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EMEA

# Product Specifications Reference

PDF REFERENCE

Version 492, July 2016

ThinkStation® WorkStations

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# **Summary of Changes**

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This section describes the changes made in this version of ThinkStation PSREF and in previous version. This edition might also include minor corrections and editorial changes which are not identified.

## **July 13, 2016 - Version 492**

- ▶ Add ThinkStation P500, P700, and P900 Windows 10 downgrade to Windows 7 models
- ▶ Update Maximum configuration weight of ThinkStation P410
- ▶ Add ThinkStation P710 and P910 models announced on July 2016
- ▶ Add "Maximum drives in 3.5" bay" feature on ThinkStation P500/P510/P700/P710/P900/P910

## **June 22, 2016 - Version 491**

- ▶ Add new product ThinkStation P410/P510
- ▶ Add NVIDIA Quadro M2000 on ThinkStation P310 Tower
- ▶ Add keyboard and mouse information on ThinkStation P710/P910
- ▶ Add internal USB information on ThinkStation P710/P910

## **June 2, 2016 - Version 490**

- ▶ Add ThinkStation P710/P910 US models
- ▶ Update ThinkStation P710/P910 processor information

## **May 19, 2016 - Version 489**

- ▶ Add NVIDIA Quadro M2000 on compatible product
- ▶ Update maximum weight on ThinkStation P710
- ▶ Remove 30AT000BUS

## **April 6, 2016 - Version 488**

- ▶ Add ThinkStation P710 and P910 models for EMEA, announced on April 2016
- ▶ Update Energy star information on ThinkStation P500/P700/P710/P900/P910

## **April 6, 2016 - Version 487**

- ▶ New ThinkStation P710 and P910, announced April 5, 2016 (specification only)

## **March 23, 2016 - Version 486**

- ▶ Add processors specifications for P310/P500/P700/P900

### **February 24, 2016 - Version 485**

- ▶ Add ThinkStation P310 and P700 models for US, announced on February 2016
- ▶ Add ThinkStation P700 and P900 models for EMEA, announced on February 2016

### **December 9, 2015 - Version 482**

- ▶ New ThinkStation P310 Tower and SFF, announced November 24, 2015

### **November 18, 2015 - Version 481**

- ▶ Combines ThinkStation PSREF United States version and Western Europe version.
- ▶ Extends the supported GEO into Europe, Middle East and Africa.
- ▶ Covers all TopSeller and Relationship models for US and all focus models for EMEA

# ThinkStation P310 Tower Platform Specifications

Product Specifications Reference (PSREF)

Components	Specification	Components	Specification																																																		
Chipset	Intel C236 Chipset	Onboard Ethernet	One onboard gigabit ethernet, Intel I219LM, supports Wake-on-LAN																																																		
Intel AMT	Intel Active Management Technology 11 supported on Xeon models	HD Audio	Realtek ALC662 codec																																																		
Processor	<p>One LGA1151 socket, supports one of the following processors:</p> <table border="1"> <tr><td>Xeon E3-1280 v5</td><td>4C/3.7GHz/8MB/80W/DDR4-2133</td></tr> <tr><td>Xeon E3-1275 v5</td><td>4C/3.6GHz/8MB/80W/DDR4-2133</td></tr> <tr><td>Xeon E3-1270 v5</td><td>4C/3.6GHz/8MB/80W/DDR4-2133</td></tr> <tr><td>Xeon E3-1245 v5</td><td>4C/3.5GHz/8MB/80W/DDR4-2133</td></tr> <tr><td>Xeon E3-1240 v5</td><td>4C/3.5GHz/8MB/80W/DDR4-2133</td></tr> <tr><td>Xeon E3-1230 v5</td><td>4C/3.4GHz/8MB/80W/DDR4-2133</td></tr> <tr><td>Xeon E3-1225 v5</td><td>4C/3.3GHz/8MB/80W/DDR4-2133</td></tr> <tr><td>Xeon E3-1220 v5</td><td>4C/3GHz/8MB/80W/DDR4-2133</td></tr> <tr><td>Core i7-6700</td><td>4C/3.4GHz/8MB/65W/DDR4-2133</td></tr> <tr><td>Core i5-6600</td><td>4C/3.3GHz/6MB/65W/DDR4-2133</td></tr> <tr><td>Core i5-6500</td><td>4C/3.2GHz/6MB/65W/DDR4-2133</td></tr> <tr><td>Core i5-6400</td><td>4C/2.7GHz/6MB/65W/DDR4-2133</td></tr> <tr><td>Core i3-6320</td><td>2C/3.9GHz/4MB/51W/DDR4-2133</td></tr> <tr><td>Core i3-6300</td><td>2C/3.8GHz/4MB/51W/DDR4-2133</td></tr> <tr><td>Core i3-6100</td><td>2C/3.7GHz/3MB/51W/DDR4-2133</td></tr> </table>	Xeon E3-1280 v5	4C/3.7GHz/8MB/80W/DDR4-2133	Xeon E3-1275 v5	4C/3.6GHz/8MB/80W/DDR4-2133	Xeon E3-1270 v5	4C/3.6GHz/8MB/80W/DDR4-2133	Xeon E3-1245 v5	4C/3.5GHz/8MB/80W/DDR4-2133	Xeon E3-1240 v5	4C/3.5GHz/8MB/80W/DDR4-2133	Xeon E3-1230 v5	4C/3.4GHz/8MB/80W/DDR4-2133	Xeon E3-1225 v5	4C/3.3GHz/8MB/80W/DDR4-2133	Xeon E3-1220 v5	4C/3GHz/8MB/80W/DDR4-2133	Core i7-6700	4C/3.4GHz/8MB/65W/DDR4-2133	Core i5-6600	4C/3.3GHz/6MB/65W/DDR4-2133	Core i5-6500	4C/3.2GHz/6MB/65W/DDR4-2133	Core i5-6400	4C/2.7GHz/6MB/65W/DDR4-2133	Core i3-6320	2C/3.9GHz/4MB/51W/DDR4-2133	Core i3-6300	2C/3.8GHz/4MB/51W/DDR4-2133	Core i3-6100	2C/3.7GHz/3MB/51W/DDR4-2133	TPM	Standard, TCG 1.2-compliant																				
Xeon E3-1280 v5	4C/3.7GHz/8MB/80W/DDR4-2133																																																				
Xeon E3-1275 v5	4C/3.6GHz/8MB/80W/DDR4-2133																																																				
Xeon E3-1270 v5	4C/3.6GHz/8MB/80W/DDR4-2133																																																				
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Xeon E3-1240 v5	4C/3.5GHz/8MB/80W/DDR4-2133																																																				
Xeon E3-1230 v5	4C/3.4GHz/8MB/80W/DDR4-2133																																																				
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Memory DIMM slots	4 DIMM slots, 2-channel (integrated memory controller in processor)	Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)																																																		
Memory type/capacity	Up to 64GB ECC/non-ECC (4 x 16GB), DDR4-2133, UDIMM	Rear ports	1 VGA and 2 DisplayPort (for Intel HD Graphics models only), two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)																																																		
Intel HD Graphics in processor	<p>Integrated Intel HD P530 in Xeon E3-12x5 v5 processors; or Intel HD 530 in Core i7, i5, or i3 processors. Works along with discrete graphics to support multi-display, enables three display connectors (2 DP, 1 VGA) on rear.</p> <p>Max resolution: 4096 x 2304</p>	IEEE 1394	Optional. One front port in flex module and one rear port																																																		
Discrete graphics	<p>Two PCI Express 3.0 x16 slots for graphics adapters.</p> <p>Up to two Quadro K1200 on 250 watts models.</p> <p>Or up to two Quadro K2200, or up to one Quadro M4000 on 400 watts models.</p> <p>Supports the following NVIDIA graphics adapters:</p> <table border="1"> <tr><td>Adapter</td><td>Cores</td><td>Memory</td><td>Power</td><td>Connector</td></tr> <tr><td>NVS 310</td><td>48</td><td>1GB</td><td>19.5W</td><td>2xDP</td></tr> <tr><td>NVS 315</td><td>48</td><td>1GB</td><td>19.5W</td><td>2xDVI-I SL/2xDP</td></tr> <tr><td>NVS 510</td><td>192</td><td>2GB</td><td>33.4W</td><td>4xmini DP</td></tr> <tr><td>Quadro K420</td><td>192</td><td>2GB</td><td>41W</td><td>1xDVI-I DL+1xDP</td></tr> <tr><td>Quadro K620</td><td>384</td><td>2GB</td><td>45W</td><td>1xDVI-I DL+1xDP</td></tr> <tr><td>Quadro K1200</td><td>512</td><td>4GB</td><td>45W</td><td>4xminiDP</td></tr> <tr><td>Quadro K2200</td><td>640</td><td>4GB</td><td>68W</td><td>1xDVI-I DL+2xDP</td></tr> <tr><td>Quadro M2000</td><td>768</td><td>4GB</td><td>75W</td><td>4xDP</td></tr> <tr><td>Quadro M4000</td><td>1664</td><td>8GB</td><td>120W</td><td>4xDP</td></tr> </table>	Adapter	Cores	Memory	Power	Connector	NVS 310	48	1GB	19.5W	2xDP	NVS 315	48	1GB	19.5W	2xDVI-I SL/2xDP	NVS 510	192	2GB	33.4W	4xmini DP	Quadro K420	192	2GB	41W	1xDVI-I DL+1xDP	Quadro K620	384	2GB	45W	1xDVI-I DL+1xDP	Quadro K1200	512	4GB	45W	4xminiDP	Quadro K2200	640	4GB	68W	1xDVI-I DL+2xDP	Quadro M2000	768	4GB	75W	4xDP	Quadro M4000	1664	8GB	120W	4xDP	eSATA	Optional. One front port in flex module
Adapter	Cores	Memory	Power	Connector																																																	
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Quadro M4000	1664	8GB	120W	4xDP																																																	
Onboard drive controller	Five onboard SATA 6.0Gb/s connectors for optical and disk drives plus one SATA connector for optional eSATA. RAID 0, 1, 5, 10 support	Keyboard/Mouse	104-key Keyboard and optical mouse, USB connector																																																		
Drive Bays	<p>Two external 5.25" bays, two internal 3.5" bays (see right).</p> <p>Up to one 9.5mm optical plus 4 x 3.5" disk drive bays plus one M.2 NVMe SSD</p>	Mechanical	<ul style="list-style-type: none"> <li>• Raven black color; metal case</li> <li>• 6.89"W x 16.77"D x 14.8"H</li> <li>• 175mm W x 426mm D x 376mm H</li> <li>• 28.66 lb (13kg) max configuration</li> <li>• 25-liter</li> </ul>																																																		
Supporting disk drives	<table border="1"> <tr><td>3.5" SATA HDD (7.2K 6Gbs)</td><td>500GB/1TB/2TB/3TB/4TB/1TB hybrid/2TB hybrid</td></tr> <tr><td>2.5" SATA SSD (6Gbs)</td><td>128GB/180GB*/240GB*/256GB*/480GB*/512GB/1TB*</td></tr> <tr><td>M.2 NVMe SSD</td><td>256GB*/512GB, via PCIe 3.0 x4 adapter</td></tr> </table> <p>* Includes OPAL options</p>	3.5" SATA HDD (7.2K 6Gbs)	500GB/1TB/2TB/3TB/4TB/1TB hybrid/2TB hybrid	2.5" SATA SSD (6Gbs)	128GB/180GB*/240GB*/256GB*/480GB*/512GB/1TB*	M.2 NVMe SSD	256GB*/512GB, via PCIe 3.0 x4 adapter	Environmental certifications	GREENGUARD certified/RoHS-compliant/EPEAT Gold rating/ENERGY STAR 6.1 qualified																																												
3.5" SATA HDD (7.2K 6Gbs)	500GB/1TB/2TB/3TB/4TB/1TB hybrid/2TB hybrid																																																				
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M.2 NVMe SSD	256GB*/512GB, via PCIe 3.0 x4 adapter																																																				
Max internal storage	16TB (4 x 4TB 3.5" HDDs) plus 512GB M.2 NVMe SSD	Limited warranty	1 or 3-year limited onsite service with 9x5/NBD. Some parts are Customer Replaceable Units.																																																		
Media reader	9-in-1 card reader. Optional 29-in-1 card reader on selected models																																																				
Power supply	<p>Supports one of the following:</p> <ul style="list-style-type: none"> <li>• 250 watts with variable speed fan, autosensing, 85% PSU, Climate Savers Computing Bronze, 80 PLUS Bronze qualified</li> <li>• 400 watts with variable speed fan, autosensing, 92% PSU, Climate Savers Computing Platinum, 80 PLUS Platinum qualified</li> </ul>	<p><b>Drive Bays and PCIe Slots</b></p> <table border="1"> <tr><td>5.25"</td><td>support one of the following:</td></tr> <tr><td>Bay 1 and Bay 2</td><td>HH optical/flex module**/9.5mm optical+3.5" HDD bay/3.5" HDD bay/Front Access Storage Enclosure ** Flex module supports one or more of the following: 9.5mm optical/29-in-1 reader/front IEEE 1394/front eSATA. Up to one flex module is supported per system.</td></tr> <tr><td>Bay 3</td><td>Optional 9-in-1 single slot reader</td></tr> <tr><td>Bay 4</td><td>Standard 3.5" HDD bay</td></tr> <tr><td>Bay 5</td><td>Standard 3.5" HDD bay</td></tr> <tr><td>6 -Slots</td><td>Four PCIe slots (top-down): Slot 1: Half length, full height, PCIe 3.0 x16 (near CPU) Slot 2: Half length, full height, PCIe 3.0 x1 Slot 3: Half length, full height, PCIe 3.0 x16 (x4 elec) Slot 4: Half length, full height, PCIe 3.0 x1</td></tr> </table>		5.25"	support one of the following:	Bay 1 and Bay 2	HH optical/flex module**/9.5mm optical+3.5" HDD bay/3.5" HDD bay/Front Access Storage Enclosure ** Flex module supports one or more of the following: 9.5mm optical/29-in-1 reader/front IEEE 1394/front eSATA. Up to one flex module is supported per system.	Bay 3	Optional 9-in-1 single slot reader	Bay 4	Standard 3.5" HDD bay	Bay 5	Standard 3.5" HDD bay	6 -Slots	Four PCIe slots (top-down): Slot 1: Half length, full height, PCIe 3.0 x16 (near CPU) Slot 2: Half length, full height, PCIe 3.0 x1 Slot 3: Half length, full height, PCIe 3.0 x16 (x4 elec) Slot 4: Half length, full height, PCIe 3.0 x1																																						
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For the list of ISV certifications, please visit [www.thinkworkstations.com/isv-certifications/](http://www.thinkworkstations.com/isv-certifications/)  
For a list of all supported options, please visit [https://download.lenovo.com/pccbbs/options\\_iso/ocm\\_june\\_2016.xlsx](https://download.lenovo.com/pccbbs/options_iso/ocm_june_2016.xlsx) sheet

# ThinkStation P310 Tower - TopSeller - 30AT - United States

Product Specifications Reference (PSREF)

Model	Processor	Memory	Intel HD graphics	Discrete graphics	Internal disk drive	M.2 NVMe SSD	Optical	Media reader	Power supply	1394	eSATA	Preloaded OS	Base warranty	Global	Ann date (mm/yy)
30AT000CUS	Xeon E3-1245 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 ECC DDR4-2133 UDIMM	Intel HD P530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT000DUS	Core i3-6100 2C/3.7GHz/3MB/51W/DDR4-2133	4GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT000EUS	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT000FUS	Xeon E3-1245 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD P530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT000GUS	Xeon E3-1245 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD P530	Open	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT000HUS	Xeon E3-1240 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	None	Quadro K620 2GB	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT000JUS	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Quadro K620 2GB	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT000KUS	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Quadro K2200 4GB	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT000LUS	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx2 non-ECC DDR4-2133 UDIMM	Intel HD 530	Quadro K2200 4GB	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT000MUS	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx2 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT000NUS	Core i5-6500 4C/3.2GHz/6MB/65W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT000PUS	Xeon E3-1245 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx2 non-ECC DDR4-2133 UDIMM	Intel HD P530	Open	Open	1x256GB OPAL	DVD±RW	9-in-1	400W 92%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT005CUS	Xeon E3-1240 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 ECC 2133MHz UDIMM	None	Quadro K620 2GB	Open	1x256GB OPAL	DVD±RW	9-in-1	250W 85%	No	No	Win10 Pro64	3-year	No	07/16
30AT005DUS	Xeon E3-1220 v5 4C/3GHz/8MB/80W/DDR4-2133	8GBx1 ECC 2133MHz UDIMM	None	Quadro K620 2GB	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win10 Pro64	3-year	No	07/16
30AT005EUS	Xeon E3-1240 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 ECC 2133MHz UDIMM	None	Quadro M2000 4GB	Open	1x256GB OPAL	DVD±RW	9-in-1	250W 85%	No	No	Win10 Pro64	3-year	No	07/16
30AT005FUS	Xeon E3-1245 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 ECC 2133MHz UDIMM	Intel HD P530	Open	Open	1x256GB OPAL	DVD±RW	9-in-1	250W 85%	No	No	Win10 Pro64	3-year	No	07/16
30AT005GUS	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx1 non-ECC 2133MHz UDIMM	Intel HD 530	Quadro K620 2GB	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win10 Pro64	3-year	No	07/16
30AT005HUS	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx1 non-ECC 2133MHz UDIMM	Intel HD 530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	400W 92%	No	No	Win10 Pro64	3-year	No	07/16
30AT005JUS	Xeon E3-1245 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 ECC 2133MHz UDIMM	Intel HD P530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	400W 92%	No	No	Win10 Pro64	3-year	No	07/16
30AT005KUS	Core i5-6500 4C/3.2GHz/6MB/65W/DDR4-2133	8GBx1 non-ECC 2133MHz UDIMM	Intel HD 530	Quadro K620 2GB	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win10 Pro64	3-year	No	07/16
30AT005LUS	Core i3-6100 2C/3.7GHz/3MB/51W/DDR4-2133	8GBx1 non-ECC 2133MHz UDIMM	Intel HD 530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win10 Pro64	3-year	No	07/16
30AT005MUS	Xeon E3-1245 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 ECC 2133MHz UDIMM	Intel HD P530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win10 Pro64	3-year	No	07/16
30AT005NUS	Xeon E3-1240 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 ECC 2133MHz UDIMM	None	Quadro K620 2GB	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win10 Pro64	3-year	No	07/16
30AT005PUS	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx1 non-ECC 2133MHz UDIMM	Intel HD 530	Quadro M2000 4GB	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	250W 85%	No	No	Win10 Pro64	3-year	No	07/16

