

ThinkSystem Intel P5500 Entry NVMe PCIe 4.0 x4 SSDs

Product Guide

The Intel SSD D7-P5500 Series Entry NVMe SSDs are general-purpose yet high-performance drives with a PCIe 4.0 x4 interface. They are designed for greater performance and endurance in a cost-effective design, and to support a broader set of workloads.

The Intel P5500 SSDs are based on Intel-developed controller, firmware, and 96-layer TLC Intel 3D NAND technology. Rigorous qualification and compatibility testing by Lenovo ensures a highly reliable SSD.



Figure 1. ThinkSystem Intel P5500 Entry NVMe PCIe 4.0 x4 SSD (shown without the ThinkSystem hot-swap tray)

Did You Know?

The Intel D7-P5500 SSDs have a PCIe 4.0 (Gen 4) host interface, where sequential performance is doubled over the PCIe 3.0 host interface. The drives are also fully compatible with a PCIe 3.0 host interface providing optimal performance and enabling compatibility across server families.

NVMe (Non-Volatile Memory Express) is a technology that overcomes SAS/SATA SSD performance limitations by optimizing hardware and software to take full advantage of flash technology. Intel Xeon processors efficiently transfer data in fewer clock cycles with the NVMe optimized software stack compared to the legacy Advance Host Controller Interface (AHCI) stack, thereby reducing latency and overhead. These SSDs connect directly to the processor via the PCIe bus, further reducing latency and TCO.

Part number information

The following table lists the ordering part numbers and feature codes for the SSDs.

Table 1. Ordering information

Part number	Feature	Description
2.5-inch hot-swap drives		
4XB7A17145	BCFT	ThinkSystem U.2 Intel P5500 1.92TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD
4XB7A17146	BCFW	ThinkSystem U.2 Intel P5500 3.84TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD
4XB7A17147	BCFU	ThinkSystem U.2 Intel P5500 7.68TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD
3.5-inch hot-swap drives		
4XB7A17149	BCFN	ThinkSystem 3.5" Intel P5500 1.92TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD
4XB7A17150	BCFL	ThinkSystem 3.5" Intel P5500 3.84TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD
4XB7A17151	BCFK	ThinkSystem 3.5" Intel P5500 7.68TB Entry NVMe PCIe 4.0 x4 Hot Swap SSD
Trayless drives		
4XB7A71355	BFPM	ThinkSystem U.2 Intel P5500 1.92TB Entry NVMe PCIe 4.0 x4 Non-Hot Swap SSD Trayless
4XB7A71358	BFPQ	ThinkSystem U.2 Intel P5500 3.84TB Entry NVMe PCIe 4.0 x4 Non-Hot Swap SSD Trayless

The part numbers for the drives include the following items:

- One drive with a hot-swap tray attached
- Publication package

Features

Non-Volatile Memory Express (NVMe) is PCIe high performance SSD technology that provides high I/O throughput and low latency. NVMe interfaces remove SAS/SATA bottlenecks and unleash all of the capabilities of contemporary NAND flash memory. Each NVMe PCI SSD has direct PCIe x4 connection, which provides at significantly greater bandwidth and lower latency than SATA/SAS-based SSD solutions. NVMe drives are also optimized for heavy multi-threaded workloads by using internal parallelism and many other improvements, such as enlarged I/O queues.

With a PCIe 4.0 host interface, the P5500 drives offer significant increase in maximum throughputs supported, from 3.2 GB/s for sequential reads with the P4510 drives to up to 7 GB/s with the P5500 drives, more than double the performance. Sequential writes also increase from 3.0 GB/s with the P4510 to up to 4.3 GB/s with the P5500 drives.

The Intel P5500 NVMe drives have the following key characteristics:

- PCIe 4.0 connection for each NVMe drive
- Also supports PCIe 3.0 host connection for servers with first and second-generation Intel Xeon Scalable processors or with PCIe 3.0 NVMe switch adapters
- Intel 96 layer TLC 3D NAND Flash Memory
- Ultra-low I/O latency, with a read latency as low as of 10 μ s and write latency as low as 12 μ s
- Suitable for read-intensive workloads
- Available in capacities up to 7.68 TB
- Variable sector size and end-to-end data-path protection

- Enhanced power-loss data protection
- Thermal throttling and monitoring
- SMART health reporting

The key metric for solid state drives is their endurance (life expectancy). SSDs have a huge, but finite, number of program/erase (P/E) cycles, which determines how long the drives can perform write operations and thus their life expectancy. Performance SSDs have better endurance than Mainstream SSDs, which in turn have better endurance than Entry SSDs.

