Lenovo ThinkStation P620

Version: 7.0 | 06/26/2025

Product Name	P620
Product Display Name	P620
Information Date	16-Jun-25
Hardware Maintenance Manual	P620 HMM
Drivers & Software	P620 Drivers & Software

SECTION I: Platform Overview

Description	Introducing the new ThinkStation P620. The first ever AMD Ryzen Threadripper PRO powered workstation offers stunning performance with up to 64 cores and up to 4.0GHz. Perfect for those who demand more power for todays multithreaded pplications, the P620 combines Lenovos legendary reliability and customerdriven innovation with professional manageability and enterprise-class support.

CPU

Processor Support	AMD Castle Peak Workstation Processor
Socket Type	Socket-SP3 (SM-LGA)
Disclaimers	Threadripper Pro CPUs support AMD vendor lock.

Operating Systems

Preloaded	Windows 11 Pro 64-bit for Workstation Ubuntu 20.04 LTS (configuration specific)
Supported	Ubuntu 20.04 LTS Red Hat Enterprise Linux 8.3

Memory

Slots	Up to 8 DIMMs
Channels	Supports up to 8 DIMM Sockets, 8 Channels
Type	288-Pin, 3200MHz ECC RDIMM
ECC Support	Yes
Speed	Up to 3200MHz
Max DIMM Size	128GB
Max System Memory	1TB
Disclaimers	Note: 1TB of system memory is not currently supported with AMD Threadripper Pro 5000 series CPU's.

Storage

Total Bays/Size	4 x 3.5"
SATA	6 x SATA Connectors, Gen 3

PCIe	2 x M.2 PCIe Connectors Onboard, Gen 4 Additional M.2 NVMe Drives Supported by Single Adapters
eSATA	1 x eSATA Connector, Gen 3
Disclaimers	Additional parts/enclosures may be required for some configurations

Video

Integrated Graphics	Not Available
Discrete Graphics	PCIe Add-In-Card, Details in Section Below
Multi-GPU Support	Yes
Type	PCIe Add-In-Card
Bus Interface	PCIe x16

Slots

Slot 1	PCIe 4.0 x16, Full Height, Full Length, 75W, Without Latch
Slot 2	PCIe 4.0 x8, Full Height, Full Length, 25W, Open-Ended
Slot 3	PCIe 4.0 x16, Full Height, Full Length, 75W, With Latch
Slot 4	PCIe 4.0 x16, Full Height, Full Length, 75W, With Latch
Slot 5	PCIe 4.0 x16, Full Height, Full Length, 75W, With Latch
Slot 6	PCIe 4.0 x8, Full Height, Full Length, 25W, Open-Ended

Front I/O

USB	2 x USB 3.2 Gen 2 Type-C (15W) 20Gb/s 1 x USB 3.2 Gen 2 Type-A (11W) 10Gb/s 1 x USB 3.2 Gen 2 Type-A 10Gb/s
Audio	1 x Front Stereo + MIC Headset
Media Card Reader	Optional: Front 15-in-1 Media Card Reader supporting SD-UHS-II (requires Flex module)
Flex Bay	Flex Bay: Supports One 5.25" Flex Bay With Several Options Integrated Up to One 5.25 Slim ODD Cages Up to One 5.25 Slim ODD and HDD Cage (FBSE) Up to One Front Access Storage Enclosure (FASE) Up to One Flex Module for One or More of the Following Options: – 9.0mm Optical/15-in-1 USB 3.1 Gen 1 Reader/Front USB 3.1 Gen 1 Type-C/Front eSATA Note: 1. Only one 15-in-1 media card reader can be supported. 2. Only one USB 3.1 Gen 1 Type-C cable can be supported. 3. Only one front eSATA cable can be supported.
Disclaimers	Note: Actual USB throughout will vary depending on the type and quantity of USB devices used.

Rear I/O

USB	4 x USB 3.2 Gen 2 Type-A 10Gb/s 2 x USB 2.0 Type-A 480Mb/s
Audio	3 x Rear (Line Out, Line In, MIC); Retaskable to 5.1
DisplayPort	As Supported by GPU
HDMI	As Supported by GPU
DVI	As Supported by GPU
VirtualLink	As Supported by GPU
VGA Port	As Supported by GPU
Serial Port	Optional 1 x Rear Port
Ethernet	1 x 10GbE – RJ45
PS/2	2 x PS/2
IEEE 1394	Not Available

eSATA	Optional PCIe Bracket
Parallel Port	Not Available
Optional USB Adapter	Not Available
Optional Network Adapter	Aquantia Single Port 10G Ethernet Adapter PCI-E 1 x WiFi Card With BT HP External Antenna Kit (9260 AC)
Disclaimers	Note: Actual USB throughout will vary depending on the type and quantity of USB devices used.

Ethernet

Vendor	Marvell AQC107 10G Ethernet
Speeds	10G/5G/2.5G/1G/100Mbps
Functions	PXE, ASF, WOL, Jumbo Frames, Teaming
Connectors	1 x RJ45

Audio

Vendor	Realtek
Type	HD (5.1)
Internal Speaker	Yes
Connectors	3 x Rear 3.5mm Jacks (Line In, Line Out, Microphone In)
Chipset	ALC4050
Number of Channels	6 (rear) + 2 (front)
Number of Bits/Audio Resolution	6 Channel DAC supports 16/20/24 bit PCM Stereo ADC supports 16/20 bit PCM

Thermal

Temp Sensors	CPU VR Sensor – Thermal Diode – Connected to Super I/O PCI Zone 1 Sensor – Thermal Thermistor – Connected to Super I/O PCI Zone 2/Chipset Sensor – Thermal Thermistor – Connected to Super I/O PCI Zone 3 Sensor – Thermal Diode – Connected to Super I/O M.2 Sensor – Thermal Thermistor – Connected to Super I/O Ambient Cabled Sensor – Thermal Diode – Connected to Super I/O PSU Thermal Sensor – Thermal Thermistor – Connected to Super I/O
Fans	2 x CPU Fan 4-pin Header With 3-pin Key 1 x Rear System Fan 4-pin Header With 3-pin Key 1 x Front System Fan 4-pin Header With 3-pin Key 2 x ODD Bay Fan 4-pin Header With 3-pin Key (optional) 2 x Memory Fan 4-pin Header with 3-pin Key 1 x PSU Fan Main PSU Power Connector