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Model	Processor	Memory	Intel HD graphics	Discrete graphics	Internal disk drive	M.2 NVMe SSD	Optical	Media reader	Power supply	1394	eSATA	Preloaded OS	Base warranty	Global	Ann date (mm/yy)
30AT000F++	Xeon E3-1245 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD P530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT000G++	Xeon E3-1245 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD P530	Open	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT000J++	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Quadro K620 2GB	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT000M++	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx2 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT0021++	Xeon E3-1230 v5 4C/3.4GHz/8MB/80W/DDR4-2133	8GBx1 ECC DDR4-2133 UDIMM	None	Quadro K2200 4GB	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT0022++	Xeon E3-1245 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD P530	Open	1x1TB 3.5" SATA6Gbs 7.2K Hybrid	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT0023++	Xeon E3-1275 v5 4C/3.6GHz/8MB/80W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD P530	Open	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT0024++	Xeon E3-1225 v5 4C/3.3GHz/8MB/80W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD P530	Open	1x1TB 3.5" SATA6Gbs 7.2K Hybrid	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT0025++	Xeon E3-1225 v5 4C/3.3GHz/8MB/80W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD P530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT0026++	Xeon E3-1245 v5 4C/3.5GHz/8MB/80W/DDR4-2133	4GBx2 non-ECC DDR4-2133 UDIMM	Intel HD P530	Quadro K620 2GB	1x500GB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT0027++	Xeon E3-1225 v5 4C/3.3GHz/8MB/80W/DDR4-2133	4GBx1 non-ECC DDR4-2133 UDIMM	Intel HD P530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT0028++	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx2 non-ECC DDR4-2133 UDIMM	Intel HD 530	Quadro M4000 8GB	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	400W 92%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT0029++	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x1TB 3.5" SATA6Gbs 7.2K Hybrid	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT002B++	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	4GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT002D++	Core i5-6400 4C/2.7GHz/6MB/65W/DDR4-2133	4GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x500GB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT002E++	Core i5-6500 4C/3.2GHz/6MB/65W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x1TB 3.5" SATA6Gbs 7.2K Hybrid	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT002F++	Core i5-6600 4C/3.3GHz/6MB/65W/DDR4-2133	8GBx2 non-ECC DDR4-2133 UDIMM	Intel HD 530	Quadro K620 2GB	1x1TB 3.5" SATA6Gbs 7.2K Hybrid	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT002G++	Core i5-6500 4C/3.2GHz/6MB/65W/DDR4-2133	4GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AT002Q++	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	4GBx2 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	Open	1x256GB OPAL	DVD±RW	9-in-1	250W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15

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Components	Specification	Components	Specification																																			
Chipset	Intel C236 Chipset	TPM	Standard, TCG 1.2-compliant																																			
Intel AMT	Intel Active Management Technology 11 supported on Xeon models	Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)																																			
Processor	<p>One LGA1151 socket, supports one of the following processors:</p> <table border="1"> <tr><td>Xeon E3-1280 v5</td><td>4C/3.7GHz/8MB/80W/DDR4-2133</td></tr> <tr><td>Xeon E3-1275 v5</td><td>4C/3.6GHz/8MB/80W/DDR4-2133</td></tr> <tr><td>Xeon E3-1270 v5</td><td>4C/3.6GHz/8MB/80W/DDR4-2133</td></tr> <tr><td>Xeon E3-1245 v5</td><td>4C/3.5GHz/8MB/80W/DDR4-2133</td></tr> <tr><td>Xeon E3-1240 v5</td><td>4C/3.5GHz/8MB/80W/DDR4-2133</td></tr> <tr><td>Xeon E3-1230 v5</td><td>4C/3.4GHz/8MB/80W/DDR4-2133</td></tr> <tr><td>Xeon E3-1225 v5</td><td>4C/3.3GHz/8MB/80W/DDR4-2133</td></tr> <tr><td>Xeon E3-1220 v5</td><td>4C/3GHz/8MB/80W/DDR4-2133</td></tr> <tr><td>Core i7-6700</td><td>4C/3.4GHz/8MB/65W/DDR4-2133</td></tr> <tr><td>Core i5-6600</td><td>4C/3.3GHz/6MB/65W/DDR4-2133</td></tr> <tr><td>Core i5-6500</td><td>4C/3.2GHz/6MB/65W/DDR4-2133</td></tr> <tr><td>Core i5-6400</td><td>4C/2.7GHz/6MB/65W/DDR4-2133</td></tr> <tr><td>Core i3-6320</td><td>2C/3.9GHz/4MB/51W/DDR4-2133</td></tr> <tr><td>Core i3-6300</td><td>2C/3.8GHz/4MB/51W/DDR4-2133</td></tr> <tr><td>Core i3-6100</td><td>2C/3.7GHz/3MB/51W/DDR4-2133</td></tr> </table>	Xeon E3-1280 v5	4C/3.7GHz/8MB/80W/DDR4-2133	Xeon E3-1275 v5	4C/3.6GHz/8MB/80W/DDR4-2133	Xeon E3-1270 v5	4C/3.6GHz/8MB/80W/DDR4-2133	Xeon E3-1245 v5	4C/3.5GHz/8MB/80W/DDR4-2133	Xeon E3-1240 v5	4C/3.5GHz/8MB/80W/DDR4-2133	Xeon E3-1230 v5	4C/3.4GHz/8MB/80W/DDR4-2133	Xeon E3-1225 v5	4C/3.3GHz/8MB/80W/DDR4-2133	Xeon E3-1220 v5	4C/3GHz/8MB/80W/DDR4-2133	Core i7-6700	4C/3.4GHz/8MB/65W/DDR4-2133	Core i5-6600	4C/3.3GHz/6MB/65W/DDR4-2133	Core i5-6500	4C/3.2GHz/6MB/65W/DDR4-2133	Core i5-6400	4C/2.7GHz/6MB/65W/DDR4-2133	Core i3-6320	2C/3.9GHz/4MB/51W/DDR4-2133	Core i3-6300	2C/3.8GHz/4MB/51W/DDR4-2133	Core i3-6100	2C/3.7GHz/3MB/51W/DDR4-2133	Rear ports	1 VGA and 2 DisplayPort (functional only on Intel HD Graphics models), two USB 2.0, four USB 3.0 (blue), one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)					
Xeon E3-1280 v5	4C/3.7GHz/8MB/80W/DDR4-2133																																					
Xeon E3-1275 v5	4C/3.6GHz/8MB/80W/DDR4-2133																																					
Xeon E3-1270 v5	4C/3.6GHz/8MB/80W/DDR4-2133																																					
Xeon E3-1245 v5	4C/3.5GHz/8MB/80W/DDR4-2133																																					
Xeon E3-1240 v5	4C/3.5GHz/8MB/80W/DDR4-2133																																					
Xeon E3-1230 v5	4C/3.4GHz/8MB/80W/DDR4-2133																																					
Xeon E3-1225 v5	4C/3.3GHz/8MB/80W/DDR4-2133																																					
Xeon E3-1220 v5	4C/3GHz/8MB/80W/DDR4-2133																																					
Core i7-6700	4C/3.4GHz/8MB/65W/DDR4-2133																																					
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Core i5-6400	4C/2.7GHz/6MB/65W/DDR4-2133																																					
Core i3-6320	2C/3.9GHz/4MB/51W/DDR4-2133																																					
Core i3-6300	2C/3.8GHz/4MB/51W/DDR4-2133																																					
Core i3-6100	2C/3.7GHz/3MB/51W/DDR4-2133																																					
Memory DIMM slots	4 DIMM slots, 2-channel (integrated memory controller in processor)	IEEE 1394	Optional. One front port in flex module and one rear port																																			
Memory type/capacity	Up to 64GB ECC/non-ECC (4 x 16GB), DDR4-2133, UDIMM	eSATA	Optional. One front port in flex module																																			
Intel HD Graphics in processor	<p>Integrated Intel HD P530 in Xeon E3-12x5 v5 processors; or Intel HD 530 in Core i7, i5, or i3 processors. Works along with discrete graphics to support multi-display, enables three display connectors (2 DP, 1 VGA) on rear.</p> <p>Max Resolution: 4096 x 2304</p>	Keyboard/Mouse	104-key Keyboard and optical mouse, USB connector <ul style="list-style-type: none"> <li>• Raven black color; metal case</li> <li>• 4.02" W x 15.53" D x 13.31" H</li> <li>• 102mm W x 394.5mm D x 338mm H</li> <li>• 17.2 lb (7.9kg) max configuration</li> <li>• 12.9-liter</li> </ul>																																			
Discrete graphics	<p>Two PCI Express 3.0 x16 slots for graphics adapters. Up to two Quadro K1200. Supports the following NVIDIA graphics adapters:</p> <table border="1"> <tr><td>Adapter</td><td>Cores</td><td>Memory</td><td>Power</td><td>Connector</td></tr> <tr><td>NVS 310</td><td>48</td><td>1GB</td><td>19.5W</td><td>2xDP</td></tr> <tr><td>NVS 315</td><td>48</td><td>1GB</td><td>19.5W</td><td>2xDVI-I SL/2xDP</td></tr> <tr><td>NVS 510</td><td>192</td><td>2GB</td><td>33.4W</td><td>4xmini DP</td></tr> <tr><td>Quadro K420</td><td>192</td><td>2GB</td><td>41W</td><td>1xDVI-I DL+1xDP</td></tr> <tr><td>Quadro K620</td><td>384</td><td>2GB</td><td>45W</td><td>1xDVI-I DL+1xDP</td></tr> <tr><td>Quadro K1200</td><td>512</td><td>4GB</td><td>45W</td><td>4xminiDP</td></tr> </table>	Adapter	Cores	Memory	Power	Connector	NVS 310	48	1GB	19.5W	2xDP	NVS 315	48	1GB	19.5W	2xDVI-I SL/2xDP	NVS 510	192	2GB	33.4W	4xmini DP	Quadro K420	192	2GB	41W	1xDVI-I DL+1xDP	Quadro K620	384	2GB	45W	1xDVI-I DL+1xDP	Quadro K1200	512	4GB	45W	4xminiDP	Environmental certifications	GREENGUARD certified/RoHS-compliant/EPEAT Gold rating/ENERGY STAR 6.1 qualified
Adapter	Cores	Memory	Power	Connector																																		
NVS 310	48	1GB	19.5W	2xDP																																		
NVS 315	48	1GB	19.5W	2xDVI-I SL/2xDP																																		
NVS 510	192	2GB	33.4W	4xmini DP																																		
Quadro K420	192	2GB	41W	1xDVI-I DL+1xDP																																		
Quadro K620	384	2GB	45W	1xDVI-I DL+1xDP																																		
Quadro K1200	512	4GB	45W	4xminiDP																																		
Onboard drive controller	<p>Five onboard SATA 6.0Gb/s connectors for optical and disk drives plus one SATA connector for optional eSATA. RAID 0, 1, 5* support</p> <p>* RAID 5 supports three 2.5" SSD drives only.</p>	Limited warranty	1 or 3-year limited onsite service with 9x5/NBD. Some parts are Customer Replaceable Units.																																			
Drive Bays	<p>One external 5.25" bay, one internal 3.5" bay (see right).</p> <p>Up to one 9.5mm optical + 2 x 3.5" disk drive bays + 1 x 2.5" disk drive bay + one M.2 NVMe SSD</p>	<b>Drive Bays and PCIe Slots</b> <table border="1"> <tr><td>Bay 1</td><td>5.25", supports one of the following: HH optical/flex module***/9.5mm optical+3.5" HDD bay/ 3.5" HDD bay/Front Access Storage Enclosure *** Flex module supports one or more of the following: 9.5mm optical/ 29-in-1 reader/front IEEE 1394/front eSATA. <i>Up to one flex module is supported per system.</i></td></tr> <tr><td>Bay 2</td><td>Optional 9-in-1 single slot reader</td></tr> <tr><td>Bay 3</td><td>Standard 3.5" HDD bay</td></tr> <tr><td>Bay 4</td><td>Optional 2.5" HDD bay (under Bay 3)</td></tr> <tr><td>5 -Slots</td><td> <p>Four PCIe slots (top-down): Slot 1: Low Profile, PCIe 3.0 x16 (near CPU) Slot 2: Low Profile, PCIe 3.0 x1 Slot 3: Low Profile, PCIe 3.0 x16 (x4 elec) Slot 4: Low Profile, PCIe 3.0 x1</p> </td></tr> </table>		Bay 1	5.25", supports one of the following: HH optical/flex module***/9.5mm optical+3.5" HDD bay/ 3.5" HDD bay/Front Access Storage Enclosure *** Flex module supports one or more of the following: 9.5mm optical/ 29-in-1 reader/front IEEE 1394/front eSATA. <i>Up to one flex module is supported per system.</i>	Bay 2	Optional 9-in-1 single slot reader	Bay 3	Standard 3.5" HDD bay	Bay 4	Optional 2.5" HDD bay (under Bay 3)	5 -Slots	<p>Four PCIe slots (top-down): Slot 1: Low Profile, PCIe 3.0 x16 (near CPU) Slot 2: Low Profile, PCIe 3.0 x1 Slot 3: Low Profile, PCIe 3.0 x16 (x4 elec) Slot 4: Low Profile, PCIe 3.0 x1</p>																									
Bay 1	5.25", supports one of the following: HH optical/flex module***/9.5mm optical+3.5" HDD bay/ 3.5" HDD bay/Front Access Storage Enclosure *** Flex module supports one or more of the following: 9.5mm optical/ 29-in-1 reader/front IEEE 1394/front eSATA. <i>Up to one flex module is supported per system.</i>																																					
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Bay 4	Optional 2.5" HDD bay (under Bay 3)																																					
5 -Slots	<p>Four PCIe slots (top-down): Slot 1: Low Profile, PCIe 3.0 x16 (near CPU) Slot 2: Low Profile, PCIe 3.0 x1 Slot 3: Low Profile, PCIe 3.0 x16 (x4 elec) Slot 4: Low Profile, PCIe 3.0 x1</p>																																					
Supporting disk drives	<table border="1"> <tr><td>3.5" SATA HDD (7.2K 6Gbs)</td><td>500GB/1TB/2TB/3TB/4TB/1TB hybrid/2TB hybrid</td></tr> <tr><td>2.5" SATA SSD (6Gbs)</td><td>128GB/180GB*/240GB*/256GB*/480GB*/512GB/1TB*</td></tr> <tr><td>M.2 NVMe SSD</td><td>256GB*/512GB, via PCIe 3.0 x4 adapter</td></tr> </table> <p><i>** Includes OPAL options</i></p>	3.5" SATA HDD (7.2K 6Gbs)	500GB/1TB/2TB/3TB/4TB/1TB hybrid/2TB hybrid	2.5" SATA SSD (6Gbs)	128GB/180GB*/240GB*/256GB*/480GB*/512GB/1TB*	M.2 NVMe SSD	256GB*/512GB, via PCIe 3.0 x4 adapter	<p>For the list of ISV certifications, please visit <a href="http://www.thinkworkstations.com/isv-certifications/">www.thinkworkstations.com/isv-certifications/</a></p> <p>For a list of all supported options, please visit <a href="https://download.lenovo.com/pccbbs/options_iso/ocm_june_2016.xlsx">https://download.lenovo.com/pccbbs/options_iso/ocm_june_2016.xlsx</a> sheet</p>																														
3.5" SATA HDD (7.2K 6Gbs)	500GB/1TB/2TB/3TB/4TB/1TB hybrid/2TB hybrid																																					
2.5" SATA SSD (6Gbs)	128GB/180GB*/240GB*/256GB*/480GB*/512GB/1TB*																																					
M.2 NVMe SSD	256GB*/512GB, via PCIe 3.0 x4 adapter																																					
Max internal storage	9TB (2 x 4TB 3.5" HDDs + 1 x 1TB 2.5" SSD) plus one 512GB M.2 NVMe SSD																																					
Media reader	9-in-1 card reader. Optional 29-in-1 card reader on selected models																																					
Power supply	210 watts with variable speed fan, autosensing, 85% PSU, Climate Savers Computing Bronze, 80 PLUS Bronze qualified																																					
Onboard Ethernet	One onboard gigabit ethernet, Intel I219LM, supports Wake-on-LAN																																					
HD Audio	Realtek ALC662 codec																																					

Model	Processor	Memory	Intel HD graphics	Discrete graphics	Internal disk drive	M.2 NVMe SSD	Optical	Media reader	Power supply	1394	eSATA	Preloaded OS		Base warranty	Global	Ann date (mm/yy)
30AV0007US	Core i5-6500 4C/3.2GHz/6MB/65W/DDR4-2133	4GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15	
30AV0008US	Core i3-6100 2C/3.7GHz/3MB/51W/DDR4-2133	4GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15	
30AV0009US	Core i3-6100 2C/3.7GHz/3MB/51W/DDR4-2133	4GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x500GB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15	
30AV000AUS	Core i5-6600 4C/3.3GHz/6MB/65W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15	
30AV000BUS	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15	
30AV000CUS	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15	
30AV000DUS	Xeon E3-1245 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD P530	Open	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15	
30AV000EUS	Xeon E3-1240 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	None	Quadro K620 2GB	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15	
30AV000WUS	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx2 non-ECC DDR4-2133 UDIMM	Intel HD 530	Quadro K620 2GB	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	02/16	
30AV000XUS	Xeon E3-1230 v5 4C/3.4GHz/8MB/80W/DDR4-2133	8GBx4 non-ECC DDR4-2133 UDIMM	None	Quadro K1200 4GB	1x512GB 2.5" SATA6Gbs SSD	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	02/16	
30AV000VUS	Core i5-6500 4C/3.2GHz/6MB/65W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Quadro K620 2GB	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	02/16	
30AV0012US	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Quadro K620 2GB	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win10 Pro64	3-year	No	07/16	
30AV001TUS	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win10 Pro64	3-year	No	07/16	
30AV001UUS	Core i5-6500 4C/3.2GHz/6MB/65W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win10 Pro64	3-year	No	07/16	
30AV001VUS	Xeon E3-1240 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 ECC DDR4-2133 UDIMM	None	Quadro K1200 4GB	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	210W 85%	No	No	Win10 Pro64	3-year	No	07/16	
30AV001WUS	Xeon E3-1240 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 ECC DDR4-2133 UDIMM	None	Quadro K620 2GB	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win10 Pro64	3-year	No	07/16	
30AV001XUS	Xeon E3-1245 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 ECC DDR4-2133 UDIMM	Intel HD P530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win10 Pro64	3-year	No	07/16	
30AV001YUS	Core i3-6100 2C/3.7GHz/3MB/51W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win10 Pro64	3-year	No	07/16	
30AV0020US	Xeon E3-1245 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 ECC DDR4-2133 UDIMM	Intel HD P530	Open	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	210W 85%	No	No	Win10 Pro64	3-year	No	07/16	
30AV0021US	Xeon E3-1220 v5 4C/3GHz/8MB/80W/DDR4-2133	8GBx1 ECC DDR4-2133 UDIMM	None	Quadro K620 2GB	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win10 Pro64	3-year	No	07/16	
30AV0022US	Xeon E3-1240 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 ECC DDR4-2133 UDIMM	None	Quadro K1200 4GB	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win10 Pro64	3-year	No	07/16	
30AV0023US	Xeon E3-1240 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 ECC DDR4-2133 UDIMM	None	Quadro K620 2GB	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	210W 85%	No	No	Win10 Pro64	3-year	No	07/16	