SSD write endurance is typically measured by the number of program/erase cycles that the drive can incur over its lifetime, which is listed as TBW in the device specification. The TBW value that is assigned to a solid-state device is the total bytes of written data that a drive can be guaranteed to complete. Reaching this limit does not cause the drive to immediately fail; the TBW simply denotes the maximum number of writes that can be guaranteed.

A solid-state device does not fail upon reaching the specified TBW, but at some point after surpassing the TBW value (and based on manufacturing variance margins), the drive reaches the end-of-life point, at which time the drive goes into read-only mode. Because of such behavior, careful planning must be done to use SSDs in the application environments to ensure that the TBW of the drive is not exceeded before the required life expectancy.

For example, the 3.84TB Intel P5500 drive has an endurance of 7,000 TB of total bytes written (TBW). This means that for full operation over five years, write workload must be limited to no more than 3,836 GB of writes per day, which is equivalent to 1.0 full drive writes per day (DWPD). For the device to last three years, the drive write workload must be limited to no more than 6,393 GB of writes per day, which is equivalent to 1.7 full drive writes per day.

Technical specifications

The following table present technical specifications for the Intel P5500 drives.

Table 2. Technical specifications

Feature	1.92 TB drive	3.84 TB drive	7.68 TB drive
Interface	PCIe 4.0 x4	PCIe 4.0 x4	PCIe 4.0 x4
Capacity	1.92 TB	3.84 TB	7.68 TB
Endurance (total bytes written)	3.5 PB	7.0 PB	14.0 PB
Endurance (drive writes per day over 5 years)	1 DWPD	1 DWPD	1 DWPD
Data reliability	< 1 in 10 ¹⁷ bits read	< 1 in 10 ¹⁷ bits read	< 1 in 10 ¹⁷ bits read
MTBF, hours	2,000,000	2,000,000	2,000,000
IOPS read (4 KB blocks)	400,000	780,000	1,000,000
IOPS write (4 KB blocks)	59,000	118,000	130,000
Sequential read rate (PCIe 4.0)	3.5 GBps	7.0 GBps	7.0 GBps
Sequential write rate (PCIe 4.0)	1.7 GBps	3.5 GBps	4.3 GBps
Read access latency sequential*	10 µs	10 µs	10 µs
Write access latency sequential*	12 µs	12 µs	12 µs
Read access latency random*	78 µs	78 µs	78 µs
Write access latency random*	22 µs	17 µs	15 µs
Shock, operating	1,000 G (Max) at 0.5 ms	1,000 G (Max) at 0.5 ms	1,000 G (Max) at 0.5 ms
Vibration, max, operating	2.17 G _{RMS} (5-700 Hz)	2.17 G _{RMS} (5-700 Hz)	2.17 G _{RMS} (5-700 Hz)
Average power (Active Read / Active Write)	8.5 / 15 W	12.5 / 18 W	12.5 / 20 W

* Latency measured using 4 KB transfer size with queue depth = 1 on a random workload.

Server support

The following tables list the ThinkSystem servers that are compatible.

Table 3. Server support (Part 1 of 2)

Part Number	Description	E	2S Intel V2					AMD				Dense V2			4S V2	8S	
		SE350 (7Z46 / 7D1X)	ST650 V2 (7Z75 / 7Z74)	SR630 V2 (7Z70 / 7Z71)	SR650 V2 (7Z72 / 7Z73)	SR670 V2 (7Z22 / 7Z23)	SR635 (7Y98 / 7Y99)	SR655 (7Y00 / 7Z01)	SR645 (7D2Y / 7D2X)	SR665 (7D2W / 7D2V)	SD630 V2 (7D1K)	SD650 V2 (7D1M)	SD650-N V2 (7D1N)	SN550 V2 (7Z69)	SR850 V2 (7D31 / 7D32)	SR860 V2 (7Z59 / 7Z60)	SR950 (7X11 / 7X12)
2.5-inch hot-swap drives																	
4XB7A17145	ThinkSystem 2.5" U.2 P5500 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
4XB7A17146	ThinkSystem 2.5" U.2 P5500 3.84TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
4XB7A17147	ThinkSystem 2.5" U.2 P5500 7.68TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	N	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	Y	Y
3.5-inch hot-swap drives																	
4XB7A17149	ThinkSystem 3.5" U.2 P5500 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A17150	ThinkSystem 3.5" U.2 P5500 3.84TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	N	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A17151	ThinkSystem 3.5" U.2 P5500 7.68TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N
Trayless drives																	
4XB7A71355	ThinkSystem 2.5" 15mm U.2 P5500 1.92TB Read Intensive NVMe PCIe 4.0 x4 Trayless SSD	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N
4XB7A71358	ThinkSystem 2.5" 15mm U.2 P5500 3.84TB Read Intensive NVMe PCIe 4.0 x4 Trayless SSD	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N	N