Power Specifications

Power Supply	1000W
Power Efficiency	92% Efficient @ 50% Load
Main	C14
Operating Voltage Range	100 – 240V
Rated Voltage Range	90-264VAC
Rated Line Frequency	47Hz / 63Hz
Operating Line Frequency Range	50Hz / 60Hz
Rated Input Current	9A-15A
Graphics	2 x 8 pin (6+2) 2 x 6 pin
Power Supply Fan	Yes
ENERGY STAR Qualified (config dependent)	Yes
80 PLUS Compliant	Yes

Built-in Self Test (BIST) LED	Yes
Aux Power Drop	Yes

BIOS

Vendor	AMI
Self-Healing BIOS	Yes

Chassis Information

Color	Graphite Black
PSU	1000W Available, Autosensing, 92% PSU, 80 PLUS Platinum Qualified
Thermal Solutions	Two System Fans Standard (1 front, 1 rear), One PSU Fan, Two CPU Fans, Two MEM Fans
Dimensions	440mm/17.3" H 460mm/18.1" D 165mm/6.5" W
Weight	24kg / 52.91lbs

Packaging Dimensions

Height (mm/in)	575mm / 22.64"
Width (mm/in)	302mm / 11.89"
Depth (mm)	580mm / 22.83"
Weight (kgs/lbs)	27.48kg / 60.58lbs
Disclaimers	Note: Actual Weight of the packaging will depend on the system configuration.

Security & Serviceability

TPM	Infineon SLB9670 TPM 2.0
Asset ID	Yes, 1024 x 8bit
vPro	NA
Cable Lock Support	Yes, Optional Kensington Cable Lock
Serial, Parallel, USB, Audio, Network, Enable/Disable Port Control	Yes
Power-On Password	Yes
Setup Password	Yes
NIC LEDs (integrated)	Yes
Access Panel Key Lock	Unique Key Lock Kit – Optional Common Key Lock Kit – Optional
Boot Sequence Control	Yes
Padlock Support	Not Supported
Boot without keyboard and/or mouse	Yes
Access Panel	Tool-less Side Cover Removal
Optical Drive	Tool-less
Hard Drives	Tool-less
Expansion Cards	Tool-less
Processor Socket	Retained With Screws
Color coded User Touch Points	Yes
Color-coordinated Cables and Connectors	Yes
Memory	Tool-less
System Board	Retained With Screws

Restore CD/DVD/USB Set	Not Included, Restore Media Available via Lenovo Customer Support Center

Operating Environment

Air Temperature	Operating: 10_C to 35_C (50_F to 95_F)
Storage	Storage: -40_C to 60_C (-40_F to 140_F) in Original Shipping Carton Storage: -10_C to 60_C (14_F to 140_F) Without Carton
Humidity	Relative Humidity Operating: 10% to 80% (non-condensing) Relative Humidity Storage/Transit: 10% to 90% (non-condensing) Wet Bulb Temperature Operating: 25_C (77_F) max Wet Bulb Temperature Non-operating: 40_C (104_F) max
Altitude	Operating: -15.2m to 3048m (-50ft to 10000ft) Storage: -15.2m to 10668m (-50ft to 35000ft)
Vibration	Package Vibration: Random,1.04G at 2-200 Hz, 15 Minutes XYZ 6 faces Operating Vibration: Random,0.27G at 5-500 Hz, 30 Minutes Per Surface (X,Y,Z) Non-Operating Vibration: Random,1.04G at 2-200 Hz, 15 Minutes Per Surface (X,Y,Z)
Shock	Operation Shock: 3ms (15G) for 4 Axis (+X, -X, +Y,-Y) 3ms (30G) for 2 Axis (+Z, -Z), Half-sine Wave, Each Side Will do One Time Rack Operation Shock: 5ms (15G) for 6 Axis (+X, -X, +Y,-Y,+Z, -Z), Half-sine Wave, Each Side Will do One Time Non-operating Shock: Trapezoidal Wave, 35G, 11ms, 6 Sides (+X, -X, +Y,-Y, +Z ,-Z), Filter 300Hz, Each Side Shock One Time
Disclaimers	Extended operating temperatures are possible – please contact your Lenovo Rep

SECTION II: Platform Detail

Board Size	13.44" x 9.96" (341.5mm x 253mm)
Layout	Custom ATX

Motherboard Core

Processor Support	AMD Castle Peak Workstation processor
Socket Type	Socket-SP3 (SM-LGA)
Memory Support	DDR4 up to 3200MHz RDIMM Memory
CPU-CPU Interconnect	N/A
Voltage Regulator	IR35204MTRPBF+TDA21475 IR35201MTRPBF+TDA21475
Chipset (PCH)	AMD 2019 Premium Chipset BXB-B
Flash	32MB
Super I/O	Nuvoton NCT6686D-L
Clock	AMD Integrated Clock
Audio	Realtek ALC4050H Codec on Motherboard Realtek ALC4050 on Front Panel I/O
Ethernet	Marvell AQC10710Gb DASH

Supported Components

Processor Level	Castlepeak	Chagall
Processor	AMD Threadripper Pro 3945WX 4.0GHz/12C/64M/3200/280W AMD Threadripper Pro 3955WX 3.9GHz/16C/64M/3200/280W AMD Threadripper Pro 3975WX 3.5GHz/32C/128M/3200/280W AMD Threadripper Pro 3995WX 2.7GHz/64C/256M/3200/280W	AMD Ryzen Threadripper Pro 5945WX 4.1GHz/12C/64M/3200/280W AMD Ryzen Threadripper Pro 5955WX 4.0GHz/16C/64M/3200/280W AMD Ryzen Threadripper Pro 5965WX 3.8GHz/24C/128M/3200/280W AMD Ryzen Threadripper Pro 5975WX 3.6GHz/32C/128M/3200/280W AMD Ryzen Threadripper Pro 5995WX 2.7GHz/64C/256M/3200/280W
Memory Type	RDIMMs – 3200MHz	
Memory	8GB DDR4 ECC RDIMM PC4-3200 16GB DDR4 ECC RDIMM PC4-3200 32GB DDR4 ECC RDIMM PC4-3200	