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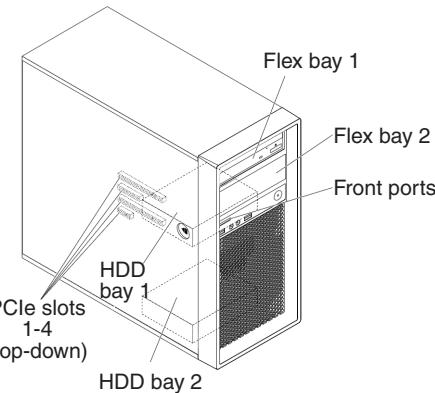
Model	Processor	Memory	Intel HD graphics	Discrete graphics	Internal disk drive	M.2 NVMe SSD	Optical	Media reader	Power supply	1394	eSATA	Preloaded OS	Base warranty	Global	Ann date (mm/yy)
30AV000L++	Xeon E3-1225 v5 4C/3.3GHz/8MB/80W/DDR4-2133	4GBx1 non-ECC DDR4-2133 UDIMM	Intel HD P530	Open	1x500GB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AV000M++	Xeon E3-1230 v5 4C/3.4GHz/8MB/80W/DDR4-2133	8GBx1 ECC DDR4-2133 UDIMM	None	Quadro K420 2GB	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AV000N++	Core i5-6500 4C/3.2GHz/6MB/65W/DDR4-2133	4GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x500GB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AV000P++	Core i5-6500 4C/3.2GHz/6MB/65W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x1TB 3.5" SATA6Gbs 7.2K Hybrid	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AV000Q++	Core i5-6600 4C/3.3GHz/6MB/65W/DDR4-2133	4GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Quadro K1200 4GB	1x1TB 3.5" SATA6Gbs 7.2K	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AV000R++	Core i7-6700 4C/3.4GHz/8MB/65W/DDR4-2133	4GBx1 non-ECC DDR4-2133 UDIMM	Intel HD 530	Open	1x256GB 2.5" SATA6Gbs SSD OPAL	No	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15
30AV000S++	Xeon E3-1245 v5 4C/3.5GHz/8MB/80W/DDR4-2133	8GBx1 non-ECC DDR4-2133 UDIMM	Intel HD P530	Open	Open	1x256GB OPAL	DVD±RW	9-in-1	210W 85%	No	No	Win7 Pro64 (Win10 Pro64 DG)	3-year	No	11/15

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Components	Specification										
Chipset	Intel C612 Platform Controller Hub (PCH)										
System mgmt	Intel Active Management Technology 9										
Processor	Up to one 140W Intel Xeon E5-1600 v4 family processors. Some Intel Xeon E5-2600 v4 processors are also available:										
	E5-2637 v4	4C/3.5GHz/15MB/135W/DDR4-2400									
	E5-2623 v4	4C/2.6GHz/10MB/85W/DDR4-2133									
	E5-2620 v4	8C/2.1GHz/20MB/85W/DDR4-2133									
	E5-1680 v4	8C/3.4GHz/20MB/140W/DDR4-2400	333								
	E5-1660 v4	8C/3.2GHz/20MB/140W/DDR4-2400									
	E5-1650 v4	6C/3.6GHz/15MB/140W/DDR4-2400									
	E5-1630 v4	4C/3.7GHz/10MB/140W/DDR4-2400									
	E5-1620 v4	4C/3.5GHz/10MB/140W/DDR4-2400									
	E5-1607 v4	4C/3.1GHz/10MB/140W/DDR4-2133									
	E5-1603 v4	4C/2.8GHz/10MB/140W/DDR4-2133									
Coprocessor	None										
Memory DIMM slots	4 DIMM sockets. 4-channel capable. RDIMM. ECC. DDR4-2400										
Memory capacity	128GB (32GB x 4)										
Graphics	Two PCIe 3.0 x16 slots, up to two NVIDIA Quadro M4000, or up to one Quadro M5000										
Supporting Graphics and GPU computing	Adapter	Cores	Memory	Power	SLI	Connector***					
	NVS 310	48	1GB	19.5W		2xDP					
	NVS 315	48	1GB	19.5W		2xDVI-I SL/2xDP					
	NVS 510	192	2GB	35W		4xmini DP					
	NVS 810	1024	4GB	68W		8xmini DP					
	Quadro K420	192	2GB	41W		DVI-I DL+DP					
	Quadro K620	384	2GB	45W		DVI-I DL+DP					
	Quadro K1200	512	4GB	45W		4xmini DP					
	Quadro M2000	768	4GB	75W		4xDP					
	Quadro M4000	1664	8GB	120W		4xDP					
	Quadro M5000	2048	8GB	150W		DVI-I DL+4xDP					
Disk drive controller	<b>RAID 0, 1, 5, 10</b> with onboard SATA controller in chipset, SATA 6Gb/s. Optional <b>RAID 0, 1, 10</b> with optional LSI 9340-8i PCIe adapter, 12Gb/s SAS and SATA, optional upgrade to RAID 5 is available										
Drive Bays	Two external 5.25" flex bays, two internal 3.5" bays. Up to one 9.5mm optical plus four 3.5"/2.5" disk drives plus three M.2 PCIe SSD (see right)										
Supporting storage	3.5" HDD, 7.2K SATA6Gbs	500GB/1TB/2TB/3TB/4TB, 1TB/2TB hybrid									
	2.5" HDD, 10K SAS12Gbs	300GB/600GB									
	2.5" SSD, SATA6Gbs	180GB/240GB/256GB/480GB with OPAL, 256GB/512GB/1TB without OPAL									
	PCIe SSD, M.2 via PCIe 3.0 x4 adapter	256GB/512GB/1TB, NVMe									
Flex connector	None										
Network interfaces	One onboard gigabit ethernet, Intel I218LM, supports Wake-on-LAN. Optional discrete ethernet adapters are available										
HD Audio	Realtek ALC662 codec										
TPM	TCG 1.2-compliant										
Power supply	One fixed 450 watts, autosensing, 92%, 80 PLUS Platinum qualified										
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)										
Rear ports	Two USB 2.0, four USB 3.0, one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)										
Additional ports	Supports the following optional ports: Two IEEE 1394 (one on rear and one on front flex module) via PCIe adapter, up to one adapter per system. Two rear USB 3.0 per PCIe adapter, up to three adapters per system. One rear Thunderbolt via PCIe adapter, or two front Thunderbolt (on flex module) via PCIe adapter, front and rear Thunderbolt cannot be intermixed. One rear serial via cable, up to one per system. One front eSATA (on flex module), or one rear eSATA via cable and PCIe slot bracket, up to one eSATA port per system										
Media reader	9-in-1 USB 2.0 card reader. Optional 29-in-1 USB 2.0 card reader on flex module										

Components	Specification	
Mechanical	• 6.89" W x 16.77" D x 14.8" H • 175mm W x 426mm D x 376mm H • 30.86 lb (14kg) max configuration • 25-liter	
Environmental specification	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): 0-10000ft (0-3048m)
	Humidity - operating	10%~80%, non-condensing
	Humidity - storage (with package)	10%~90%, non-condensing
RoHS-compliant, GREENGUARD on all models. EPEAT Gold rating, ENERGY STAR 6.1 qualified on selected models.		
Base warranty	1 or 3-year limited onsite service with 9x5/NBD	



#### Expansion slots

Slot 1	PCIe 3.0 x16, full length, full height
Slot 2	PCIe 3.0 x8, full length, full height
Slot 3	PCIe 3.0 x16, full length, full height
Slot 4	PCIe 2.0 x4, half length, full height

#### Drive Bays

HDD bay 1	3.5", for one 3.5"/2.5" drive
HDD bay 2	3.5", for one 3.5"/2.5" drive
Flex bay 1	HH optical, or 3.5" HDD bay via optional conversion kit, or slim optical+3.5" HDD bay kit via optional conversion kit, or flex module
Flex bay 2	HH optical, or 3.5" HDD bay via optional conversion kit, or slim optical+3.5" HDD bay kit via optional conversion kit, or flex module

Note:

1. HDD bay 2 is not available when one Quadro M5000, two Quadro M4000, or two NVS 810 are used.
2. Flex module supports one or more of the following options: 9.5mm optical/29-in-1 USB 2.0 reader/one front IEEE 1394/one front eSATA/two front Thunderbolt. Up to one flex module is supported per system.
3. Up to one slim optical+3.5" HDD bay kit is supported per system.

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Model	Processor	Memory	Graphics	RAID Controller	Storage	Optical	Media reader	Power supply	Add-on ports	Keyboard/Mouse	Preloaded OS	Base Warranty	Global	Ann Date
30B3001PUS	Xeon E5-1620 v4 4C/3.5GHz/ 10MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Quadro K620 2GB	Onboard	1x256GB SSD M.2 PCIe OPAL	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001QUS	Xeon E5-1607 v4 4C/3.1GHz/ 10MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2400 ECC	Open	Onboard	1x1TB HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001RUS	Xeon E5-1630 v4 4C/3.7GHz/ 10MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Quadro K1200 4GB	Onboard	1x256GB SSD M.2 PCIe OPAL	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001SUS	Xeon E5-1630 v4 4C/3.7GHz/ 10MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Quadro M2000 4GB	Onboard	1x256GB SSD 2.5" SATA6Gbs OPAL	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001TUS	Xeon E5-1620 v4 4C/3.5GHz/ 10MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Quadro K620 2GB	Onboard	1x1TB SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001UUS	Xeon E5-1620 v4 4C/3.5GHz/ 10MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Open	Onboard	1x1TB HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001VUS	Xeon E5-1650 v4 6C/3.6GHz/ 15MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Quadro M2000 4GB	Onboard	1x256GB SSD 2.5" SATA6Gbs OPAL	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001WUS	Xeon E5-1620 v4 4C/3.5GHz/ 10MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Quadro K620 2GB	Onboard	1x1TB HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001XUS	Xeon E5-1630 v4 4C/3.7GHz/ 10MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Quadro K620 2GB	Onboard	1x256GB SSD 2.5" SATA6Gbs OPAL	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001YUS	Xeon E5-1650 v4 6C/3.6GHz/ 15MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Quadro M4000 8GB	Onboard	1x1TB SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B30020US	Xeon E5-1650 v4 6C/3.6GHz/ 15MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	1x1TB HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B30021US	Xeon E5-1620 v4 4C/3.5GHz/ 10MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Quadro K1200 4GB	Onboard	1x256GB SSD M.2 PCIe OPAL	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B30022US	Xeon E5-1650 v4 6C/3.6GHz/ 15MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Quadro K1200 4GB	Onboard	1x512GB SSD M.2 PCIe	DVD±RW	9-in-1	450W 92%	No	USB Full/ CadMouse	Win10 Pro64	3-year	No	06/16

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Model	Processor	Memory	Graphics	RAID Controller	Storage	Optical	Media reader	Power supply	Add-on ports	Keyboard/Mouse	Preloaded OS	Base Warranty	Global	Ann Date
30B3001B++	Xeon E5-1620 v4 4C/3.5GHz/ 10MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Open	Onboard	1x256GB SSD 2.5" SATA6Gbs OPAL	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001C++	Xeon E5-1630 v4 4C/3.7GHz/ 10MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Open	Onboard	1x256GB SSD 2.5" SATA6Gbs OPAL	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001D++	Xeon E5-1650 v4 6C/3.6GHz/ 15MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	1x1TB HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001E++	Xeon E5-1650 v4 6C/3.6GHz/ 15MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	1x256GB SSD 2.5" SATA6Gbs OPAL	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001F++	Xeon E5-1630 v4 4C/3.7GHz/ 10MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Quadro K1200 4GB	Onboard	1x256GB SSD 2.5" SATA6Gbs OPAL	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001J++	Xeon E5-1630 v4 4C/3.7GHz/ 10MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	1x256GB SSD M.2 PCIe OPAL	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001K++	Xeon E5-1630 v4 4C/3.7GHz/ 10MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Quadro M2000 4GB	Onboard	1x256GB SSD M.2 PCIe OPAL	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001L++	Xeon E5-1630 v4 4C/3.7GHz/ 10MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Quadro M4000 8GB	Onboard	1x256GB SSD M.2 PCIe OPAL	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16
30B3001M++	Xeon E5-1650 v4 6C/3.6GHz/ 15MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	1x512GB SSD M.2 PCIe	DVD±RW	9-in-1	450W 92%	No	USB Full/ USB	Win10 Pro64	3-year	No	06/16

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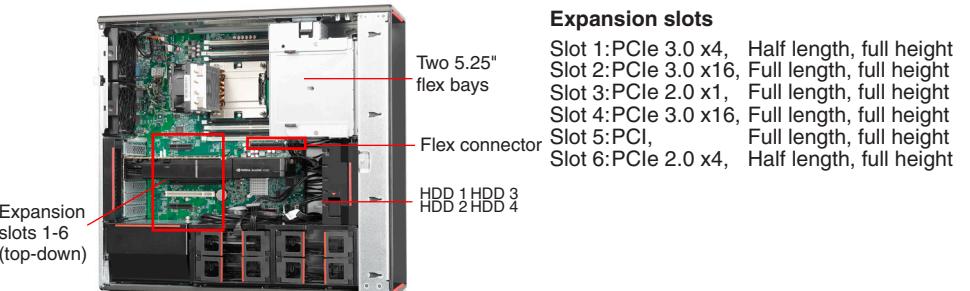
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# ThinkStation P510 Platform Specifications

Product Specifications Reference (PSREF)

Components	Specification																																																																																										
Chipset	Intel C612 Platform Controller Hub (PCH)																																																																																										
System mgmt	Intel Active Management Technology 9																																																																																										
Processor	Up to one 145W Intel Xeon E5-2600 v4 or E5-1600 v4 family processors. 22 cores up to 2.2GHz, 16 cores up to 2.6GHz, 14 cores up to 2.6GHz, 12 cores up to 2.2GHz, 10 cores up to 2.4GHz, 8 cores up to 3.4GHz, 6 cores up to 3.6GHz, 4 cores up to 3.7GHz Or up to one Intel Xeon E5-2600 v3 or E5-1600 v3 processors (not available in EMEA).																																																																																										
Coprocessor	None																																																																																										
Memory DIMM slots	8 DIMM sockets, 4-channel capable. RDIMM, ECC, DDR4, 2400MHz																																																																																										
Memory capacity	256GB																																																																																										
Graphics, GPU computing	Two PCIe 3.0 x16 slots for graphics and GPU computing adapters. Up to two NVIDIA Quadro M5000 SLI																																																																																										
Supporting Graphics and GPU computing	<table border="1"> <thead> <tr> <th>Adapter</th><th>Cores</th><th>Memory</th><th>Power</th><th>SLI</th><th>Connector***</th></tr> </thead> <tbody> <tr> <td>NVS 310</td><td>48</td><td>1GB</td><td>19.5W</td><td></td><td>2xDP</td></tr> <tr> <td>NVS 315</td><td>48</td><td>1GB</td><td>19.5W</td><td></td><td>2xDVI-I SL/2xDP</td></tr> <tr> <td>NVS 510</td><td>192</td><td>2GB</td><td>35W</td><td></td><td>4xmini DP</td></tr> <tr> <td>NVS 810</td><td>1024</td><td>4GB</td><td>68W</td><td></td><td>8xmini DP</td></tr> <tr> <td>Quadro K420</td><td>192</td><td>2GB</td><td>41W</td><td></td><td>DVI-I DL+DP</td></tr> <tr> <td>Quadro K620</td><td>384</td><td>2GB</td><td>45W</td><td></td><td>DVI-I DL+DP</td></tr> <tr> <td>Quadro K1200</td><td>512</td><td>4GB</td><td>45W</td><td></td><td>4xmini DP</td></tr> <tr> <td>Quadro K2200</td><td>640</td><td>4GB</td><td>68W</td><td></td><td>DVI-I DL+2xDP</td></tr> <tr> <td>Quadro K4200</td><td>1344</td><td>4GB</td><td>108W</td><td></td><td>DVI-I DL+2xDP</td></tr> <tr> <td>Quadro K5200</td><td>2304</td><td>8GB</td><td>150W</td><td>SLI</td><td>DVI-I DL+DVI-D DL+2xDP</td></tr> <tr> <td>Quadro M2000</td><td>768</td><td>4GB</td><td>75W</td><td></td><td>4xDP</td></tr> <tr> <td>Quadro M4000</td><td>1664</td><td>8GB</td><td>120W</td><td></td><td>4xDP</td></tr> <tr> <td>Quadro M5000</td><td>2048</td><td>8GB</td><td>150W</td><td>SLI</td><td>DVI-I DL+4xDP</td></tr> <tr> <td>Tesla K40</td><td>2880</td><td>12GB</td><td>235W</td><td></td><td></td></tr> </tbody> </table>	Adapter	Cores	Memory	Power	SLI	Connector***	NVS 310	48	1GB	19.5W		2xDP	NVS 315	48	1GB	19.5W		2xDVI-I SL/2xDP	NVS 510	192	2GB	35W		4xmini DP	NVS 810	1024	4GB	68W		8xmini DP	Quadro K420	192	2GB	41W		DVI-I DL+DP	Quadro K620	384	2GB	45W		DVI-I DL+DP	Quadro K1200	512	4GB	45W		4xmini DP	Quadro K2200	640	4GB	68W		DVI-I DL+2xDP	Quadro K4200	1344	4GB	108W		DVI-I DL+2xDP	Quadro K5200	2304	8GB	150W	SLI	DVI-I DL+DVI-D DL+2xDP	Quadro M2000	768	4GB	75W		4xDP	Quadro M4000	1664	8GB	120W		4xDP	Quadro M5000	2048	8GB	150W	SLI	DVI-I DL+4xDP	Tesla K40	2880	12GB	235W		
Adapter	Cores	Memory	Power	SLI	Connector***																																																																																						
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Tesla K40	2880	12GB	235W																																																																																								
RAID controller	Supports one of the following: <b>RAID 0, 1, 5, 10</b> with onboard SATA controller in chipset, SATA 6Gb/s. <b>RAID 0, 1, 5, 10</b> with optional LSI RAID flex adapter, 12Gb/s SAS and SATA. <b>RAID 0, 1, 5, 6, 10</b> with optional LSI 9364-8i PCIe adapter, 1GB memory, optional 1GB flash with super capacitor, 12Gb/s SAS and SATA																																																																																										
Drive Bays	Two external 5.25" flex bays for flex module, optical drives, or optional disk drives. Four 3.5" internal bays. Each 3.5" bay can support dual drives on selected models (see right).																																																																																										
Supporting storage	3.5" HDD, 7.2K SATA6Gbs																																																																																										
	500GB/1TB/2TB/3TB/4TB, 1TB/2TB hybrid																																																																																										
	2.5" HDD, 15K SAS12Gbs																																																																																										
	300GB/600GB																																																																																										
	2.5" SSD, SAS12Gbs																																																																																										
	200GB/400GB/800GB																																																																																										
	2.5" SSD, SATA6Gbs																																																																																										
Flex connector	180GB/240GB/256GB/480GB with OPAL, 256GB/512GB/1TB without OPAL																																																																																										
	PCIe SSD, U.2																																																																																										
	400GB																																																																																										
	PCIe SSD, M.2																																																																																										
Network interfaces	PCIe SSD, PCle adapter																																																																																										
	256 GB/512GB																																																																																										
	400GB																																																																																										
HD Audio	One flex connector, supports one of the following:																																																																																										
	<ul style="list-style-type: none"> <li>Up to one LSI RAID flex adapter for SATA/SAS RAID</li> <li>Up to one Multi-I/O flex adapters for one 2.5" PCIe SSD</li> <li>Up to one M.2 flex adapters for one M.2 PCIe SSD</li> </ul>																																																																																										
TPM	Integrated one Gigabit Ethernet (Intel i218LM), supports Wake-on-LAN. Optional discrete Ethernet is available																																																																																										
Power supply	One fixed 490 watts, autosing, 90%, 80 PLUS Gold qualified. Or one fixed 650 watts, autosing, 92%, 80 PLUS Platinum qualified																																																																																										