Table 4. Server support (Part 2 of 2)

Part Number	Description	1S Intel				2S Intel V1								Dense V1				4S V1		
		ST50 (7Y48 / 7Y50)	ST250 (7Y45 / 7Y46)	SR150 (7Y54)	SR250 (7Y52 / 7Y51)	ST550 (7X09 / 7X10)	SR530 (7X07 / 7X08)	SR550 (7X03 / 7X04)	SR570 (7Y02 / 7Y03)	SR590 (7X98 / 7X99)	SR630 (7X01 / 7X02)	SR650 (7X05 / 7X06)	SR670 (7Y36 / 7Y37)	SD530 (7X21)	SD650 (7X58)	SN550 (7X16)	SN850 (7X15)	SR850 (7X18 / 7X19)	SR850P (7D2F / 2D2G)	SR860 (7X69 / 7X70)
2.5-inch hot-swap drives																				
4XB7A17145	ThinkSystem 2.5" U.2 P5500 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	N	N	N	Y	N	N	N	Y	Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y
4XB7A17146	ThinkSystem 2.5" U.2 P5500 3.84TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	N	N	N	N	N	N	N	Y	Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y
4XB7A17147	ThinkSystem 2.5" U.2 P5500 7.68TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	N	N	N	N	N	N	N	Y	Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y
3.5-inch hot-swap drives																				
4XB7A17149	ThinkSystem 3.5" U.2 P5500 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A17150	ThinkSystem 3.5" U.2 P5500 3.84TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A17151	ThinkSystem 3.5" U.2 P5500 7.68TB Read Intensive NVMe PCIe 4.0 x4 HS SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Trayless drives																				
4XB7A71355	ThinkSystem 2.5" 15mm U.2 P5500 1.92TB Read Intensive NVMe PCIe 4.0 x4 Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
4XB7A71358	ThinkSystem 2.5" 15mm U.2 P5500 3.84TB Read Intensive NVMe PCIe 4.0 x4 Trayless SSD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Storage controller support

NVMe PCIe SSDs require a NVMe drive backplane and some form of PCIe connection to processors. PCIe connections can take the form of either an adapter (PCIe Interposer or PCIe extender/switch adapter) or simply a cable that connects to an onboard NVMe connector.

PCIe 3.0 support: The Intel P5500 drives offer a PCIe 4.0 host interface, however they are backward compatible with a PCIe 3.0 host interface. Note however that servers with a PCIe 3.0 host interface will not see the same performance levels (especially sequential read and write rates). ThinkSystem NVMe switch adapters also provide a PCIe 3.0 host interface to attached drives.

Consult the relevant server product guide for details about required components for NVMe drive support.

Operating system support

The drives support the following operating systems:

Tip: These tables are automatically generated based on data from [Lenovo ServerProven](#).

Table 5. Operating system support for ThinkSystem 2.5" U.2 P5500 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD, 4XB7A17145 (Part 1 of 2)

