

# ThinkStation P900 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 160W <b>Intel Xeon E5-2600 v3</b> family processors,<br>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                                                                                                                                                                                                                               |
|                            | E5-2687W v3 10C/3.1GHz/25MB/160W/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                | 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                                                                                                                                                                                                                         |
| Graphics and GPU computing | 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.                                                                                                                              |
|                            | 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                                                                                                                                                                                                                |
| Disk drive controller      | <b>RAID 0, 1, 5, 10</b> with onboard SATA controller in chipset, 6Gb/s SATA.                                                                                                                                                                                            |
|                            | <b>RAID 0, 1, 5, 10</b> with optional LSI RAID flex adapter, 12Gb/s SAS and SATA.                                                                                                                                                                                       |
| Drive Bays                 | <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                                                                                                                             |
|                            | 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:                                                                                                                                                                                      |
|                            | • Up to one LSI RAID flex adapter for SATA/SAS RAID.<br>• Up to two Multi-I/O adapters for four PCIe SSD (two PCIe SSD per adapter).<br>• Up to two M.2 flex adapters for four M.2 SSD (two M.2 SSD per adapter)                                                        |
| 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, autosensing, 92% PSU, 80 PLUS Platinum qualified<br>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                                                                                                                                                                                              |

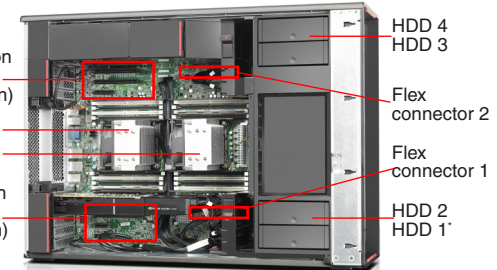
| Components    | Specification                                                                                                                                                                                                                                   |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Thunderbolt   | Up to one Thunderbolt via optional PCIe adapter. Uses slot 5.                                                                                                                                                                                   |
| Mechanical    | <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: power supply, disk drive, fans, adapter retention</li> <li>65.92 lb (29.9kg) max configuration</li> </ul> |
| Base warranty | 3-year limited onsite service with 9x5/NBD                                                                                                                                                                                                      |

## Drive Bays and Expansion slots



3 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 6-8 (top-down)  
CPU 2  
CPU 1  
Expansion slots 1-5 (top-down)



Note:

- 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
- If flex connector 1 is used, slot 2 is limited to half length.
- If flex connector 2 is used, slot 6 and 7 are limited to half length.
- More than 4 drives requires LSI RAID flex adapter or 9364-8i adapter

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

## 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  | 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<br>-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. |                                                              |

For the latest list of ISV certifications, please visit [www.lenovo.com/support/ISV](http://www.lenovo.com/support/ISV)  
For a list of all supported options, please visit [https://download.lenovo.com/pccbbs/options\\_iso/ocm\\_april\\_2016.xlsx](https://download.lenovo.com/pccbbs/options_iso/ocm_april_2016.xlsx) sheet

| Model                       | 30A5000K++                                |
|-----------------------------|-------------------------------------------|
| Product                     | P900                                      |
| Region                      | EMEA                                      |
| Machine Type                | 30A5                                      |
| TopSeller                   | Yes                                       |
| Processor                   | 1xE5-2643 v3 6C/3.4GHz/ 20MB/135W/2133MHz |
| Coprocessor                 | No                                        |
| Memory                      | 2x8GB 2133MHz RDIMM                       |
| Graphics/GPU Computing/GRID | Open                                      |
| RAID Controller             | Onboard                                   |
| Internal disk drive         | 1x1TB 3.5" SATA6Gbs 7.2K Hybrid           |
| M.2/PCIe SSD Adptr          | No                                        |
| Optical                     | DVD±RW                                    |
| Media Reader                | 9-in-1                                    |
| Power supply                | 1300W 92%                                 |
| 1394                        | No                                        |
| eSATA                       | No                                        |
| Thunderbolt                 | No                                        |
| Preloaded OS                | Win7 Pro64 (Win8.1 Pro64 DG)              |
| Base Warranty               | 3-year                                    |
| Global                      | No                                        |
| Ann Date (mm/yy)            | 10/14                                     |



