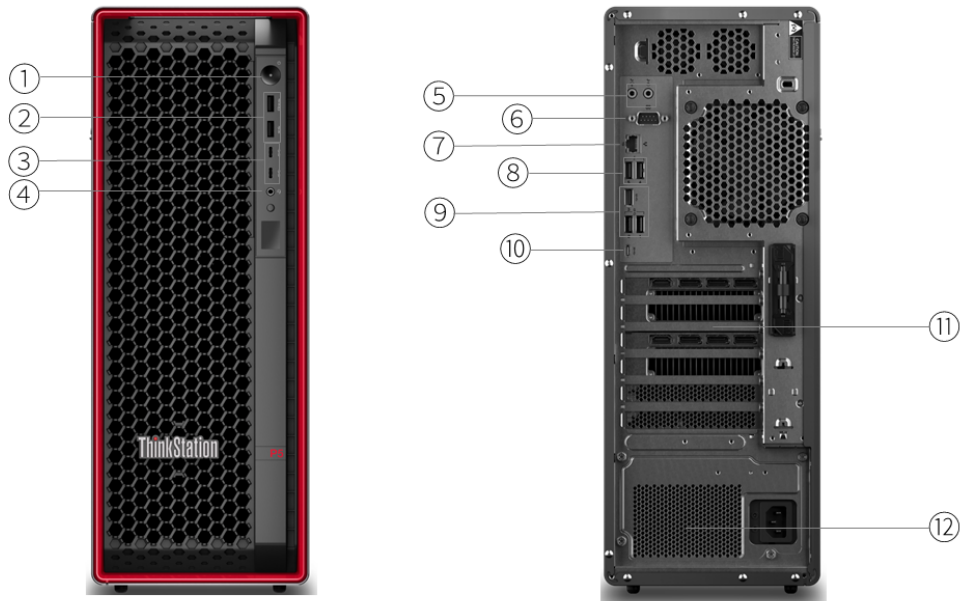


OVERVIEW



1. Power button	7. Ethernet (GbE RJ-45)
2. 2x USB 3.2 Gen 2 (one Always On) *	8. 2x USB 2.0
3. 2x USB-C 3.2 Gen 2 *	9. 3x USB 3.2 Gen 2
4. Headphone (3.5mm)	10. 1x USB-C 3.2 Gen 2x2
5. 2x Audio ports (line-out and line-in)	11. PCIe slots
6. Serial (9-pin) *	12. Power supply

Notes:

- Items with * are only available on selected models
- Expansion cards are optional. More ports are available through the optional expansion cards

PERFORMANCE

Processor

Processor Family

Up to one Intel® Xeon® W-2400 Series processor, supports up to 24 cores, up to 4.8GHz

Processor**^[1]

Processor Name	Cores	Threads	Base Frequency	Max Frequency	Cache	Memory Support
Xeon w3-2423	6	12	2.1GHz	4.2GHz	15MB	DDR5-4400
Xeon w3-2425	6	12	3.0GHz	4.4GHz	15MB	DDR5-4400
Xeon w3-2435	8	16	3.1GHz	4.5GHz	22.5MB	DDR5-4400
Xeon w5-2445	10	20	3.1GHz	4.6GHz	26.25MB	DDR5-4800
Xeon w5-2455X	12	24	3.2GHz	4.6GHz	30MB	DDR5-4800
Xeon w5-2465X	16	32	3.1GHz	4.7GHz	33.75MB	DDR5-4800
Xeon w7-2475X	20	40	2.6GHz	4.8GHz	37.5MB	DDR5-4800
Xeon w7-2495X	24	48	2.5GHz	4.8GHz	45MB	DDR5-4800

Processor Sockets

1x FCLGA4677

Notes:

[1] Intel Max Turbo frequency will vary depending on application workload and the hardware and software configurations, see

<http://www.intel.com/technology/turboboost/> for more information.

Operating System

Operating System**

- Red Hat Enterprise Linux 9.2 (certified only, for detailed and latest information, please visit [Red Hat Certified Hardware](#))
- Windows® 11 DG Windows 10 Pro 64 for Workstations
- Windows 11 Pro for Workstations
- No operating system

Graphics

Discrete Graphics Support^[1]

Supports up to two NVIDIA® RTX A5500 with NVLink

Discrete Graphics Offering

Graphics	Memory	Power	Connector	Form Factor	SLI / NVLink
NVIDIA T400 4GB	4GB GDDR6	40W	3x miniDP 1.4	Single slot	None
NVIDIA T1000 8GB	8GB GDDR6	50W	4x miniDP 1.4	Single slot	None
NVIDIA RTX A2000 12GB	12GB GDDR6	70W	4x miniDP 1.4a	Dual slot	None
NVIDIA RTX A4000	16GB GDDR6 with ECC	140W	4x DP 1.4a	Single slot	None
NVIDIA RTX A4500	20GB GDDR6 with ECC	200W	4x DP 1.4	Dual slot	NVLink
NVIDIA RTX A5500	24GB GDDR6 with ECC	230W	4x DP 1.4a	Dual slot	NVLink

Notes:

[1] Discrete graphics support may vary by configurations such as processor selection or power supply wattage.

