

ThinkStation P520 30BE00GRUS

Product

ThinkStation P520

Region

NA

Country/Region

USA

Machine Type

30BE

TopSeller

TopSeller

Processor

Intel Xeon W-2275 (14C / 28T, 3.3 / 4.6GHz, 19.25MB)

Discrete Graphics

None

Chipset

Intel C422

Memory

4x 16GB RDIMM DDR4-2933 ECC

HDD Controller

Onboard Intel RSTe SATA

M.2 SSD RAID Controller

RAID 0/1

Internal Disk Drive

None

M.2 SSD Drive

1x 1TB SSD M.2 PCIe NVMe Opal

PCIe SSD Adapter

None

Optical

1x HH DVD±RW

Card Reader

SD Reader

Onboard Ethernet

1x GbE RJ-45

Optional Ethernet

None

WLAN + Bluetooth

None

Optional Front Ports

None

Optional Rear Ports

None

Optional Internal Ports

None

Chassis Intrusion Switch

None

Cover Lock

Lock Kit with Common Key

Keyboard

USB Traditional Keyboard, Black, English

Mouse

USB Calliope Mouse

Power Supply

1000W Platinum Fixed

Diagnostic

None

System Management

Intel vPro with AMT 11, DASH

Operating System

Linux Ubuntu

Bundled Software

None

Base Warranty

3-year, Onsite

Bundled Service

3Y Premier Support Upgrade from 3Y Onsite (5WS0U26649)

EAN / UPC / JAN

195477110953

End of Support

2028-01-07

Announce Date

2020-10-20

Recommended Services**Best**

5Y Premier Support upgrade from 3Y Premier Support (5WS0W86668)

Better

4Y Premier Support upgrade from 3Y Premier Support (5WS0W86673)

Notes:**California Electronic Waste Recycling Fee**

In California, per state law, Lenovo charges an electronic waste recycling fee on this covered device at the time of sale of the product. For more information, go to: <https://www.calrecycle.ca.gov/Electronics/Consumer>

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ThinkStation P520 Platform Specifications - I of II