Components	Specification
Front ports	Four USB 3.0 (one Diagnostic, one Always On), one combo audio/microphone jack (3.5mm)
Rear ports	Four USB 2.0, four USB 3.0, one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), two PS/2
Add-on ports	<p>Supports the following optional ports: Two IEEE 1394 (one on rear and one on front flex module) via PCIe adapter, up to one adapter per system.</p> <p>Two rear USB 3.0 per PCIe adapter, up to three adapters per system. One rear Thunderbolt via PCIe adapter.</p> <p>One front eSATA (on flex module), or one rear eSATA via cable (also needs one PCIe slot), up to one eSATA port per system.</p> <p>One internal USB 3.0 port via cable, cannot be intermixed with 29-in-1 reader</p>
Media reader	9-in-1 USB 2.0 or 29-in-1 USB 3.0 card reader
Mechanical	<ul style="list-style-type: none"> <li>36-liter: 175mm/6.89" W x 470mm/18.5" D x 440mm/17.32" H (with feet)</li> <li>Tool-less parts: all except CPU fansink</li> <li>28.66 lb (13kg) max configuration</li> </ul>
Environmental specification	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): 0-10000ft (0-3048m)
	Humidity - operating
	10%~80%, non-condensing
	Humidity - storage (with package)
Base warranty	RoHS-compliant, GREENGUARD on all models. EPEAT Gold rating, ENERGY STAR 6.1 qualified on selected models.
	3-year limited onsite service with 9x5/NBD



## Drive Bays

- HDD 1-4: Standard 3.5" HDD bay, up to four 3.5" or 2.5" disk drives.  
On selected models, each 3.5" bay can support 2.5" (9mm or less) drive plus 3.5" drive, or two 2.5" (15mm or less) drives.  
Flex bay: Two 5.25" flex bays, for HH optical drives.  
Or up to one optional flex module (Flex module supports one or more of the following options: 9.5mm optical/29-in-1 USB 3.0 reader/front IEEE 1394/front eSATA).  
Or up to two HDD bays for two drives, 3.5" or 2.5" each, SATA only.

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Model	Processor	Memory	Graphics	RAID controller	Max drives in 3.5" bays	Storage	Optical	Medie reader	Power supply	Add-on ports	Keyboard/Mouse	Preloaded OS	Base Warranty	Global	Ann date
30B5001GUS	Xeon E5-1620 v4 4C/3.5GHz/10MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Quadro M2000 4GB	Onboard	4	1x1TB HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/USB opt	Win10 Pro64	3-year	No	06/16
30B5001HUS	Xeon E5-1620 v4 4C/3.5GHz/10MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x1TB HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/USB opt	Win10 Pro64	3-year	No	06/16
30B5001JUS	Xeon E5-1620 v4 4C/3.5GHz/10MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Quadro M2000 4GB	Onboard	4	1x512GB SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/USB opt	Win10 Pro64	3-year	No	06/16
30B5001KUS	Xeon E5-1620 v4 4C/3.5GHz/10MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x1TB HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/USB opt	Win10 Pro64	3-year	No	06/16
30B5001LUS	Xeon E5-1607 v4 4C/3.1GHz/10MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2400 ECC	Quadro K620 2GB	Onboard	4	1x1TB HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/USB opt	Win10 Pro64	3-year	No	06/16
30B5001MUS	Xeon E5-1607 v4 4C/3.1GHz/10MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2400 ECC	Quadro K620 2GB	Onboard	4	1x500GB HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/USB opt	Win10 Pro64	3-year	No	06/16
30B5001NUS	Xeon E5-1630 v4 4C/3.7GHz/10MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Quadro M4000 8GB	Onboard	4	1x512GB SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/USB opt	Win10 Pro64	3-year	No	06/16
30B5001PUS	Xeon E5-1607 v4 4C/3.1GHz/10MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x1TB HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/USB opt	Win10 Pro64	3-year	No	06/16
30B5001QUS	Xeon E5-1630 v4 4C/3.7GHz/10MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Quadro M4000 8GB	Onboard	4	1x1TB HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/USB opt	Win10 Pro64	3-year	No	06/16

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Model	Processor	Memory	Graphics	RAID controller	Max drives in 3.5" bays	Storage	Optical	Medie reader	Power supply	Add-on ports	Keyboard/Mouse	Preloaded OS	Base Warranty	Global	Ann date
30B50007++	Xeon E5-1620 v4 4C/3.5GHz/10MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x1TB Hybrid HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/USB	Win10 Pro64	3-year	No	06/16
30B5000C++	Xeon E5-1620 v4 4C/3.5GHz/10MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x256GB SSD PCIe M.2 OPAL	DVD±RW	9-in-1	490W 90%	No	USB Full/USB	Win10 Pro64	3-year	No	06/16
30B5000D++	Xeon E5-1650 v4 6C/3.6GHz/15MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Quadro M2000 4GB	Onboard	4	1x256GB SSD 2.5" SA-TA6Gbs OPAL	DVD±RW	9-in-1	490W 90%	No	USB Full/USB	Win10 Pro64	3-year	No	06/16
30B5000M++	Xeon E5-2603 v4 6C/1.7GHz/15MB/85W/DDR4-1866	2x8GB RDIMM DDR4-2400 ECC	Quadro M2000 4GB	Onboard	4	1x256GB SSD 2.5" SA-TA6Gbs OPAL	DVD±RW	9-in-1	490W 90%	No	USB Full/USB	Win10 Pro64	3-year	No	06/16
30B5000N++	Xeon E5-1620 v4 4C/3.5GHz/10MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x1TB Hybrid HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/USB	Win10 Pro64	3-year	No	06/16
30B5000R++	Xeon E5-1650 v4 6C/3.6GHz/15MB/140W/DDR4-2400	4x8GB RDIMM DDR4-2400 ECC	Quadro M2000 4GB	Onboard	4	1x1TB HDD 3.5" 7.2K SA-TA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/USB	Win10 Pro64	3-year	No	06/16
30B5000T++	Xeon E5-1650 v4 6C/3.6GHz/15MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x256GB SSD PCIe M.2 OPAL	DVD±RW	9-in-1	650W 92%	No	USB Full/USB	Win10 Pro64	3-year	No	06/16
30B50011++	Xeon E5-1620 v4 4C/3.5GHz/10MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x256GB SSD 2.5" SA-TA6Gbs OPAL	DVD±RW	9-in-1	650W 92%	No	USB Full/USB	Win10 Pro64	3-year	No	06/16
30B50012++	Xeon E5-1650 v4 6C/3.6GHz/15MB/140W/DDR4-2400	1x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x512GB SSD 2.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/USB	Win10 Pro64	3-year	No	06/16
30B50019++	Xeon E5-1630 v4 4C/3.7GHz/10MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x256GB SSD 2.5" SA-TA6Gbs OPAL	DVD±RW	9-in-1	650W 92%	No	USB Full/USB	Win10 Pro64	3-year	No	06/16
30B5001C++	Xeon E5-1650 v4 6C/3.6GHz/15MB/140W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x512GB SSD 2.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/USB	Win10 Pro64	3-year	No	06/16

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For a list of all supported options, please see [https://download.lenovo.com/pccbbs/options\\_iso/ocm\\_june\\_2016.xlsx](https://download.lenovo.com/pccbbs/options_iso/ocm_june_2016.xlsx) sheet

# ThinkStation P500 Platform Specifications

Product Specifications Reference (PSREF)

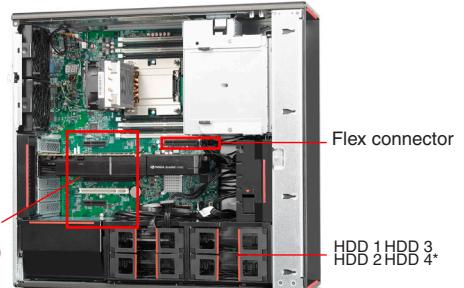
Components	Specification
Chipset	Intel C612 Platform Controller Hub (PCH)
System mgmt	Intel Active Management Technology 9
Processor	Up to one 145W <b>Intel Xeon E5-2600 v3</b> family processors, Or up to one 140W <b>Intel Xeon E5-1600 v3</b> family processor: E5-2699 v3 18C/2.3GHz/45MB/145W/DDR4-2133 E5-2698 v3 16C/2.3GHz/40MB/135W/DDR4-2133 E5-2697 v3 14C/2.6GHz/35MB/145W/DDR4-2133 E5-2695 v3 14C/2.3GHz/35MB/120W/DDR4-2133 E5-2690 v3 12C/2.6GHz/30MB/135W/DDR4-2133 E5-2685 v3 12C/2.6GHz/30MB/120W/DDR4-2133 E5-2683 v3 14C/2GHz/35MB/120W/DDR4-2133 E5-2680 v3 12C/2.5GHz/30MB/120W/DDR4-2133 E5-2670 v3 12C/2.3GHz/30MB/120W/DDR4-2133 E5-2667 v3 8C/3.2GHz/20MB/135W/DDR4-2133 E5-2660 v3 10C/2.6GHz/25MB/105W/DDR4-2133 E5-2650L v3 12C/1.8GHz/30MB/65W/DDR4-2133 E5-2650 v3 10C/2.3GHz/25MB/105W/DDR4-2133 E5-2643 v3 6C/3.4GHz/20MB/135W/DDR4-2133 E5-2640 v3 8C/2.6GHz/20MB/90W/DDR4-1866 E5-2637 v3 4C/3.5GHz/15MB/135W/DDR4-2133 E5-2630L v3 8C/1.8GHz/20MB/55W/DDR4-1866 E5-2630 v3 8C/2.4GHz/20MB/85W/DDR4-1866 E5-2623 v3 4C/3GHz/10MB/105W/DDR4-1866 E5-2620 v3 6C/2.4GHz/15MB/85W/DDR4-1866 E5-2609 v3 6C/1.9GHz/15MB/85W/DDR4-1600 E5-2603 v3 6C/1.6GHz/15MB/85W/DDR4-1600 E5-1680 v3 8C/3.2GHz/20MB/140W/DDR4-2133 E5-1660 v3 8C/3GHz/20MB/140W/DDR4-2133 E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133 E5-1630 v3 4C/3.7GHz/10MB/140W/DDR4-2133 E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133 E5-1607 v3 4C/3.1GHz/10MB/140W/DDR4-1866 E5-1603 v3 4C/2.8GHz/10MB/140W/DDR4-1866
Coprocessor	None
Memory DIMM slots	8 DIMM sockets, 4-channel capable. RDIMM and LRDIMM (cannot be intermixed), ECC, DDR4-2133
Memory capacity	512GB (LRDIMM)/256GB (RDIMM)
Graphics, GPU computing, coprocessors	Two PCIe 3.0 x16 slots, up to 2 graphics, GPU computing adapters per system PSU Maximum quantity of adapters supported per system 490W 1x150W+1x75W (only supports onboard SATA controller) 650W 1x225W+1x75W, or 2x150W
RAID controller	<b>RAID 0, 1, 5, 10</b> with onboard SATA controller in chipset, SATA 6Gb/s. <b>RAID 0, 1, 5, 10</b> with optional LSI RAID flex adapter, 12Gb/s SAS and SATA. <b>RAID 0, 1, 5, 6, 10</b> with optional LSI 9364-8i PCIe adapter, 1GB memory, optional 1GB flash with super capacitor, 12Gb/s SAS and SATA
Drive Bays	Two external 5.25" bays, four internal 3.5" bays (see right)
Media reader	Optional 9-in-1 USB 2.0 or 29-in-1 USB 3.0 reader
Flex connector	One flex connectors (see right), supports one of the following: • Up to one LSI RAID flex adapter for SATA/SAS RAID • Up to one Multi-I/O flex adapters for one PCIe SSD • Up to one M.2 flex adapters for one M.2 SSD
Network interfaces	Integrated one Gigabit Ethernet (Intel i218LM), supports Wake-on-LAN. Optional discrete Ethernet is available
HD Audio	Realtek ALC662 codec
TPM	TCG 1.2-compliant
Power supply	One fixed 490 watts, autosing, 90%, 80 PLUS Gold qualified; or one fixed 650 watts, autosing, 92%, 80 PLUS Platinum qualified
Front ports	Four USB 3.0 (one Diagnostic, one Always On), one combo audio/microphone jack (3.5mm)
Rear ports	Four USB 2.0, four USB 3.0, one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), two PS/2
IEEE 1394	1 front, 1 rear, via 1394 adapter, selected models
Thunderbolt	1 Thunderbolt via optional PCIe adapter. Uses slot 6.
Mechanical	• 36-liter: 175mm/6.89" W x 470mm/18.5" D x 440mm/17.32" H (with feet) • Tool-less parts: power supply, disk drive, fans, adapter retention • 48.94 lb (22.2kg) max configuration
Base warranty	3-year limited onsite service with 9x5/NBD

## Drive Bays and Expansion slots



2 x 5.25", for half-height optical, or up to one optional flex module (Flex module supports one or more of the following options: 9.5mm optical/29-in-1 USB 3.0 reader/front IEEE 1394/front eSATA), or up to two optional front HDD bays

Expansion slots 1-6 (top-down)



Flex connector

HDD 1 HDD 3\*

HDD 2 HDD 4\*

Note:  
 1. When LSI RAID flex adapter or 9364-8i adapter is installed, each HDD bay (HDD 1 - 4) can support 2 disk drives (1 x 3.5" drives + 2.5" SATA/SAS SSD, or 2 x 2.5" SATA/SAS SSD).  
 2. More than 4 drives requires LSI RAID flex adapter or 9364-8i adapter.

## Supporting NVIDIA graphics and GPU computing list

Adapter	Cores	Memory	Power	SLI	Connector***
NVS 310	48	1GB	19.5W		2xDP
NVS 315	48	1024MB	19.5W	2xDVI-I SL/2xDP	
NVS 510	192	2048MB	33.4W		4xmini DP
Quadro 410	192	512MB	36.7W	DVI-I DL+DP	
Quadro K600	192	1GB	41W	DVI-I DL+DP	
Quadro K2000	384	2GB	51.1W	DVI-I DL+2xDP	
Quadro K2000D	384	2GB	51.1W	DVI-I DL+DVI-D DL+mini DP	
Quadro K4000	768	3GB	80W	DVI-I DL+2xDP	
Quadro K5000	1536	4GB	122W	DVI-I DL+DVI-D DL+2xDP	
Quadro K6000	2880	12GB	225W	DVI-I DL+DVI-D DL+2xDP	
Quadro K420	192	2GB	41W	DVI-I DL+DP	
Quadro K620	384	2GB	45W	DVI-I DL+DP	
Quadro K2200	640	4GB	68W	DVI-I DL+2xDP	
Quadro K4200	1344	4GB	108W	DVI-I DL+2xDP	
Quadro K5200	2304	8GB	150W	SLI DVI-I DL+DVI-D DL+2xDP	
Quadro M4000	1664	8GB	120W		4xDP
Quadro M5000	2048	8GB	150W	DVI-I DL+4xDP	
Quadro M6000	3072	12GB	250W	DVI-I DL+4xDP	
Tesla K20	2496	5GB	225W		
GRID K2	3072	8GB	225W		

\*\* DL = Dual link, SL = Single Link, DP = DisplayPort 1.2

## Supporting storage list

(SAS drive needs LSI RAID flex adapter or 9364-8i adapter)

3.5" SATA (7.2K 6Gbs HDD)	500GB/1TB/2TB/3TB/4TB/1TB hybrid/2TB hybrid
2.5" SAS (15K 12Gbs HDD)	300GB/450GB/600GB
2.5" SAS SSD (12Gbs)	200GB/400GB/800GB
2.5" SATA SSD (6Gbs)	128GB/180GB/240GB/256GB/480GB/512GB/1TB (Optional OPAL)
M.2 SSD	256 GB/512GB (Optional NVMe)
PCIe SSD adapter	410GB/1.6TB

## Environment specification and certifications

Temperature	
Operating:	50 °F to 95 °F (10 °C to 35 °C)
Storage:	-10 °C to 60 °C, no package -40 °C to 60 °C, with package
Altitude	
Operating:	-50~10000ft (-15.2~3048m)
Humidity	
Operating:	10%~80%, non-condensing
Storage:	10%~90%, non-condensing

RoHS-compliant/EPEAT Gold rating on all models, ENERGY STAR 6.1 qualified on selected models.

