

ThinkStation



Lenovo ThinkStation D30



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ThinkStation D30 Platform Specifications - I of IV

Text in red shows that these features only apply to MT type 4223 and 4229 models, text in green shows that the features are supported on other models except MT type 4223 and 4229 models

Chipset	Intel C602 Chipset										
Intel AMT	MT type 4223 and 4229: Intel Active Management Technology 7 Others MT types: Intel Active Management Technology 8										
Processor	Two LGA2011 sockets, supports up to two processors from Intel Xeon E5-2600 and Intel Xeon E5-2600 v2 family, or up to one processor from Intel Xeon E5-1600 v2 family, integrated 4-channel DDR3 memory controller per processor. Supports the following:										
	Processor Number	# of Cores	# of Threads	Clock Speed	Max Turbo Frequency	Cache	Intel QPI Speed	# of QPI Links	Max TDP	Memory Speed	Intel vPro technology
	Xeon E5-2603	4	4	1.8 GHz		10 MB	6.4 GT/s	2	80 W	1066MHz	vPro
	Xeon E5-2609	4	4	2.4 GHz		10 MB	6.4 GT/s	2	80 W	1066MHz	vPro
	Xeon E5-2620	6	12	2 GHz	2.5 GHz	15 MB	7.2 GT/s	2	95 W	1333MHz	vPro
	Xeon E5-2630	6	12	2.3 GHz	2.8 GHz	15 MB	7.2 GT/s	2	95 W	1333MHz	vPro
	Xeon E5-2630L	6	12	2 GHz	2.5 GHz	15 MB	7.2 GT/s	2	60 W	1333MHz	vPro
	Xeon E5-2637	2	4	3 GHz	3.5 GHz	5 MB	8 GT/s	2	80 W	1600MHz	vPro
	Xeon E5-2640	6	12	2.5 GHz	3 GHz	15 MB	7.2 GT/s	2	95 W	1333MHz	vPro
	Xeon E5-2643	4	8	3.3 GHz	3.5 GHz	10 MB	8 GT/s	2	130 W	1600MHz	vPro
	Xeon E5-2650	8	16	2 GHz	2.8 GHz	20 MB	8 GT/s	2	95 W	1600MHz	vPro
	Xeon E5-2650L	8	16	1.8 GHz	2.3 GHz	20 MB	8 GT/s	2	70 W	1600MHz	vPro
	Xeon E5-2660	8	16	2.2 GHz	3 GHz	20 MB	8 GT/s	2	95 W	1600MHz	vPro
	Xeon E5-2665	8	16	2.4 GHz	3.1 GHz	20 MB	8 GT/s	2	115 W	1600MHz	vPro
	Xeon E5-2667	6	12	2.9 GHz	3.5 GHz	15 MB	8 GT/s	2	130 W	1600MHz	vPro
	Xeon E5-2670	8	16	2.6 GHz	3.3 GHz	20 MB	8 GT/s	2	115 W	1600MHz	vPro
	Xeon E5-2680	8	16	2.7 GHz	3.5 GHz	20 MB	8 GT/s	2	130 W	1600MHz	vPro
	Xeon E5-2690	8	16	2.9 GHz	3.8 GHz	20 MB	8 GT/s	2	135 W	1600MHz	vPro
	Xeon E5-1603	4	4	2.8 GHz		10 MB			130 W	1066MHz	vPro
	Xeon E5-2603 v2	4	4	1.8 GHz	1.8 GHz	10 MB	6.4 GT/s	2	80 W	1333MHz	vPro
	Xeon E5-2609 v2	4	4	2.5 GHz	2.5 GHz	10 MB	6.4 GT/s	2	80 W	1333MHz	vPro
	Xeon E5-2620 v2	6	12	2.1 GHz	2.6 GHz	15 MB	7.2 GT/s	2	80 W	1600MHz	vPro
	Xeon E5-2630L v2	6	12	2.4 GHz	2.8 GHz	15 MB	7.2 GT/s	2	60 W	1600MHz	vPro
	Xeon E5-2630 v2	6	12	2.6 GHz	3.1 GHz	15 MB	7.2 GT/s	2	80 W	1600MHz	vPro
	Xeon E5-2637 v2	4	8	3.5 GHz	3.8 GHz	15 MB	8 GT/s	2	130 W	1866MHz	vPro
	Xeon E5-2640 v2	8	16	2 GHz	2.5 GHz	20 MB	7.2 GT/s	2	95 W	1600MHz	vPro
	Xeon E5-2643 v2	6	12	3.5 GHz	3.8 GHz	25 MB	8 GT/s	2	130 W	1866MHz	vPro
	Xeon E5-2650L v2	10	20	1.7 GHz	2.1 GHz	25 MB	7.2 GT/s	2	70 W	1600MHz	vPro
	Xeon E5-2650 v2	8	16	2.6 GHz	3.4 GHz	20 MB	8 GT/s	2	95 W	1866MHz	vPro
	Xeon E5-2660 v2	10	20	2.2 GHz	3 GHz	25 MB	8 GT/s	2	95 W	1866MHz	vPro
	Xeon E5-2667 v2	8	16	3.3 GHz	4 GHz	25 MB	8 GT/s	2	130 W	1866MHz	vPro
	Xeon E5-2670 v2	10	20	2.5 GHz	3.3 GHz	25 MB	8 GT/s	2	115 W	1866MHz	vPro
	Xeon E5-2680 v2	10	20	2.8 GHz	3.6 GHz	25 MB	8 GT/s	2	115 W	1866MHz	vPro
	Xeon E5-2687W v2	8	16	3.4 GHz	4 GHz	25 MB	8 GT/s	2	150 W	1866MHz	Yes
	Xeon E5-2690 v2	10	20	3 GHz	3.6 GHz	25 MB	8 GT/s	2	130 W	1866MHz	vPro
	Xeon E5-2695 v2	12	24	2.4 GHz	3.2 GHz	30 MB	8 GT/s	2	115 W	1866MHz	vPro
	Xeon E5-2697 v2	12	24	2.7 GHz	3.5 GHz	30 MB	8 GT/s	2	130 W	1866MHz	vPro
	Xeon E5-1607 v2	4	4	3 GHz		10 MB			130 W	1600MHz	vPro
	Xeon E5-1620 v2	4	8	3.7 GHz	3.9 GHz	10 MB			130 W	1866MHz	vPro
	Xeon E5-1650 v2	6	12	3.5 GHz	3.9 GHz	12 MB			130 W	1866MHz	vPro
	Xeon E5-1660 v2	6	12	3.7 GHz	4 GHz	15 MB			130 W	1866MHz	vPro
	Notes: 1. ThinkStation D30 support two processors. When ordering two processors, they must be the same 2. When using Intel Xeon E5-1600 and E5-1600 v2 series processors, max CPU configuration is 1 3. Intel Xeon processor numbering system is an alpha numeric representation of product line, product family and version. An 'L' suffix will be used to identify a low power processor. More details please see http://www.intel.com/products/processor_number 4. All information is provided by Intel and may be changed at any time without notice. The information herein is provided "as-is". Intel may update this information in non-scheduled. For latest information, please see http://ark.intel.com/products/family/59138/Intel-Xeon-Processor-E5-Family/server										

ThinkStation D30 Platform Specifications - II of IV

Text in red shows that these features only apply to MT type 4223 and 4229 models, text in green shows that the features are supported on other models except MT type 4223 and 4229 models

Memory	UDIMM or RDIMM, ECC, DDR3 , sixteen 240-pin DIMM sockets (eight DIMM sockets per processor), 8-channel capable (4-channel per processor), 128GB max (UDIMM, 8GBx16)/512GB max (RDIMM, 32GBx16)					
Additional memory disclaimers	<ul style="list-style-type: none"> Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Over eight DIMMs requires dual processors Mixing of RDIMM and UDIMM is not supported Maximum memory capacity is also limited by operating system When using processor from Xeon E5-1600 and E5-1600 v2 series, only eight DIMM sockets for CPU1 are available and max memory capacity is 64GB (UDIMM, 8GBx8)/256GB (RDIMM, 32GBx8) 					
Graphics adapters and GPU computing	Two PCI Express 3.0 x16 slots for graphics adapters and GPU computing processors, supports NVIDIA SLI technology, NVIDIA Maximus technology, supports the following NVIDIA Quadro, NVS graphics adapters and Tesla GPU computing processors					
	Memory Size	CUDA Processor Cores	Display Connectors	Max. Displays	# of slots	Power
NVIDIA Quadro and NVS Graphics						
Quadro K6000	12GB	2880	1 dual-link DVI-I 1 dual-link DVI-D 2 DisplayPort	4	2	225W
Quadro K5000	4GB	1536	1 dual-link DVI-I 1 dual-link DVI-D 2 DisplayPort	4	2	122W
Quadro K4000	3GB	768	1 dual-link DVI-I 2 DisplayPort	4*	1	80W
Quadro K2000	2GB	384	1 dual-link DVI-I 2 DisplayPort	4*	1	51W
Quadro K2000D	2GB	384	1 dual-link DVI-I 1 dual-link DVI-D 1 mini DisplayPort	4*	1	51W
Quadro K600	1GB	192	1 dual-link DVI-I 1 DisplayPort	2	1	41W
Quadro 410	512MB	192	1 dual-link DVI-I 1 DisplayPort	2	1	37W
Quadro 6000	6GB	448	1 dual-link DVI-I 2 DisplayPort 1 Stereo	2	2	204W
Quadro 5000	2.5GB	352	1 dual-link DVI-I 2 DisplayPort, 1 Stereo	2	2	152W
Quadro 4000	2GB	256	1 dual-link DVI-I 2 DisplayPort 1 Stereo	2	1	142W
Quadro 2000	1GB	192	1 dual-link DVI-I 2 DisplayPort	2	1	62W
Quadro 2000D	1GB	192	2 dual-link DVI-I	2	1	62W
Quadro 600	1GB	96	1 dual-link DVI-I 1 DisplayPort	2	1	40W
NVS 510	2048 MB	192	4 mini DisplayPort (with 4 mini DP to DP dongles)	4	1	35W
NVS 315	1024MB	48	DMS59 to dual single-link DVI-I or dual DisplayPort	2	1	19.5W
NVS 310	512 MB	48	2 DisplayPort	2	1	19.5W
NVS 300	512 MB	16	DMS59 to dual single- link DVI-I	2	1	17.5W
NVIDIA Tesla GPU Computing Processors (as part of NVIDIA Maximus Platform)						
Tesla K20	5GB	2496				225W
Tesla C2075	6GB	448				225W

* Quadro K4000, K2000, and K2000D are equipped with 3 onboard display connectors, 4 Displays require a supported DisplayPort 1.2 Multi-Stream capable hub or displays

Notes:

- ThinkStation supports NVIDIA SLI Technology with selected NVIDIA Quadro graphics adapters, additional SLI cable is needed. For the latest Quadro SLI certified list on ThinkStation, please see www.nvidia.com/object/quadro_sli_compatible_systems.html
- ThinkStation D30 support NVIDIA Maximus technology. Maximus technology combines the visualization and interactive design capability of NVIDIA Quadro graphics and the high performance computing power of NVIDIA Tesla GPU computing processors in a single workstation. For more information on the latest Maximus certifications for ThinkStation and how to build Maximus system, please see www.nvidia.com/object/maximus.html
- CUDA Processor Cores cannot be compared between GPU generations due to several important architectural differences that exist between streaming multiprocessor designs.