Monitor Support

Monitor Support

Supports multiple displays via discrete graphics, the number of maximum monitors supported depends on the graphic card in use

Chipset

Chipset

Intel W790 chipset

Memory

Max Memory^[1]

Up to 512GB (8x 64GB RDIMM)

Memory Type^[2]

DDR5-4800 RDIMM ECC

Memory Slots

8 DDR5 DIMM slots, 4 channels capable

Memory Protection

ECC

Notes:

[1] The max memory is based on the test results with current Lenovo® memory offerings.

[2] System comes with DDR5-4800 memory and some configurations will run at DDR5-4400 due to platform limitations.

Storage

Storage Support^{[1][2]}

Up to ten drives (3x 3.5" SATA HDD + 7x M.2 SSD)

- 3.5" HDD up to 12TB each
- M.2 SSD up to 4TB or 2TB each (see Storage Type)

Storage Type**

Disk Type	Interface	RPM	Offering	Security
3.5" SATA HDD	SATA 6Gb/s	7.2K	2TB / 6TB / 12TB	-
M.2 2280 SSD for Onboard / Front access M.2	PCIe® NVMe®, PCIe 4.0 x4 Performance	-	512GB / 1TB / 2TB / 4TB	Opal 2.0
M.2 2280 SSD for quad M.2 to PCIe adapter ^[3]	PCIe NVMe, PCIe 4.0 x4 Performance	-	512GB / 1TB / 2TB	Opal 2.0

Storage Controllers^[4]

Storage Controller	Type	Interface	RAID	Cache
Onboard Intel RSTe SATA RAID	Standard	SATA 6.0Gb/s	0/1/5	None
Integrated NVMe controller	Standard	PCIe NVMe	-	None
NVMe Basic	Optional	PCIe NVMe	0/1/10	None
NVMe Premium	Optional	PCIe NVMe	0/1/10/5	None

Notes:

[1] The storage capacity supported is based on the test results with current Lenovo storage offerings.

[2] For certain post-manufacturing storage upgrades, additional upgrade kits may be required.

[3] M.2 2280 SSD for quad M.2 to PCIe adapter is PCIe 4.0 x4, and the 4x M.2 slots on quad M.2 to PCIe adapter are PCIe 3.0 x4. See M.2 Slots section for more information.

[4] As planned, RAID for SATA and NVMe SSD will be available on July 2023.

Removable Storage

Card Reader

- 15-in-1 card reader
- No card reader

Multi-Media

Audio Chip

High Definition (HD) Audio, Realtek® ALC897-Q codec

Speakers

Single speaker, 1.5W x1

Power Supply**Power Supply****

Power	Type	Efficiency	Key Features
750W	Fixed	92%	Autosensing, 80 PLUS Platinum qualified
1000W	Fixed	92%	Autosensing, 80 PLUS Platinum qualified

DESIGN**Mechanical****Form Factor**

Tower (33L)

Dimensions (WxDxH)^[1]

165 x 453.9 x 446 mm (6.5 x 17.9 x 17.6 inches, with feet)

Weight^[2]

19 kg (41.9 lbs, maximum configuration)

Bays

Three internal disk bays plus one front access M.2 bay:

- Bay 1 supports one 3.5" HDD, standard
- Bay 2 supports one 3.5" HDD, standard
- Bay 3 supports one 3.5" HDD, optional
- Front access M.2 bay supports one M.2 SSD, optional

M.2 Slots

Up to 7x M.2 SSD:

- 2 via onboard slots, PCIe 4.0 x4
- 4 via Quad M.2 to PCIe adapter, PCIe 3.0 x4
- 1 via front access M.2 bay, PCIe 4.0 x4

Expansion Slots

Supports 6 PCIe slots with 2x PCIe 5.0 slots and 4x PCIe 4.0 slots.

- Slot 1: PCIe 5.0 x16, full height, full length, 75W, double-width, by CPU
- Slot 2: PCIe 4.0 x4, full height, full length, 25W, by PCH
- Slot 3: PCIe 5.0 x16, full height, full length, 75W, double-width, by CPU
- Slot 4: PCIe 4.0 x4, full height, full length, 25W, by PCH
- Slot 5: PCIe 4.0 x8, full height, full length, 25W, by CPU
- Slot 6: PCIe 4.0 x4, full height, full length, 25W, by PCH

Notes:

[1] The system dimensions may vary depending on configurations.

[2] The system weight is approximate and based on results in Lenovo lab, which varies depending on the source of component, variance of the distribution of each component, and manufacturing process. It may not be the exact weight for each specific model.