		64GB DDR4 ECC RDIMM PC4-3200 128GB DDR4 ECC 3DS RDIMM PC4-3200
Disclaimers	P620 fully supports AMDs PSB (Platform Secure Boot) security feature. As a result of this, Threadripper Pro CPUs used in P620 are fused to Lenovos BIOS signing key and will only work in Lenovo platforms.	P620 fully supports AMDs PSB (Platform Secure Boot) security feature. As a result of this, Threadripper Pro CPUs used in P620 are fused to Lenovos BIOS signing key and will only work in Lenovo platforms.

Storage

3.5" SATA Hard Disk Drive (HDD)	1TB SATA HDD 7200rpm, 6Gb/s, 3.5" 2TB SATA HDD 7200rpm, 6Gb/s, 3.5" 4TB SATA HDD 7200rpm, 6Gb/s, 3.5" (enterprise class)
M.2 PCIe Solid State Drive (SSD)	256GB M.2 PCIe SSD, Gen 3 x4, NVMe, OPAL 512GB M.2 PCIe SSD, Gen 3 x4, NVMe, OPAL 1024GB M.2 PCIe SSD, Gen 3 x4, NVMe, OPAL 2048GB M.2 PCIe SSD, Gen 3 x4, NVMe, OPAL 256GB M.2 PCIe SSD, Gen 4 x4, NVMe, OPAL 512GB M.2 PCIe SSD, Gen 4 x4, NVMe, OPAL 1024GB M.2 PCIe SSD, Gen 4 x4, NVMe, OPAL 2048GB M.2 PCIe SSD, Gen 4 x4, NVMe, OPAL 4096GB M.2 PCIe SSD, Gen 4 x4, NVMe, OPAL

RAID

RAID Levels and Requirements	M.2 RAID via AMD CPU – supports RAID 0, 1 SATA RAID via Onboard AMD SATA Controller – supports RAID 0, 1, 5, 10
Notes	Supported RAID levels for a system will vary from the stated capabilities of the RAID controller due to dependencies on the number and capacity of physical disks in the system and on customer requirements for performance, fault tolerance, or data redundancy. Max supported RAID 0/1/5/10.

Optical Drive/Removable Media

DVD-ROM Drive	DVD-ROM, 9.0mm Slim, SATA
DVD Burner/CD-RW Drive	DVD Burner/CD-RW Rambo, 9.0mm Slim, SATA
Blu-Ray Burner Drive	Blu Ray Burner w/AACS encryption, 9.0mm Slim, SATA
Media Card Reader Specifications	Optional Front USB 3.0 15-in-1 Media card reader supporting SD UHS-II (requires Flex module) 15-in-1 Media Card Reader Support SD slot 1.Secure Digital Card (SD) Mini SD (requires adapter) Micro SD (requires adapter) 2.Secure Digital High Capacity (SDHC) Mini SD High Capacity (requires adapter) Micro SD High Capacity (requires adapter) 3.SD Extended Capacity Memory Card (SDXC) Micro SD Extended Capacity (requires adapter) 4.SD Ultra High Speed II (SD UHSII) 5.MultiMediaCard(MMC) RS-MMC (requires adapter) MMC-Micro (requires adapter) CF slot 6.CompactFlash Type I 7.CompactFlash Type II 8.Microdrive MS slot 9.Memory Stick Memory Stick Micro (requires adapter) 10.Memory Stick Duo 11.Memory Stick PRO 12.Memory Stick PRO Duo 13.Memory Stick PRO-HG Duo Memory Stick HG Micro (requires adapter) 14.Memory Stick XC Duo Memory Stick XC Micro (requires adapter) 15.Memory Stick XC-HG Duo Memory Stick XC-HG Micro (requires adapter)

Keyboard and Pointing Devices

Keyboard	Traditional USB Keyboard Traditional PS/2 Keyboard Smart Card USB Keyboard Calliope USB Keyboard
Pointing Devices	Calliope USB Mouse Lenovo USB Laser Mouse

	Fingerprint USB Mouse PS/2 Optical Mouse

Expansion Bays

5.25" External Access Bays	Flex Bay: Supports One 5.25" Flex Bay With Several Options Integrated Up to One 5.25 Slim ODD Cages Up to One 5.25 Slim ODD and HDD Cage (FBSE) Up to One Front Access Storage Enclosure (FASE) Up to One Flex Module for One or More of the Following Options: – 9.0mm Optical/15-in-1 USB 3.1 Gen 1 Reader/Front USB 3.1 Gen 1 Type-C/Front eSATA Note: 1. Only one 15-in-1 media card reader can be supported. 2. Only one USB 3.1 Gen 1 Type-C cable can be supported. 3. Only one front eSATA cable can be supported.

PCIe Adapters

Network	Marvell 10G Ethernet Adapter (single port) Intel X550-T2 10G Ethernet Adapter (dual port) Intel I350-T4 1G Ethernet Adapter (quad port) Intel X710-DA2 Ethernet Adapter (dual port)
Thunderbolt	Rear Thunderbolt PCIe Adapter
WiFi Cards	Intel PCIe WiFi Card With BT (9260 AC)
PCIe to M.2 Adapter Card	Single M.2 PCIe Adapter Quad M.2 PCIe Adapter

SECTION III: Supported Component Detail

CPU Specifications Group 1

CPU	Ryzen Threadripper PRO 3995WX	Ryzen Threadripper PRO 3975WX	Ryzen Threadripper PRO 3955WX	Ryzen Threadripper PRO 3945WX	Ryzen Threadripper PRO 5995WX
# of Cores	64	32	16	12	64
# of Threads	128	64	32	24	128
Processor Base Frequency	2.7GHz	3.5GHz	3.9GHz	4.0GHz	2.7GHz
Max Turbo Frequency	4.2GHz	4.2GHz	4.3GHz	4.3GHz	4.5GHz
Cache	256MB	128MB	64MB	64MB	256MB
TDP	280W	280W	280W	280W	280W
Disclaimers	Threadripper Pro CPUs support AMD vendor lock.	Threadripper Pro CPUs support AMD vendor lock.	Threadripper Pro CPUs support AMD vendor lock.	Threadripper Pro CPUs support AMD vendor lock.	Threadripper Pro CPUs support AMD vendor lock.