ThinkStation D30 Platform Specifications - III of IV

Onboard drive controllers	<ul style="list-style-type: none"> Four SATA connectors via integrated Advanced Host Controller Interface (AHCI) in chipset, two SATA 6.0Gb/s (red), two SATA 3.0Gb/s (orange), RAID 0, 1, 5, 10 support Four SATA connectors via integrated Storage Controller Unit (SCU) in chipset, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support
Upgrade ROM for onboard drive controllers (optional)	<p>One of the following upgrade ROM is supported, the option upgrades the four SATA connectors on SCU controller to:</p> <ul style="list-style-type: none"> five SATA connectors with optional SATA HDD Enablement Module, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support five SATA/SAS connectors with optional SAS HDD Enablement Module, SATA 3.0Gb/s, SAS 3.0 Gb/s, RAID 0, 1, 10 support
Discrete drive controller (optional)	<p>One the following, depending on model:</p> <p>LSI SAS 9240-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support optional upgrade key for RAID 5 support</p> <p>LSI SAS 9260-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 10 support</p>
Hard drive(s)	<p>Supports the following:</p> <p>3.5" SATA: SATA 6.0Gb/s, 7200 rpm, up to 4TB 3.5" Hybrid: SATA 6.0Gb/s, 7200 rpm, integrated 8GB NAND flash 2.5" SATA: SATA 6.0Gb/s, 10000 rpm, up to 1TB 3.5" SAS: SAS 6.0Gb/s, 15000 rpm, up to 600GB 2.5" SAS: SAS 6.0Gb/s, 15000 rpm, up to 300GB 2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s, OPAL-capable on selected models, up to 300GB mSATA: mSATA Solid State Drive (SSD), SATA 6.0Gb/s, up to 128GB</p>
Optical	Supports DVD-ROM, DVD±RW, or Blu-ray Burner, SATA interface
Drive Bays	Three external 5.25" bays for opticals, five internal 3.5" bays for drives
Media reader (opt)	Optional 29-in-1 media card reader on selected models
Front ports	<p>MT type 4223 and 4229: Two USB 2.0, microphone (3.5mm), headphone (3.5mm)</p> <p>Others MT types: Two USB 3.0, microphone (3.5mm), headphone (3.5mm)</p>
Rear ports	Eight USB 2.0, two USB 3.0 (blue ports), one serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)
IEEE 1394 adptr (opt)	Optional FireWire PCIe adapter, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front
Audio	High Definition (HD) Audio, Realtek® ALC662 codec
Speaker	Internal speaker for business audio
Onboard Ethernet	Dual onboard gigabit ethernet, Intel 82579 and 82574
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black
Mouse	Optical Wheel Mouse (USB connector), black
Power supply	1120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified
Security	<ul style="list-style-type: none"> Security chip: <ul style="list-style-type: none"> MT type 4223 and 4229: Nuvoton NPCT421L for TPM function, TCG 1.2-compliant Others MT types: STMicroelectronics ST33TPM12LPC for TPM function, TCG 1.2-compliant Side cover lock (ships with two identical keys) Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) Power-on password Administrator password Boot sequence control Boot without keyboard, mouse, diskette Serial port I/O enable/disable USB 2.0 ports enable/disable individually USB 3.0 ports enable/disable concurrently Chassis intrusion switch (optional)
Mechanical	<ul style="list-style-type: none"> Raven black color; metal case 8.3"W x 23.7"D x 19.1"H (with handle) 210mm W x 602mm D x 485mm H 60.6 lb (27.5kg) max confi guration 55-liter
Expansion slots	<p>Slot 1: half-length, full-height, PCIe 3.0 x16 (x4 elec, near CPU)</p> <p>Slot 2: full-length, full-height, PCIe 3.0 x16* (for graphics adapter)</p> <p>Slot 3: full-length, full-height, 32-bit PCI 2.3</p> <p>Slot 4: full-length, full-height, PCIe 3.0 x16* (for graphics adapter)</p> <p>Slot 5: full-length, full-height, PCIe 2.0 x4</p> <p>Slot 6: half-length, full-height, 32-bit PCI 2.3</p> <p>* Adapters >75W use auxiliary power connector(s) from PSU</p>

ThinkStation D30 Platform Specifications - IV of IV

Serviceability	<ul style="list-style-type: none"> • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Rack shelf support or optional rail kit
ISV certifications	Please visit www.lenovo.com/support/ISV
Environmental certifications	<p>GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating</p>
Warranty	1 or 3-year limited warranty, parts and labor
ThinkVantage®	Supports ThinkVantage® technologies
Preloaded operating systems	<p><i>One the following, depending on model:</i></p> <ul style="list-style-type: none"> • Windows® 7 Professional 64 • Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit • Windows 8 Pro 64-bit
Preloaded applications (only some listed)	<p><i>For Windows 7 models:</i></p> <ul style="list-style-type: none"> • Rescue and Recovery® • Norton® Internet Security (30 days of virus definitions) • Adobe® Reader® • Adobe Flash® Player • Microsoft® Office preloaded; purchase product key to activate • Corel® WinDVD® (DVD±RW model(s)) • Ulead® DVD MovieFactory® (DVD±RW model(s)) <p><i>For Windows 8 models:</i></p> <ul style="list-style-type: none"> • Evernote® • Norton Internet Security (30 days of virus definitions) • Norton Studio • Skype™ • Microsoft Office 2013 preloaded; purchase product key to activate • Cyberlink Power2Go (DVD±RW model(s)) • Cyberlink PowerProducer (DVD±RW model(s))

ThinkStation D30 (4354) - TopSeller (June 2013)

Product Specifications Reference (PSREF)

Type-model ¹	Processor(s)	Memory (MHz/type)	Memory DIMMs	Upgrade ROM for onboard drive controller	Discrete drive controller	Pre-conf RAID	Hard drive(s) ²	Optical	Media reader	Graphics adapter(s) and GPU computing	1394 adptr	Chassis intrusion switch	Preloaded OS
4354-13G	2xE5-2609 (4C/2.4GHz/10MB/1066)	1600MHz UDIMM	4GBx2	No	No	No	1x2TB 3.5" SATA	DVD±RW	29-in-1	No	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-14G	1xE5-2620 (6C/2GHz/15MB/1333)	1600MHz UDIMM	4GBx2	No	No	No	1x1TB 3.5" SATA	DVD±RW	29-in-1	No	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-15G	1xE5-2630 (6C/2.3GHz/15MB/1333)	1600MHz UDIMM	4GBx4	No	No	No	1x300GB 3.5" SAS	DVD±RW	29-in-1	1xQuadro K4000 (3GB, 1xDVI-I DL*, 2xDP, 80W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-16G	1xE5-2630 (6C/2.3GHz/15MB/1333)	1600MHz UDIMM	4GBx4	SAS	No	No	1x300GB 3.5" SAS	DVD±RW	29-in-1	1xQuadro K4000 (3GB, 1xDVI-I DL, 2xDP, 80W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-17G	2xE5-2620 (6C/2GHz/15MB/1333)	1600MHz UDIMM	4GBx3	No	No	No	1x1TB 3.5" SATA	DVD±RW	29-in-1	No	No	Switch	Win7 Pro64 (Downgrade from Win8)

¹ Model in italics shows that this is a Global Model

² The SSD drives in italics must be plugged into red or orange SATA connectors

* DL = Dual Link, SL = Single Link

- **3-year limited warranty**
- **With new MT type 4353/4354 and beyond, ThinkStation D30 introduces new updates to improve the functionality and usability:**
 - (These new features are not supported on 4223 and 4229 MT models)
 - Intel AMT: upgrades to Intel AMT 8 from Intel AMT 7
 - New TPM chip: STMicroelectronics ST33TPM12LPC
 - Two front USB 2.0 ports upgrade to USB3.0
- **For ThinkStation D30 platform specifications, please see [ThinkStation D30 Platform Specifications sheet](#)**

Chipset	Intel C602 Chipset	<p>Tower</p> <ul style="list-style-type: none"> • Raven black color; metal case • 8.3"W x 23.7"D x 19.1"H (with handle) • 210mm W x 602mm D x 485mm H • 60.6 lb (27.5kg) max configuration • 55-liter • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Rack shelf support or optional rail kit <p>Bay 1-3: 5.25", 1.6" high, external, for optical Bay 4: 3.5", 1" high, external, for media reader Bay 5-9: 3.5", 1" high, internal, for hard drive*</p> <p>* Bay 5 is available on models with the SATA or SAS Hard Disk Drive enablement module installed.</p> <p>Slot 1: half-length, full-height, PCIe 3.0 x16 (x4 elec, near CPU) Slot 2: full-length, full-height, PCIe 3.0 x16** Slot 3: full-length, full-height, 32-bit PCI 2.3 Slot 4: full-length, full-height, PCIe 3.0 x16** Slot 5: full-length, full-height, PCIe 2.0 x4 Slot 6: half-length, full-height, 32-bit PCI 2.3</p> <p>** Adapters >75W use auxiliary power connector(s) from PSU</p> <p>SECURITY</p> <ul style="list-style-type: none"> • Security chip (see information on left) • Side cover lock (ships with two identical keys) • Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) • Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) • Power-on/Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Serial port I/O enable/disable • USB 2.0 ports enable/disable individually • USB 3.0 ports enable/disable concurrently • Chassis intrusion switch on selected model(s) <p>Intel AMT</p> <p>Intel Active Management Technology 8 supported</p> <p>ISV certifications</p> <p>Please visit www.lenovo.com/support/ISV</p> <p>Environmental certifications</p> <p>GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating</p> <p>Supports ThinkVantage® technologies</p>
Processor	Two LGA2011 sockets, supports up to two processors from Intel Xeon E5-2600 family, integrated 4-channel DDR3 memory controller per processor	
Memory	UDIMM or RDIMM, ECC, DDR3 , 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets, 128GB max (UDIMM, 8GBx16)/512GB max (RDIMM, 32GBx16)	
Additional memory disclaimers	<ul style="list-style-type: none"> • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Over eight DIMMs requires dual processors • Mixing of RDIMM and UDIMM is not supported • Maximum memory capacity is also limited by operating system 	
Graphics	Two PCI Express 3.0 x16 slots for graphics adapters and GPU computing processors, supports NVIDIA SLI technology, NVIDIA Maximus technology	
Onboard drive controllers	<ul style="list-style-type: none"> • Four SATA connectors via integrated Advanced Host Controller Interface (AHCI) controller in chipset, two SATA 6.0Gb/s (red), two SATA 3.0Gb/s (orange), RAID 0, 1, 5, 10 support • Four SATA connectors via integrated Storage Controller Unit (SCU) controller in chipset, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support 	
Upgrade ROM for onboard drive controllers (optional)	<p>One of the following upgrade ROM is supported, the option upgrades the four SATA connectors on SCU controller to:</p> <ul style="list-style-type: none"> • five SATA connectors with optional SATA HDD Enablement Module, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support • five SATA/SAS connectors with optional SAS HDD Enablement Module, SATA 3.0Gb/s, SAS 3.0 Gb/s, RAID 0, 1, 10 support 	
Discrete drive controller (optional)	<p>One the following, depending on model:</p> <p>LSI SAS 9240-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support optional upgrade key for RAID 5 support</p> <p>LSI SAS 9260-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 10 support</p>	
Hard drive(s)	<p>3.5" SATA: SATA 6.0Gb/s, 7200 rpm</p> <p>2.5" SATA: SATA 6.0Gb/s, 10000 rpm</p> <p>3.5" SAS/2.5" SAS: SAS 6.0Gb/s, 15000 rpm</p> <p>2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s OPAL-capable on some models mSATA: mSATA SSD, SATA 6.0Gb/s</p>	
Optical	Supports DVD-ROM, DVD±RW, or Blu-ray Burner, SATA interface	
Media reader (opt)	Optional 29-in-1 media card reader on selected models	
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)	
Rear ports	Eight USB 2.0, two USB 3.0 (blue), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)	
IEEE 1394 adptr (optional)	Optional FireWire PCIe adapter on selected models, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front	
Audio	High Definition (HD) Audio, Realtek® ALC662 codec	
Speaker	Internal speaker for business audio	
Onboard Ethernet	Dual onboard gigabit ethernet, Intel 82579 and 82574	
Security chip	STMicroelectronics ST33TPM12LPC for TPM function, TCG 1.2-compliant	
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	
Mouse	Optical Wheel Mouse (USB connector), black	
Power supply	1120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified	
Preloaded operating systems (OS)	<p>One the following, depending on model:</p> <ul style="list-style-type: none"> • Windows 7 Professional 64 • Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit • Windows 8 Pro 64-bit 	

See footnotes for important warranty information
 Model(s) announced June 18, 2013

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ThinkStation D30 (4354) - TopSeller (June 2013) - II

Product Specifications Reference (PSREF)