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 For a list of all supported options, please visit [https://download.lenovo.com/pccbbs/options\\_isocm\\_june\\_2016.xlsx](https://download.lenovo.com/pccbbs/options_isocm_june_2016.xlsx) sheet

Model	Processor	Memory	Graphics	RAID controller	Max drives in 3.5" bays	Storage	Optical	Medie reader	Power supply	Add-on ports	Keyboard/ Mouse	Preloaded OS	Base Warranty	Global	Ann date
30A70013US	Xeon E5-1607 v3 4C/3.1GHz/10MB/140W/DDR4-1866	1x4GB RDIMM DDR4-2133 ECC	Quadro K620	Onboard	4	1x500GB HDD 7.2K 3.5" SATA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win8.1 Pro64	3-year	No	09/14
30A70014US	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	1x4GB RDIMM DDR4-2133 ECC	Quadro K2200	Onboard	4	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win8.1 Pro64	3-year	No	09/14
30A70015US	Xeon E5-1630 v3 4C/3.7GHz/10MB/140W/DDR4-2133	1x4GB RDIMM DDR4-2133 ECC	Quadro K4200	Onboard	4	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win8.1 Pro64	3-year	No	09/14
30A70016US	Xeon E5-1630 v3 4C/3.7GHz/10MB/140W/DDR4-2133	1x4GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x180GB SSD 2.5" SA-TA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win8.1 Pro64	3-year	No	09/14
30A70017US	Xeon E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x256GB SSD 2.5" SA-TA6Gbs OPAL	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win8.1 Pro64	3-year	No	09/14
30A7003VUS	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x1TB Hybrid HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	09/15
30A7003WUS	Xeon E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x1TB Hybrid HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	09/15
30A7003XUS	Xeon E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x256GB SSD PCIe M.2 OPAL	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	09/15
30A7003YUS	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x256GB SSD PCIe M.2 OPAL	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	09/15
30A70040US	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Quadro M4000	Onboard	4	1x256GB SSD PCIe M.2 OPAL	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	09/15
30A70041US	Xeon E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Quadro M5000	Onboard	4	1x256GB SSD PCIe M.2 OPAL	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	09/15
30A7004JUS	Xeon E5-2630 v3 8C/2.4GHz/20MB/85W/DDR4-1866	4x8GB RDIMM DDR4-2133 ECC	Quadro K2200	Onboard	4	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	02/16
30A7004MUS	Xeon E5-1660 v3 8C/3GHz/20MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x512GB SSD 2.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A7004NUS	Xeon E5-1630 v3 4C/3.7GHz/10MB/140W/DDR4-2133	1x4GB RDIMM DDR4-2133 ECC	Quadro K4200	Onboard	4	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A7004PUS	Xeon E5-1660 v3 8C/3GHz/20MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x256GB SSD 2.5" SA-TA6Gbs OPAL	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A7004QUS	Xeon E5-1630 v3 4C/3.7GHz/10MB/140W/DDR4-2133	1x4GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x180GB SSD 2.5" SA-TA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A7004RUS	Xeon E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x2TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A7004SUS	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	1x4GB RDIMM DDR4-2133 ECC	Quadro K2200	Onboard	4	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A7004TUS	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	1x4GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A7004UUS	Xeon E5-1607 v3 4C/3.1GHz/10MB/140W/DDR4-1866	1x4GB RDIMM DDR4-2133 ECC	Quadro K620	Onboard	4	1x500GB HDD 7.2K 3.5" SATA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A7004VUS	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A7004WUS	Xeon E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Quadro K4200	Onboard	4	1x2TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A7004XUS	Xeon E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x240GB SSD 2.5" SA-TA6Gbs OPAL	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A7004YUS	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	1x4GB RDIMM DDR4-2133 ECC	Quadro K620	Onboard	4	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A70050US	Xeon E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	9364-8i PCIe	8	1x256GB SSD PCIe M.2 OPAL	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A70051US	Xeon E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x256GB SSD 2.5" SA-TA6Gbs OPAL	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A70052US	Xeon E5-1607 v3 4C/3.1GHz/10MB/140W/DDR4-1866	1x4GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x500GB HDD 7.2K 3.5" SATA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16

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Model	Processor	Memory	Graphics	RAID controller	Max drives in 3.5" bays	Storage	Optical	Medie reader	Power supply	Add-on ports	Keyboard/ Mouse	Preloaded OS	Base Warranty	Global	Ann date
30A70008++	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	2x4GB RDIMM DDR4-2133 ECC	Quadro K2200	Onboard	4	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	09/14
30A70009++	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	1x4GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x240GB SSD 2.5" SA-TA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	09/14
30A7000A++	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	2x4GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x1TB Hybrid HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	09/14
30A7000C++	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	2x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x2TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	09/14
30A7000F++	Xeon E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133	2x4GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x128GB SSD 2.5" SATA6Gbs+1x1TB HDD 7.2K 3.5" SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	09/14
30A7000G++	Xeon E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133	1x4GB RDIMM DDR4-2133 ECC	Quadro K2200	Onboard	4	1x256GB SSD 2.5" SA-TA6Gbs OPAL	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	09/14
30A7000H++	Xeon E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133	1x4GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	09/14
30A7000J++	Xeon E5-1660 v3 8C/3GHz/20MB/140W/DDR4-2133	2x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x2TB Hybrid HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	09/14
30A7002L++	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x1TB Hybrid HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	02/15
30A7002M++	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x1TB Hybrid HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	12/14
30A7002N++	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x256GB SSD 2.5" SA-TA6Gbs OPAL	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	01/15
30A7002P++	Xeon E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x512GB SSD 2.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	02/15
30A7002Q++	Xeon E5-1660 v3 8C/3GHz/20MB/140W/DDR4-2133	2x4GB RDIMM DDR4-2133 ECC	Quadro K2200	Onboard	4	1x128GB SSD 2.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	12/14
30A7002R++	Xeon E5-2603 v3 6C/1.6GHz/15MB/85W/DDR4-1600	2x8GB RDIMM DDR4-2133 ECC	Quadro K2200	Onboard	4	1x256GB SSD 2.5" SA-TA6Gbs OPAL	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	02/15
30A70031++	Xeon E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133	4x8GB RDIMM DDR4-2133 ECC	Quadro K2200	Onboard	4	1x1TB HDD 7.2K 3.5" SATA6Gbs+1x240GB SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	02/15
30A70034++	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	2x8GB RDIMM DDR4-2133 ECC	Quadro K2200	Onboard	4	2x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	02/15
30A70035++	Xeon E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	02/15
30A70036++	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	2x8GB RDIMM DDR4-2133 ECC	Quadro K4200	Onboard	4	1x500GB HDD 7.2K 3.5" SATA6Gbs+1x256GB SSD PCIe M.2	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	03/15
30A70037++	Xeon E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x1TB HDD 7.2K 3.5" SATA6Gbs+1x256GB SSD PCIe M.2	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	03/15
30A70038++	Xeon E5-1607 v3 4C/3.1GHz/10MB/140W/DDR4-1866	1x8GB RDIMM DDR4-2133 ECC	Quadro K420	Onboard	4	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	03/15

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For a list of all supported options, please see [https://download.lenovo.com/pccbbs/options\\_iso/ocm\\_june\\_2016.xlsx](https://download.lenovo.com/pccbbs/options_iso/ocm_june_2016.xlsx) sheet

Model	Processor	Memory	Graphics	RAID controller	Max drives in 3.5" bays	Storage	Optical	Medie reader	Power supply	Add-on ports	Keyboard/ Mouse	Preloaded OS	Base Warranty	Global	Ann date
30A6000PUS	Xeon E5-1620 v3 4C/3.5GHz/ 10MB/140W/DDR4-2133	2x4GB RDIMM DDR4-2133 ECC	Quadro K2200	Onboard	4	2x500GB HDD 7.2K 3.5" SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win8.1 Pro64	3-year	No	09/14
30A6000QUS	Xeon E5-1620 v3 4C/3.5GHz/ 10MB/140W/DDR4-2133	2x8GB RDIMM DDR4-2133 ECC	Quadro K4200	Onboard	4	2x180GB SSD 2.5" SA- TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win8.1 Pro64	3-year	No	09/14
30A6003XUS	Xeon E5-1620 v3 4C/3.5GHz/ 10MB/140W/DDR4-2133	1x4GB RDIMM DDR4-2133 ECC	Quadro K620	LSI Flex	8	1x300GB HDD 15K 2.5" SAS12Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win8.1 Pro64	3-year	No	09/14
30A6003YUS	Xeon E5-1607 v3 4C/3.1GHz/ 10MB/140W/DDR4-1866	1x4GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x500GB HDD 7.2K 3.5" SATA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win8.1 Pro64	3-year	No	09/14
30A60040US	Xeon E5-1620 v3 4C/3.5GHz/ 10MB/140W/DDR4-2133	1x4GB RDIMM DDR4-2133 ECC	Quadro K620	Onboard	4	1x1TB HDD 7.2K 3.5" SA- TA6Gbs	DVD±RW	9-in-1	490W 90%	No	USB Full/ USB opt	Win8.1 Pro64	3-year	No	09/14
30A60041US	Xeon E5-1650 v3 6C/3.5GHz/ 15MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Quadro K5200	Onboard	4	1x1TB HDD 7.2K 3.5" SA- TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win8.1 Pro64	3-year	No	09/14
30A60042US	Xeon E5-1650 v3 6C/3.5GHz/ 15MB/140W/DDR4-2133	1x8GB RDIMM DDR4-2133 ECC	Quadro K4200	Onboard	4	1x256GB SSD 2.5" SA- TA6Gbs OPAL	DVD±RW	9-in-1	650W 92%	No	USB Full/ USB opt	Win8.1 Pro64	3-year	No	09/14

Note: Models in bold are ENERGY STAR 6.1 qualified.

Components	Specification	Components	Specification																																																																																															
Chipset	Intel C612 Platform Controller Hub (PCH)	Front ports	Four USB 3.0 (one Diagnostic, one Always On), one combo audio/microphone jack (3.5mm)																																																																																															
System mgmt	Intel Active Management Technology 9	Rear ports	Four USB 2.0, four USB 3.0 (blue), one serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), two PS/2																																																																																															
Processor	Up to two 145W Intel Xeon E5-2600 v4 family processors. Each processor supports up to 22 cores up to 2.2GHz, 16 cores up to 2.6GHz, 14 cores up to 2.6GHz, 12 cores up to 2.2GHz, 10 cores up to 2.4GHz, 8 cores up to 3.2GHz, 6 cores up to 3.4GHz, 4 cores up to 3.5GHz. Or up to two Intel Xeon E5-2620 v3 or E5-2609 v3 processors (not available in EMEA)	Add-on ports	Supports the following optional ports: Two IEEE 1394 (one on rear and one on front flex module) via PCIe adapter, up to one adapter per system. Two rear USB 3.0 per PCIe adapter, up to three adapters per system. One rear Thunderbolt via PCIe adapter. One front eSATA (on flex module), or one rear eSATA via cable (also needs one PCIe slot), up to one eSATA port per system. One internal USB 3.0 port via cable, cannot be intermixed with 29-in-1 reader																																																																																															
Coprocessor	None	Media reader	9-in-1 USB 2.0 card reader. Optional 29-in-1 USB 3.0 card reader on flex module																																																																																															
Memory DIMM slots	12 DIMM sockets (6 DIMMs per processor), 8-channel capable (4-channel per processor). RDIMM, ECC, DDR4-2400	Mechanical	<ul style="list-style-type: none"> <li>• 36-liter: 175mm/6.89" W x 485mm/19.1" D x 446mm/17.6" H (with feet)</li> <li>• Tool-less parts: all except CPU fansink</li> <li>• 52.25 lb (23.7kg) max configuration</li> </ul>																																																																																															
Memory capacity	384GB, 2nd CPU is needed	Environmental specification	<table border="1"> <tr> <td>Temperature - operating</td> <td>50 °F to 95 °F (10 °C to 35 °C)</td> </tr> <tr> <td>Temperature - non operating (no package)</td> <td>14 °F to 140 °F (-10 °C to 60 °C)</td> </tr> <tr> <td>Temperature - non operating (with package)</td> <td>-40 °F to 140 °F (-40 °C to 60 °C)</td> </tr> <tr> <td>Altitude - operating</td> <td>(Unpressurized): 0-10000ft (0-3048m)</td> </tr> <tr> <td>Humidity - operating</td> <td>10%-80%, non-condensing</td> </tr> <tr> <td>Humidity - storage (with package)</td> <td>10%-90%, non-condensing</td> </tr> </table>	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): 0-10000ft (0-3048m)	Humidity - operating	10%-80%, non-condensing	Humidity - storage (with package)	10%-90%, non-condensing																																																																																			
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Graphics, GPU computing	Three PCIe 3.0 x16 slots, two via CPU1, one via CPU2. Up to three graphics and GPU computing adapters, 2nd CPU is needed		RoHS-compliant, GREENGUARD on all models. EPEAT Gold rating, ENERGY STAR 6.1 qualified on selected models.																																																																																															
	PSU Maximum quantity of PCIe x16 adapters per system (by power) 650W 1x150W+2x75W with onboard SATA controller and up to two 120W CPU each 850W 1x300W+2x75W (up to two 120W CPU each), or 2x150W+1x75W	Base warranty	3-year limited onsite service with 9x5/NBD																																																																																															
Supporting Graphics and GPU computing	<table border="1"> <thead> <tr> <th>Adapter</th> <th>Cores</th> <th>Memory</th> <th>Power</th> <th>SLI</th> <th>Connector**</th> </tr> </thead> <tbody> <tr> <td>NVS 310</td> <td>48</td> <td>1GB</td> <td>19.5W</td> <td></td> <td>2xDP</td> </tr> <tr> <td>NVS 315</td> <td>48</td> <td>1GB</td> <td>19.5W</td> <td>2xDVI-I SL/2xDP</td> <td></td> </tr> <tr> <td>NVS 510</td> <td>192</td> <td>2GB</td> <td>35W</td> <td></td> <td>4xmini DP</td> </tr> <tr> <td>NVS 810</td> <td>1024</td> <td>4GB</td> <td>68W</td> <td></td> <td>8xmini DP</td> </tr> <tr> <td>Quadro K420</td> <td>192</td> <td>2GB</td> <td>41W</td> <td></td> <td>DVI-I DL+DP</td> </tr> <tr> <td>Quadro K620</td> <td>384</td> <td>2GB</td> <td>45W</td> <td></td> <td>DVI-I DL+DP</td> </tr> <tr> <td>Quadro K1200</td> <td>512</td> <td>4GB</td> <td>45W</td> <td></td> <td>4xmini DP</td> </tr> <tr> <td>Quadro K2200</td> <td>640</td> <td>4GB</td> <td>68W</td> <td></td> <td>DVI-I DL+2xDP</td> </tr> <tr> <td>Quadro K4200</td> <td>1344</td> <td>4GB</td> <td>108W</td> <td></td> <td>DVI-I DL+2xDP</td> </tr> <tr> <td>Quadro K5200</td> <td>2304</td> <td>8GB</td> <td>150W</td> <td>SLI</td> <td>DVI-I DL+DVI-D DL+2xDP</td> </tr> <tr> <td>Quadro M2000</td> <td>768</td> <td>4GB</td> <td>75W</td> <td></td> <td>4xDP</td> </tr> <tr> <td>Quadro M4000</td> <td>1664</td> <td>8GB</td> <td>120W</td> <td></td> <td>4xDP</td> </tr> <tr> <td>Quadro M5000</td> <td>2048</td> <td>8GB</td> <td>150W</td> <td>SLI</td> <td>DVI-I DL+4xDP</td> </tr> <tr> <td>Quadro M6000</td> <td>3072</td> <td>24GB</td> <td>250W</td> <td></td> <td>DVI-I DL+4xDP</td> </tr> <tr> <td>Tesla K40</td> <td>2880</td> <td>12GB</td> <td>235W</td> <td></td> <td></td> </tr> </tbody> </table>	Adapter	Cores	Memory	Power	SLI	Connector**	NVS 310	48	1GB	19.5W		2xDP	NVS 315	48	1GB	19.5W	2xDVI-I SL/2xDP		NVS 510	192	2GB	35W		4xmini DP	NVS 810	1024	4GB	68W		8xmini DP	Quadro K420	192	2GB	41W		DVI-I DL+DP	Quadro K620	384	2GB	45W		DVI-I DL+DP	Quadro K1200	512	4GB	45W		4xmini DP	Quadro K2200	640	4GB	68W		DVI-I DL+2xDP	Quadro K4200	1344	4GB	108W		DVI-I DL+2xDP	Quadro K5200	2304	8GB	150W	SLI	DVI-I DL+DVI-D DL+2xDP	Quadro M2000	768	4GB	75W		4xDP	Quadro M4000	1664	8GB	120W		4xDP	Quadro M5000	2048	8GB	150W	SLI	DVI-I DL+4xDP	Quadro M6000	3072	24GB	250W		DVI-I DL+4xDP	Tesla K40	2880	12GB	235W			<p><b>Expansion slots</b></p> <ul style="list-style-type: none"> <li>Slot 1: PCIe 3.0 x16, half length, full height, CPU2 needed (full length, full height if no flex adapter)</li> <li>Slot 2: PCIe 3.0 x16, full length, full height</li> <li>Slot 3: PCIe 3.0 x8, full length, full height, CPU2 needed</li> <li>Slot 4: PCIe 3.0 x16, full length, full height</li> <li>Slot 5: PCI, full length, full height</li> <li>Slot 6: PCIe 2.0 x4, half length, full height</li> </ul> <p>Also supports one flex connector</p>
Adapter	Cores	Memory	Power	SLI	Connector**																																																																																													
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Quadro K620	384	2GB	45W		DVI-I DL+DP																																																																																													
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Disk drive controller	RAID 0, 1, 5, 10 with onboard SATA controller in chipset, SATA 6Gb/s. RAID 0, 1, 5, 10 with optional LSI RAID flex adapter, 12Gb/s SAS and SATA. RAID 0, 1, 5, 6, 10 with optional LSI 9364-8i PCIe adapter, 1GB memory, optional 1GB flash with super capacitor, 12Gb/s SAS and SATA	Drive Bays	HDD 1/HDD 3 HDD 2/HDD 4																																																																																															
Drive Bays	Two external 5.25" flex bays, four 3.5" internal bays. Each 3.5" bay can support dual drives on selected models (see right)	Drive Bays	HDD 1/HDD 3 HDD 2/HDD 4																																																																																															
Supporting storage	<table border="1"> <tr> <td>3.5" SATA HDD, 7.2K 6Gbs</td> <td>500GB/1TB/2TB/3TB/4TB/1TB hybrid</td> </tr> <tr> <td>2.5" SAS HDD, 15K 12Gbs</td> <td>300GB/600GB</td> </tr> <tr> <td>2.5" SAS SSD, 12Gbs</td> <td>200GB/400GB/800GB</td> </tr> <tr> <td>2.5" SATA SSD, 6Gbs</td> <td>180GB/240GB/256GB/480GB/512GB/1TB, optional OPAL</td> </tr> <tr> <td>PCIe SSD, 2.5"</td> <td>400GB</td> </tr> <tr> <td>PCIe SSD, M.2</td> <td>256 GB/512GB</td> </tr> <tr> <td>PCIe SSD adapter</td> <td>400GB (up to 4 per system)</td> </tr> </table>	3.5" SATA HDD, 7.2K 6Gbs	500GB/1TB/2TB/3TB/4TB/1TB hybrid	2.5" SAS HDD, 15K 12Gbs	300GB/600GB	2.5" SAS SSD, 12Gbs	200GB/400GB/800GB	2.5" SATA SSD, 6Gbs	180GB/240GB/256GB/480GB/512GB/1TB, optional OPAL	PCIe SSD, 2.5"	400GB	PCIe SSD, M.2	256 GB/512GB	PCIe SSD adapter	400GB (up to 4 per system)	Flex bay:	Two 5.25" flex bays, for HH optical drives.																																																																																	
3.5" SATA HDD, 7.2K 6Gbs	500GB/1TB/2TB/3TB/4TB/1TB hybrid																																																																																																	
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Flex connector	One flex connectors (see right), supports one of the following: <ul style="list-style-type: none"> <li>• Up to one LSI RAID flex adapter for SATA/SAS RAID</li> <li>• Up to one Multi-I/O flex adapters for two PCIe SSD</li> <li>• Up to one M.2 flex adapters for two M.2 PCIe SSD</li> </ul>		Or up to one optional flex module (Flex module supports one or more of the following options: 9.5mm optical/29-in-1 USB 3.0 reader/front IEEE 1394/front eSATA).																																																																																															
Network interfaces	Integrated two-port gigabit ethernet (Intel i218LM and i210AT), supports Wake-on-LAN. Optional discrete ethernet adapters are available		Or up to two HDD bays for two drives, 3.5" or 2.5" each, SATA only.																																																																																															
HD Audio	Realtek ALC662 codec																																																																																																	
TPM	TCG 1.2-compliant																																																																																																	
Power supply	One fixed 650 watts or 850 watts, autosensing, 92%, 80 PLUS Platinum qualified																																																																																																	