CPU Specifications Group 2

CPU	Ryzen Threadripper PRO 5975WX	Ryzen Threadripper PRO 5965WX	Ryzen Threadripper PRO 5955WX	Ryzen Threadripper PRO 5945WX
# of Cores	32	24	16	12
# of Threads	64	48	32	24
Processor Base Frequency	3.6GHz	3.8GHz	4.0GHz	4.1GHz
Max Turbo Frequency	4.5GHz	4.5 GHz	4.5GHz	4.5GHz
Cache	128MB	128MB	64MB	64MB
TDP	280W	280W	280W	280W
Disclaimers	Threadripper Pro CPUs support AMD vendor lock.	Threadripper Pro CPUs support AMD vendor lock.	Threadripper Pro CPUs support AMD vendor lock.	Threadripper Pro CPUs support AMD vendor lock.

HDD Specifications

Drive	500GB SATA – 7200rpm, 6Gb/s, 2.5"	1TB SATA – 7200rpm, 6Gb/s, 3.5"	2TB SATA – 7200rpm, 6Gb/s, 3.5"	4TB SATA – 7200rpm, 6Gb/s, 3.5"	6TB SATA – 7200rpm, 6Gb/s, 3.5"

3.5_ SATA Hard Disk Drive (HDD)	Not Available	Yes	Yes	Yes	Yes
2.5_ SATA Hard Disk Drive (HDD)	Yes	Not Available	Not Available	Not Available	Not Available
Connector	SATA	SATA	SATA	SATA	SATA
Transfer Rate (Gb/sec)	160MB/s OD Read	Average Data Rate, Read/Write 156MB/s	Average Data Rate, Read/Write 156MB/s	Sustained Data Transfer Rate 216-226MB/s	Sustained Data Transfer Rate 216-226MB/s
Spindle Speed (RPM)	7,200	7,200	7,200	7,200	7,200
Power Off to Spindle Stop (sec)	NA	NA	NA	NA	NA
DC Power to Drive Ready (sec)	3.5	<10.0	<17.0	<17.0	<17.0
Average Latency (msec)	4.2	4.16	4.16	4.16	4.16
Input (VDC)	5	5	5	5	5
Typical (Watts)	1.9	6.19	6.7	7.35	8.13
Idle (Watts)	0.7	4.6	4.5	5.45	6.21
Physical Dimensions	69.85mm x 100.34mm x 7mm	101.6mm x 146.99mm x 19.88mm	101.6mm x 146.99mm x 26.1mm	101.85mm x 147mm x 26.1mm	101.85mm x 147mm x 26.1mm
Weight (grams)	90	420	535	680	705
Operating (C) Ambient	0 to 60	0 to 60	0 to 60	5 to 60	5 to 60
Operating (C) Base Casting	60	60	60	60	60
Non-Operating (C) Ambient	(-40 to 70)	(-40 to 70)	(-40 to 70)	(-40 to 70)	(-40 to 70)
Gradient (C per Hour)	20	20	20	20	20
Operating (Gs @ 2ms)	400	70	80	Read 70 Gs / Write 40 Gs	Read 70 Gs / Write 40 Gs
Non-Operating (Gs @ 2ms)	1000	350	300	300	250

Solid State Storage Specifications Group 1

Drive	1024GB M.2 SSD, NVMe, Opal, GEN4x4, TLC,2280	512GB M.2 SSD, NVMe, Opal, GEN4x4, TLC,2280	256GB M.2 SSD, NVMe, Opal, GEN4x4, TLC,2280	256GB NVMe M.2 SSD TLC	512GB NVMe M.2 SSD TLC
Dimensions Millimeters (W x D x H)	Coming Soon	Coming Soon	Coming Soon	22 x 80 x 2.3	22 x 80 x 2.3
Interface Type	PCIe Gen 4×4 NVMe	PCIe Gen 4×4 NVMe	PCIe Gen 4×4 NVMe	PCIe Gen 3 x4 NVMe	PCIe Gen 3 x4 NVMe
Power Active (AVG)	Coming Soon	Coming Soon	Coming Soon	5W	5W
Power Idle	Coming Soon	Coming Soon	Coming Soon	50mW	50mW
Typical Sequential Read	6400 MB/s	6000 MB/s	5000 MB/s	3000MB/s	3200MB/s
Typical Sequential Write	3800 MB/s	3200 MB/s	1600 MB/s	1300MB/s	1600MB/s
Burst Random Read (4K Queue Depth 32/8 thread);	550K IOPS	500K IOPS	250K IOPS	Coming Soon	Coming Soon
Burst Random Write (4K Queue Depth 32/8 thread)	400K IOPS	370K IOPS	200K IOPS	Coming Soon	Coming Soon
Operating Temperature Range	Coming Soon	Coming Soon	Coming Soon	0 to 55C	0 to 55C
Endurance Rating (Lifetime Writes)	Coming Soon	Coming Soon	Coming Soon	85TB	150TB
Mean Time Between Failures (MTBF)	Coming Soon	Coming Soon	Coming Soon	2.0M POH	2.0M POH
Hardware Encryption	AES 256-bit	AES 256-bit	AES 256-bit	AES 256-bit	AES 256-bit