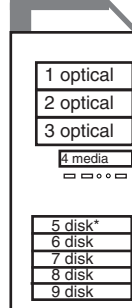
Type-model ¹	Processor(s)	Memory (MHz/type)	Memory DIMMs	Upgrade ROM for onboard drive controller	Discrete drive controller	Pre-conf RAID	Hard drive(s) ²	Optical	Media reader	Graphics adapter(s) and GPU computing	1394 adptr	Chassis intrusion switch	Preloaded OS
4354-18G	2xE5-2640 (6C/2.5GHz/15MB/1333)	1600MHz UDIMM	4GBx2	No	No	No	1x1TB 3.5" SATA	DVD±RW	29-in-1	No	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-19G	1xE5-2620 (6C/2GHz/15MB/1333)	1600MHz UDIMM	4GBx2	No	No	No	1TB 3.5" SATA+ 256GB 2.5" SSD - OPAL	DVD±RW	29-in-1	No	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-21G	1xE5-2667 (6C/2.9GHz/15MB/1600)	1600MHz RDIMM	4GBx2	No	No	No	1x3TB 3.5" SATA	DVD±RW	29-in-1	No	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-22G	1xE5-2650 (8C/2GHz/20MB/1600)	1600MHz RDIMM	4GBx3	No	No	No	1x3TB 3.5" SATA	DVD±RW	29-in-1	1xQuadro K5000 (4GB, 1xDVI-I DL*, 1xDVI-D DL, 2xDP, 122W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-23G	1xE5-2650 (8C/2GHz/20MB/1600)	1600MHz RDIMM	4GBx3	No	No	No	2x240GB 2.5" SSD	DVD±RW	29-in-1	1xQuadro K2000 (2GB, 1xDVI-I DL, 2xDP, 51W)	No	Switch	Win7 Pro64 (Downgrade from Win8)

¹ Model in italics shows that this is a Global Model

² The SSD drives in italics must be plugged into red or orange SATA connectors

* DL = Dual Link, SL = Single Link

- **3-year limited warranty**
- **With new MT type 4353/4354 and beyond, ThinkStation D30 introduces new updates to improve the functionality and usability:**
 - (These new features are not supported on 4223 and 4229 MT models)
 - Intel AMT: upgrades to Intel AMT 8 from Intel AMT 7
 - New TPM chip: STMicroelectronics ST33TPM12LPC
 - Two front USB 2.0 ports upgrade to USB3.0
- For ThinkStation D30 platform specifications, please see [ThinkStation D30 Platform Specifications sheet](#)

Chipset	Intel C602 Chipset	 <p>Tower</p> <ul style="list-style-type: none"> • Raven black color; metal case • 8.3"W x 23.7"D x 19.1"H (with handle) • 210mm W x 602mm D x 485mm H • 60.6 lb (27.5kg) max configuration • 55-liter • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Rack shelf support or optional rail kit
Processor	Two LGA2011 sockets, supports up to two processors from Intel Xeon E5-2600 family, integrated 4-channel DDR3 memory controller per processor	
Memory	UDIMM or RDIMM, ECC, DDR3 , 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets, 128GB max (UDIMM, 8GBx16)/512GB max (RDIMM, 32GBx16)	
Additional memory disclaimers	<ul style="list-style-type: none"> • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Over eight DIMMs requires dual processors • Mixing of RDIMM and UDIMM is not supported • Maximum memory capacity is also limited by operating system 	
Graphics	Two PCI Express 3.0 x16 slots for graphics adapters and GPU computing processors, supports NVIDIA SLI technology, NVIDIA Maximus technology	
Onboard drive controllers	<ul style="list-style-type: none"> • Four SATA connectors via integrated Advanced Host Controller Interface (AHCI) controller in chipset, two SATA 6.0Gb/s (red), two SATA 3.0Gb/s (orange), RAID 0, 1, 5, 10 support • Four SATA connectors via integrated Storage Controller Unit (SCU) controller in chipset, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support 	
Upgrade ROM for onboard drive controllers (optional)	<p>One of the following upgrade ROM is supported, the option upgrades the four SATA connectors on SCU controller to:</p> <ul style="list-style-type: none"> • five SATA connectors with optional SATA HDD Enablement Module, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support • five SATA/SAS connectors with optional SAS HDD Enablement Module, SATA 3.0Gb/s, SAS 3.0 Gb/s, RAID 0, 1, 10 support 	
Discrete drive controller (optional)	<p>One the following, depending on model:</p> <p>LSI SAS 9240-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support optional upgrade key for RAID 5 support</p> <p>LSI SAS 9260-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 10 support</p>	
Hard drive(s)	<p>3.5" SATA: SATA 6.0Gb/s, 7200 rpm</p> <p>2.5" SATA: SATA 6.0Gb/s, 10000 rpm</p> <p>3.5" SAS/2.5" SAS: SAS 6.0Gb/s, 15000 rpm</p> <p>2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s OPAL-capable on some models mSATA: mSATA SSD, SATA 6.0Gb/s</p>	
Optical	Supports DVD-ROM, DVD±RW, or Blu-ray Burner, SATA interface	
Media reader (opt)	Optional 29-in-1 media card reader on selected models	
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)	
Rear ports	Eight USB 2.0, two USB 3.0 (blue), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)	
IEEE 1394 adptr (optional)	Optional FireWire PCIe adapter on selected models, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front	
Audio	High Definition (HD) Audio, Realtek® ALC662 codec	
Speaker	Internal speaker for business audio	
Onboard Ethernet	Dual onboard gigabit ethernet, Intel 82579 and 82574	
Security chip	STMicroelectronics ST33TPM12LPC for TPM function, TCG 1.2-compliant	
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	
Mouse	Optical Wheel Mouse (USB connector), black	
Power supply	1120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified	
Preloaded operating systems (OS)	<p>One the following, depending on model:</p> <ul style="list-style-type: none"> • Windows 7 Professional 64 • Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit • Windows 8 Pro 64-bit 	
<p>SECURITY</p> <ul style="list-style-type: none"> • Security chip (see information on left) • Side cover lock (ships with two identical keys) • Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) • Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) • Power-on/Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Serial port I/O enable/disable • USB 2.0 ports enable/disable individually • USB 3.0 ports enable/disable concurrently • Chassis intrusion switch on selected model(s) 		
<p>Intel AMT</p> <p>Intel Active Management Technology 8 supported</p>		
<p>ISV certifications</p> <p>Please visit www.lenovo.com/support/ISV</p>		
<p>Environmental certifications</p> <p>GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating</p>		
<p>Supports ThinkVantage® technologies</p>		

See footnotes for important warranty information
Model(s) announced June 18, 2013

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(G-HOL2-3) June 2013

ThinkStation D30 (4354) - TopSeller (June 2013) - III

Product Specifications Reference (PSREF)

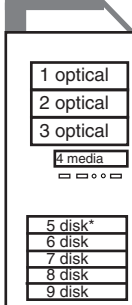
Type-model ¹	Processor(s)	Memory (MHz/type)	Memory DIMMs	Upgrade ROM for onboard drive controller	Discrete drive controller	Pre-conf RAID	Hard drive(s) ²	Optical	Media reader	Graphics adapter(s) and GPU computing	1394 adptr	Chassis intrusion switch	Preloaded OS
4354-24G	1xE5-2650 (8C/2GHz/20MB/1600)	1600MHz RDIMM	4GBx3	No	No	No	1TB 3.5" SATA+ 240GB 2.5" SSD	DVD±RW	29-in-1	1xQuadro K2000D (2GB, 1xDVI-I DL*, 1xDVI-D DL, 1xmini-DP, 51W) 2xQuadro K5000 SLI (Quadro K5000: 4GB, 1xDVI-I DL, 1xDVI-D DL, 2xDP, 122W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-25G	2xE5-2660 (8C/2.2GHz/20MB/1600)	1600MHz RDIMM	4GBx4	No	No	No	1x600GB 3.5" SAS	DVD±RW	29-in-1	1xQuadro K5000 (4GB, 1xDVI-I DL, 1xDVI-D DL, 2xDP, 122W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-26G	2xE5-2660 (8C/2.2GHz/20MB/1600)	1600MHz RDIMM	4GBx4	SAS	No	No	1x600GB 3.5" SAS	DVD±RW	29-in-1	1xQuadro K5000 (4GB, 1xDVI-I DL, 1xDVI-D DL, 2xDP, 122W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-27G	1xE5-2665 (8C/2.4GHz/20MB/1600)	1600MHz RDIMM	4GBx3	No	No	No	180GB 2.5" SSD+ 1TB 2.5" SATA	DVD±RW	29-in-1	No	No	Switch	Win7 Pro64 (Downgrade from Win8)

¹ Model in italics shows that this is a Global Model

² The SSD drives in italics must be plugged into red or orange SATA connectors

* DL = Dual Link, SL = Single Link

- **3-year limited warranty**
- **With new MT type 4353/4354 and beyond, ThinkStation D30 introduces new updates to improve the functionality and usability:**
 - (These new features are not supported on 4223 and 4229 MT models)
 - Intel AMT: upgrades to Intel AMT 8 from Intel AMT 7
 - New TPM chip: STMicroelectronics ST33TPM12LPC
 - Two front USB 2.0 ports upgrade to USB3.0
- **For ThinkStation D30 platform specifications, please see [ThinkStation D30 Platform Specifications sheet](#)**

Chipset	Intel C602 Chipset		Tower  <ul style="list-style-type: none"> • Raven black color; metal case • 8.3"W x 23.7"D x 19.1"H (with handle) • 210mm W x 602mm D x 485mm H • 60.6 lb (27.5kg) max configuration • 55-liter • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Rack shelf support or optional rail kit
Processor	Two LGA2011 sockets, supports up to two processors from Intel Xeon E5-2600 family, integrated 4-channel DDR3 memory controller per processor		
Memory	UDIMM or RDIMM, ECC, DDR3 , 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets, 128GB max (UDIMM, 8GBx16)/512GB max (RDIMM, 32GBx16)		
Additional memory disclaimers	<ul style="list-style-type: none"> • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Over eight DIMMs requires dual processors • Mixing of RDIMM and UDIMM is not supported • Maximum memory capacity is also limited by operating system 		
Graphics	Two PCI Express 3.0 x16 slots for graphics adapters and GPU computing processors, supports NVIDIA SLI technology, NVIDIA Maximus technology		
Onboard drive controllers	<ul style="list-style-type: none"> • Four SATA connectors via integrated Advanced Host Controller Interface (AHCI) controller in chipset, two SATA 6.0Gb/s (red), two SATA 3.0Gb/s (orange), RAID 0, 1, 5, 10 support • Four SATA connectors via integrated Storage Controller Unit (SCU) controller in chipset, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support 		
Upgrade ROM for onboard drive controllers (optional)	One of the following upgrade ROM is supported, the option upgrades the four SATA connectors on SCU controller to: <ul style="list-style-type: none"> • five SATA connectors with optional SATA HDD Enablement Module, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support • five SATA/SAS connectors with optional SAS HDD Enablement Module, SATA 3.0Gb/s, SAS 3.0 Gb/s, RAID 0, 1, 10 support 		
Discrete drive controller (optional)	One the following, depending on model: <ul style="list-style-type: none"> LSI SAS 9240-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support optional upgrade key for RAID 5 support LSI SAS 9260-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 10 support 		
Hard drive(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 2.5" SATA: SATA 6.0Gb/s, 10000 rpm 3.5" SAS/2.5" SAS: SAS 6.0Gb/s, 15000 rpm 2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s OPAL-capable on some models mSATA: mSATA SSD, SATA 6.0Gb/s		
Optical	Supports DVD-ROM, DVD±RW, or Blu-ray Burner, SATA interface		
Media reader (opt)	Optional 29-in-1 media card reader on selected models		
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)		
Rear ports	Eight USB 2.0, two USB 3.0 (blue), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)		
IEEE 1394 adptr (optional)	Optional FireWire PCIe adapter on selected models, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front		
Audio	High Definition (HD) Audio, Realtek® ALC662 codec		
Speaker	Internal speaker for business audio		
Onboard Ethernet	Dual onboard gigabit ethernet, Intel 82579 and 82574		
Security chip	STMicroelectronics ST33TPM12LPC for TPM function, TCG 1.2-compliant		
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black		
Mouse	Optical Wheel Mouse (USB connector), black		
Power supply	1120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified		
Preloaded operating systems (OS)	One the following, depending on model: <ul style="list-style-type: none"> • Windows 7 Professional 64 • Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit • Windows 8 Pro 64-bit 		
			SECURITY <ul style="list-style-type: none"> • Security chip (see information on left) • Side cover lock (ships with two identical keys) • Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) • Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) • Power-on/Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Serial port I/O enable/disable • USB 2.0 ports enable/disable individually • USB 3.0 ports enable/disable concurrently • Chassis intrusion switch on selected model(s)
			Intel AMT Intel Active Management Technology 8 supported
			ISV certifications Please visit www.lenovo.com/support/ISV
			Environmental certifications GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating
			Supports ThinkVantage® technologies