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For a list of all supported options, please visit [https://download.lenovo.com/pccbbs/options\\_isocm\\_june\\_2016.xlsx](https://download.lenovo.com/pccbbs/options_isocm_june_2016.xlsx) sheet

Model	Processor	Memory	Graphics	RAID controller	Max drives in 3.5" bays	Storage	Optical	Media reader	Power supply	Add-on ports	Keyboard/Mouse	Preloaded OS	Base warranty	Global	Ann date
30B7000RUS	2xXeon E5-2623 v4 4C/2.6GHz/10MB/85W/DDR4-2133	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x256GB OPAL SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	04/16
30B7000SUS	1xXeon E5-2623 v4 4C/2.6GHz/10MB/85W/DDR4-2133	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x256GB OPAL SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	04/16
30B7000TUS	2xXeon E5-2620 v4 8C/2.1GHz/20MB/85W/DDR4-2133	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x1TB HDD 7.2K 3.5" SATA6Gbs	DVD±RW	9-in-1	850W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	04/16
30B7000UUS	2xXeon E5-2637 v4 4C/3.5GHz/15MB/135W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x256GB OPAL SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	850W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	04/16
30B7000VUS	1xXeon E5-2637 v4 4C/3.5GHz/15MB/135W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x256GB OPAL SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	850W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	04/16
30B7000WUS	2xXeon E5-2643 v4 6C/3.4GHz/20MB/135W/DDR4-2400	4x8GB RDIMM DDR4-2400 ECC	Quadro M4000 8GB	Onboard	4	1x1TB SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	850W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	04/16
30B7000XUS	2xXeon E5-2623 v4 4C/2.6GHz/10MB/85W/DDR4-2133	2x8GB RDIMM DDR4-2400 ECC	Quadro M2000 4GB	Onboard	4	1x256GB OPAL SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	04/16
30B7000YUS	1xXeon E5-2620 v4 8C/2.1GHz/20MB/85W/DDR4-2133	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x1TB HDD 7.2K 3.5" SATA6Gbs	DVD±RW	9-in-1	850W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	04/16
30B7001MUS	1xXeon E5-2650 v4 12C/2.2GHz/30MB/105W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Quadro M4000 8GB	Onboard	4	1x1TB HDD 7.2K 3.5" SATA6Gbs+1x256GB SSD M.2 PCIe	DVD±RW	9-in-1	850W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	07/16
30B7001NUS	2xXeon E5-2620 v4 8C/2.1GHz/20MB/85W/DDR4-2133	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x1TB HDD 7.2K 3.5" SATA6Gbs+1x256GB SSD M.2 PCIe	DVD±RW	9-in-1	850W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	07/16
30B7001PUS	2xXeon E5-2620 v4 8C/2.1GHz/20MB/85W/DDR4-2133	2x8GB RDIMM DDR4-2400 ECC	Quadro M2000 4GB	Onboard	4	1x1TB HDD 7.2K 3.5" SATA6Gbs+1x256GB SSD M.2 PCIe	DVD±RW	9-in-1	850W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	07/16

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Model	Processor	Memory	Graphics	RAID controller	Max drives in 3.5" bays	Storage	Optical	Media reader	Power supply	Add-on ports	Keyboard/Mouse	Preloaded OS	Base warranty	Global	Ann date
30B70005++	2xXeon E5-2630 v4 10C/2.2GHz/25MB/85W/DDR4-2133	4x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x512GB SSD M.2 PCIe	DVD±RW	9-in-1	650W 92%	No	USB full/ USB opt	Win10 Pro64	3-year	No	04/16
30B70006++	1xXeon E5-2620 v4 8C/2.1GHz/20MB/85W/DDR4-2133	4x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x512GB SSD M.2 PCIe	DVD±RW	9-in-1	650W 92%	No	USB full/ USB opt	Win10 Pro64	3-year	No	04/16
30B70007++	1xXeon E5-2620 v4 8C/2.1GHz/20MB/85W/DDR4-2133	1x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x256GB OPAL SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/ USB opt	Win10 Pro64	3-year	No	04/16
30B7000D++	2xXeon E5-2650 v4 12C/2.2GHz/30MB/105W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x1TB SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	850W 92%	No	USB full/ USB opt	Win10 Pro64	3-year	No	04/16
30B7000E++	1xXeon E5-2650 v4 12C/2.2GHz/30MB/105W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x512GB SSD 2.5" SA-TA6Gbs	DVD±RW	9-in-1	850W 92%	No	USB full/ USB opt	Win10 Pro64	3-year	No	04/16
30B7000F++	1xXeon E5-2630 v4 10C/2.2GHz/25MB/85W/DDR4-2133	1x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x512GB SSD 2.5" SA-TA6Gbs	DVD±RW	9-in-1	850W 92%	No	USB full/ USB opt	Win10 Pro64	3-year	No	04/16
30B7000P++	1xXeon E5-2620 v4 8C/2.1GHz/20MB/85W/DDR4-2133	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x256GB OPAL SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	850W 92%	No	USB full/ USB opt	Win10 Pro64	3-year	No	04/16

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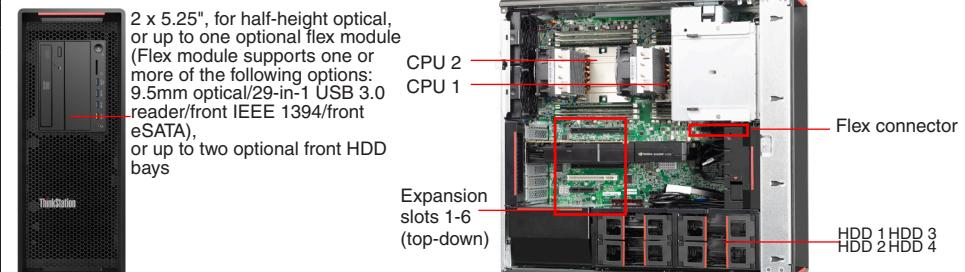
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# ThinkStation P700 Platform Specifications

Product Specifications Reference (PSREF)

Components	Specification
Chipset	Intel C612 Platform Controller Hub (PCH)
System mgmt	Intel Active Management Technology 9
Processor	Up to two 145W <b>Intel Xeon E5-2600 v3</b> family processors, Or up to one 140W <b>Intel Xeon E5-1600 v3</b> family processor: E5-2699 v3 18C/2.3GHz/45MB/145W/DDR4-2133 E5-2698 v3 16C/2.3GHz/40MB/135W/DDR4-2133 E5-2697 v3 14C/2.6GHz/35MB/145W/DDR4-2133 E5-2695 v3 14C/2.3GHz/35MB/120W/DDR4-2133 E5-2690 v3 12C/2.6GHz/30MB/135W/DDR4-2133 E5-2685 v3 12C/2.6GHz/30MB/120W/DDR4-2133 E5-2683 v3 14C/2GHz/35MB/120W/DDR4-2133 E5-2680 v3 12C/2.5GHz/30MB/120W/DDR4-2133 E5-2670 v3 12C/2.3GHz/30MB/120W/DDR4-2133 E5-2667 v3 8C/3.2GHz/20MB/135W/DDR4-2133 E5-2660 v3 10C/2.6GHz/25MB/105W/DDR4-2133 E5-2650L v3 12C/1.8GHz/30MB/65W/DDR4-2133 E5-2650 v3 10C/2.3GHz/25MB/105W/DDR4-2133 E5-2643 v3 6C/3.4GHz/20MB/135W/DDR4-2133 E5-2640 v3 8C/2.6GHz/20MB/90W/DDR4-1866 E5-2637 v3 4C/3.5GHz/15MB/135W/DDR4-2133 E5-2630L v3 8C/1.8GHz/20MB/55W/DDR4-1866 E5-2630 v3 8C/2.4GHz/20MB/85W/DDR4-1866 E5-2623 v3 4C/3GHz/10MB/105W/DDR4-1866 E5-2620 v3 6C/2.4GHz/15MB/85W/DDR4-1866 E5-2609 v3 6C/1.9GHz/15MB/85W/DDR4-1600 E5-2603 v3 6C/1.6GHz/15MB/85W/DDR4-1600 E5-1680 v3 8C/3.2GHz/20MB/140W/DDR4-2133 E5-1660 v3 8C/3GHz/20MB/140W/DDR4-2133 E5-1650 v3 6C/3.5GHz/15MB/140W/DDR4-2133 E5-1630 v3 4C/3.7GHz/10MB/140W/DDR4-2133 E5-1620 v3 4C/3.5GHz/10MB/140W/DDR4-2133 E5-1607 v3 4C/3.1GHz/10MB/140W/DDR4-1866 E5-1603 v3 4C/2.8GHz/10MB/140W/DDR4-1866
Coprocessor	None
Memory DIMM slots	12 DIMM sockets (6 DIMMs per processor), 8-channel capable (4-channel per processor). Supports RDIMM and LRDIMM (cannot be intermixed), ECC, DDR4-2133.
Memory capacity	768GB (LRDIMM)/384GB, 2nd CPU is needed
Graphics, GPU computing, coprocessors	Three PCIe 3.0 x16 slots, two via CPU1, one via CPU2 Up to 3 graphics, GPU computing adapters per system, 2nd CPU is needed PSU Maximum quantity of PCIe x16 adapters per system (by power) 650W+1x150W+2x75W (supports onboard SATA controller and up to 85W CPU) 850W+1x225W+2x75W, or 2x150W+1x75W
Disk drive controller	<b>RAID 0, 1, 5, 10</b> with onboard SATA controller in chipset, SATA 6Gb/s. <b>RAID 0, 1, 5, 10</b> with optional LSI RAID flex adapter, 12Gb/s SAS and SATA. <b>RAID 0, 1, 5, 6, 10</b> with optional LSI 9364-8i PCIe adapter, 1GB memory, optional 1GB flash with super capacitor, 12Gb/s SAS and SATA
Drive Bays	Two external 5.25" bays, four internal 3.5" bays (see right)
Flex connector	One flex connectors (see right), supports one of the following: • Up to one LSI RAID flex adapter for SATA/SAS RAID • Up to one Multi-I/O flex adapters for two PCIe SSD • Up to one M.2 flex adapters for two M.2 SSD
Network interfaces	Integrated two Gigabit Ethernet ports, supports Wake-on-LAN. Optional discrete Ethernet is available
HD Audio	Realtek ALC662 codec
TPM	TCG 1.2-compliant
Power supply	One fixed 650 watts or 850 watts, autosinging, 92%, 80 PLUS Platinum qualified
Front ports	Four USB 3.0 (one Diagnostic, one Always On), one combo audio/microphone jack (3.5mm)
Rear ports	Four USB 2.0, four USB 3.0 (blue), one serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), two PS/2
IEEE 1394	Up to one 6-pin port on rear, one 6-pin port on front, 1394a-2000, 400Mbps
Thunderbolt	1 Thunderbolt via optional PCIe adapter. Uses slot 6.
Mechanical	• 36-liter: 175mm/6.89" W x 470mm/18.5" D x 440mm/17.32" H (with feet) • Tool-less parts: power supply, disk drive, fans, adapter retention • 52.25 lb (23.7kg) max configuration
Base warranty	3-year limited onsite service with 9x5/NBD

## Drive Bays and Expansion slots



Slot 1: PCIe 3.0 x16, Half length, full height, by CPU2  
 Slot 2: PCIe 3.0 x16, Full length, full height, by CPU1  
 Slot 3: PCIe 3.0 x8, Full length, full height, by CPU2  
 Slot 4: PCIe 3.0 x16, Full length, full height, by CPU1  
 Slot 5: PCI, Full length, full height, by PCH  
 Slot 6: PCIe 2.0 x4, Half length, full height, by PCH

Note:  
 1. When LSI RAID flex adapter or 9364-8i adapter is installed, each HDD bay (HDD 1 - 4) can support 2 disk drives (1 x 3.5" drives + 2.5" SATA/SAS SSD, or 2 x 2.5" SATA/SAS SSD).  
 2. More than 4 drives requires LSI RAID flex adapter or 9364-8i adapter.

## Supporting NVIDIA graphics and GPU computing list

Adapter	Cores	Memory	Power	SLI	Connector***
NVS 310	48	1GB	19.5W		2xDP
NVS 315	48	1024MB	19.5W	2xDVI-I SL/2xDP	
NVS 510	192	2048MB	33.4W		4xmini DP
Quadro 410	192	512MB	36.7W		DVI-I DL+DP
Quadro K600	192	1GB	41W		DVI-I DL+DP
Quadro K2000	384	2GB	51.1W		DVI-I DL+2xDP
Quadro K2000D	384	2GB	51.1W		DVI-I DL+DVI-D DL+mini DP
Quadro K4000	768	3GB	80W		DVI-I DL+2xDP
Quadro K5000	1536	4GB	122W		DVI-I DL+DVI-D DL+2xDP
Quadro K6000	2880	12GB	225W		DVI-I DL+DVI-D DL+2xDP
Quadro K420	192	2GB	41W		DVI-I DL+DP
Quadro K620	384	2GB	45W		DVI-I DL+DP
Quadro K2200	640	4GB	68W		DVI-I DL+2xDP
Quadro K4200	1344	4GB	108W		DVI-I DL+2xDP
Quadro K5200	2304	8GB	150W	SLI	DVI-I DL+DVI-D DL+2xDP
Quadro M4000	1664	8GB	120W		4xDP
Quadro M5000	2048	8GB	150W		DVI-I DL+4xDP
Quadro M6000	3072	12GB	250W		DVI-I DL+4xDP
Tesla K20	2496	5GB	225W		
GRID K2	3072	8GB	225W		

\*\*\* DL = Dual link, SL = Single Link, DP = DisplayPort 1.2

## Supporting storage list

(SAS drive needs LSI RAID flex adapter or 9364-8i adapter)	
3.5" SATA (7.2K 6Gbs HDD)	500GB/1TB/2TB/3TB/4TB/1TB hybrid/2TB hybrid
2.5" SAS (15K 12Gbs HDD)	300GB/450GB/600GB
2.5" SAS SSD (12Gbs)	200GB/400GB/800GB
2.5" SATA SSD (6Gbs)	128GB/180GB/240GB/256GB/480GB/512GB/1TB (Optional OPAL)
M.2 SSD	256 GB/512GB (Optional NVMe)
PCIe SSD adapter	410GB/1.6TB

## Environment specification and certifications

Temperature	
Operating:	50 °F to 95 °F (10 °C to 35 °C)
Storage:	-10 °C to 60 °C, no package
-40 °C to 60 °C, with package	
Altitude	
Operating:	-50~10000ft (-15.2~3048m)
Humidity	
Operating:	10%~80%, non-condensing
Storage:	10%~90%, non-condensing

RoHS-compliant/EPEAT Gold rating on all model,  
 ENERGY STAR 6.1 qualified on selected models.

