

Lenovo P920 Rack

Version: 2.0 | 06/05/2024

Product Name	P920 Rack
Product Display Name	ThinkStation P920 Rack
Information Date	29-Oct-19

SECTION I: Platform Overview

Description	The Lenovo ThinkStation P920 Rack is an Intel based high performance dual socket 2U 19" rack workstation, providing excellent performance and quality for remote applications.
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CPU

Processor Support	Xeon Scalable Processors (Platinum, Gold, Silver, Bronze)
Socket Type	Socket-P0 (LGA 3647)

Operating Systems

Preloaded	Microsoft Windows Server 2016 and 2019; Red Hat Enterprise Linux 7; SUSE Linux Enterprise Server 12 and 15; VMware vSphere (ESXi) 6.5 and 6.7
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Memory

Slots	Up to 24 DIMMs
Channels	Each Processor Supports up to 12 DIMM Sockets, 6 Channels per CPU
Type	TruDDR4 RDIMM / TruDDR4 3DS RDIMM
ECC Support	Yes
Speed	Up to 2933MHz
Max DIMM Size	128GB TruDDR4 ECC 3DS RDIMM
Max System Memory	3TB

Storage

SATA	8 x 3.5" SAS/SATA/2 x M.2 SATA
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SAS	8 x 3.5" SAS/SATA
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Video

Integrated Graphics	Matrox Integrated Graphics
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 3.0 x16 or PCIe 3.0 x8; Full Height, Half Length (PCIe x16 slot can be single or double-wide)
Slot 2	PCIe 3.0 x8; Full Height, Half Length (not present if Slot 1 is PCIe x16 double-wide or Slot 3 is ML2 x16)
Slot 3	PCIe 3.0 x8, or PCIe 3.0 x16, or ML2 x8, or ML2 x16; Full Height, Half Length
Slot 4	PCIe 3.0 x8; Low Profile (vertical slot on system planar)
Slot 5	PCIe 3.0 x16; Full Height, Half Length
Slot 6	PCIe 3.0 x16; Full Height, Half Length
Slot 7	PCIe 3.0 x8 (for an internal storage controller)
Disclaimers	Slots 5 and 6 require the second processor to be installed

Front I/O

USB	1 x USB 2.0 With XCC Access/1 x USB 3.0
Flex Module	8 x 3.5" SAS/SATA Hot Swap Drive Bays

Rear I/O

USB	2 x USB 3.0
VGA Port	1 x VGA Port
Ethernet	Remote Management RJ45 – 10/100/1000Mb Ethernet Lenovo XClarity Controller Interface
Optional Network Adapter	Supports up to Four Onboard Network Ports With Optional LOM Cards That Use the Intel Ethernet Connection X722 1/10 GbE Technology Integrated into the Intel C624 Platform Controller Hub (PCH) 2 or 4 1GbE RJ45/Base-T 2 or 4 10GbE RJ45/Base-T 2 or 4 10GbE SFP+ Fibre

Thermal

Fans	Supports up to Six Hot-swap System Fans That Provide N+1 Cooling Redundancy: Models With One Processor Ship With Five System Fans, and Models With Two Processors Ship With Six System Fans
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Power Connectors

Power Supply	Up to 2 x 1100W or 1600W PSUs
Power Efficiency	Platinum Efficient
Main	C14
Operating Voltage Range	1100W (230/115V) / 1600W (230V)

Chassis Information

Color	Black Bezel – Metal/Silver Chassis
Dimensions	445mm/17.5" W x 720mm/28.3" D x 87mm/3.4" H
Weight	19kg/41.9lbs – 32kg/70.5lbs

Security & Serviceability

TPM	Onboard Trusted Platform Module (TPM) Version 1.2 or 2.0 (configurable UEFI system setting)
Power-On Password	Yes
NIC LEDs (integrated)	Yes
Access Panel Key Lock	Lockable Front Bezel (optional)