See footnotes for important warranty information
Model(s) announced June 18, 2013

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(G-HOL3-3) June 2013

ThinkStation D30 (4354) - TopSeller (June 2013) - IV

Product Specifications Reference (PSREF)

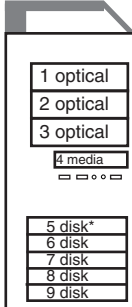
Type-model ¹	Processor(s)	Memory (MHz/type)	Memory DIMMs	Upgrade ROM for onboard drive controller	Discrete drive controller	Pre-conf RAID	Hard drive(s) ²	Optical	Media reader	Graphics adapter(s) and GPU computing	1394 adptr	Chassis intrusion switch	Preloaded OS
4354-28G	1xE5-2670 (8C/2.6GHz/20MB/1600)	1600MHz RDIMM	4GBx3	No	No	No	180GB 2.5" SSD+ 1TB 2.5" SATA	DVD±RW	29-in-1	1xQuadro K4000 (3GB, 1xDVI-I DL*, 2xDP, 80W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-29G	1xE5-2680 (8C/2.7GHz/20MB/1600)	1600MHz RDIMM	4GBx4	No	No	No	1x3TB 3.5" SATA	DVD±RW	29-in-1	1xQuadro K4000 (3GB, 1xDVI-I DL, 2xDP, 80W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-31G	1xE5-2680 (8C/2.7GHz/20MB/1600)	1600MHz RDIMM	4GBx4	No	No	No	1x3TB 3.5" SATA	DVD±RW	29-in-1	2xQuadro K5000 SLI (Quadro K5000: 4GB, 1xDVI-I DL, 1xDVI-D DL, 2xDP, 122W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-32G	1xE5-2690 (8C/2.9GHz/20MB/1600)	1600MHz RDIMM	4GBx4	SAS	No	No	1x600GB 3.5" SAS	DVD±RW	29-in-1	1xQuadro K4000 (3GB, 1xDVI-I DL, 2xDP, 80W)	No	Switch	Win7 Pro64 (Downgrade from Win8)

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² The SSD drives in *italics* must be plugged into red or orange SATA connectors

* DL = Dual Link, SL = Single Link

- **3-year limited warranty**
- **With new MT type 4353/4354 and beyond, ThinkStation D30 introduces new updates to improve the functionality and usability:**
 - (These new features are not supported on 4223 and 4229 MT models)
 - Intel AMT: upgrades to Intel AMT 8 from Intel AMT 7
 - New TPM chip: STMicroelectronics ST33TPM12LPC
 - Two front USB 2.0 ports upgrade to USB3.0
- For ThinkStation D30 platform specifications, please see [ThinkStation D30 Platform Specifications sheet](#)

Chipset	Intel C602 Chipset	Tower
Processor	Two LGA2011 sockets, supports up to two processors from Intel Xeon E5-2600 family, integrated 4-channel DDR3 memory controller per processor	 <ul style="list-style-type: none"> • Raven black color; metal case • 8.3"W x 23.7"D x 19.1"H (with handle) • 210mm W x 602mm D x 485mm H • 60.6 lb (27.5kg) max configuration • 55-liter • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Rack shelf support or optional rail kit <p>Bay 1-3: 5.25", 1.6" high, external, for optical Bay 4: 3.5", 1" high, external, for media reader Bay 5-9: 3.5", 1" high, internal, for hard drive*</p> <p>* Bay 5 is available on models with the SATA or SAS Hard Disk Drive enablement module installed.</p> <p>Slot 1: half-length, full-height, PCIe 3.0 x16 (x4 elec, near CPU) Slot 2: full-length, full-height, PCIe 3.0 x16** Slot 3: full-length, full-height, 32-bit PCI 2.3 Slot 4: full-length, full-height, PCIe 3.0 x16** Slot 5: full-length, full-height, PCIe 2.0 x4 Slot 6: half-length, full-height, 32-bit PCI 2.3</p> <p>** Adapters >75W use auxiliary power connector(s) from PSU</p>
Memory	UDIMM or RDIMM, ECC, DDR3 , 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets, 128GB max (UDIMM, 8GBx16)/512GB max (RDIMM, 32GBx16)	
Additional memory disclaimers	<ul style="list-style-type: none"> • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Over eight DIMMs requires dual processors • Mixing of RDIMM and UDIMM is not supported • Maximum memory capacity is also limited by operating system 	
Graphics	Two PCI Express 3.0 x16 slots for graphics adapters and GPU computing processors, supports NVIDIA SLI technology, NVIDIA Maximus technology	
Onboard drive controllers	<ul style="list-style-type: none"> • Four SATA connectors via integrated Advanced Host Controller Interface (AHCI) controller in chipset, two SATA 6.0Gb/s (red), two SATA 3.0Gb/s (orange), RAID 0, 1, 5, 10 support • Four SATA connectors via integrated Storage Controller Unit (SCU) controller in chipset, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support 	
Upgrade ROM for onboard drive controllers (optional)	<p>One of the following upgrade ROM is supported, the option upgrades the four SATA connectors on SCU controller to:</p> <ul style="list-style-type: none"> • five SATA connectors with optional SATA HDD Enablement Module, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support • five SATA/SAS connectors with optional SAS HDD Enablement Module, SATA 3.0Gb/s, SAS 3.0 Gb/s, RAID 0, 1, 10 support 	
Discrete drive controller (optional)	<p>One the following, depending on model:</p> <p>LSI SAS 9240-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support optional upgrade key for RAID 5 support</p> <p>LSI SAS 9260-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 10 support</p>	
Hard drive(s)	<p>3.5" SATA: SATA 6.0Gb/s, 7200 rpm</p> <p>2.5" SATA: SATA 6.0Gb/s, 10000 rpm</p> <p>3.5" SAS/2.5" SAS: SAS 6.0Gb/s, 15000 rpm</p> <p>2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s</p> <p>mSATA: OPAL-capable on some models mSATA SSD, SATA 6.0Gb/s</p>	
Optical	Supports DVD-ROM, DVD±RW, or Blu-ray Burner, SATA interface	
Media reader (opt)	Optional 29-in-1 media card reader on selected models	
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)	
Rear ports	Eight USB 2.0, two USB 3.0 (blue), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)	
IEEE 1394 adptr (optional)	Optional FireWire PCIe adapter on selected models, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front	
Audio	High Definition (HD) Audio, Realtek® ALC662 codec	
Speaker	Internal speaker for business audio	
Onboard Ethernet	Dual onboard gigabit ethernet, Intel 82579 and 82574	
Security chip	STMicroelectronics ST33TPM12LPC for TPM function, TCG 1.2-compliant	
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	
Mouse	Optical Wheel Mouse (USB connector), black	
Power supply	1120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified	
Preloaded operating systems (OS)	<p>One the following, depending on model:</p> <ul style="list-style-type: none"> • Windows 7 Professional 64 • Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit • Windows 8 Pro 64-bit 	
		<p>SECURITY</p> <ul style="list-style-type: none"> • Security chip (see information on left) • Side cover lock (ships with two identical keys) • Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) • Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) • Power-on/Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Serial port I/O enable/disable • USB 2.0 ports enable/disable individually • USB 3.0 ports enable/disable concurrently • Chassis intrusion switch on selected model(s) <p>Intel AMT</p> <p>Intel Active Management Technology 8 supported</p> <p>ISV certifications</p> <p>Please visit www.lenovo.com/support/ISV</p> <p>Environmental certifications</p> <p>GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating</p> <p>Supports ThinkVantage® technologies</p>

See footnotes for important warranty information
 Model(s) announced June 18, 2013

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ThinkStation D30 (4354) - TopSeller (June 2013) - V

Product Specifications Reference (PSREF)

Type-model ¹	Processor(s)	Memory (MHz/type)	Memory DIMMs	Upgrade ROM for onboard drive controller	Discrete drive controller	Pre-conf RAID	Hard drive(s) ²	Optical	Media reader	Graphics adapter(s) and GPU computing	1394 adptr	Chassis intrusion switch	Preloaded OS
4354-33G	1xE5-2687W (8C/3.1GHz/20MB/1600)	1600MHz RDIMM	4GBx3	SAS	No	No	1x300GB 3.5" SAS	DVD±RW	29-in-1	1xQuadro K5000 (4GB, 1xDVI-I DL*, 1xDVI-D DL, 2xDP, 122W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-34G	1xE5-2687W (8C/3.1GHz/20MB/1600)	1600MHz RDIMM	4GBx3	No	No	No	2TB 3.5" SATA+128GB mSATA	DVD±RW	29-in-1	No	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-59G	2xE5-2640 (6C/2.5GHz/15MB/1333)	1600MHz UDIMM	2GBx8	No	No	No	1x1TB 3.5" SATA	DVD±RW	29-in-1	1xQuadro K4000 (3GB, 1xDVI-I DL, 2xDP, 80W)	No	No	Win7 Pro64
4354-61G	2xE5-2640 (6C/2.5GHz/15MB/1333)	1600MHz UDIMM	2GBx8	No	No	No	1x1TB 3.5" SATA	DVD±RW	29-in-1	1xQuadro K4000 (3GB, 1xDVI-I DL, 2xDP, 80W)	No	Switch	Win7 Pro64

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- **For ThinkStation D30 platform specifications, please see [ThinkStation D30 Platform Specifications sheet](#)**

Chipset	Intel C602 Chipset		<p>Tower</p> <ul style="list-style-type: none"> • Raven black color; metal case • 8.3"W x 23.7"D x 19.1"H (with handle) • 210mm W x 602mm D x 485mm H • 60.6 lb (27.5kg) max configuration • 55-liter • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Rack shelf support or optional rail kit <p>Bay 1-3: 5.25", 1.6" high, external, for optical Bay 4: 3.5", 1" high, external, for media reader Bay 5-9: 3.5", 1" high, internal, for hard drive*</p> <p>* Bay 5 is available on models with the SATA or SAS Hard Disk Drive enablement module installed.</p> <p>Slot 1: half-length, full-height, PCIe 3.0 x16 (x4 elec, near CPU) Slot 2: full-length, full-height, PCIe 3.0 x16** Slot 3: full-length, full-height, 32-bit PCI 2.3 Slot 4: full-length, full-height, PCIe 3.0 x16** Slot 5: full-length, full-height, PCIe 2.0 x4 Slot 6: half-length, full-height, 32-bit PCI 2.3</p> <p>** Adapters >75W use auxiliary power connector(s) from PSU</p>
Processor	Two LGA2011 sockets, supports up to two processors from Intel Xeon E5-2600 family, integrated 4-channel DDR3 memory controller per processor		
Memory	UDIMM or RDIMM, ECC, DDR3 , 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets, 128GB max (UDIMM, 8GBx16)/512GB max (RDIMM, 32GBx16)		
Additional memory disclaimers	<ul style="list-style-type: none"> • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Over eight DIMMs requires dual processors • Mixing of RDIMM and UDIMM is not supported • Maximum memory capacity is also limited by operating system 		
Graphics	Two PCI Express 3.0 x16 slots for graphics adapters and GPU computing processors, supports NVIDIA SLI technology, NVIDIA Maximus technology		
Onboard drive controllers	<ul style="list-style-type: none"> • Four SATA connectors via integrated Advanced Host Controller Interface (AHCI) controller in chipset, two SATA 6.0Gb/s (red), two SATA 3.0Gb/s (orange), RAID 0, 1, 5, 10 support • Four SATA connectors via integrated Storage Controller Unit (SCU) controller in chipset, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support 		
Upgrade ROM for onboard drive controllers (optional)	One of the following upgrade ROM is supported, the option upgrades the four SATA connectors on SCU controller to: <ul style="list-style-type: none"> • five SATA connectors with optional SATA HDD Enablement Module, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support • five SATA/SAS connectors with optional SAS HDD Enablement Module, SATA 3.0Gb/s, SAS 3.0 Gb/s, RAID 0, 1, 10 support 		
Discrete drive controller (optional)	One the following, depending on model: LSI SAS 9240-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support optional upgrade key for RAID 5 support LSI SAS 9260-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 10 support		
Hard drive(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 2.5" SATA: SATA 6.0Gb/s, 10000 rpm 3.5" SAS/2.5" SAS: SAS 6.0Gb/s, 15000 rpm 2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s OPAL-capable on some models mSATA: mSATA SSD, SATA 6.0Gb/s		
Optical	Supports DVD-ROM, DVD±RW, or Blu-ray Burner, SATA interface		
Media reader (opt)	Optional 29-in-1 media card reader on selected models		
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)		
Rear ports	Eight USB 2.0, two USB 3.0 (blue), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)		
IEEE 1394 adptr (optional)	Optional FireWire PCIe adapter on selected models, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front		
Audio	High Definition (HD) Audio, Realtek® ALC662 codec		
Speaker	Internal speaker for business audio		
Onboard Ethernet	Dual onboard gigabit ethernet, Intel 82579 and 82574		
Security chip	STMicroelectronics ST33TPM12LPC for TPM function, TCG 1.2-compliant		
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black		
Mouse	Optical Wheel Mouse (USB connector), black		
Power supply	1120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified		
Preloaded operating systems (OS)	One the following, depending on model: <ul style="list-style-type: none"> • Windows 7 Professional 64 • Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit • Windows 8 Pro 64-bit 		
<p>SECURITY</p> <ul style="list-style-type: none"> • Security chip (see information on left) • Side cover lock (ships with two identical keys) • Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) • Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) • Power-on/Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Serial port I/O enable/disable • USB 2.0 ports enable/disable individually • USB 3.0 ports enable/disable concurrently • Chassis intrusion switch on selected model(s) <p>Intel AMT</p> <p>Intel Active Management Technology 8 supported</p> <p>ISV certifications</p> <p>Please visit www.lenovo.com/support/ISV</p> <p>Environmental certifications</p> <p>GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating</p> <p>Supports ThinkVantage® technologies</p>			