Solid State Storage Specifications Group 2

Drive	1024GB NVMe M.2 SSD TLC	2048GB NVMe M.2 SSD TLC	4TBGB NVMe M.2 SSD TLC
Dimensions Millimeters (W x D x H)	22 x 80 x 2.3	22 x 80 x 2.3	Coming Soon
Interface Type	PCIe Gen 3 x4 NVMe	PCIe Gen 3 x4 NVMe	PCIe Gen 4×4 NVMe
Power Active (AVG)	5W	5W	Coming Soon
Power Idle	50mW	50mW	Coming Soon
Typical Sequential Read	3200MB/s	3500MB/s	Coming Soon
Typical Sequential Write	1600MB/s	3000MB/s	Coming Soon
Burst Random Read (4K Queue Depth 32/8 thread);	Coming Soon	Coming Soon	Coming Soon
Burst Random Write (4K Queue Depth 32/8 thread)	Coming Soon	Coming Soon	Coming Soon

Operating Temperature Range	0 to 55C	0 to 55C	Coming Soon
Endurance Rating (Lifetime Writes)	300TB	600TB	Coming Soon
Mean Time Between Failures (MTBF)	2.0M POH	2.0M POH	Coming Soon
Hardware Encryption	AES 256-bit	AES 256-bit	Coming Soon
Disclaimers		Can only be used in Onboard slots, no AIC	

HDD Controllers

PCI Bus	PCIe Gen4
PCI Modes	RAID, AHCI
RAID Levels	0, 1, 5, 10, Volume and RAIDable
Data Transfer Rates	AMD RAIDXpert2 (OS) RAID and PD operations in BIOS
PCI Card Type	SATA 6Gbs NVMe 16Gbs
PCI Voltage	Onboard AMD controller (Bixby)
Disclaimers	SATA, M.2 NVMe

Optical Drive Specifications

Description	9.0mm Slim DVD ROM	9.0mm Slim DVD Writer
	SATA 1.5 Gb/s	SATA 1.5 Gb/s
Interface Type	See Extermal Dimensions	See Extermal Dimensions
Dimensions	NA	NA
Disc Capacity	DVDROM	DVDWriter
Type	1280.4×9.0 0.4×1270.4(Max) Unit:mm_Without Bezel-W x H x D)	1280.4×9.0 0.4×1270.4(Max) Unit:mm_Without Bezel-W x H x D)
External Dimensions	see Writes & Reads line	see Writes & Reads line
Speed	9.0mm Tray	9.0mm Tray
Bay Type	Business Black or without bezel	Business Black or without bezel
Color	No	No
Removable	0.5MB Max	0.5MB Max
Internal Buffer Size	DVDROM have no write function	8xDVD+R / 8xDVD+RW / 6xDVD+R DL 8xDVD-R / 6xDVD-RW / 6xDVD-R DL 24xCD-R / 16xCD-RW
Writes	8xDVD / 24xCD	8xDVD / 24xCD
Reads	DC Power 5V	DC Power 5V
Source	+5V5% Ripple less than 100mVp-p	+5V5% Ripple less than 100mVp-p
DC Power Requirements	Max 1.5A@5v	Max 1.5A@5v
DC Current	All Windows OS	All Windows OS
Operating Systems Supported	Operating: Read: 5 to 50 c Write: 5 to 45 C Storage/Transportation -40 to 60 C	Operating: Read: 5 to 50 c Write: 5 to 45 C Storage/Transportation -40 to 60 C
Temperature	Operating : Read: 15 % to 85 % (Non-Condensing) Write 15 % to 80 % (Depend on the Temperature) Storage/Transportation: 10 % to 80 % (Non-Condensing)	Operating : Read: 15 % to 85 % (Non-Condensing) Write 15 % to 80 % (Depend on the Temperature) Storage/Transportation: 10 % to 80 % (Non-Condensing)
Relative Humidity	NA	NA

Discrete Graphics Adapter Group 1

Adapter	Quadro P2200	T400	T600	T1000	Quadro RTX 4000
Bus Interface	PCIe 3.0 x16	PCIe 3.0 x16	PCIe 3.0 x16	PCIe 3.0 x16	PCIe 3.0 x16

Display Interface	4 x DP 1.4	3 x mDP 1.4	4 x mDP 1.4	4 x mDP 1.4	3 x DP 1.4 1 x VirtualLink
Graphics Chipset	Pascal	Turing	Turing	Turing	Turing
Memory Clock Frequency (MHz)	1251MHz	Coming Soon	Coming Soon	Coming Soon	1625MHz
Memory Size	5GB GDDR5X	4GB GDDR6	4GB GDDR6	4GB GDDR6/8GB GDDR6	8GB GDDR6
Memory Interface	160-bit	64-bit	128-bit	128-bit	256-bit
Memory Bandwidth	Up to 200GB/s	80GB/s	160GB/s	160GB/s	Up to 416GB/s
GPU Cores	CUDA Cores: 1280	CUDA Cores: 384	CUDA Cores: 640	CUDA Cores: 896	CUDA Cores: 2304 Tensor Cores: 288 RT Cores: 36
GPU Core Frequency (MHz)	1000MHz	Coming Soon	Coming Soon	Coming Soon	1005MHz
Maximum Power Consumption	75W	30W	40W	50W	Total board power: 160W Total graphics power: 125W
Supported Resolutions and Max Refresh Rates (Hz) (Note: Analog and/or Digital)	4 x 4096×2160 @ 120Hz 4 x 5120×2880 @ 60Hz	3 x 4096×2160 @ 120Hz 3 x 5120×2880 @ 60Hz	Coming Soon	Coming Soon	4 x 3840×2160 @ 120Hz 4 x 5120×2880 @ 60Hz 4 x 7680×4320 @ 60Hz
Thermal Solution	Ultra-quiet Active Fansink	Active	Active	Active	Ultra-quiet Active Fansink
Dimension	4.4" H x 7.9" L Single Slot	2.7" H x 6.1" L Single Slot	2.7" H x 6.1" L Single Slot	2.7" H x 6.1" L Single Slot	4.4" H x 9.5" L Single Slot
Advanced Display	Not Available	Not Available	Not Available	Not Available	SYNC 2
SLI/NVLink Support	Not Available	Not Available	Not Available	Not Available	Not Available