Operating systems	SR250	SR635	SR645	SR655	SR665	SD530 (Gen 2)	SN550 (Gen 2)	SN850 (Gen 2)	SR570 (Gen 2)	SR590 (Gen 2)	SR630 (Gen 2)	SR650 (Gen 2)	SR850 (Gen 2)	SR850P	SR860 (Gen 2)	SR950 (Gen 2)
Microsoft Windows Server 2012 R2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Microsoft Windows Server 2016	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server 2022	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server version 1709	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Microsoft Windows Server version 1803	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 6.10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 6.9	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.5	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.6	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.8	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.0	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Operating systems	SR250	SR635	SR645	SR655	SR665	SD530 (Gen 2)	SN550 (Gen 2)	SN850 (Gen 2)	SR570 (Gen 2)	SR590 (Gen 2)	SR630 (Gen 2)	SR650 (Gen 2)	SR850 (Gen 2)	SR850P	SR860 (Gen 2)	SR950 (Gen 2)
SUSE Linux Enterprise Server 11 SP4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP3	Y	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N
SUSE Linux Enterprise Server 12 SP3 with Xen	Y	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N
SUSE Linux Enterprise Server 12 SP4	N	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP4 with Xen	N	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP5 with Xen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15	Y	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP1 with Xen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP2 with Xen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP3 with Xen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 with Xen	Y	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ubuntu 18.04 LTS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 20.04 LTS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.0 U3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.5 U1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.5 U2	Y ¹	N	N	N	N	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
VMware vSphere Hypervisor (ESXi) 6.5 U3	Y ¹	Y ¹	N	Y ¹	N	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
VMware vSphere Hypervisor (ESXi) 6.7	Y ¹	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.7 U1	N	N	N	N	N	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
VMware vSphere Hypervisor (ESXi) 6.7 U2	Y ¹	N	N	N	N	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
VMware vSphere Hypervisor (ESXi) 6.7 U3	Y ¹	Y ¹	Y	Y ¹	Y	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹

Operating systems	SR250	SR635	SR645	SR655	SR665	SD530 (Gen 2)	SN550 (Gen 2)	SN850 (Gen 2)	SR570 (Gen 2)	SR590 (Gen 2)	SR630 (Gen 2)	SR650 (Gen 2)	SR850 (Gen 2)	SR850P	SR860 (Gen 2)	SR950 (Gen 2)
VMware vSphere Hypervisor (ESXi) 7.0	Y ¹	Y ¹	Y	Y ¹	Y	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
VMware vSphere Hypervisor (ESXi) 7.0 U1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0 U2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

¹ VMware ESXi boot support: It is currently not supported to install the bootable Lenovo VMware Customized Image on P5500 drives. Support is planned for late 4Q2020.

Table 6. Operating system support for ThinkSystem 2.5" U.2 P5500 1.92TB Read Intensive NVMe PCIe 4.0 x4 HS SSD, 4XB7A17145 (Part 2 of 2)

Operating systems	SD630 V2	SN550 V2	SR630 V2	SR650 V2	SR670 V2	SR850 V2	SR860 V2	ST650 V2	SD530 (Gen 1)	SN550 (Gen 1)	SN850 (Gen 1)	SR570 (Gen 1)	SR590 (Gen 1)	SR630 (Gen 1)	SR650 (Gen 1)	SR850 (Gen 1)	SR860 (Gen 1)	SR950 (Gen 1)
Microsoft Windows Server 2012 R2	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server 2016	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server 2022	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server version 1709	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server version 1803	N	N	N	N	N	N	N	N	Y	Y	N	N	N	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 6.10	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 6.9	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.3	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y	Y	Y	N	Y
Red Hat Enterprise Linux 7.4	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.5	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.6	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.7	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.8	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.0	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.1	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.4	N	N	N	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 11 SP4	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP2	N	N	N	N	N	N	N	N	Y	N	Y	N	N	Y	Y	Y	N	Y
SUSE Linux Enterprise Server 12 SP3	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Operating systems	SD630 V2	SN550 V2	SR630 V2	SR650 V2	SR670 V2	SR850 V2	SR860 V2	ST650 V2	SD530 (Gen 1)	SN550 (Gen 1)	SN850 (Gen 1)	SR570 (Gen 1)	SR590 (Gen 1)	SR630 (Gen 1)	SR650 (Gen 1)	SR850 (Gen 1)	SR860 (Gen 1)	SR950 (Gen 1)
SUSE Linux Enterprise Server 12 SP3 with Xen	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP4	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP4 with Xen	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP5 with Xen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP1	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP1 with Xen	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP2 with Xen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP3	N	N	N	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP3 with Xen	N	N	N	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 with Xen	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ubuntu 18.04 LTS	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 20.04 LTS	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.0 U3	N	N	N	N	N	N	N	N	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
VMware vSphere Hypervisor (ESXi) 6.5	N	N	N	N	N	N	N	N	Y ¹	Y ¹	Y ¹	N	N	Y ¹	Y ¹	Y ¹	N	Y ¹
VMware vSphere Hypervisor (ESXi) 6.5 U1	N	N	N	N	N	N	N	N	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
VMware vSphere Hypervisor (ESXi) 6.5 U2	N	N	N	N	N	N	N	N	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
VMware vSphere Hypervisor (ESXi) 6.5 U3	N	N	N	N	N	N	N	N	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
VMware vSphere Hypervisor (ESXi) 6.7	N	N	N	N	N	N	N	N	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
VMware vSphere Hypervisor (ESXi) 6.7 U1	N	N	N	N	N	N	N	N	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
VMware vSphere Hypervisor (ESXi) 6.7 U2	N	N	N	N	N	N	N	N	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
VMware vSphere Hypervisor (ESXi) 6.7 U3	Y	Y	Y	Y	Y	N	N	Y	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
VMware vSphere Hypervisor (ESXi) 7.0	N	N	N	N	N	N	N	N	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹	Y ¹
VMware vSphere Hypervisor (ESXi) 7.0 U1	N	N	N	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Operating systems	SD630 V2	SN550 V2	SR630 V2	SR650 V2	SR670 V2	SR850 V2	SR860 V2	ST650 V2	SD530 (Gen 1)	SN550 (Gen 1)	SN850 (Gen 1)	SR570 (Gen 1)	SR590 (Gen 1)	SR630 (Gen 1)	SR650 (Gen 1)	SR850 (Gen 1)	SR860 (Gen 1)	SR950 (Gen 1)
VMware vSphere Hypervisor (ESXi) 7.0 U2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