See footnotes for important warranty information
 Model(s) announced June 18, 2013

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 (G-HOL5-3) June 2013

ThinkStation D30 (4354) - TopSeller (June 2013) - VI

Product Specifications Reference (PSREF)

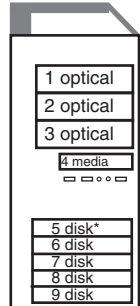
Type-model ¹	Processor(s)	Memory (MHz/type)	Memory DIMMs	Upgrade ROM for onboard drive controller	Discrete drive controller	Pre-conf RAID	Hard drive(s) ²	Optical	Media reader	Graphics adapter(s) and GPU computing	1394 adptr	Chassis intrusion switch	Preloaded OS
4354-62G	2xE5-2640 (6C/2.5GHz/15MB/1333)	1600MHz UDIMM	2GBx8	No	No	No	1x1TB 3.5" SATA	DVD±RW	29-in-1	1xQuadro K4000 (3GB, 1xDVI-I DL*, 2xDP, 80W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-63G	2xE5-2660 (8C/2.2GHz/20MB/1600)	1600MHz UDIMM	4GBx8	No	No	No	1x1TB 3.5" SATA	DVD±RW	29-in-1	1xQuadro K4000 (3GB, 1xDVI-I DL, 2xDP, 80W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-64G	2xE5-2660 (8C/2.2GHz/20MB/1600)	1600MHz UDIMM	4GBx8	No	No	No	1x1TB 3.5" SATA	DVD±RW	29-in-1	1xQuadro K4000 (3GB, 1xDVI-I DL, 2xDP, 80W)	No	Switch	Win7 Pro64
4354-65G	2xE5-2660 (8C/2.2GHz/20MB/1600)	1600MHz UDIMM	4GBx8	No	No	No	1x1TB 3.5" SATA	DVD±RW	29-in-1	1xQuadro K4000 (3GB, 1xDVI-I DL, 2xDP, 80W)	No	Switch	Win7 Pro64

¹ Model in italics shows that this is a Global Model

² The SSD drives in italics must be plugged into red or orange SATA connectors

* DL = Dual Link, SL = Single Link

- **3-year limited warranty**
- **With new MT type 4353/4354 and beyond, ThinkStation D30 introduces new updates to improve the functionality and usability:**
 - (These new features are not supported on 4223 and 4229 MT models)
 - Intel AMT: upgrades to Intel AMT 8 from Intel AMT 7
 - New TPM chip: STMicroelectronics ST33TPM12LPC
 - Two front USB 2.0 ports upgrade to USB3.0
- **For ThinkStation D30 platform specifications, please see [ThinkStation D30 Platform Specifications sheet](#)**

Chipset	Intel C602 Chipset	<p>Tower</p>  <ul style="list-style-type: none"> • Raven black color; metal case • 8.3"W x 23.7"D x 19.1"H (with handle) • 210mm W x 602mm D x 485mm H • 60.6 lb (27.5kg) max configuration • 55-liter • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Rack shelf support or optional rail kit <p>Bay 1-3: 5.25", 1.6" high, external, for optical Bay 4: 3.5", 1" high, external, for media reader Bay 5-9: 3.5", 1" high, internal, for hard drive* * Bay 5 is available on models with the SATA or SAS Hard Drive enablement module installed. Slot 1: half-length, full-height, PCIe 3.0 x16 (x4 elec, near CPU) Slot 2: full-length, full-height, PCIe 3.0 x16** Slot 3: full-length, full-height, 32-bit PCI 2.3 Slot 4: full-length, full-height, PCIe 3.0 x16** Slot 5: full-length, full-height, PCIe 2.0 x4 Slot 6: half-length, full-height, 32-bit PCI 2.3 ** Adapters >75W use auxiliary power connector(s) from PSU</p> <p>SECURITY</p> <ul style="list-style-type: none"> • Security chip (see information on left) • Side cover lock (ships with two identical keys) • Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) • Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) • Power-on/Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Serial port I/O enable/disable • USB 2.0 ports enable/disable individually • USB 3.0 ports enable/disable concurrently • Chassis intrusion switch on selected model(s) <p>Intel AMT</p> <p>Intel Active Management Technology 8 supported</p> <p>ISV certifications</p> <p>Please visit www.lenovo.com/support/ISV</p> <p>Environmental certifications</p> <p>GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating</p> <p>Supports ThinkVantage® technologies</p>
Processor	Two LGA2011 sockets, supports up to two processors from Intel Xeon E5-2600 family, integrated 4-channel DDR3 memory controller per processor	
Memory	UDIMM or RDIMM, ECC, DDR3 , 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets, 128GB max (UDIMM, 8GBx16)/512GB max (RDIMM, 32GBx16)	
Additional memory disclaimers	<ul style="list-style-type: none"> • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Over eight DIMMs requires dual processors • Mixing of RDIMM and UDIMM is not supported • Maximum memory capacity is also limited by operating system 	
Graphics	Two PCI Express 3.0 x16 slots for graphics adapters and GPU computing processors, supports NVIDIA SLI technology, NVIDIA Maximus technology	
Onboard drive controllers	<ul style="list-style-type: none"> • Four SATA connectors via integrated Advanced Host Controller Interface (AHCI) controller in chipset, two SATA 6.0Gb/s (red), two SATA 3.0Gb/s (orange), RAID 0, 1, 5, 10 support • Four SATA connectors via integrated Storage Controller Unit (SCU) controller in chipset, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support 	
Upgrade ROM for onboard drive controllers (optional)	<p>One of the following upgrade ROM is supported, the option upgrades the four SATA connectors on SCU controller to:</p> <ul style="list-style-type: none"> • five SATA connectors with optional SATA HDD Enablement Module, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support • five SATA/SAS connectors with optional SAS HDD Enablement Module, SATA 3.0Gb/s, SAS 3.0 Gb/s, RAID 0, 1, 10 support 	
Discrete drive controller (optional)	<p>One the following, depending on model:</p> <p>LSI SAS 9240-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support optional upgrade key for RAID 5 support LSI SAS 9260-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 10 support</p>	
Hard drive(s)	<p>3.5" SATA: SATA 6.0Gb/s, 7200 rpm 2.5" SATA: SATA 6.0Gb/s, 10000 rpm 3.5" SAS/2.5" SAS: SAS 6.0Gb/s, 15000 rpm 2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s OPAL-capable on some models mSATA: mSATA SSD, SATA 6.0Gb/s</p>	
Optical	Supports DVD-ROM, DVD±RW, or Blu-ray Burner, SATA interface	
Media reader (opt)	Optional 29-in-1 media card reader on selected models	
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)	
Rear ports	Eight USB 2.0, two USB 3.0 (blue), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)	
IEEE 1394 adptr (optional)	Optional FireWire PCIe adapter on selected models, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front	
Audio	High Definition (HD) Audio, Realtek® ALC662 codec	
Speaker	Internal speaker for business audio	
Onboard Ethernet	Dual onboard gigabit ethernet, Intel 82579 and 82574	
Security chip	STMicroelectronics ST33TPM12LPC for TPM function, TCG 1.2-compliant	
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	
Mouse	Optical Wheel Mouse (USB connector), black	
Power supply	1120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified	
Preloaded operating systems (OS)	<p>One the following, depending on model:</p> <ul style="list-style-type: none"> • Windows 7 Professional 64 • Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit • Windows 8 Pro 64-bit 	

See footnotes for important warranty information
 Model(s) announced June 18, 2013

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 (G-HOL6-3) June 2013

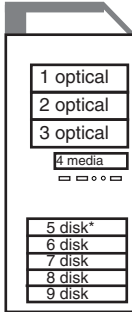
ThinkStation D30 (4354) - TopSeller (September 2013)

Product Specifications Reference (PSREF)

Type-model*	Processor(s) - Xeon E5 Family	Memory (MHz/type)	Memory DIMMs	Upgrade ROM for onboard drive controller	Pre-conf RAID	Hard drive(s)**	Optical	29-in-1 Media reader	Graphics adapter(s) and GPU computing***	1394 adptry	Chassis intrusion switch	Preloaded OS
4354-77G	2xE5-2609 v2 (4C/2.5GHz/10MB/1333)	1600MHz RDIMM	4GBx2	SATA	No	1x2TB 3.5" SATA Hybrid	DVD±RW	Media	No	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-78G	1xE5-2643 v2 (6C/3.5GHz/25MB/1866)	1600MHz RDIMM	4GBx4	SATA	No	1x1TB 3.5" SATA	DVD±RW	Media	No	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-79G	1xE5-2620 v2 (6C/2.1GHz/15MB/1600)	1600MHz RDIMM	4GBx2	SATA	No	1x1TB 3.5" SATA	DVD±RW	Media	No	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-81G	1xE5-2630 v2 (6C/2.6GHz/15MB/1600)	1600MHz RDIMM	4GBx1	SATA	No	1x1TB 3.5" SATA	DVD±RW	Media	No	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-82G	1xE5-2630 v2 (6C/2.6GHz/15MB/1600)	1600MHz RDIMM	4GBx4	SAS	No	1x300GB 3.5" SAS	DVD±RW	Media	1xQuadro K4000 (3GB, 1xDVI-I DL, 2xDP, 80W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-83G	2xE5-2620 v2 (6C/2.1GHz/15MB/1600)	1600MHz RDIMM	4GBx2	SATA	No	1x1TB 3.5" SATA	DVD±RW	Media	No	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-84G	2xE5-2640 v2 (8C/2GHz/20MB/1600)	1600MHz RDIMM	4GBx2	SATA	No	1x1TB 3.5" SATA	DVD±RW	Media	1xQuadro K5000 (4GB, 1xDVI-I DL, 1xDVI-D DL, 2xDP, 122W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-85G	1xE5-1660 v2 (6C/3.7GHz/15MB/1866)	1600MHz RDIMM	4GBx1	SATA	No	1x240GB 2.5" SSD	DVD±RW	Media	1xQuadro K2000 (2GB, 1xDVI-I DL, 2xDP, 51W)	No	Switch	Win7 Pro64 (Downgrade from Win8)