Discrete Graphics Adapter Group 2

Adapter	Quadro RTX 5000	Quadro RTX 6000	Quadro RTX 8000	RTX A2000	RTX A4000
Bus Interface	PCIe 3.0 x16	PCIe 3.0 x16	PCIe 3.0 x16	PCIe 4.0 x16	PCIe 4.0 x16
Display Interface	4 x DP 1.4 1 x VirtualLink	4 x DP 1.4 1 x VirtualLink	4 x DP 1.4 1 x VirtualLink	4 x DP 1.4a	4 x DP 1.4a
Graphics Chipset	Turing	Turing	Turing	Ampere	Ampere
Memory Clock Frequency (MHz)	1750MHz	1750MHz	1750MHz	Coming Soon	Coming Soon
Memory Size	16GB GDDR6	24GB GDDR6	48GB GDDR6	6GB/12GB GDDR6	16GB GDDR6
Memory Interface	256-bit	384-bit	384-bit	192-bit	256-bit
Memory Bandwidth	Up to 448GB/s	Up to 672GB/s	Up to 672GB/s	288GB/s	448 GB/s
GPU Cores	CUDA Cores: 3072 Tensor Cores: 384 RT Cores: 48	CUDA Cores: 4608 Tensor Cores: 576 RT Cores: 72	CUDA Cores: 4608 Tensor Cores: 576 RT Cores: 72	CUDA Cores: 3328 Tensor Cores: 104 RT Cores: 26	CUDA Cores: 6411 Tensor Cores: 192 RT Cores: 48
GPU Core Frequency (MHz)	1620MHz	1440MHz	1395MHz	Coming Soon	Coming Soon
Maximum Power Consumption	Total board power: 265W Total graphics power: 230W	Total board power: 295W Total graphics power: 260W	Total board power: 295W Total graphics power: 260W	70W	140W
Supported Resolutions and Max Refresh Rates (Hz) (Note: Analog and/or Digital)	4 x 4096×2160 @ 120Hz 4 x 5120×2880 @ 60Hz 2 x 7680×4320 @ 60Hz	4 x 4096×2160 @ 120Hz 4 x 5120×2880 @ 60Hz 2 x 7680×4320 @ 60Hz	4 x 3840 x 2160 @ 120Hz 4 x 5120×2880 @ 60Hz 2 x 7680×4320 @ 60Hz	4 x 4096×2160 @ 120Hz 4 x 5120×2880 @ 60Hz 2 x 7680×4320 @ 60Hz	4 x 4096×2160 @ 120Hz 4 x 5120×2880 @ 60Hz 2 x 7680×4320 @ 60Hz
Thermal Solution	Ultra-quiet Active Fansink	Ultra-quiet Active Fansink	Ultra-quiet Active Fansink	Active	Active
Dimension	4.4" H x 10.5" L Dual Slot, Full Height	4.4" H x 10.5" L Dual Slot, Full Height	4.4" H x 10.5" L Dual Slot, Full Height	2.7" H x 6.6" L, Dual slot	4.4" H x 9.5" L Single Slot
Advanced Display	SYNC 2	SYNC 2	SYNC 2	Not Available	SYNC 2
SLI/NVLink Support	NVLink	NVLink	NVLink	Not Available	Not Available

Discrete Graphics Adapter Group 3

Adapter	RTX A4500	RTX A5000	RTX A6000	Quadro GV100	AMD Radeon Pro WX3200
Bus Interface	PCIe 4.0 x16	PCIe 4.0 x16	PCIe 4.0 x16	PCIe 3.0 x16	PCIe 3.0 x16
Display Interface	4 x DP 1.4	4 x DP 1.4a	4 x DP 1.4a	4 x DP 1.4	4 x mDP 1.4
Graphics Chipset	Ampere	Ampere	Ampere	Volta	Polaris
Memory Clock Frequency (MHz)	Coming Soon	Coming Soon	2000MHz	858MHz	Coming Soon
Memory Size	20GB GDDR6	24GB GDDR6	48GB GDDR6	32GB HBM2	4GB GDDR5

Memory Interface	320-bit	384-bit	384-bit	4096-bit	128-bit
Memory Bandwidth	640GB/s	Up to 768GB/s	Up to 768GB/s	Up to 870GB/s	96GB/s
GPU Cores	CUDA Cores: 7,168 Tensor Cores: 224 RT Cores: 56	CUDA Cores: 8,192 Tensor Cores: 256 RT Cores: 64	CUDA Cores: 10,752 Tensor Cores: 336 RT Cores: 84	CUDA Cores: 5120 Tensor Cores: 640	640
GPU Core Frequency (MHz)	Coming Soon	Coming Soon	Coming Soon	1132MHz	Coming Soon
Maximum Power Consumption	200W	230W	300W	250W	50W
Supported Resolutions and Max Refresh Rates (Hz) (Note: Analog and/or Digital)	4 x 4096×2160 @ 120Hz 4 x 5120×2880 @ 60Hz 2 x 7680×4320 @ 60Hz	4 x 4096×2160 @ 120Hz 4 x 5120×2880 @ 60Hz 2 x 7680×4320 @ 60Hz	4 x 4096×2160 @ 120Hz 4 x 5120×2880 @ 60Hz 2 x 7680×4320 @ 60Hz	4 x 4096×2160 @ 120Hz 4 x 5120×2880 @ 60Hz 2 x 7680×4320 @ 60Hz	4 x 1920×1080 @ 60Hz 4 x 3840×2160 @ 60Hz 2 x 5120×2880 @ 60Hz 1 x 7680×4320 @ 60Hz
Thermal Solution	Active	Active	Active	Ultra-quiet Active Fansink	Coming Soon
Dimension	4.4" H x 10.5" L Dual Slot, Full Height	4.4" H x 10.5" L Dual Slot, Full Height	4.4" H x 10.5" L Dual Slot, Full Height	4.4" H x 10.5" L Dual Slot, Full Height	2.7" H x 6.6" L Single Slot, Half Height
Advanced Display	SYNC 2	SYNC 2	SYNC 2	Not Available	Not Available
SLI/NVLink Support	NVLink	NVLink	NVLink	NVLink	Not Available

