ThinkStation P520 Platform Specifications

Components	Specification
Form factor	33L Tower
Dimensions	165mm/6.5" W x 460mm/18.1" D x 440mm/17.3" H (with feet)
Weight	Maximum configuration: 52.91 lb (24kg)
Processor	Up to one 140W Intel Xeon W family processor. Up to 18 cores at 2.3GHz, up to 4.0GHz with 4 cores. Memory speed up to DDR4-2666
Chipset	Intel C422 Chipset
Memory	8 DIMM sockets with 4 channels. RDIMMs. DDR4-2666
Memory capacity	Up to 256GB with 8 x 32GB RDIMMs
Memory protection	ECC
Graphics	Two PCIe 3.0 x16 slots (see Expansion slots section). Up to two NVIDIA Quadro P6000 (900W PSU is needed). Supports the following graphics adapters:

Adapter	Cores	Memory	Power	Connector	SLI
NVS 310	48	1GB	19.5W	2xDP	
NVS 315	48	1GB	19.3W	2xDVI-I SL/2xDP	
NVS 510	192	2GB	33.4W	4xmini DP	
NVS 810	1024	4GB	68W	8xmini DP	
Quadro P400	256	2GB	30W	3xminiDP	
Quadro P600	384	2GB	45W	4xminiDP	
Quadro P1000	640	4GB	50W	4xminiDP	
Quadro P2000	1024	5GB	75W	4xDP	
Quadro P4000	1792	8GB	120W	4xDP	
Quadro P5000	2560	16GB	180W	DVI-D DL+4xDP	SLI
Quadro P6000	3840	24GB	250W	DVI-D DL+4xDP	

Storage controllers	Integrated Intel SATA AHCI/RAID controller in chipset, 6Gbps SATA, RAID 0/1/10/5. Integrated Intel PCIe host in processor for M.2 PCIe NVMe drives, optional RAID 0/1/10 with Intel NVMe RAID upgrade basic, optional RAID 0/1/10/5 with Intel NVMe RAID upgrade premium. Optional Broadcom 9440-8i, PCIe adapter, 12Gbps, SATA/SAS, RAID 0/1/10/5. Or optional Broadcom 9460-16i with 4GB DDR4 memory and SuperCap, PCIe adapter, 12Gbps, SATA/SAS, RAID 0/1/10/5/6
5.25" flex bay	Two 5.25" flex bays, supports the following options: • Up to two half-height optical drives. • Up to two 5.25" slim ODD cages. • Up to two 5.25" slim ODD and HDD cages. • Up to one Front Access Storage Enclosure. • Up to one flex module for one or more of the following options: 9.0mm optical/ 15-in-1 USB 3.0 reader/front eSATA/front Thunderbolt/4-digit diagnostic display *Note: Only one can be supported from 15-in-1 reader, Thunderbolt, and 4-digit display*
Disk drive bays	Up to four internal 3.5" drive bays. Two standard, two optional. Each bay supports one 3.5" or 2.5" disk. Up to two 2.5" or 3.5" SATA/SAS disk drives on 5.25" flex bays via 5.25" Front Access Storage Enclosure supports SATA or 5.25" slim ODD and HDD cage
M.2 slots	Up to 9 x M.2 PCIe NVMe SSD: • Two onboard M.2 slots. • Up to one full height, full length PCIe 3.0 x16 adapter, supports four M.2 slots. • Up to three PCIe 3.0 x4 adapters, each adapter supports one M.2 slot Supports RAID 0/1 on onboard M.2 disks and RAID 0/1/10/5 on quad M.2 PCIe x16 adapter, optional NVMe RAID upgrade is needed
Internal storage	HDD 7.2K 3.5" SATA6Gbps: 1TB/2TB/4TB/6TB SSD 2.5" SATA6Gbps: 256GB Opal/512GB/512GB Opal/1TB Opal/2TB Opal M.2 PCIe NVMe, PCIe 3.0 x4: 256GB Opal/512GB Opal/1TB Opal
Media reader	9-in-1 USB 2.0 card reader on most models. Optional UHS-II 15-in-1 USB 3.0 reader on flex module
Network interfaces	Integrated one gigabit ethernet (Intel i219LM), supports Wake-on-LAN. Optional PCIe ethernet or wireless adapters are available
Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant, switch to 1.2 via UEFI setting. Optional access panel lock, Kensington lock, and pad lock
Systems management	Intel Active Management Technology 11. Front panel warning LED. ThinkStation Diagnostics for Windows. Photo-audio transfer with Lenovo PC Diagnostics for Android and iOS. Optional front 4-digit diagnostic display on flex module

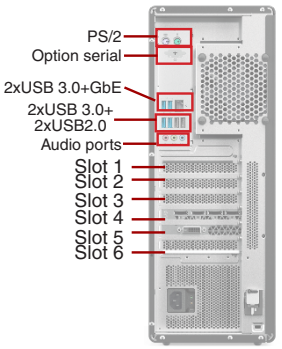
Components	Specification
Base warranty	1 or 3-year limited onsite service with 9x5/NBD
HD Audio	Realtek ALC662 codec for rear audio ports, Realtek ALC233 codec for front audio port
Front ports	Four USB 3.0 (includes one 11W charging), one combo audio/microphone jack (3.5mm)
Rear ports	Two USB 2.0, four USB 3.0, one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), two PS/2
Optional ports	Supports the following optional ports: • Optional COM port • Two USB Type-C ports via PCIe adapter, USB 3.1 gen 2. One 15W, one 5W • Two Thunderbolt ports (USB Type-C) on flex module, one of two ports supports video-out. • One eSATA on flex module • One internal USB 3.0 port
Power supply	One fixed 690W or 900W, autosensing, 92%, 80 PLUS Platinum qualified
Environmental specification	

Temperature - operating	50 °F to 95 °F (10 °C to 35 °C)
Temperature - non operating (no package)	14 °F to 140 °F (-10 °C to 60 °C)
Temperature - non operating (with package)	-40 °F to 140 °F (-40 °C to 60 °C)
Altitude - operating	(Unpressurized): -50ft-10000ft (-15.2m-3048m)
Humidity - operating	10%~80%, non-condensing
Humidity - storage (with package)	10%~90%, non-condensing

RoHS-compliant. GREENGUARD. EPEAT Gold rating and ENERGY STAR 6.1 qualified on following models:

Model	30BE0008US	30BE0009US
Processor	Intel Xeon W-2123	Intel Xeon W-2123
Memory	2 x 8GB RDIMM DDR4-2666 ECC	2 x 8GB RDIMM DDR4-2666 ECC
Disks	2x1TB HDD 7.2K 3.5" SATA6Gbps	2 x 256GB SSD 2.5" SATA6Gbps Opal
Graphics	NVIDIA Quadro P400 2GB	NVIDIA Quadro P4000 8GB
Optical	HH DVD±RW	HH DVD±RW
PSU	690W	690W
OS	Win10 Pro 64	Win10 Pro 64

ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/



Note: All expansion cards are optional

Expansion slots

Slot 1 (CPU)	PCIe 3.0 x8, full height, full length, 25W, open ended
Slot 2 (CPU)	PCIe 3.0 x16, full height, full length, 75W, double-width
Slot 3 (PCH)	PCIe 3.0 x4, full height, half length, 25W, open ended
Slot 4 (CPU)	PCIe 3.0 x16, full height, full length, 75W, double-width
Slot 5	PCI, full height, full length, 25W
Slot 6 (PCH)	PCIe 3.0 x4, full height, half length, 25W, open ended