* Model in italics shows that this is a Global Model ** The SSD drives in italics must be plugged into red or orange SATA connectors *** DL = Dual Link, SL = Single Link

- 3-year limited warranty
- For ThinkStation D30 platform specifications, please see [ThinkStation D30 Platform Specifications sheet](#)

Chipset	Intel C602 Chipset		Tower  <ul style="list-style-type: none"> • Raven black color; metal case • 8.3"W x 23.7"D x 19.1"H (with handle) • 210mm W x 602mm D x 485mm H • 60.6 lb (27.5kg) max configuration • 55-liter • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Rack shelf support or optional rail kit
Intel AMT	Intel Active Management Technology 8 supported		
Processor	Two LGA2011 sockets, integrated 4-channel DDR3 memory controller per processor, only one E5-1600 or E5-1600 v2 processor are supported		
Memory	UDIMM or RDIMM, ECC, DDR3, 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets, 128GB max (UDIMM, 8GBx16)/512GB max (RDIMM, 32GBx16)		
Additional memory disclaimers	<ul style="list-style-type: none"> • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Over eight DIMMs requires dual processors • Mixing of RDIMM and UDIMM is not supported • Maximum memory capacity is also limited by operating system • When using processor from Xeon E5-1600 and E5-1600 v2 series, only eight DIMM sockets for CPU1 are available and max memory capacity is 64GB (UDIMM, 8GBx8)/256GB (RDIMM, 32GBx8) 		
Graphics	Two PCI Express 3.0 x16 slots for graphics adapters and GPU computing processors, supports NVIDIA SLI technology, NVIDIA Maximus technology		
Onboard drive controllers	<ul style="list-style-type: none"> • Four SATA connectors via integrated Advanced Host Controller Interface (AHCI) controller in chipset, two SATA 6.0Gb/s (red), two SATA 3.0Gb/s (orange), RAID 0, 1, 5, 10 support • Four SATA connectors via integrated Storage Controller Unit (SCU) controller in chipset, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support 		
Upgrade ROM for onboard drive controllers (optional)	One of the following upgrade ROM is supported, the option upgrades the four SATA connectors on SCU controller to: <ul style="list-style-type: none"> • five SATA connectors with optional SATA HDD Enablement Module, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support • five SATA/SAS connectors with optional SAS HDD Enablement Module, SATA 3.0Gb/s, SAS 3.0 Gb/s, RAID 0, 1, 10 support 		
Discrete drive controller (opt)	None		
Hard drive(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" Hybrid: SATA 6.0Gb/s, 7200 rpm, integrated 8GB NAND flash 2.5" SATA: SATA 6.0Gb/s, 10000 rpm 3.5" SAS/2.5" SAS: SAS 6.0Gb/s, 15000 rpm 2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s OPAL-capable on some models mSATA: mSATA SSD, SATA 6.0Gb/s		
Optical	Supports DVD-ROM, DVD±RW, or Blu-ray Burner, SATA interface		
Media reader (opt)	Optional media card reader on selected models		
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)		
Rear ports	Eight USB 2.0, two USB 3.0 (blue), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)		
IEEE 1394 adptry (optional)	Optional FireWire PCIe adapter on selected models, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front		
Audio	High Definition (HD) Audio, Realtek® ALC662 codec		
Speaker	Internal speaker for business audio		
Onboard Ethernet	Dual onboard gigabit ethernet, Intel 82579 and 82574		
Security chip	STMicroelectronics ST33TPM12LPC for TPM function, TCG 1.2-compliant		
Keyboard/Mouse	104-key keyboard (USB)/Optical Wheel Mouse (USB)		
Power supply	1120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified		
SECURITY <ul style="list-style-type: none"> • Security chip (see information on left) • Side cover lock (ships with two identical keys) • Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) • Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) • Power-on/Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Serial port I/O enable/disable • USB 2.0 ports enable/disable individually • USB 3.0 ports enable/disable concurrently • Chassis intrusion switch on selected model(s) 			
ISV certifications Please visit www.lenovo.com/support/ISV			
Environmental certifications GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating Supports ThinkVantage® technologies			

See footnotes for important warranty information
Model(s) announced September 10, 2013

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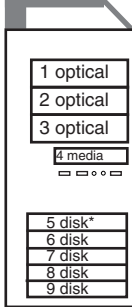
ThinkStation D30 (4354) - TopSeller (September 2013) - II

Product Specifications Reference (PSREF)

Type-model*	Processor(s) - Xeon E5 Family	Memory (MHz/type)	Memory DIMMs	Upgrade ROM for onboard drive controller	Pre-conf RAID	Hard drive(s)**	Optical	29-in-1 Media reader	Graphics adapter(s) and GPU computing***	1394 adptr	Chassis intrusion switch	Preloaded OS
4354-86G	2xE5-2620 v2 (6C/2.1GHz/15MB/1600)	1600MHz UDIMM	4GBx2	SATA	No	1x2TB 3.5" SATA	DVD±RW	Media	No	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-87G	1xE5-2630 v2 (6C/2.6GHz/15MB/1600)	1600MHz UDIMM	4GBx2	SAS	No	1x300GB 2.5" SAS	DVD±RW	Media	1xQuadro K4000 (3GB, 1xDVI-I DL, 2xDP, 80W)	1394	Switch	Win7 Pro64 (Downgrade from Win8)
4354-C3G	1xE5-2630 v2 (6C/2.6GHz/15MB/1600)	1600MHz UDIMM	4GBx1	SATA	No	1x1TB 3.5" SATA	DVD±RW	Media	No	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-C4G	2xE5-2620 v2 (6C/2.1GHz/15MB/1600)	1600MHz UDIMM	4GBx2	SATA	No	1x1TB 3.5" SATA	DVD±RW	Media	No	No	Switch	Win7 Pro64 (Downgrade from Win8)
4354-C5G	2xE5-2640 v2 (8C/2GHz/20MB/1600)	1600MHz UDIMM	4GBx2	SATA	No	1x1TB 3.5" SATA	DVD±RW	Media	No	No	Switch	Win7 Pro64 (Downgrade from Win8)

* Model in italics shows that this is a Global Model ** The SSD drives in italics must be plugged into red or orange SATA connectors *** DL = Dual Link, SL = Single Link

- 3-year limited warranty
- For ThinkStation D30 platform specifications, please see [ThinkStation D30 Platform Specifications sheet](#)

Chipset	Intel C602 Chipset		Tower  <ul style="list-style-type: none"> • Raven black color; metal case • 8.3"W x 23.7"D x 19.1"H (with handle) • 210mm W x 602mm D x 485mm H • 60.6 lb (27.5kg) max configuration • 55-liter • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Rack shelf support or optional rail kit
Intel AMT	Intel Active Management Technology 8 supported		
Processor	Two LGA2011 sockets, integrated 4-channel DDR3 memory controller per processor, only one E5-1600 or E5-1600 v2 processor are supported		
Memory	UDIMM or RDIMM, ECC, DDR3 , 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets, 128GB max (UDIMM, 8GBx16)/512GB max (RDIMM, 32GBx16)		
Additional memory disclaimers	<ul style="list-style-type: none"> • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Over eight DIMMs requires dual processors • Mixing of RDIMM and UDIMM is not supported • Maximum memory capacity is also limited by operating system • When using processor from Xeon E5-1600 and E5-1600 v2 series, only eight DIMM sockets for CPU1 are available and max memory capacity is 64GB (UDIMM, 8GBx8)/256GB (RDIMM, 32GBx8) 		
Graphics	Two PCI Express 3.0 x16 slots for graphics adapters and GPU computing processors, supports NVIDIA SLI technology, NVIDIA Maximus technology		
Onboard drive controllers	<ul style="list-style-type: none"> • Four SATA connectors via integrated Advanced Host Controller Interface (AHCI) controller in chipset, two SATA 6.0Gb/s (red), two SATA 3.0Gb/s (orange), RAID 0, 1, 5, 10 support • Four SATA connectors via integrated Storage Controller Unit (SCU) controller in chipset, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support 		
Upgrade ROM for onboard drive controllers (optional)	One of the following upgrade ROM is supported, the option upgrades the four SATA connectors on SCU controller to: <ul style="list-style-type: none"> • five SATA connectors with optional SATA HDD Enablement Module, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support • five SATA/SAS connectors with optional SAS HDD Enablement Module, SATA 3.0Gb/s, SAS 3.0 Gb/s, RAID 0, 1, 10 support 		
Discrete drive controller (opt)	None		
Hard drive(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" Hybrid: SATA 6.0Gb/s, 7200 rpm, integrated 8GB NAND flash 2.5" SATA: SATA 6.0Gb/s, 10000 rpm 3.5" SAS/2.5" SAS: SAS 6.0Gb/s, 15000 rpm 2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s OPAL-capable on some models mSATA: mSATA SSD, SATA 6.0Gb/s		
Optical	Supports DVD-ROM, DVD±RW, or Blu-ray Burner, SATA interface		
Media reader (opt)	Optional media card reader on selected models		
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)		
Rear ports	Eight USB 2.0, two USB 3.0 (blue), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)		
IEEE 1394 adptr (optional)	Optional FireWire PCIe adapter on selected models, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front		
Audio	High Definition (HD) Audio, Realtek® ALC662 codec		
Speaker	Internal speaker for business audio		
Onboard Ethernet	Dual onboard gigabit ethernet, Intel 82579 and 82574		
Security chip	STMicroelectronics ST33TPM12LPC for TPM function, TCG 1.2-compliant		
Keyboard/Mouse	104-key keyboard (USB)/Optical Wheel Mouse (USB)		
Power supply	1120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified		
SECURITY <ul style="list-style-type: none"> • Security chip (see information on left) • Side cover lock (ships with two identical keys) • Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) • Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) • Power-on/Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Serial port I/O enable/disable • USB 2.0 ports enable/disable individually • USB 3.0 ports enable/disable concurrently • Chassis intrusion switch on selected model(s) 			
ISV certifications Please visit www.lenovo.com/support/ISV			
Environmental certifications GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating Supports ThinkVantage® technologies			

See footnotes for important warranty information
Model(s) announced September 10, 2013

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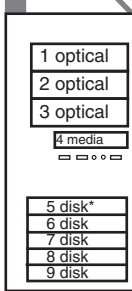
ThinkStation D30 (4354) - TopSeller (April 2014)

Product Specifications Reference (PSREF)

Type-model ¹	Processor(s) - Xeon E5 Family	Memory (MHz/type)	Memory DIMMs	Upgrade ROM for onboard drive controller	Pre-conf RAID	Hard drive(s)**	Optical	29-in-1 Media reader	Graphics adapter(s) and GPU computing***	1394 adptr	Chassis intrusion switch	Preloaded OS
4354-G8G	2xXeon E5-2609 v2 4C/2.5GHz/10MB/1333MHz	1600MHz RDIMM	4GBx2	SATA	No	1x2TB 3.5" SATA	DVD±RW	Media	Open	No	Switch	Win7 Pro64 (Downgrade from Win8.1)
4354-G9G	1xXeon E5-2620 v2 6C/2.1GHz/15MB/1600MHz	1600MHz RDIMM	4GBx2	SATA	No	1x1TB 3.5" SATA	DVD±RW	Media	Open	No	Switch	Win7 Pro64 (Downgrade from Win8.1)

* Model in *italics* shows that this is a Global Model ** The SSD drives in *italics* must be plugged into red or orange SATA connectors *** DL = Dual Link, SL = Single Link

- 3-year limited warranty
- For ThinkStation D30 platform specifications, please see [ThinkStation D30 Platform Specifications sheet](#)