Discrete Graphics Adapter Group 4

Adapter	AMD Radeon Pro W5500	AMD Radeon Pro W5700
Bus Interface	PCIe 4.0 x16	PCIe 4.0 x16
Display Interface	4 x DP 1.4	5 x mDP 1.4
Graphics Chipset	RDNA	RDNA
Memory Clock Frequency (MHz)	Coming Soon	Coming Soon
Memory Size	8GB GDDR6	8GB GDDR6
Memory Interface	128-bit	256-bit
Memory Bandwidth	224 GB/s	448 GB/s
GPU Cores	1408	2304
GPU Core Frequency (MHz)	Coming Soon	Coming Soon
Maximum Power Consumption	125W	205W
Supported Resolutions and Max Refresh Rates (Hz) (Note: Analog and/or Digital)	4 x 1920×1080 @ 60Hz 4 x 3840×2160 @ 60Hz 2 x 5120×2880 @ 60Hz 2 x 7680×4320 @ 60Hz	6 x 1920×1080 @ 60Hz 6 x 3840×2160 @ 60Hz 3 x 5120×2880 @ 60Hz 3 x 7680×4320 @ 60Hz
Thermal Solution	Coming Soon	Coming Soon
Dimension	4.4" H x 9.5" L Single Slot, Full Height	4.4" H x 10.5" L Double Slot, Full Height
Advanced Display	Not Available	Not Available
SLI/NVLink Support	Not Available	Not Available

Ethernet Specifications

Card	Intel I350-T4 Quad Port Gigabit Ethernet Adapter (Stony Lake T4)	Intel X710-DA2 Dual Port Fiber 10Gb Ethernet Adapter	Intel Ethernet SFP+ SR Optics Module
Supplier PN	I350T4G1P20, MM# 928942	MM# 952103	MM#: 941243
Data Rates Supported	10/100/1000Mbps (Copper), 1000Mbps (Fiber)	1GbE/10GbE Optical fiber 10GbE Direct Attach (DAC)	Not Available
Controller Details	Intel Ethernet Controller I351	Intel Ethernet Controller X710-AM2	Not Available
Controller Bus Architecture	PCIe 2.1 (5GT/s)	PCIe 3.0 (8GT/s)	Not Available
Data Transfer Mode	Ethernet	Ethernet	Not Available
Power Consumption	Copper: I350T4V2= 5W LC-Fiber: I350F4= 6W	Dual-port 10GBASE-SR= 4.3W typ/4.8W max Dual-port 1000BASE-SX= 4W typ/4.3W max Dual-port 10GBASE-LR= 4.5W typ/ 5.1W max Dual-port Direct Attach (Twinax)= 3.3W typ/3.7W max	Not Available
IEEE Standards Compliance	IEEE 802.3/10BASE-T, 100BASE-TX, 1000BASE-T	IEEE 802.3 1/1010GBASE-SR/LR, SFF-8431 10GSFP+DAC	Not Available
Boot ROM Support	PXE boot, Intel iSCSI Remote Boot for Windows, Linux and Vmware, Intel BootAgent Software via PXE or BootP, WDMS or UEFI	PXE boot, Intel iSCSI Remote Boot for Windows, Linux and Vmware, Intel BootAgent Software via PXE or BootP, WDMS or UEFI	Not Available
Network Transfer Mode (Full/Half Duplex)	Supported	Supported	Not Available

Network Transfer Rate	1,000Mbps Full Duplex	1,000Mbps Full Duplex	Not Available
Operating System Driver Support	Windows 7/8/10, Linux, Free BSD, XEN,Vmware	Windows 2008, 2012; RHEL 6.5/7.0, FreeBSD 9/10, Vmware ESXi 5.x	Not Available
Manageability	Supported	Supported	Not Available
Manageability Capabilities Alerting	Supported	Supported	Not Available
TDP	Firmware Based Thermal Management	Not Available	Not Available
Operating Temperature Range	0C to 55C (32F to 131F)	0C to 55C (32F to 131F)	Not Available
# of Ports	4	2	Not Available
Data Rate Per Port	10/100/1000Mbps (copper), 1000Mbps (fiber)	1Gbps, 10Gbps	Not Available
System Interface Type	PCIe Gen 2.1	PCIe 3.0	Not Available
NC Sideband Interface	Not Available	Yes	Not Available
Jumbo Frames Supported	Yes	Yes	Not Available
1000Base-T	Yes	Coming Soon	Not Available
IEEE 1588	Supported	Supported	Not Available
Supported Under vPro	Not Available	Not Available	Not Available

Ethernet Specifications Continued

Model	Dual Port Copper= I350-T4 V2 Dual Port LC-Fiber= I350-F4	X710-DA2
Connector	4 x Ports RJ-45 Copper or 4 x Ports LC-Fiber	2 x SFPs Receptable
Website	i350 T4/F4	x710 DA2