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Model	Processor	Memory	Graphics	RAID controller	Max drives in 3.5" bays	Storage	Optical	Media reader	Power supply	Add-on ports	Keyboard/Mouse	Preloaded OS	Base warranty	Global	Ann date
30A9001CUS	1xXeon E5-2609 v3 6C/1.9GHz/15MB/85W/1600MHz	1x4GB 2133MHz RDIMM	Open	Onboard	4	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/ USB opt	Win8.1 Pro64	3-year	No	10/14
30A9001DUS	1xXeon E5-2620 v3 6C/2.4GHz/15MB/85W/DDR4-1866	2x4GB 2133MHz RDIMM	Open	Onboard	4	1x180GB SSD 2.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/ USB opt	Win8.1 Pro64	3-year	No	10/14
30A9001EUS	1xXeon E5-2640 v3 8C/2.6GHz/20MB/90W/DDR4-1866	2x4GB 2133MHz RDIMM	Open	Onboard	4	1x256GB SSD PCIe M.2	DVD±RW	9-in-1	850W 92%	No	USB full/ USB opt	Win8.1 Pro64	3-year	No	10/14
30A9002EUS	1xXeon E5-2609 v3 6C/1.9GHz/15MB/85W/1600MHz	1x8GB 2133MHz RDIMM	Open	Onboard	4	1x1TB Hybrid HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	850W 92%	No	USB full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	09/15
30A9002FUS	1xXeon E5-2620 v3 6C/2.4GHz/15MB/85W/DDR4-1866	1x8GB 2133MHz RDIMM	Open	Onboard	4	1x256GB SSD PCIe M.2 OPAL	DVD±RW	9-in-1	850W 92%	No	USB full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	09/15
30A9002GUS	1xXeon E5-2643 v3 6C/3.4GHz/20MB/135W/DDR4-2133	1x8GB 2133MHz RDIMM	Open	Onboard	4	1x256GB SSD PCIe M.2 OPAL	DVD±RW	9-in-1	850W 92%	No	USB full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	09/15
30A9002HUS	2xXeon E5-2667 v3 8C/3.2GHz/20MB/135W/DDR4-2133	2x8GB 2133MHz RDIMM	Open	Onboard	4	1x256GB SSD PCIe M.2 OPAL	DVD±RW	9-in-1	850W 92%	No	USB full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	09/15
30A9002PUS	2xXeon E5-2630 v3 8C/2.4GHz/20MB/85W/DDR4-1866	4x8GB 2133MHz RDIMM	Quadro K2200	Onboard	4	1x512GB SSD 2.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	02/16
30A9002UUS	1xXeon E5-2609 v3 6C/1.9GHz/15MB/85W/1600MHz	1x4GB 2133MHz RDIMM	Open	Onboard	4	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A9002VUS	1xXeon E5-2637 v3 4C/3.5GHz/15MB/135W/DDR4-2133	2x8GB 2133MHz RDIMM	Open	Onboard	4	1x256GB SSD PCIe M.2 OPAL	DVD±RW	9-in-1	850W 92%	No	USB full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A9002WUS	2xXeon E5-2650L v3 12C/1.8GHz/30MB/65W/DDR4-2133	2x8GB 2133MHz RDIMM	Open	LSI Flex	8	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	850W 92%	No	USB full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A9002XUS	1xXeon E5-2620 v3 6C/2.4GHz/15MB/85W/DDR4-1866	1x8GB 2133MHz RDIMM	Open	Onboard	4	1x180GB SSD 2.5" SA-TA6Gbs OPAL	DVD±RW	9-in-1	650W 92%	No	USB full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A9002YUS	1xXeon E5-2620 v3 6C/2.4GHz/15MB/85W/DDR4-1866	1x8GB 2133MHz RDIMM	Quadro K4200	Onboard	4	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	850W 92%	No	USB full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A90030US	1xXeon E5-2630 v3 8C/2.4GHz/20MB/85W/DDR4-1866	1x8GB 2133MHz RDIMM	Quadro K4200	Onboard	4	1x2TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	850W 92%	No	USB full/ USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16

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Model	Processor	Memory	Graphics	RAID controller	Max drives in 3.5" bays	Storage	Optical	Media reader	Power supply	Add-on ports	Keyboard/Mouse	Preloaded OS	Base warranty	Global	Ann date
30A90009++	1xXeon E5-2609 v3 6C/1.9GHz/15MB/85W/1600MHz	2x4GB DDR4-2133 RDIMM	Open	Onboard	4	1x1TB Hybrid HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	10/14
30A9000A++	1xXeon E5-2620 v3 6C/2.4GHz/15MB/85W/DDR4-1866	2x4GB DDR4-2133 RDIMM	Open	Onboard	4	1x256GB SSD 2.5" SA-TA6Gbs OPAL	DVD±RW	9-in-1	650W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	10/14
30A9000D++	1xXeon E5-2630 v3 8C/2.4GHz/20MB/85W/DDR4-1866	2x4GB DDR4-2133 RDIMM	Open	Onboard	4	1x2TB Hybrid HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	10/14
30A90010++	1xXeon E5-2603 v3 6C/1.6GHz/15MB/85W/1600MHz	1x4GB DDR4-2133 RDIMM	Open	Onboard	4	1x1TB HDD 7.2K 3.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	10/14
30A9001G++	1xXeon E5-2620 v3 6C/2.4GHz/15MB/85W/DDR4-1866	1x8GB DDR4-2133 RDIMM	Open	Onboard	4	1x1TB Hybrid HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	850W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	02/15
30A9001J++	1xXeon E5-2630 v3 8C/2.4GHz/20MB/85W/DDR4-1866	1x8GB DDR4-2133 RDIMM	Open	Onboard	4	1x256GB SSD 2.5" SA-TA6Gbs OPAL	DVD±RW	9-in-1	850W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	02/15
30A9001Q++	2xXeon E5-2620 v3 6C/2.4GHz/15MB/85W/DDR4-1866	4x8GB DDR4-2133 RDIMM	Open	Onboard	4	1x2TB HDD 7.2K 3.5" SATA6Gbs+1x256GB SSD PCIe M.2	DVD±RW	9-in-1	650W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	02/15
30A9001R++	2xXeon E5-2630 v3 8C/2.4GHz/20MB/85W/DDR4-1866	4x8GB DDR4-2133 RDIMM	Open	Onboard	4	1x2TB HDD 7.2K 3.5" SATA6Gbs+1x256GB SSD PCIe M.2	DVD±RW	9-in-1	650W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	02/15
30A90023++	2xXeon E5-2670 v3 12C/2.3GHz/30MB/120W/DDR4-2133	2x8GB DDR4-2133 RDIMM	Open	Onboard	4	1x512GB SSD 2.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	06/15
30A90024++	2xXeon E5-2650 v3 10C/2.3GHz/25MB/105W/DDR4-2133	2x8GB DDR4-2133 RDIMM	Open	Onboard	4	1x512GB SSD 2.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	06/15
30A90025++	1xXeon E5-2650 v3 10C/2.3GHz/25MB/105W/DDR4-2133	2x8GB DDR4-2133 RDIMM	Open	Onboard	4	1x512GB SSD 2.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	06/15

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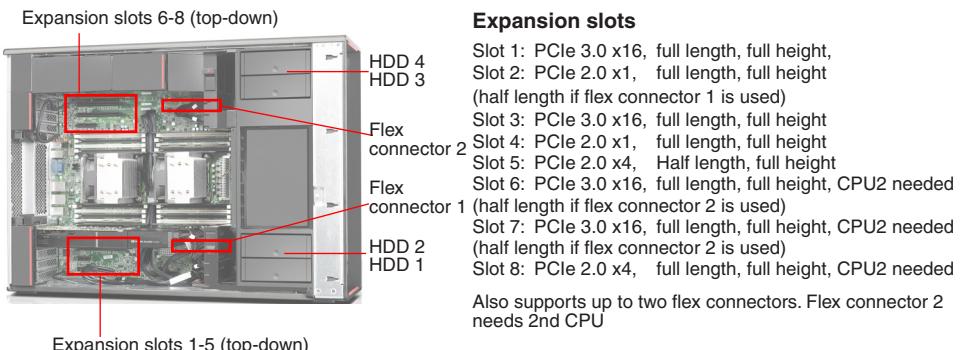
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Model	Processor	Memory	Graphics	RAID controller	Max drives in 3.5" bays	Storage	Optical	Media reader	Power supply	Add-on ports	Keyboard/Mouse	Preloaded OS	Base warranty	Global	Ann date
<b>30A8000LUS</b>	<b>2xXeon E5-2620 v3 6C/2.4GHz/15MB/85W/DDR4-1866</b>	<b>2x8GB 2133MHz RDIMM</b>	<b>Quadro K2200</b>	<b>Onboard</b>	<b>4</b>	<b>2x500GB HDD 7.2K 3.5" SATA6Gbs</b>	<b>DVD±RW</b>	<b>No</b>	<b>850W 92%</b>	<b>No</b>	<b>USB full/USB opt</b>	<b>Win8.1 Pro64</b>	<b>3-year</b>	<b>No</b>	<b>10/14</b>
<b>30A8000MUS</b>	<b>2xXeon E5-2623 v3 4C/3GHz/10MB/105W/DDR4-1866</b>	<b>2x8GB 2133MHz RDIMM</b>	<b>Quadro K4200</b>	<b>Onboard</b>	<b>4</b>	<b>2x180GB SSD 2.5" SA-TA6Gbs</b>	<b>DVD±RW</b>	<b>No</b>	<b>850W 92%</b>	<b>No</b>	<b>USB full/USB opt</b>	<b>Win8.1 Pro64</b>	<b>3-year</b>	<b>No</b>	<b>10/14</b>
30A8003AUS	1xXeon E5-2609 v3 6C/1.9GHz/15MB/85W/DDR4-1600	2x4GB 2133MHz RDIMM	Open	Onboard	4	1x1TB HDD 7.2K 3.5" SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/USB opt	Win8.1 Pro64	3-year	No	10/14
30A8003BUS	1xXeon E5-2620 v3 6C/2.4GHz/15MB/85W/DDR4-1866	2x4GB 2133MHz RDIMM	Quadro K620	Onboard	4	1x1TB HDD 7.2K 3.5" SATA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/USB opt	Win8.1 Pro64	3-year	No	10/14
30A8003CUS	1xXeon E5-2630 v3 8C/2.4GHz/20MB/85W/DDR4-1866	2x4GB 2133MHz RDIMM	Quadro K2200	Onboard	4	1x180GB SSD 2.5" SA-TA6Gbs	DVD±RW	9-in-1	650W 92%	No	USB full/USB opt	Win8.1 Pro64	3-year	No	10/14

Note: Models in bold are ENERGY STAR 6.1 qualified.

Components	Specification																																																																																																
Chipset	Intel C612 Platform Controller Hub (PCH)																																																																																																
System mgmt	Intel Active Management Technology 9																																																																																																
Processor	Up to two 160W Intel Xeon E5-2600 v4 family processors. Each processor supports up to 22 cores up to 2.2GHz, 16 cores up to 2.6GHz, 14 cores up to 2.6GHz, 12 cores up to 3GHz, 10 cores up to 2.4GHz, 8 cores up to 3.2GHz, 6 cores up to 3.4GHz, 4 cores up to 3.5GHz. Or up to two Intel Xeon E5-2620 v3 or E5-2609 v3 processors (not available in EMEA)																																																																																																
Coprocessor	Optional. Up to one Intel Xeon Phi Coprocessor 3120A, PCIe 2.0 x16 adapter, 57 cores, 1.1GHz, 28.5MB L2 cache, 6GB memory, 300W																																																																																																
Memory DIMM slots	16 DIMM sockets (8 DIMMs per processor), 8-channel capable (4-channel per processor). RDIMM or LRDIMM (cannot be intermixed), ECC, DDR4, 2400MHz																																																																																																
Memory capacity	896GB (LRDIMM, 14x64GB)/512GB (RDIMM, 16x32GB), 2nd CPU is needed																																																																																																
Graphics and GPU computing	<p>Four PCIe 3.0 x16 slots for graphics and GPU computing cards, two slots per processor</p> <table border="1"> <thead> <tr> <th>Installed CPU</th> <th>Maximum quantity of PCIe x16 adapters per system (by power)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1x300W+1x75W or 2x150W</td> </tr> <tr> <td>2</td> <td>2x300W+2x75W, or 1x300W+2x150W+1x75W, or 4x150W</td> </tr> </tbody> </table>	Installed CPU	Maximum quantity of PCIe x16 adapters per system (by power)	1	1x300W+1x75W or 2x150W	2	2x300W+2x75W, or 1x300W+2x150W+1x75W, or 4x150W																																																																																										
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Disk drive controller	RAID 0, 1, 5, 10 with onboard SATA controller in chipset, 6Gb/s SATA. RAID 0, 1, 5, 10 with optional LSI RAID flex adapter, 12Gb/s SAS and SATA. RAID 0, 1, 5, 6, 10 with optional LSI 9364-8i PCIe adapter, 1GB memory, optional 1GB flash with super capacitor, 12Gb/s SAS and SATA																																																																																																
Drive Bays	Three external 5.25" bays, four internal 3.5" dual drives bays (see right)																																																																																																
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Flex connector	<p>Two flex connectors (see right), one per processor. Supports one of the following:</p> <ul style="list-style-type: none"> <li>Up to one LSI RAID flex adapter for SATA/SAS RAID.</li> <li>Up to two Multi-I/O adapters for four PCIe SSD (two PCIe SSD per adapter).</li> <li>Up to two M.2 flex adapters for four M.2 PCIe SSD (two M.2 PCIe SSD per adapter)</li> </ul>																																																																																																
Network interfaces	Integrated two-port gigabit ethernet (Intel i218LM and i210AT), supports Wake-on-LAN. Optional discrete ethernet adapters are available																																																																																																
HD Audio	Realtek ALC662 codec																																																																																																
TPM	TCG 1.2-compliant																																																																																																
Power supply	One fixed 1300 watts, autotransformer, 92% PSU, 80 PLUS Platinum qualified Note: PSU will automatically operate in 1120W (restricted mode) if the system line input is 100-110V. For other supported system line input voltages, the PSU will operate at the full 1300W.																																																																																																

Components	Specification												
Front ports	Four USB 3.0 (one Diagnostic, one Always On), one combo audio/microphone jack (3.5mm)												
Rear ports	Four USB 2.0, four USB 3.0 (blue), one serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), two PS/2												
Add-on ports	<p>Supports the following optional ports: Two IEEE 1394 (one on rear and one on front flex module) via PCIe adapter, up to one adapter per system. Two rear USB 3.0 per PCIe adapter, up to three adapters per system. One rear Thunderbolt via PCIe adapter. One front eSATA (on flex module), or one rear eSATA via cable (also needs one PCIe slot), up to one eSATA port per system. One internal USB 3.0 port via cable, cannot be intermixed with 29-in-1 reader</p>												
Media reader	9-in-1 USB 2.0 card reader. Optional 29-in-1 USB 3.0 card reader on flex module												
Mechanical	<ul style="list-style-type: none"> <li>55-liter: 200mm/7.87" W x 620mm/24.4" D x 446mm/17.56" H (with feet)</li> <li>Tool-less parts: all except CPU fansink</li> <li>71.3 lb (32.3kg) max configuration</li> </ul>												
Environmental specification	<table border="1"> <tbody> <tr> <td>Temperature - operating</td> <td>50 °F to 95 °F (10 °C to 35 °C)</td> </tr> <tr> <td>Temperature - non operating (no package)</td> <td>14 °F to 140 °F (-10 °C to 60 °C)</td> </tr> <tr> <td>Temperature - non operating (with package)</td> <td>-40 °F to 140 °F (-40 °C to 60 °C)</td> </tr> <tr> <td>Altitude - operating</td> <td>(Unpressurized): 0-10000ft (0-3048m)</td> </tr> <tr> <td>Humidity - operating</td> <td>10%-80%, non-condensing</td> </tr> <tr> <td>Humidity - storage (with package)</td> <td>10%-90%, non-condensing</td> </tr> </tbody> </table>	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): 0-10000ft (0-3048m)	Humidity - operating	10%-80%, non-condensing	Humidity - storage (with package)	10%-90%, non-condensing
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Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)												
Humidity - operating	10%-80%, non-condensing												
Humidity - storage (with package)	10%-90%, non-condensing												
Base warranty	3-year limited onsite service with 9x5/NBD												

**Drive bays**

HDD 1-4: Standard 3.5" HDD bay, up to four 3.5" or 2.5" disk drives.  
Each 3.5" bay supports 2.5" (9mm or less) drive plus 3.5" drive, or two 2.5" (15mm or less) drives. More than 4 drives requires LSI RAID flex adapter or 9364-8i adapter.

Flex bay: Three 5.25" flex bays, for HH optical drives.

Or up to one optional flex module (Flex module supports one or more of the following options: 9.5mm optical/29-in-1 USB 3.0 reader/front IEEE 1394/front eSATA). Or up to two HDD bays for two drives, 3.5" or 2.5" each, SATA only.

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[https://download.lenovo.com/pccbbs/options\\_isocm\\_june\\_2016.xlsx](https://download.lenovo.com/pccbbs/options_isocm_june_2016.xlsx) sheet

Model	Processor	Memory	Graphics	RAID controller	Max drives in 3.5" bays	Storage	Optical	Media reader	Power supply	Add-on ports	Keyboard/Mouse	Preloaded OS	Base warranty	Global	Ann date
30B9000EUS	1xXeon E5-2643 v4 6C/3.4GHz/20MB/135W/DDR4-2400	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x512GB SSD 2.5" SATA6Gb-s	DVD±RW	9-in-1	1300W 92%	No	USB full/no mouse	Win10 Pro64	3-year	No	04/16
30B9000FUS	2xXeon E5-2650 v4 12C/2.2GHz/30MB/105W/DDR4-2400	4x8GB RDIMM DDR4-2400 ECC 8GB	Quadro M5000	Onboard	4	1x1TB SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	1300W 92%	No	USB full/no mouse	Win10 Pro64	3-year	No	04/16
30B9000GUS	2xXeon E5-2643 v4 6C/3.4GHz/20MB/135W/DDR4-2400	4x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x1TB SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	1300W 92%	No	USB full/no mouse	Win10 Pro64	3-year	No	04/16
30B9000HUS	1xXeon E5-2623 v4 4C/2.6GHz/10MB/85W/DDR4-2133	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x512GB SSD 2.5" SATA6Gb-s	DVD±RW	9-in-1	1300W 92%	No	USB full/no mouse	Win10 Pro64	3-year	No	04/16
30B9001PUS	2xXeon E5-2650 v4 12C/2.2GHz/30MB/105W/DDR4-2400	4x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x1TB HDD 7.2K 3.5" SATA6Gbs+1x512GB SSD M.2 PCIe	DVD±RW	9-in-1	1300W 92%	No	USB full/ USB opt	Win10 Pro64	3-year	No	07/16
30B9001NUS	2xXeon E5-2650 v4 12C/2.2GHz/30MB/105W/DDR4-2400	4x8GB RDIMM DDR4-2400 ECC	Quadro M4000	Onboard	4	1x1TB HDD 7.2K 3.5" SATA6Gbs+1x512GB SSD M.2 PCIe	DVD±RW	9-in-1	1300W 92%	No	USB full/ USB opt	Win10 Pro64	3-year	No	07/16