Chipset	Intel C602 Chipset		Tower  <ul style="list-style-type: none"> • Raven black color; metal case • 8.3"W x 23.7"D x 19.1"H (with handle) • 210mm W x 602mm D x 485mm H • 60.6 lb (27.5kg) max configuration • 55-liter • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Rack shelf support or optional rail kit
Intel AMT	Intel Active Management Technology 8 supported		
Processor	Two LGA2011 sockets, integrated 4-channel DDR3 memory controller per processor, only one E5-1600 or E5-1600 v2 processor are supported		
Memory	UDIMM or RDIMM, ECC, DDR3 , 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets, 128GB max (UDIMM, 8GBx16)/512GB max (RDIMM, 32GBx16)		
Additional memory disclaimers	<ul style="list-style-type: none"> • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Over eight DIMMs requires dual processors • Mixing of RDIMM and UDIMM is not supported • Maximum memory capacity is also limited by operating system • When using processor from Xeon E5-1600 and E5-1600 v2 series, only eight DIMM sockets for CPU1 are available and max memory capacity is 64GB (UDIMM, 8GBx8)/256GB (RDIMM, 32GBx8) 		
Graphics	Two PCI Express 3.0 x16 slots for graphics adapters and GPU computing processors, supports NVIDIA SLI technology, NVIDIA Maximus technology		
Onboard drive controllers	<ul style="list-style-type: none"> • Four SATA connectors via integrated Advanced Host Controller Interface (AHCI) controller in chipset, two SATA 6.0Gb/s (red), two SATA 3.0Gb/s (orange), RAID 0, 1, 5, 10 support • Four SATA connectors via integrated Storage Controller Unit (SCU) controller in chipset, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support 		
Upgrade ROM for onboard drive controllers (optional)	One of the following upgrade ROM is supported, the option upgrades the four SATA connectors on SCU controller to: <ul style="list-style-type: none"> • five SATA connectors with optional SATA HDD Enablement Module, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support • five SATA/SAS connectors with optional SAS HDD Enablement Module, SATA 3.0Gb/s, SAS 3.0 Gb/s, RAID 0, 1, 10 support 		
Discrete drive controller (opt)	None		
Hard drive(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" Hybrid: SATA 6.0Gb/s, 7200 rpm, integrated 8GB NAND flash 2.5" SATA: SATA 6.0Gb/s, 10000 rpm 3.5" SAS/2.5" SAS: SAS 6.0Gb/s, 15000 rpm 2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s OPAL-capable on some models mSATA: mSATA SSD, SATA 6.0Gb/s		
Optical	Supports DVD-ROM, DVD±RW, or Blu-ray Burner, SATA interface		
Media reader (opt)	Optional media card reader on selected models		
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)		
Rear ports	Eight USB 2.0, two USB 3.0 (blue), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)		
IEEE 1394 adptr (optional)	Optional FireWire PCIe adapter on selected models, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front		
Audio	High Definition (HD) Audio, Realtek® ALC662 codec		
Speaker	Internal speaker for business audio		
Onboard Ethernet	Dual onboard gigabit ethernet, Intel 82579 and 82574		
Security chip	STMicroelectronics ST33TPM12LPC for TPM function, TCG 1.2-compliant		
Keyboard/Mouse	104-key keyboard (USB)/Optical Wheel Mouse (USB)		
Power supply	1120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified		
SECURITY <ul style="list-style-type: none"> • Security chip (see information on left) • Side cover lock (ships with two identical keys) • Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) • Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) • Power-on/Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Serial port I/O enable/disable • USB 2.0 ports enable/disable individually • USB 3.0 ports enable/disable concurrently • Chassis intrusion switch on selected model(s) 			
ISV certifications Please visit www.lenovo.com/support/ISV			
Environmental certifications GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating Supports ThinkVantage® technologies			

See footnotes for important warranty information
Model(s) announced April 1, 2014

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Type-model ¹	Processor(s)	Memory (MHz/type)	Memory DIMMs	Upgrade ROM for onboard drive controller	Discrete drive controller	Pre-conf RAID	Hard drive(s) ²	Optical	Media reader	Graphics adapter(s) and GPU computing	1394 adptr	Chassis intrusion switch	Preloaded OS
4353-16G	2xE5-2650 (8C/2GHz/20MB/1600)	1600MHz RDIMM	4GBx3	No	No	No	1x3TB 3.5" SATA	DVD±RW	29-in-1	1xQuadro K4000 (3GB, 1xDVI-I DL*, 2xDP, 80W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4353-17G	1xE5-2665 (8C/2.4GHz/20MB/1600)	1600MHz RDIMM	4GBx3	SAS	No	No	2x300GB 3.5" SAS	DVD±RW	29-in-1	1xQuadro K5000 (4GB, 1xDVI-I DL, 1xDVI-D DL, 2xDP, 122W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4353-24G	1xE5-2620 (6C/2GHz/15MB/1333)	1600MHz UDIMM	4GBx1	No	No	No	1x1TB 3.5" SATA	DVD±RW	29-in-1	1xQuadro K2000 (2GB, 1xDVI-I DL, 2xDP, 51W)	No	Switch	Win7 Pro64 (Downgrade from Win8)

1 Model in italics shows that this is a Global Model

2 The SSD drives in italics must be plugged into red or orange SATA connectors

* DL = Dual Link, SL = Single Link

- **3-year limited warranty**
- **With new MT type 4353/4354 and beyond, ThinkStation D30 introduces new updates to improve the functionality and usability:**
 - (These new features are not supported on 4223 and 4229 MT models)
 - Intel AMT: upgrades to Intel AMT 8 from Intel AMT 7
 - New TPM chip: STMicroelectronics ST33TPM12LPC
 - Two front USB 2.0 ports upgrade to USB3.0
- For ThinkStation D30 platform specifications, please see [ThinkStation D30 Platform Specifications sheet](#)

Chipset	Intel C602 Chipset		<p>Tower</p> <ul style="list-style-type: none"> • Raven black color; metal case • 8.3"W x 23.7"D x 19.1"H (with handle) • 210mm W x 602mm D x 485mm H • 60.6 lb (27.5kg) max configuration • 55-liter • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Rack shelf support or optional rail kit <p>Bay 1-3: 5.25", 1.6" high, external, for optical Bay 4: 3.5", 1" high, external, for media reader Bay 5-9: 3.5", 1" high, internal, for hard drive*</p> <p>* Bay 5 is available on models with the SATA or SAS Hard Disk Drive enablement module installed.</p> <p>Slot 1: half-length, full-height, PCIe 3.0 x16 (x4 elec, near CPU) Slot 2: full-length, full-height, PCIe 3.0 x16** Slot 3: full-length, full-height, 32-bit PCI 2.3 Slot 4: full-length, full-height, PCIe 3.0 x16** Slot 5: full-length, full-height, PCIe 2.0 x4 Slot 6: half-length, full-height, 32-bit PCI 2.3</p> <p>** Adapters >75W use auxiliary power connector(s) from PSU</p>
Processor	Two LGA2011 sockets, supports up to two processors from Intel Xeon E5-2600 family, integrated 4-channel DDR3 memory controller per processor		
Memory	UDIMM or RDIMM, ECC, DDR3 , 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets, 128GB max (UDIMM, 8GBx16)/512GB max (RDIMM, 32GBx16)		
Additional memory disclaimers	<ul style="list-style-type: none"> • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Over eight DIMMs requires dual processors • Mixing of RDIMM and UDIMM is not supported • Maximum memory capacity is also limited by operating system 		
Graphics	Two PCI Express 3.0 x16 slots for graphics adapters and GPU computing processors, supports NVIDIA SLI technology, NVIDIA Maximus technology		
Onboard drive controllers	<ul style="list-style-type: none"> • Four SATA connectors via integrated Advanced Host Controller Interface (AHCI) controller in chipset, two SATA 6.0Gb/s (red), two SATA 3.0Gb/s (orange), RAID 0, 1, 5, 10 support • Four SATA connectors via integrated Storage Controller Unit (SCU) controller in chipset, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support 		
Upgrade ROM for onboard drive controllers (optional)	One of the following upgrade ROM is supported, the option upgrades the four SATA connectors on SCU controller to: <ul style="list-style-type: none"> • five SATA connectors with optional SATA HDD Enablement Module, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support • five SATA/SAS connectors with optional SAS HDD Enablement Module, SATA 3.0Gb/s, SAS 3.0 Gb/s, RAID 0, 1, 10 support 		
Discrete drive controller (optional)	One the following, depending on model: LSI SAS 9240-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support optional upgrade key for RAID 5 support LSI SAS 9260-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 10 support		
Hard drive(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 2.5" SATA: SATA 6.0Gb/s, 10000 rpm 3.5" SAS/2.5" SAS: SAS 6.0Gb/s, 15000 rpm 2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s OPAL-capable on some models mSATA: mSATA SSD, SATA 6.0Gb/s		
Optical	Supports DVD-ROM, DVD±RW, or Blu-ray Burner, SATA interface		
Media reader (opt)	Optional 29-in-1 media card reader on selected models		
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)		
Rear ports	Eight USB 2.0, two USB 3.0 (blue), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)		
IEEE 1394 adptr (optional)	Optional FireWire PCIe adapter on selected models, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front		
Audio	High Definition (HD) Audio, Realtek® ALC662 codec		
Speaker	Internal speaker for business audio		
Onboard Ethernet	Dual onboard gigabit ethernet, Intel 82579 and 82574		
Security chip	STMicroelectronics ST33TPM12LPC for TPM function, TCG 1.2-compliant		
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black		
Mouse	Optical Wheel Mouse (USB connector), black		
Power supply	1120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified		
Preloaded operating systems (OS)	One the following, depending on model: <ul style="list-style-type: none"> • Windows 7 Professional 64 • Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit • Windows 8 Pro 64-bit 		

ThinkStation D30 (4353) - June 2013 - II

Product Specifications Reference (PSREF)

Type-model ¹	Processor(s)	Memory (MHz/type)	Memory DIMMs	Upgrade ROM for onboard drive controller	Discrete drive controller	Pre-conf RAID	Hard drive(s) ²	Optical	Media reader	Graphics adapter(s) and GPU computing	1394 adptr	Chassis intrusion switch	Preloaded OS
<i>4353-26G</i>	1xE5-2620 (6C/2GHz/15MB/1333)	1600MHz UDIMM	4GBx1	SAS	No	No	1x300GB 3.5" SAS	DVD±RW	29-in-1	1xQuadro K2000 (2GB, 1xDVI-I DL*, 2xDP, 51W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
<i>4353-28G</i>	1xE5-2620 (6C/2GHz/15MB/1333)	1600MHz UDIMM	4GBx1	No	No	No	1x1TB 3.5" SATA	DVD±RW	29-in-1	1xQuadro K2000 (2GB, 1xDVI-I DL, 2xDP, 51W)	No	Switch	Win8 Pro64
<i>4353-31G</i>	1xE5-2620 (6C/2GHz/15MB/1333)	1600MHz UDIMM	4GBx1	SAS	No	No	1x300GB 3.5" SAS	DVD±RW	29-in-1	1xQuadro K2000 (2GB, 1xDVI-I DL, 2xDP, 51W)	No	Switch	Win8 Pro64

¹ Model in italics shows that this is a Global Model

² The SSD drives in italics must be plugged into red or orange SATA connectors

* DL = Dual Link, SL = Single Link

- **3-year limited warranty**
- **With new MT type 4353/4354 and beyond, ThinkStation D30 introduces new updates to improve the functionality and usability:**
 - (These new features are not supported on 4223 and 4229 MT models)
 - Intel AMT: upgrades to Intel AMT 8 from Intel AMT 7
 - New TPM chip: STMicroelectronics ST33TPM12LPC
 - Two front USB 2.0 ports upgrade to USB3.0
- **For ThinkStation D30 platform specifications, please see [ThinkStation D30 Platform Specifications sheet](#)**