¹ VMware ESXi boot support: It is currently not supported to install the bootable Lenovo VMware Customized Image on P5500 drives. Support is planned for late 4Q2020.

Warranty

The SSDs carry a 1-year, customer-replaceable unit (CRU) limited warranty. When installed in a supported Lenovo server, these drives assume the system's base warranty and any warranty upgrade.

Solid State Memory cells have an intrinsic, finite number of program/erase cycles that each cell can incur. As a result, each solid state device has a maximum amount of program/erase cycles to which it can be subjected. The warranty for Lenovo solid state drives (SSDs) is limited to drives that have not reached the maximum guaranteed number of program/erase cycles, as documented in the Official Published Specifications for the SSD product. A drive that reaches this limit may fail to operate according to its Specifications.

Physical specifications

The Intel P5500 drives have the following physical dimensions and weight:

- Height: 15 mm (0.6 in.)
- Width: 70 mm (2.8 in.)
- Depth: 100 mm (4.0 in.)
- Weight: 146 g (5.15 oz)

Operating environment

The Intel P5500 drives are supported in the following environment:

- Temperature (operational): 0 to 70 °C (32 to 158 °F) at 0 to 3,048 m (0 to 10,000 ft)
- Relative humidity: 5 to 90% (non-condensing)
- Maximum altitude (operational): 3,048 m (10,000 ft)
- Shock: 1,000 G (Max) at 0.5 ms
- Vibration: 2.17 G_{RMS} (5-700 Hz)

Agency approvals

The Intel P5500 drives conform to the following regulations:

- FCC Title 47, Part 15B, Class B
- CA/CSA-CEI/IEC CISPR 22:02
- EN 55024: 1998
- EN 55022: 2006
- EN-60950-1 2nd Edition
- UL/CSA EN-60950-1 2nd Edition
- Low Voltage Directive 2006/95/EC
- C-Tick: AS/NZS3584
- BSMI: CNS 13438
- KCC Article 11.1
- RoHS DIRECTIVE 2011/65/EU
- WEEE Directive 2002/96/EC

Related publications and links

For more information, see the following documents:

- Storage Options for ThinkSystem Servers
<https://lenovopress.com/lp0761-storage-options-for-thinksystem-servers>
- ServerProven
<http://www.lenovo.com/us/en/serverproven>
- Intel D7-P5500 product brief
<https://www.intel.com/content/www/us/en/products/memory-storage/solid-state-drives/data-center-ssds/d7-series/d7-p5500-series.html>

Related product families

Product families related to this document are the following:

- [Drives](#)

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This document, LP1353, was created or updated on May 13, 2021.

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