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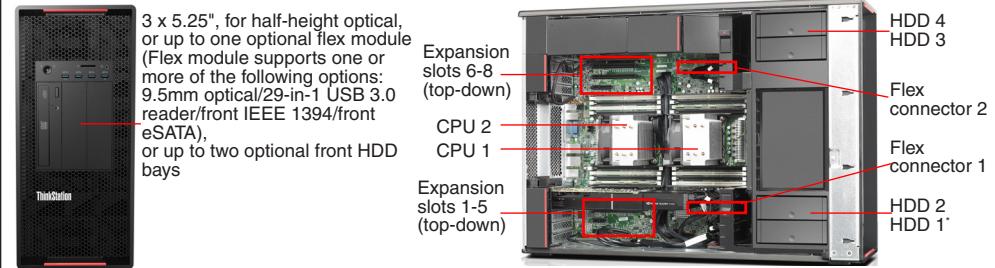
Model	Processor	Memory	Graphics	RAID controller	Max drives in 3.5" bays	Storage	Optical	Media reader	Power supply	Add-on ports	Keyboard/Mouse	Preloaded OS	Base warranty	Global	Ann date
30B90003++	2xXeon E5-2620 v4 8C/2.1GHz/20MB/85W/DDR4-2133	2x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x1TB Hybrid HDD 7.2K 3.5" SATA6Gbs	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	04/16
30B90004++	1xXeon E5-2630 v4 10C/2.2GHz/25MB/85W/DDR4-2133	1x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x256GB OPAL SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	04/16
30B90005++	1xXeon E5-2620 v4 8C/2.1GHz/20MB/85W/DDR4-2133	1x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x1TB HDD 7.2K 3.5" SATA6Gbs	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	04/16
30B90006++	2xXeon E5-2630 v4 10C/2.2GHz/25MB/85W/DDR4-2133	4x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x512GB SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	04/16
30B9000A++	2xXeon E5-2650 v4 12C/2.2GHz/30MB/105W/DDR4-2400	2x16GB RDIMM DDR4-2400 ECC	Quadro M5000 8GB	Onboard	4	1x512GB SSD M.2 PCIe	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	04/16
30B9000D++	2xXeon E5-2620 v4 8C/2.1GHz/20MB/85W/DDR4-2133	4x8GB RDIMM DDR4-2400 ECC	Open	Onboard	4	1x256GB OPAL SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win10 Pro64	3-year	No	04/16

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Components	Specification
Chipset	Intel C612 Platform Controller Hub (PCH)
System mgmt	Intel Active Management Technology 9
	Up to two 160W Intel Xeon E5-2600 v3 family processors, Or up to one 140W Intel Xeon E5-1600 v3 family processor:
E5-2699 v3	18C/2.3GHz/45MB/145W/DDR4-2133
E5-2698 v3	16C/2.3GHz/40MB/135W/DDR4-2133
E5-2697 v3	14C/2.6GHz/35MB/145W/DDR4-2133
E5-2695 v3	14C/2.3GHz/35MB/120W/DDR4-2133
E5-2690 v3	12C/2.6GHz/30MB/135W/DDR4-2133
E5-2687W v3	10C/3.1GHz/25MB/160W/DDR4-2133
E5-2685 v3	12C/2.6GHz/30MB/120W/DDR4-2133
E5-2683 v3	14C/2.6GHz/35MB/120W/DDR4-2133
E5-2680 v3	12C/2.5GHz/30MB/120W/DDR4-2133
E5-2670 v3	12C/2.3GHz/30MB/120W/DDR4-2133
E5-2667 v3	8C/3.2GHz/20MB/135W/DDR4-2133
E5-2660 v3	10C/2.6GHz/25MB/105W/DDR4-2133
E5-2650L v3	12C/1.8GHz/30MB/65W/DDR4-2133
E5-2650 v3	10C/2.3GHz/25MB/105W/DDR4-2133
E5-2643 v3	6C/3.4GHz/20MB/135W/DDR4-2133
E5-2640 v3	8C/2.6GHz/20MB/90W/DDR4-1866
E5-2637 v3	4C/3.5GHz/15MB/135W/DDR4-2133
E5-2630L v3	8C/1.8GHz/20MB/55W/DDR4-1866
E5-2630 v3	8C/2.4GHz/20MB/85W/DDR4-1866
E5-2623 v3	4C/3GHz/10MB/105W/DDR4-1866
E5-2620 v3	6C/2.4GHz/15MB/85W/DDR4-1866
E5-2609 v3	6C/1.9GHz/15MB/85W/DDR4-1600
E5-2603 v3	6C/1.6GHz/15MB/85W/DDR4-1600
E5-1680 v3	8C/3.2GHz/20MB/140W/DDR4-2133
E5-1660 v3	8C/3GHz/20MB/140W/DDR4-2133
E5-1650 v3	6C/3.5GHz/15MB/140W/DDR4-2133
E5-1630 v3	4C/3.7GHz/10MB/140W/DDR4-2133
E5-1620 v3	4C/3.5GHz/10MB/140W/DDR4-2133
E5-1607 v3	4C/3.1GHz/10MB/140W/DDR4-1866
E5-1603 v3	4C/2.8GHz/10MB/140W/DDR4-1866
Coprocessor	Up to one Intel Xeon Phi Coprocessor 3120A, PCIe 2.0 x16 adapter, 57 cores, 1.1GHz, 28.5MB L2 cache, 6GB memory, 300W
Memory DIMM slots	16 DIMM sockets (8 DIMMs per processor), 8-channel capable (4-channel per processor). RDIMM or LRDIMM (cannot be intermixed), ECC, DDR4-2133
Memory capacity	1024GB(LRDIMM)/512GB (RDIMM), 2nd CPU is needed
	Four PCIe 3.0 x16 slots, two slots per processor. Up to 4 graphics, GPU computing, or coprocessors adapters per system. 2nd CPU is needed.
Graphics and GPU computing	Installed CPU Maximum quantity of PCIe x16 adapters per system (by power) 1 1x300W+1x75W or 2x225W 2 2x300W+2x75W, or 1x300W+2x225W+1x75W, or 3x225W+1x150W
	Note: PSU needs to operate at full 1300W.
Disk drive controller	RAID 0, 1, 5, 10 with onboard SATA controller in chipset, 6Gb/s SATA. RAID 0, 1, 5, 10 with optional LSI RAID flex adapter, 12Gb/s SAS and SATA. RAID 0, 1, 5, 6, 10 with optional LSI 9364-8i PCIe adapter, 1GB memory, optional 1GB flash with super capacitor, 12Gb/s SAS and SATA
Drive Bays	Three external 5.25" bays, four internal 3.5" bays (see right)
Flex connector	Two flex connectors (see right), one per processor. Supports one of the following: <ul style="list-style-type: none"><li>Up to one LSI RAID flex adapter for SATA/SAS RAID.</li><li>Up to two Multi-I/O adapters for four PCIe SSD (two PCIe SSD per adapter).</li><li>Up to two M.2 flex adapters for four M.2 SSD (two M.2 SSD per adapter)</li></ul>
Network interfaces	Integrated two-port Gigabit Ethernet (Intel i218LM and i210AT), supports Wake-on-LAN. Optional discrete Ethernet is available
HD Audio	Realtek ALC662 codec
TPM	TCG 1.2-compliant
Power supply	One fixed 1300 watts, autosinging, 92% PSU, 80 PLUS Platinum qualified Note: PSU will automatically operate in 1120W (restricted) mode if the system line input is 100-110V. For other supported system line input voltages, the PSU will operate at the full 1300W.
Front ports	Four USB 3.0 (one Diagnostic, one Always On), one combo audio/microphone jack (3.5mm)
Rear ports	Four USB 2.0, four USB 3.0 (blue), one serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in), two PS/2
Media reader	Optional 29-in-1 USB 3.0 or 9-in-1 USB 2.0 card reader
IEEE 1394	Up to one 6-pin port on rear, one 6-pin port on front, 1394a-2000, 400Mbps

Components	Specification
Thunderbolt	Up to one Thunderbolt via optional PCIe adapter. Uses slot 5.
Mechanical	• 55-liter: 200mm/7.87" W x 620mm/24.4" D x 446mm/17.56" H (with feet) • Tool-less parts: power supply, disk drive, fans, adapter retention • 65.92 lb (29.9kg) max configuration
Base warranty	3-year limited onsite service with 9x5/NBD

**Drive Bays and Expansion slots**

Slot 1: PCIe 3.0 x16, Full length, full height  
 Slot 2: PCIe 2.0 x1, Full length, full height  
 Slot 3: PCIe 3.0 x16, Full length, full height  
 Slot 4: PCIe 2.0 x1, Full length, full height  
 Slot 5: PCIe 2.0 x4, Half length, full height  
 Slot 6: PCIe 3.0 x16, Full length, full height, CPU2 needed  
 Slot 7: PCIe 3.0 x16, Full length, full height, CPU2 needed  
 Slot 8: PCIe 2.0 x4, Full length, full height, CPU2 needed

- Note:  
 1. When LSI RAID flex adapter or 9364-8i adapter is installed, each HDD bay (HDD 1 - 4) can support 2 disk drives (1 x 3.5" drives + 2.5" SATA/SAS SSD, or 2 x 2.5" SATA/SAS SSD). SSD drives should be 7mm  
 2. If flex connector 1 is used, slot 2 is limited to half length.  
 3. If flex connector 2 is used, slot 6 and 7 are limited to half length.  
 4. More than 4 drives requires LSI RAID flex adapter or 9364-8i adapter

**Supporting NVIDIA graphics and GPU computing list**

Adapter	Cores	Memory	Power	SLI	Connector***
NVS 310	48	1GB	19.5W		2xDP
NVS 315	48	1024MB	19.5W	2xDVI-SL/2xDP	
NVS 510	192	2048MB	33.4W		4xmini DP
Quadro 410	192	512MB	36.7W	DVI-I DL+DP	
Quadro K600	192	1GB	41W	DVI-I DL+DP	
Quadro K2000	384	2GB	51.1W	DVI-I DL+2xDP	
Quadro K2000D	384	2GB	51.1W	DVI-I DL+DVI-D DL+mini DP	
Quadro K4000	768	3GB	80W	DVI-I DL+2xDP	
Quadro K5000	1536	4GB	122W	DVI-I DL+DVI-D DL+2xDP	
Quadro K6000	2880	12GB	225W	SLI	DVI-I DL+DVI-D DL+2xDP
Quadro K420	192	2GB	41W		DVI-I DL+DP
Quadro K620	384	2GB	45W		DVI-I DL+DP
Quadro K2200	640	4GB	68W		DVI-I DL+2xDP
Quadro K4200	1344	4GB	108W		DVI-I DL+2xDP
Quadro K5200	2304	8GB	150W	SLI	DVI-I DL+DVI-D DL+2xDP
Quadro M4000	1664	8GB	120W		4xDP
Quadro M5000	2048	8GB	150W		DVI-I DL+4xDP
Quadro M6000	3072	12GB	250W		DVI-I DL+4xDP
Tesla K20	2496	5GB	225W		
GRID K2	3072	8GB	225W		

\*\*\* DL = Dual link, SL = Single Link, DP = DisplayPort 1.2

**Supporting storage list**

(SAS drive needs LSI RAID flex adapter or 9364-8i adapter)	
3.5" SATA (7.2K 6Gbs HDD)	500GB/1TB/2TB/3TB/4TB/1TB hybrid
2.5" SAS (15K 12Gbs HDD)	300GB/450GB/600GB
2.5" SATA SSD (6Gbs)	128GB/180GB/240GB/256GB/480GB/512GB/1TB (Optional OPAL)
M.2 SSD	256 GB/512GB (Optional NVMe)
2.5" PCIe SSD	400GB NVMe
PCIe SSD adapter	410GB

**Environment specification and certifications**

Temperature
Operating: 50 °F to 95 °F (10 °C to 35 °C)
Storage: -10 °C to 60 °C, no package
-40 °C to 60 °C, with package
Altitude
Operating: -50~10000ft (-15.2~3048m)
Humidity
Operating: 10%~80%, non-condensing
Storage: 10%~90%, non-condensing

RoHS-compliant/EPEAT Gold rating on all models, ENERGY STAR 6.1 qualified on selected models.

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Model	Processor	Memory	Graphics	RAID controller	Max drives in 3.5" bays	Storage	Optical	Media reader	Power supply	Add-on ports	Keyboard/Mouse	Preloaded OS	Base warranty	Global	Ann date
30A5001FUS	2xXeon E5-2660 v3 10C/2.6GHz/25MB/105W/DDR4-2133	4x8GB RDIMM DDR4-2133 ECC	Quadro K5200	Onboard	4	2x512GB SSD 2.5" SATA6Gb-s	DVD	No	1300W 92%	No	USB full/USB opt	Win8.1 Pro64	3-year	No	09/15
30A5001VUS	1xXeon E5-2620 v3 6C/2.4GHz/15MB/85W/DDR4-1866	1x8GB RDIMM DDR4-2133 ECC	Quadro K4200	Onboard	4	1x1TB HDD 7.2K 3.5" SATA6Gbs	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16
30A5001WUS	1xXeon E5-2650 v3 10C/2.3GHz/25MB/105W/DDR4-2133	2x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x256GB SSD PCIe M.2 OPAL	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win7 Pro64 (Win10 DG)	3-year	No	03/16

Model	Processor	Memory	Graphics	RAID controller	Max drives in 3.5" bays	Storage	Optical	Media reader	Power supply	Add-on ports	Keyboard/Mouse	Preloaded OS	Base warranty	Global	Ann date
30A5000C++	1xXeon E5-2620 v3 6C/2.4GHz/15MB/85W/DDR4-1866	2x4GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x1TB HDD 7.2K 3.5" SATA6Gbs	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	10/14
30A5000E++	2xXeon E5-2620 v3 6C/2.4GHz/15MB/85W/DDR4-1866	2x4GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x1TB Hybrid HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	10/14
30A5000G++	1xXeon E5-2630 v3 8C/2.4GHz/20MB/85W/DDR4-1866	1x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x256GB SSD 2.5" SATA6Gbs OPAL	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	10/14
30A5000K++	1xXeon E5-2643 v3 6C/3.4GHz/20MB/135W/DDR4-2133	2x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x1TB Hybrid HDD 3.5" 7.2K SATA6Gbs	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	10/14
30A50011++	2xXeon E5-2620 v3 6C/2.4GHz/15MB/85W/DDR4-1866	2x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x256GB SSD 2.5" SATA6Gbs OPAL	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	01/15
30A50012++	2xXeon E5-2630 v3 8C/2.4GHz/20MB/85W/DDR4-1866	2x16GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x512GB SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	02/15
30A5001A++	2xXeon E5-2670 v3 12C/2.3GHz/30MB/120W/DDR4-2133	2x16GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x512GB SSD 2.5" SATA6Gbs	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win7 Pro64 (Win8.1 DG)	3-year	No	06/15

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Model	Processor	Memory	Graphics	RAID controller	Max drives in 3.5" bays	Storage	Optical	Media reader	Power supply	Add-on ports	Keyboard/Mouse	Preloaded OS	Base warranty	Global	Ann date
30A4002CUS	1xXeon E5-2623 v3 4C/3GHz/10MB/105W/DDR4-1866	2x4GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x180GB SSD 2.5" SATA6Gb/s	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win8.1 Pro64	3-year	No	10/14
30A4002DUS	1xXeon E5-2637 v3 4C/3.5GHz/15MB/135W/DDR4-2133	2x4GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x256GB SSD PCIe M.2	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win8.1 Pro64	3-year	No	10/14
30A4002EUS	1xXeon E5-2643 v3 6C/3.4GHz/20MB/135W/DDR4-2133	2x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x512GB SSD 2.5" SATA6Gb/s	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win8.1 Pro64	3-year	No	10/14
30A4002FUS	1xXeon E5-2667 v3 8C/3.2GHz/20MB/135W/DDR4-2133	2x8GB RDIMM DDR4-2133 ECC	Open	Onboard	4	1x512GB SSD 2.5" SATA6Gb/s	DVD±RW	9-in-1	1300W 92%	No	USB full/USB opt	Win8.1 Pro64	3-year	No	10/14
30A40032US	2xXeon E5-2640 v3 8C/2.6GHz/20MB/90W/DDR4-1866	4x8GB RDIMM DDR4-2133 ECC	Quadro K4200	Onboard	4	2x256GB SSD 2.5" SATA6Gb/s OPAL	DVD±RW	No	1300W 92%	No	USB full/USB opt	Win8.1 Pro64	3-year	No	09/15

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[http://www.lenovo.com/psref/psrefs\\_withdrawn.html](http://www.lenovo.com/psref/psrefs_withdrawn.html)



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<sup>1</sup> **Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges.

<sup>2</sup> **Hard drive:** GB = billion bytes, TB = trillion bytes. Accessible capacity is less.

<sup>3</sup> **Systems with limited onsite service** are designed to be repaired during the applicable warranty period primarily with customer-replaceable parts provided by Lenovo. Lenovo will only send a technician onsite to perform a repair if (a) remote telephone diagnosis and/or customer part replacement are unable to resolve the problem, or (b) the part is one of the few designated by Lenovo for onsite replacement. For a list of onsite replaceable parts, contact Lenovo. Support unrelated to a warranty issue may be subject to additional charges. Support phone list available at [www-307.ibm.com/pc/support/site.wss/document.do?Indocid=MIGR-70552](http://www-307.ibm.com/pc/support/site.wss/document.do?Indocid=MIGR-70552)

<sup>4</sup> **SATA/SAS:** The system configuration supports the installation of SATA, SAS, or mixing of SATA and SAS. But mixing of SATA and SAS disks into one RAID array will not be supported.

<sup>5</sup> **Included software** may differ from its retail version (if available), and may not include user manuals or all program functionality. License agreements may apply.

<sup>6</sup> **Multi-Burner Plus** is a DVD±RW device that reads and writes to DVD-RAM, DVD-R, DVD-RW, DVD+R, and DVD+RW. It also reads and writes to CD-R and CD-RW media. Super Multi-Burner DL also writes to DVD+R double layer media.

<sup>7</sup> **Lenovo Services:** These services are available for machines normally used for business, professional, or trade purposes, rather than personal, family, or household purposes. Not all machine types and models are covered. Service period begins with the equipment date of purchase. Service must be purchased during the original limited product warranty period. Service levels are response time objectives and are not guarantees. If the machine problem turns out to be a Customer Replaceable Unit (CRU), a part will be express shipped to you for quick replacement. See Lenovo Warranty Services terms and conditions for complete details and restrictions..

<sup>8</sup> **RAID:** 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.

RAID levels and requirements:

- **RAID 0 (striping)** provides increased performance by writing data across multiple drives.
- **RAID 1 (mirroring)** provides fault tolerance by writing the data on two drives.
- **RAID 5 (striping with parity)** uses distributed parity data to provide fault tolerance more efficiently than RAID 1. Requires three or more drives.
- **RAID 10 (or RAID 1+0)** combines RAID 1 and RAID 0 to create a stripe of mirrors that is fault tolerant while offering increased performance. Requires four drives.

<sup>9</sup> **International Warranty Service** is available in any country in which this product is sold and serviced. Service delivery methods and parts availability vary by country, may be different from that in the country of purchase, and are subject to change without notice. Fees and restrictions may apply in some countries.

<sup>14</sup> **Response times may vary.** May exclude some holidays. Telephone support may be subject to additional charges.

<sup>20</sup> **Operating System:** Level of support varies by operating system. Operating systems not preloaded on the system may not provide full feature functionality. Refer to [lenovo.com/pc/support](http://lenovo.com/pc/support) and enter your machine type and model number for more information.

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