAN* Yesterday
- CPU — Intel™ Xeon® processor
- ↑
- NAND cache
- NAND storage

Today
- CPU — Intel Xeon Scalable processor
- ↑
- Intel® Optane™ SSD cache
- Intel® 3D NAND SSD

UP TO 63% MORE VMs COMPARED TO ALL-NVMe* FLASH[7]

UP TO 3.6x MORE VMs vs. NVMe* + SATA[8]

UP TO 3x LESS EXPENSIVE $/VM THAN NVMe* + SATA[8]

INTEL® OPTANE™ SSD ON HPE* PLATFORMS

Product	Capacity	HPE Model # PN	HPE Description	Qualified Platforms
Intel® Optane™ SSD DC P4800X	375GB	878014-B21	HPE 375GB NVMe x4 WI SFF SCN DS SSD	Gen 9 & Gen 10 ProLiant DL380, DL360, DL560, ML350 Gen 9 & Gen 10 Apollo 4000, 6000 Gen 9 & Gen 10 HPE Integrity Superdone 2 i6 Server & HPE Integrity rx2800 i6 Server Gen 9 & Gen 10 HPE Synergy 480 (Note: HH Cards not supported)
	750GB	878038-B21 P06952-B21	HPE 750GB PCIe x4 WI HH DS Card HPE 750GB NVMe x4 WI SFF SCN DS SSD	

519/AK/HC   338282-007