| | | | | | | | |
|----------------------------|--|---|------------------------|---------------------|--------------------|-----------|--------------|
| 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 Support | Processor | # of Cores | # of Threads | Base Frequency | Cache | TDP | Memory Types |
| | Xeon W-2295 | 18 | 36 | 3.0GHz | 24.75MB | 165W | DDR4-2933 |
| | Xeon W-2275 | 14 | 28 | 3.3GHz | 19.25MB | 165W | DDR4-2933 |
| | Xeon W-2265 | 12 | 24 | 3.5GHz | 19.25MB | 165W | DDR4-2933 |
| | Xeon W-2255 | 10 | 20 | 3.7GHz | 19.25MB | 165W | DDR4-2933 |
| | Xeon W-2245 | 8 | 16 | 3.9GHz | 16.5MB | 155W | DDR4-2933 |
| | Xeon W-2235 | 6 | 12 | 3.8GHz | 8.25MB | 130W | DDR4-2933 |
| | Xeon W-2225 | 4 | 8 | 4.1GHz | 8.25MB | 105W | DDR4-2933 |
| | Xeon W-2223 | 4 | 8 | 3.6GHz | 8.25MB | 120W | DDR4-2666 |
| | Xeon W-2195 | 18 | 36 | 2.3GHz | 24.75MB | 140W | DDR4-2666 |
| | Xeon W-2175 | 14 | 28 | 2.5GHz | 19MB | 140W | DDR4-2666 |
| | Xeon W-2155 | 10 | 20 | 3.3GHz | 13.75MB | 140W | DDR4-2666 |
| | Xeon W-2145 | 8 | 16 | 3.7GHz | 11MB | 140W | DDR4-2666 |
| | Xeon W-2135 | 6 | 12 | 3.7GHz | 8.25MB | 140W | DDR4-2666 |
| | Xeon W-2133 | 6 | 12 | 3.6GHz | 8.25MB | 140W | DDR4-2666 |
| | Xeon W-2125 | 4 | 8 | 4.0GHz | 8.25MB | 120W | DDR4-2666 |
| | Xeon W-2123 | 4 | 8 | 3.6GHz | 8.25MB | 120W | DDR4-2666 |
| Xeon W-2104 | 4 | 4 | 3.2GHz | 8.25MB | 120W | DDR4-2400 | |
| Xeon W-2102 | 4 | 4 | 2.9GHz | 8.25MB | 120W | DDR4-2400 | |
| Processor Sockets | 1x FCLGA2066 | | | | | | |
| Chipset | Intel C422 Chipset | | | | | | |
| Memory Sockets | 8 DIMM sockets with 4 channels | | | | | | |
| Memory Types | DDR4-2666 RDIMM or DDR4-2933 RDIMM | | | | | | |
| Memory Capacity | 512GB with 8 x 64GB DDR4-2933 RDIMMs | | | | | | |
| Memory Protection | ECC | | | | | | |
| 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 | | | | | |
| Discrete Graphics Offering | Graphics | Memory | Power | Connector | SLI / NVlink | Max Qty | |
| | NVS 810 | 4GB DDR3 | 68W | 8xmini DP | | 2 | |
| | Quadro P400 | 2GB GDDR5 | 30W | 3xminiDP | | 2 | |
| | Quadro P600 | 2GB GDDR5 | 45W | 4xminiDP | | 2 | |
| | Quadro P620 | 2GB GDDR5 | 40W | 4xminiDP | | 2 | |
| | Quadro P1000 | 4GB GDDR5 | 50W | 4xminiDP | | 2 | |
| | Quadro P2000 | 5GB GDDR5 | 75W | 4xDP | | 2 | |
| | Quadro P4000 | 8GB GDDR5 | 120W | 4xDP | | 2 | |
| | Quadro P5000 | 16GB GDDR5X | 180W | DVI-D DL+4xDP | SLI | 2 | |
| | Quadro P6000 | 24GB GDDR5X | 250W | DVI-D DL+4xDP | | 1 | |
| | Quadro RTX 4000 | 8GB GDDR6 | 160W | 3xDP, 1xVirtualLink | | 2 | |
| | Quadro RTX 5000 | 16GB GDDR6 | 265W | 4xDP, 1xVirtualLink | NVLink | 2 | |
| | Quadro RTX 6000 | 24GB GDDR6 | 295W | 4xDP, 1xVirtualLink | NVLink | 2 | |
| | Quadro RTX 8000 | 48GB GDDR6 | 295W | 4xDP, 1xVirtualLink | | 1 | |
| | Quadro GP100 | 16GB HBM2 | 235W | 1xDVI-D DL, 4xDP | NVLink | 2 | |
| Quadro GV100 | 32GB HBM2 | 250W | 4xDP | | 1 | | |
| Storage Controller | Storage Controller | Type | Interface | RAID | Cache | | |
| | Onboard Intel RSTe | Std | SATA 6Gb/s | 0/1/10/5 | | | |
| | 9440-8i PCIe | Opt | SAS 12Gb/s, SATA 6Gb/s | 0/1/10/5 | | | |
| | 9460-16i PCIe | Opt | SAS 12Gb/s, SATA 6Gb/s | 0/1/10/5/6 | 4GB DDR4, SuperCap | | |
| | NVMe Basic | Opt | PCIe NVMe | 0/1/10 | | | |
| | NVMe Premium | Opt | PCIe NVMe | 0/1/10/5 | | | |
| NVMe for Intel SSD | Opt | PCIe NVMe | 0/1/10/5 | | | | |