Media Card Reader

Description	15 in 1 Media Card Reader

SECTION IV: BIOS / Certifications / Standards / Environmental

BIOS Specifications

WMI Support	Compliant With Microsoft WBEM and the DMTF Common Information Model
ROM-Based Setup Utility (F1)	System Configuration Setup Program (text only interface) Available at Power-on With F1 Key
Bootblock Recovery	Recovers System BIOS if the Flash ROM Becomes Corrupted
Replicated Setup	Saves System Configuration Settings to a File That Can Then be Used to Replicate the Settings to Other Systems
Boot Control	Boot Control Available Through ROM-based Setup Utility or With F12 Key at Power-on
Memory Change Alert	Power-on Error Message in the Event of a Decrease in System Memory
Thermal Alert	Power-on Error message in the Event of a Fan Failure
Asset Tag	Supports Ability to Set SMBIOS Type 2 Baseboard Asset Tag Field
System/Emergency ROM Flash Recovery with Video	Supports Process to Recover the System BIOS if the Flash ROM Becomes Corrupted
Remote Wakeup/Remote Shutdown	System Admin Can Power On/Off a Client Computer from a Remote Location to Provide Maintenance
Quick Resume Time	Supports Low Power S3 (suspend to RAM) and Prompt Resume Times
ROM Revision Level	System UEFI (BIOS) Version Reported in SMBIOS Type 0 Structure and in BIOS Setup
Keyboard-less Operation	System Can be Booted Without a Keyboard
Per-port Control	Allows I/O Ports to be Enabled/Disabled Through ROM-based Setup or WMI Interface* Some Limitations
Adaptive Cooling	Offers Multiple Settings for Fan Control Ranging Between Better Performance and Better Acoustics
Security	User and Administrator Passwords Can Protect Boot and ROM-based Setup – Support Electronic Lock – Chassis Intrusion Detection – UEFI Secure Boot Support – HDD Password Can Protect HDD Data

	– Windows UEFI Firmware Update Support – Device Guard Support – Optional Access Panel Lock, Kensington Lock, and Pad Lock
Intel(R) AMT (includes ASF 2.0)	N/A
Intel(R) TXT	N/a
Memory Modes	Supports Mirroring, Lock Step, and Sparing Memory Modes
Windows 10 Ready	Supports Windows 10 Requirements for Secure Flash, UEFI v 2.6 Device Guard Support Spec

Industry Standard Specification Support

UEFI	Unified Extensible Firmware Interface v2.7
ACPI (Advanced Configuration and power Management Interface)	Advanced Configuration and Power Interface v6.1
ASF 2.0	DMTF Alert Standard Format Specification v2.0
ATA (IDE)	AT Attachment 6 with Packet Interface (ATA/ATAPI-6)
CD Boot	El Torito Bootable CD-Rom Format Specification, v1.0
EHCI	Enhanced Host Controller Interface for Universal Serial Bus, Revision v1.0
PCI	NA (No PCI slot)
PCI Express	PCI Express Base Specification v3.0
SATA	Serial ATA Revision 3.0 Specification
TPM	Trusted Computing Group TPM Specification v2.0
UHCI	Universal Host Controller Interface Design Guide, Revision v1.1
USB	Universal Serial Bus Revision v1.1 Universal Serial Bus v2.0 Universal Serial Bus v3.0
SMBIOS	DMTF System Management Spec v3.2.1
XHCI	XHCI SPEC Revision v1.2

Social and Environmental Responsibility

Quality Control	Lenovo is a member of an eco declaration system that enforces regular independent quality control
Hazardous Substances and Preparation	Products do not contain more than; 0.1% lead, 0.01% cadmium, 0.1% mercury, 0.1% hexavalent chromium, 0.1% polybrominated biphenyls (PBB) or 0.1% polybrominated diphenyl ethers (PBDE). (See legal reference and Note B1) Products do not contain Asbestos Products do not contain Ozone Depleting Substances: Chlorofluorocarbons (CFC), hydrobromofluorocarbons (HBFC), hydrochlorofluorcarbons (HCFC), Halons, carbontetrachloride, 1,1,1-trichloroethane, methyl bromide Products do not contain more than; 0.005% polychlorinated biphenyl (PCB), 0.005% polychlorinated terphenyl (PCT) in preparation Products do not contain more than 0.1% short chain chloroparaffins (SCCP) with 10-13 carbon atoms in the chain containing at least 48% per mass of chlorine in the SCCP Parts with direct and prolonged skin contact do not release nickel in concentrations above 0.5 microgram/cm/week REACH Article 33 information about substances in articles is available at: http://www.lenovo.com/social_responsibility/us/en/ThinkGreen_products.html#environment
Batteries	Not Available
Safety, EMC Connection to the Telephone Network and Labeling	Not Applicable, no Connection to a Telephone Network

Safety, EMC Connection to the Telephone Network and Labeling

System Software Manager	Lenovo ThinkStation Supports Software Management Tools by Lenovo Vantage

Regulations & Standards

EMC & Safety	FCC DoC for North America VCCI Certification for Japan BSMI Certification for Taiwan EU/EFTA CE Mark & DoC UL/CUL(P920,P720,P520,P520c), cTUVus(P330) UL-GS(P920,P720,P520,P520c), TUV-GS(P330) IEC60950-1 CB Report/Certificate Saudi Arabia SASO Kuwait KUCAS China CCC Mark Hong Kong SAR (CB report) Singapore PSB

	South Africa SABS Russia-EAC Morocco-CM Mexico-NOM Kazakhstan-EAC Belarus-EAC Serbia KVALITET Ukraine UKrCEPRO India-BIS USA Chemical Emission Test

Environmentals

Energy Star	ENERGY STAR v8.0
EPEAT	EPEAT Certification Available on Select Models
ErP Lot-3 2013	Yes
Hazardous Substances	Products do not contain more than; 0.1% lead, 0.01% cadmium, 0.1% mercury, 0.1% hexavalent chromium, 0.1% polybrominated biphenyls (PBB) or 0.1% polybrominated diphenol ethers (PBDE) Products do not contain Asbestos Products do not contain Ozone Depleting Substances: Chlorofluorocarbons (CFC), hydrobromofluorocarbons (HBFC), hydrochlorofluorcarbons (HCFC), Halons, carbontetrachloride, 1,1,1-trichloroethane, methyl bromide Products do not contain more than; 0.005% polychlorinated biphenyl (PCB), 0.005% polychlorinated terphenyl (PCT) in preparation Products do not contain more than 0.1% short chain chloroparaffins (SCCP) with 10-13 carbon atoms in the chain containing at least 48% per mass of chlorine in the SCCP Parts with direct and prolonged skin contact do not release nickel in concentrations above 0.5 microgram/cm_/week
TCO Certification	9.0