Operating Environment

Air Temperature	Operating: ASHRAE Class A4: 5°C – 45°C (41°F – 113°F); For Altitudes Above 900m (2,953ft), Decrease the Maximum Ambient Temperature by 1°C for Every 125m (410ft) Increase in Altitude ASHRAE Class A3: 5°C – 40°C (41°F – 104°F); for Altitudes Above 900m (2,953ft), Decrease the Maximum Ambient Temperature by 1°C for Every 175m (574ft) Increase in Altitude ASHRAE Class A2: 10°C – 35°C (50°F – 95°F); for Altitudes Above 900m (2,953ft), Decrease the Maximum Ambient Temperature by 1°C for Every 300m (984ft) Increase in Altitude Non-operating: 5°C-45°C (41°F-113°F) Storage: -40°C-+60°C (-40°F-140°F)
Humidity	Operating: ASHRAE Class A4: 8%-90% (non-condensing); Maximum Dew Point: 24°C (75°F) ASHRAE Class A3: 8%-85% (non-condensing); Maximum Dew Point: 24°C (75°F) ASHRAE Class A2: 8%-80% (non-condensing); Maximum Dew Point: 21°C (70°F) Storage: 8%-90% (non-condensing)
Altitude	Maximum Altitude: 3,050m (10,000ft)
Vibration	Operating: 0.21 G rms at 5Hz to 500Hz for 15 Minutes Across 3 Axes Non-operating: 1.04 G rms at 2Hz to 200Hz for 15 Minutes Across 6 Surfaces
Shock	Operating: 15 G for 3 Milliseconds in Each Direction (positive and negative X, Y, and Z axes) Non-operating: 12kg-22kg: 50 G for 152"/sec Velocity Change Across 6 Surfaces 23kg-31kg: 35 G for 152"/sec Velocity Change Across 6 Surfaces

SECTION II: Platform Detail

Motherboard Core

Processor Support	Xeon Scalable Processors (Platinum, Gold, Silver, Bronze)
Socket Type	Socket-P0 (LGA 3647)
Memory Support	DDR4 RDIMM/DDR4 3DS RDIMM
CPU-CPU Interconnect	UPI up to 10.4GT/s
Chipset (PCH)	Intel C624

Supported Components

Processor Level	Platinum	Gold	Silver	Bronze
Processor	Intel Xeon PLATINUM 8280	Intel Xeon GOLD 6254 Intel Xeon GOLD 6242 Intel Xeon GOLD 6238T Intel Xeon GOLD 6230 Intel Xeon GOLD 5222 Intel Xeon GOLD 5218 Intel Xeon GOLD 6234	Intel Xeon SILVER 4216 Intel Xeon SILVER 4215 Intel Xeon SILVER 4214 Intel Xeon SILVER 4210 Intel Xeon SILVER 4209T Intel Xeon SILVER 4208	Intel Xeon BRONZE 3204
Memory Type	RDIMMs – 2666MHz or 2933MHz, CPU Dependent			

SECTION III: Supported Component Detail

CPU Specifications Part 1

CPU	Intel Xeon PLATINUM 8280	Intel Xeon GOLD 6254	Intel Xeon GOLD 6242	Intel Xeon GOLD 6238T	Intel Xeon GOLD 6234
# of Cores	28	18	16	22	8
# of Threads	56	36	32	44	16
Processor Base Frequency	2.7GHz	3.1GHz	2.8GHz	1.9GHz	3.3GHz
Max Turbo Frequency	4GHz	4GHz	3.9GHz	3.7GHz	4GHz
Cache	38.5MB	24.75MB	22MB	30.25MB	24.75MB
TDP	205W	200W	150W	125W	130W
Intel ARK Spec Link	Intel Xeon PLATINUM 8280	Intel Xeon GOLD 6254	Intel Xeon GOLD 6242	Intel Xeon GOLD 6238T	Intel Xeon GOLD 6234

CPU Specifications Part 2

CPU	Intel Xeon GOLD 6230	Intel Xeon GOLD 5222	Intel Xeon GOLD 5218	Intel Xeon SILVER 4216	Intel Xeon SILVER 4215
# of Cores	20	4	16	16	8
# of Threads	40	8	32	32	16
Processor Base Frequency	2.1GHz	3.8GHz	2.3GHz	2.1GHz	2.5GHz

Max Turbo Frequency	3.9GHz	3.9GHz	3.9GHz	3.2GHz	3.5GHz
Cache	27.5MB	16.5MB	22MB	22MB	11MB
TDP	125W	105W	125W	100W	85W
Intel ARK Spec Link	Intel Xeon GOLD 6230	Intel Xeon GOLD 5222	Intel Xeon GOLD 5218	Intel Xeon SILVER 4216	Intel Xeon SILVER 4215

CPU Specifications Part 3

CPU	Intel SILVER 4214	Intel Xeon SILVER 4210	Intel Xeon SILVER 4209T	Intel Xeon SILVER 4208	Intel Xeon BRONZE 3204
# of Cores	12	10	8	8	6
# of Threads	24	20	16	16	6
Processor Base Frequency	2.2GHz	2.2GHz	2.2GHz	2.1GHz	1.9GHz
Max Turbo Frequency	3.2GHz	3.2GHz	3.2GHz	3.2GHz	Not Available
Cache	16.5MB	13.75MB	11MB	11MB	8.25MB
TDP	85W	85W	70W	85W	85W
Intel ARK Spec Link	Intel SILVER 4214	Intel Xeon SILVER 4210	Intel Xeon SILVER 4209T	Intel Xeon SILVER 4208	Intel Xeon BRONZE 3204

SECTION IV: BIOS / Certifications / Standards / Environmental