| | | | | | |
|--------------------|--|---|-------|----------------------------------|---------|
| Storage Support | Disk Type | Interface | RPM | Offering | Max Qty |
| | 3.5" SATA HDD | SATA 6Gb/s | 7.2K | 1TB/2TB/4TB/6TB | 6 |
| | 2.5" SATA HDD | SATA 6Gb/s | 7.2K | 500GB/500GB FIPS | 6 |
| | 2.5" SATA SSD | SATA 6Gb/s | | 256GB/512GB/1TB/2TB | 6 |
| | 2.5" SAS HDD | SAS 12Gb/s | 10K | 300GB/600GB | 4 |
| | M.2 PCIe SSD | PCIe NVMe | | 256GB/512GB/1TB/2TB | 9 |
| PCIe AIC SSD | PCIe NVMe | | 480GB | 2 (1 when quad M.2 adapter used) | |
| Storage Bays | Bay Type | Maximum Drives Qty | | | |
| | M.2 slot | 9x M.2 SSD (2 onboard, 7 via PCIe to M.2 adapter) | | | |
| | Flex Bay | 2 flex bays. Supports the following: <ul style="list-style-type: none"> • 2x half-height optical drives • 2x 5.25" 9.0mm optical drives • 1x 5.25" 9.0mm optical drive + 2x 3.5"/2.5" SATA SSD/HDD • 1x 3.5"/2.5" SATA SSD/HDD with Front Access Storage Enclosure • 1x flex module for the following options: <ul style="list-style-type: none"> Tray 1: 9.0mm optical Tray 2: 15-in-1 USB 3.1 Gen 1 reader, 2x Thunderbolt, or 4-digit diagnostic display Port 1 and 2: Front USB 3.1 Gen 1 Type-C or eSATA • 2x M.2 SSD with 2x Front Removable Drive Enclosures | | | |
| | Disk bay | Up to 4x 3.5" or 2.5" disks with 4 disk bays (2 bays standard, 2 bays optional) | | | |
| Max Storage | Supports up to 9x M.2 SSD + 6x 3.5" HDD/6x 2.5" SATA disks/4x 2.5" SAS HDD + 1x PCIe AIC SSD. | | | | |
| | All HDD: 36TB using 6x 3.5" HDD All SSD: 30.48TB using 6x 2.5" SATA SSD, 9x M.2 SSD, and 1x PCIe AIC SSD | | | | |
| Power supply | Supports one of the following: <ul style="list-style-type: none"> • One fixed 690W, autosensing, 92%, 80 PLUS Platinum qualified • One fixed 900W, autosensing, 92%, 80 PLUS Platinum qualified • One fixed 1000W, autosensing, 92%, 80 PLUS Platinum qualified | | | | |
| Media reader | USB 2.0 9-in-1 card reader on most models. Optional UHS-II 15-in-1 USB 3.1 Gen 1 reader on flex module | | | | |
| Network interfaces | Integrated one gigabit ethernet (Intel i219LM), supports Wake-on-LAN. Optional PCIe ethernet or wireless adapters are available | | | | |
| WLAN + Bluetooth | Optional Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to 867Mbps | | | | |
| 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 | | | | |
| Intel vPro | Intel vPro technology supported. vPro requires Wireless-AC 8265 if Wi-Fi is needed | | | | |
| Intel AMT | Intel Active Management Technology 11 | | | | |
| Diagnostic | Front panel warning LED. ThinkStation Diagnostics for Windows. Photo-audio transfer with Lenovo PC Diag-nostics for Android and iOS. Optional front 4-digit diagnostic display on flex module | | | | |
| Base warranty | 1 or 3-year limited onsite service with 9x5/NBD | | | | |
| HD Audio | Realtek ALC662 codec | | | | |
| Front ports | 4x USB 3.1 Gen 1 (includes one 11W charging), 1x combo audio/microphone jack (3.5mm) | | | | |
| Rear ports | 2x USB 2.0, 4x USB 3.1 Gen 1, 1x RJ-45, 3x analog audio ports (line-in, line-out, mic-in), 2x PS/2 | | | | |
| Optional ports | Front: <ul style="list-style-type: none"> • 2x Thunderbolt ports (USB Type-C) on flex module, one of two ports supports video-out • 1x eSATA on flex module • 1x USB Type-C on flex module, USB 3.1 Gen 1 | | | | |
| | Rear: <ul style="list-style-type: none"> • 1x COM port • 2x USB Type-C ports via PCIe adapter, USB 3.1 gen 2. One 15W, one 5W | | | | |
| | Internal: <ul style="list-style-type: none"> • 1x internal USB 3.1 Gen 1 port | | | | |



ThinkStation P520 Platform Specifications - II of II

Product Specifications Reference (PSREF)

| | | |
|------------------------------|---|---|
| Environmental specification | Temperature - operating | 50 °F to 95 °F (10 °C to 35 °C) |
| | Temperature - storage (no package) | 14 °F to 140 °F (-10 °C to 60 °C) |
| | Temperature - storage (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 |
| Environmental Certifications | RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 8.0 qualified on selected models | |
| ISV certifications | Please visit www.thinkworkstations.com/isv-certifications/ | |

Note:

1. Depending on many factors, actual data transfer speed mentioned on this page may be lower than theoretical speed.
2. To support the maximum expandability, 900W power supply may be needed.
3. Any questions or advice on ThinkStation PSREF, please contact [ThinkStation PSREF developer](#)



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