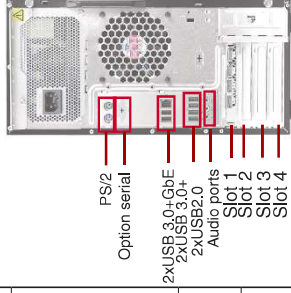


# ThinkStation P520c Platform Specifications

<b>Components</b>	<b>Specification</b>																																																																		
Form factor	25L Tower																																																																		
Dimensions	175mm/6.89" W x 426mm/16.77" D x 376mm/14.8" H (with feet)																																																																		
Weight	Maximum configuration: 31.97 lb (14.5kg)																																																																		
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	4 DIMM sockets with 4 channels. RDIMMs, DDR4-2666																																																																		
Memory capacity	Up to 128GB with 4 x 32GB RDIMMs																																																																		
Memory protection	ECC																																																																		
	Two PCIe 3.0 x16 slots (see Expansion slots section). Up to one NVIDIA Quadro P5000 plus one Quadro P2000, or up to two Quadro P4000. Other graphics adapters under 75W up to 2. Supports the following graphics adapters:																																																																		
<b>Graphics</b>	<table border="1"> <thead> <tr> <th>Adapter</th> <th>Cores</th> <th>Memory</th> <th>Power</th> <th>Connector</th> <th>SLI</th> </tr> </thead> <tbody> <tr> <td>NVS 310</td> <td>48</td> <td>1GB</td> <td>19.5W</td> <td>2xDP</td> <td></td> </tr> <tr> <td>NVS 315</td> <td>48</td> <td>1GB</td> <td>19.3W</td> <td>2xDVI-I SLI/2xDP</td> <td></td> </tr> <tr> <td>NVS 510</td> <td>192</td> <td>2GB</td> <td>33.4W</td> <td>4xmini DP</td> <td></td> </tr> <tr> <td>NVS 810</td> <td>1024</td> <td>4GB</td> <td>68W</td> <td>8xmini DP</td> <td></td> </tr> <tr> <td>Quadro P400</td> <td>256</td> <td>2GB</td> <td>30W</td> <td>3xminiDP</td> <td></td> </tr> <tr> <td>Quadro P600</td> <td>384</td> <td>2GB</td> <td>45W</td> <td>4xminiDP</td> <td></td> </tr> <tr> <td>Quadro P1000</td> <td>640</td> <td>4GB</td> <td>50W</td> <td>4xminiDP</td> <td></td> </tr> <tr> <td>Quadro P2000</td> <td>1024</td> <td>5GB</td> <td>75W</td> <td>4xDP</td> <td></td> </tr> <tr> <td>Quadro P4000</td> <td>1792</td> <td>8GB</td> <td>120W</td> <td>4xDP</td> <td></td> </tr> <tr> <td>Quadro P5000</td> <td>2560</td> <td>16GB</td> <td>180W</td> <td>DVI-D DL-4xDP</td> <td></td> </tr> </tbody> </table>	Adapter	Cores	Memory	Power	Connector	SLI	NVS 310	48	1GB	19.5W	2xDP		NVS 315	48	1GB	19.3W	2xDVI-I SLI/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	
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<b>Storage controllers</b>	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 with Intel NVMe RAID upgrade basic. Optional Broadcom 9440-8i, PCIe adapter, 12Gbps. SATA/SAS, RAID 0/1/10/5																																																																		
	Two 5.25" flex bays, supports the following options:																																																																		
5.25" flex bay	<ul style="list-style-type: none"> <li>Up to two half-height optical drives.</li> <li>Up to two 5.25" slim ODD cages.</li> <li>Up to two 5.25" slim ODD and HDD cages.</li> <li>Up to one Front Access Storage Enclosure.</li> <li>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</li> </ul> <p>Note: Only one can be supported from 15-in-1 reader, Thunderbolt, and 4-digit display</p>																																																																		
<b>Disk drive bays</b>	Up to two internal 3.5" drive bays. 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																																																																		
<b>M.2 slots</b>	<ul style="list-style-type: none"> <li>Up to 5 x M.2 PCIe NVMe SSD:</li> <li>Two onboard M.2 slots.</li> <li>Up to three PCIe 3.0 x4 adapters, each adapter supports one M.2 slot</li> <li>Supports RAID 0/1 on onboard M.2 disks, optional NVMe RAID upgrade is needed</li> </ul>																																																																		
<b>Internal storage</b>	<table border="1"> <thead> <tr> <th>HDD</th> <th>7.2K 3.5" SATA6Gbps</th> <th>1TB/2TB/4TB</th> </tr> </thead> <tbody> <tr> <td>SSD</td> <td>2.5" SATA6Gbps</td> <td>256GB Opal/512GB Opal/1TB Opal/2TB Opal</td> </tr> <tr> <td>M.2</td> <td>PCIe NVMe, PCIe 3.0 x4/256GB Opal/512GB Opal/1TB Opal</td> <td></td> </tr> </tbody> </table>	HDD	7.2K 3.5" SATA6Gbps	1TB/2TB/4TB	SSD	2.5" SATA6Gbps	256GB Opal/512GB Opal/1TB Opal/2TB Opal	M.2	PCIe NVMe, PCIe 3.0 x4/256GB Opal/512GB Opal/1TB Opal																																																										
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M.2	PCIe NVMe, PCIe 3.0 x4/256GB Opal/512GB Opal/1TB Opal																																																																		
<b>Media reader</b>	9-in-1 USB 2.0 card reader on most models. Optional UHS-II 15-in-1 USB 3.0 reader on flex module																																																																		
<b>Network interfaces</b>	Integrated one gigabit ethernet (Intel I219LM), supports Wake-on-LAN. Optional PCIe ethernet or wireless adapters are available																																																																		
<b>Security features</b>	Power-on and admin password, Trusted Platform Module, TCG 2.0 compliant, switch to 1.2 via UEFI setting. Optional Kensington lock, and pad lock																																																																		
<b>Systems management</b>	Intel Active Management Technology 11. ThinkStation Diagnostics for Windows. Optional front 4-digit diagnostic display on flex module																																																																		
<b>Base warranty</b>	1 or 3-year limited onsite service with 9x5/NBD																																																																		
<b>HD Audio</b>	Realtek ALC662 codec																																																																		
<b>Front ports</b>	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)																																																																		
<b>Rear ports</b>	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																																																																		

<b>Components</b>	<b>Specification</b>																								
Optional ports	<ul style="list-style-type: none"> <li>Supports the following optional ports:</li> <li>Optional COM port</li> <li>Two USB Type-C ports via PCIe adapter, USB 3.1 gen 2. One 15W, one 5W</li> <li>Two Thunderbolt ports (USB Type-C) on flex module, one of two ports supports video-out.</li> <li>One eSATA on flex module</li> <li>One internal USB 3.0 port</li> </ul>																								
<b>Power supply</b>	One fixed 500W, autosensing, 92%, 80 PLUS Platinum qualified																								
	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																								
<b>Environmental specification</b>	RoHS-compliant, GREENGUARD, EPEAT Gold rating and ENERGY STAR 6.1 qualified on following models:																								
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<b>ISV certifications</b>	Please visit <a href="http://www.thinkworkstations.com/isv-certifications/">www.thinkworkstations.com/isv-certifications/</a>																								



**Expansion slots**

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

Note: When NVIDIA Quadro P5000, dual Quadro NVS 810, or dual Quadro P4000 is used, the HDD bay on the bottom will be unavailable

Note: All expansion cards are optional