CONNECTIVITY**Network****Onboard Ethernet**

Gigabit Ethernet, Intel Ethernet Connection I219-LM, 1x RJ-45, supports Wake-on-LAN

Optional Ethernet

Two additional Ethernet adapters support, up to four additional 10 GbE ports

- Gigabit Ethernet, Intel I210-T1, 1x RJ-45, PCIe x1
- Gigabit Ethernet, Realtek RTL8168H, 1x RJ-45, PCIe x1
- Gigabit Ethernet, Intel I350-T2, 2x RJ-45, PCIe x4
- Gigabit Ethernet, Intel I350-T4, 4x RJ-45, PCIe x4

- Gigabit Ethernet, Broadcom BCM5719, 4x RJ-45, PCIe x4
- Gigabit Ethernet, Broadcom BCM5720, 2x RJ-45, PCIe x1
- 10 Gigabit Ethernet, Intel X550-T2, 2x RJ-45, PCIe x4
- 10 Gigabit Ethernet, Intel X710-DA2, 2x SFP+, PCIe x8

WLAN + Bluetooth®

- Intel Wi-Fi® 6E AX211, 802.11ax 2x2 Wi-Fi + Bluetooth 5.1 (Bluetooth 5.3 hardware ready), Intel vPro® technology support^[1]
- No WLAN and Bluetooth

Notes:

[1] Bluetooth 5.3 is hardware ready but may run at a lower version due to OS limitations. Wi-Fi 6E is only enabled on Windows 11 and operates as Wi-Fi 6 with Windows 10.

Ports^[1]**Front Ports**

1x headphone / microphone combo jack (3.5mm)

Optional Front Ports

- 2x USB-C® 3.2 Gen 2 (support data transfer)
- 2x USB 3.2 Gen 2 (one Always On)

Rear Ports^[2]

- 1x USB-C 3.2 Gen 2x2 (support data transfer)
- 2x USB 2.0
- 3x USB 3.2 Gen 2
- 1x Ethernet (GbE RJ-45)
- 1x line-in (3.5mm)
- 1x line-out (3.5mm)

Optional Rear Ports

- 1x Thunderbolt™ 4 (via additional PCIe adapter)
- 1x serial
- 2x PS/2

Notes:

[1] The transfer speed of following ports will vary and, depending on many factors, such as the processing speed of the host device, file attributes and other factors related to system configuration and your operating environment, will be slower than theoretical speed.

USB 2.0: 480 Mbit/s;

USB 3.2 Gen 1 (SuperSpeed USB 5Gbps, formerly USB 3.0 / USB 3.1 Gen 1): 5 Gbit/s;

USB 3.2 Gen 2 (SuperSpeed USB 10Gbps, formerly USB 3.1 Gen 2): 10 Gbit/s;

USB4® 20Gbps / USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;

USB4 40Gbps (USB 40Gbps): 40 Gbit/s;

Thunderbolt 3/4: 40 Gbit/s.

[2] For video ports on discrete graphics, please see graphics section.

SECURITY & PRIVACY

Security

Security Chip

Discrete TPM 2.0, TCG certified, FIPS 140-2 certified

Physical Locks

- (Optional) Access panel lock kit with common key
- (Optional) Access panel lock kit with unique key
- Kensington® Security Slot™, 3 x 7 mm

Chassis Intrusion Switch

Chassis intrusion switch

BIOS Security

- Administrator password
- Power-on password

- UEFI Secure Boot
- Self-healing BIOS

MANAGEABILITY

System Management

System Management^[1]

Intel vPro Enterprise with Intel AMT 16

Notes:

[1] Intel vPro offers a superset of DASH's defined capabilities.

Diagnostic

Diagnostic

- ThinkStation® Diagnostics
- Front diagnostic panel with QR code

SERVICE

Warranty^[1]

Base Warranty**

- 1-year limited onsite service
- 2-year limited onsite service
- 3-year limited onsite service

Notes:

[1] The warranty upgrades may be bundled with some models, please check the "Included upgrade" column in the specific model's configurations. For more service extensions, please go to <https://smartfind.lenovo.com/>. To learn more details of warranty policy, please access <https://pcsupport.lenovo.com/warranty>.

ENVIRONMENTAL

Operating Environment

Temperature

- Operating: 10°C (50°F) to 35°C (95°F)
- Storage: -40°C (-40°F) to 60°C (140°F)

Altitude

- Operating: 0 m (0 ft) to 3048 m (10,000 ft)
- Storage: 0 m (0 ft) to 12192 m (40,000 ft)

Humidity

- Operating: 20% to 80%
- Storage: 10% to 90%

CERTIFICATIONS

Green Certifications^[1]

Green Certifications

- (Optional) ENERGY STAR® 8.0
- (Optional) EPEAT™ Gold Registered
- RoHS compliant
- TCO Certified 9.0

Notes:

[1] The items listed under the "Green Certifications" section may not only refer to certification but also registration or self-declaration.

ISV Certifications

ISV Certifications

Please visit [ISV certifications for Lenovo Workstations](#)

- Feature with ** means that only one offering listed under the feature is configured on selected models.
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