Chipset	Intel C602 Chipset	<p>Tower</p> <p>Bay 1-3: 5.25", 1.6" high, external, for optical Bay 4: 3.5", 1" high, external, for media reader Bay 5-9: 3.5", 1" high, internal, for hard drive*</p> <p>* Bay 5 is available on models with the SATA or SAS Hard Disk Drive enablement module installed.</p> <p>Slot 1: half-length, full-height, PCIe 3.0 x16 (x4 elec, near CPU) Slot 2: full-length, full-height, PCIe 3.0 x16** Slot 3: full-length, full-height, 32-bit PCI 2.3 Slot 4: full-length, full-height, PCIe 3.0 x16** Slot 5: full-length, full-height, PCIe 2.0 x4 Slot 6: half-length, full-height, 32-bit PCI 2.3</p> <p>** Adapters >75W use auxiliary power connector(s) from PSU</p> <p>SECURITY</p> <ul style="list-style-type: none"> • Security chip (see information on left) • Side cover lock (ships with two identical keys) • Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) • Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) • Power-on/Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Serial port I/O enable/disable • USB 2.0 ports enable/disable individually • USB 3.0 ports enable/disable concurrently • Chassis intrusion switch on selected model(s) <p>Intel AMT</p> <p>Intel Active Management Technology 8 supported</p> <p>ISV certifications</p> <p>Please visit www.lenovo.com/support/ISV</p> <p>Environmental certifications</p> <p>GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating</p> <p>Supports ThinkVantage® technologies</p>
Processor	Two LGA2011 sockets, supports up to two processors from Intel Xeon E5-2600 family, integrated 4-channel DDR3 memory controller per processor	
Memory	UDIMM or RDIMM, ECC, DDR3 , 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets, 128GB max (UDIMM, 8GBx16)/512GB max (RDIMM, 32GBx16)	
Additional memory disclaimers	<ul style="list-style-type: none"> • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Over eight DIMMs requires dual processors • Mixing of RDIMM and UDIMM is not supported • Maximum memory capacity is also limited by operating system 	
Graphics	Two PCI Express 3.0 x16 slots for graphics adapters and GPU computing processors, supports NVIDIA SLI technology, NVIDIA Maximus technology	
Onboard drive controllers	<ul style="list-style-type: none"> • Four SATA connectors via integrated Advanced Host Controller Interface (AHCI) controller in chipset, two SATA 6.0Gb/s (red), two SATA 3.0Gb/s (orange), RAID 0, 1, 5, 10 support • Four SATA connectors via integrated Storage Controller Unit (SCU) controller in chipset, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support 	
Upgrade ROM for onboard drive controllers (optional)	<p>One of the following upgrade ROM is supported, the option upgrades the four SATA connectors on SCU controller to:</p> <ul style="list-style-type: none"> • five SATA connectors with optional SATA HDD Enablement Module, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support • five SATA/SAS connectors with optional SAS HDD Enablement Module, SATA 3.0Gb/s, SAS 3.0 Gb/s, RAID 0, 1, 10 support 	
Discrete drive controller (optional)	<p>One the following, depending on model:</p> <p>LSI SAS 9240-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support optional upgrade key for RAID 5 support</p> <p>LSI SAS 9260-8i: SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 10 support</p>	
Hard drive(s)	<p>3.5" SATA: SATA 6.0Gb/s, 7200 rpm</p> <p>2.5" SATA: SATA 6.0Gb/s, 10000 rpm</p> <p>3.5" SAS/2.5" SAS: SAS 6.0Gb/s, 15000 rpm</p> <p>2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s</p> <p>mSATA: OPAL-capable on some models mSATA SSD, SATA 6.0Gb/s</p>	
Optical	Supports DVD-ROM, DVD±RW, or Blu-ray Burner, SATA interface	
Media reader (opt)	Optional 29-in-1 media card reader on selected models	
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)	
Rear ports	Eight USB 2.0, two USB 3.0 (blue), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)	
IEEE 1394 adptr (optional)	Optional FireWire PCIe adapter on selected models, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front	
Audio	High Definition (HD) Audio, Realtek® ALC662 codec	
Speaker	Internal speaker for business audio	
Onboard Ethernet	Dual onboard gigabit ethernet, Intel 82579 and 82574	
Security chip	STMicroelectronics ST33TPM12LPC for TPM function, TCG 1.2-compliant	
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	
Mouse	Optical Wheel Mouse (USB connector), black	
Power supply	1120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified	
Preloaded operating systems (OS)	<p>One the following, depending on model:</p> <ul style="list-style-type: none"> • Windows 7 Professional 64 • Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit • Windows 8 Pro 64-bit 	

See footnotes for important warranty information
 Model(s) announced June 18, 2013

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Type-model*	Processor(s) - Xeon E5 Family	Memory (MHz/type)	Memory DIMMs	Upgrade ROM for onboard drive controller	Pre-conf RAID	Hard drive(s)**	Optical	29-in-1 Media reader	Graphics adapter(s) and GPU computing***	1394 adptr	Chassis intrusion switch	Preloaded OS
4353-75G	1xE5-2695 v2 (12C/2.4GHz/30MB/1866)	1600MHz RDIMM	8GBx4	SAS	No	1x600GB 3.5" SAS	DVD±RW	Media	2xQuadro K5000 (4GB, 1xDVI-I DL, 1xDVI-D DL, 2xDP, 122W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
4353-76G	1xE5-2670 v2 (10C/2.5GHz/25MB/1866)	1600MHz RDIMM	4GBx4	SATA	No	1x4TB 3.5" SATA	DVD±RW	Media	1xQuadro K5000 (4GB, 1xDVI-I DL, 1xDVI-D DL, 2xDP, 122W)	No	Switch	Win7 Pro64 (Downgrade from Win8)

* Model in italics shows that this is a Global Model ** The SSD drives in italics must be plugged into red or orange SATA connectors *** DL = Dual Link, SL = Single Link

- 3-year limited warranty
- For ThinkStation D30 platform specifications, please see [ThinkStation D30 Platform Specifications sheet](#)

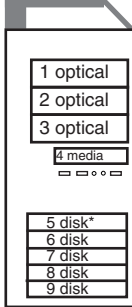
Chipset	Intel C602 Chipset		<p>Tower</p>  <ul style="list-style-type: none"> • Raven black color; metal case • 8.3"W x 23.7"D x 19.1"H (with handle) • 210mm W x 602mm D x 485mm H • 60.6 lb (27.5kg) max configuration • 55-liter • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Rack shelf support or optional rail kit <p>Bay 1-3: 5.25", 1.6" high, external, for optical Bay 4: 3.5", 1" high, external, for media reader Bay 5-9: 3.5", 1" high, internal, for hard drive*</p> <p>Slot 1: half-length, full-height, PCIe 3.0 x16 (x4 elec, near CPU) Slot 2: full-length, full-height, PCIe 3.0 x16** Slot 3: full-length, full-height, 32-bit PCI 2.3 Slot 4: full-length, full-height, PCIe 3.0 x16** Slot 5: full-length, full-height, PCIe 2.0 x4 Slot 6: half-length, full-height, 32-bit PCI 2.3</p> <p>** Adapters >75W use auxiliary power connector(s) from PSU</p>
Intel AMT	Intel Active Management Technology 8 supported		
Processor	Two LGA2011 sockets, integrated 4-channel DDR3 memory controller per processor, only one E5-1600 or E5-1600 v2 processor are supported		
Memory	UDIMM or RDIMM, ECC, DDR3 , 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets, 128GB max (UDIMM, 8GBx16)/512GB max (RDIMM, 32GBx16)		
Additional memory disclaimers	<ul style="list-style-type: none"> • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Over eight DIMMs requires dual processors • Mixing of RDIMM and UDIMM is not supported • Maximum memory capacity is also limited by operating system • When using processor from Xeon E5-1600 and E5-1600 v2 series, only eight DIMM sockets for CPU1 are available and max memory capacity is 64GB (UDIMM, 8GBx8)/256GB (RDIMM, 32GBx8) 		
Graphics	Two PCI Express 3.0 x16 slots for graphics adapters and GPU computing processors, supports NVIDIA SLI technology, NVIDIA Maximus technology		
Onboard drive controllers	<ul style="list-style-type: none"> • Four SATA connectors via integrated Advanced Host Controller Interface (AHCI) controller in chipset, two SATA 6.0Gb/s (red), two SATA 3.0Gb/s (orange), RAID 0, 1, 5, 10 support • Four SATA connectors via integrated Storage Controller Unit (SCU) controller in chipset, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support 		
Upgrade ROM for onboard drive controllers (optional)	<p>One of the following upgrade ROM is supported, the option upgrades the four SATA connectors on SCU controller to:</p> <ul style="list-style-type: none"> • five SATA connectors with optional SATA HDD Enablement Module, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support • five SATA/SAS connectors with optional SAS HDD Enablement Module, SATA 3.0Gb/s, SAS 3.0 Gb/s, RAID 0, 1, 10 support 		
Discrete drive controller (opt)	None		
Hard drive(s)	<p>3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" Hybrid: SATA 6.0Gb/s, 7200 rpm, integrated 8GB NAND flash 2.5" SATA: SATA 6.0Gb/s, 10000 rpm 3.5" SAS/2.5" SAS: SAS 6.0Gb/s, 15000 rpm 2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s OPAL-capable on some models mSATA: mSATA SSD, SATA 6.0Gb/s</p>		
Optical	Supports DVD-ROM, DVD±RW, or Blu-ray Burner, SATA interface		
Media reader (opt)	Optional media card reader on selected models		
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)		
Rear ports	Eight USB 2.0, two USB 3.0 (blue), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)		
IEEE 1394 adptr (optional)	Optional FireWire PCIe adapter on selected models, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front		
Audio	High Definition (HD) Audio, Realtek® ALC662 codec		
Speaker	Internal speaker for business audio		
Onboard Ethernet	Dual onboard gigabit ethernet, Intel 82579 and 82574		
Security chip	STMicroelectronics ST33TPM12LPC for TPM function, TCG 1.2-compliant		
Keyboard/Mouse	104-key keyboard (USB)/Optical Wheel Mouse (USB)		
Power supply	1120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified		
<p>SECURITY</p> <ul style="list-style-type: none"> • Security chip (see information on left) • Side cover lock (ships with two identical keys) • Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) • Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) • Power-on/Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Serial port I/O enable/disable • USB 2.0 ports enable/disable individually • USB 3.0 ports enable/disable concurrently • Chassis intrusion switch on selected model(s) <p>ISV certifications Please visit www.lenovo.com/support/ISV</p> <p>Environmental certifications GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating Supports ThinkVantage® technologies</p>			

See footnotes for important warranty information
Model(s) announced September 10, 2013

Type-model*	Processor(s) - Xeon E5 Family	Memory (MHz/type)	Memory DIMMs	Upgrade ROM for onboard drive controller	Pre-conf RAID	Hard drive(s)**	Optical	29-in-1 Media reader	Graphics adapter(s) and GPU computing***	1394 adptr	Chassis intrusion switch	Preloaded OS
<i>4353-C2G</i>	1xE5-2620 v2 6C/2.1GHz/15MB/1600MHz	1600MHz UDIMM	4GBx1	No	No	1x1TB 3.5" SATA Hybrid	DVD±RW	Media	1xQuadro K2000 (2GB, 1xDVI-I DL, 2xDP, 51W)	No	Switch	Win7 Pro64 (Downgrade from Win8)
<i>4353-C5G</i>	1xE5-2650 v2 8C/2.6GHz/20MB/1866MHz	1600MHz UDIMM	8GBx1	No	No	1x2TB 3.5" SATA Hybrid	DVD±RW	Media	No	No	Switch	Win7 Pro64 (Downgrade from Win8)
<i>4353-C7G</i>	1xE5-2680 v2 10C/2.8GHz/25MB/1866MHz	1600MHz UDIMM	8GBx1	No	No	1x256GB 2.5" SSD - OPAL	DVD±RW	Media	No	No	Switch	Win7 Pro64 (Downgrade from Win8)
<i>4353-E3G</i>	1xE5-2640 v2 8C/2GHz/20MB/1600MHz	1600MHz RDIMM	4GBx2	No	No	1x2TB 3.5" SATA	DVD±RW	Media	No	No	Switch	Win7 Pro64 (Downgrade from Win8)

* Model in italics shows that this is a Global Model ** The SSD drives in italics must be plugged into red or orange SATA connectors *** DL = Dual Link, SL = Single Link

- 3-year limited warranty
- For ThinkStation D30 platform specifications, please see [ThinkStation D30 Platform Specifications sheet](#)

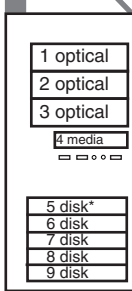
Chipset	Intel C602 Chipset		<p>Tower</p>  <ul style="list-style-type: none"> • Raven black color; metal case • 8.3"W x 23.7"D x 19.1"H (with handle) • 210mm W x 602mm D x 485mm H • 60.6 lb (27.5kg) max configuration • 55-liter • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Rack shelf support or optional rail kit <p>Bay 1-3: 5.25", 1.6" high, external, for optical Bay 4: 3.5", 1" high, external, for media reader Bay 5-9: 3.5", 1" high, internal, for hard drive*</p> <p>Slot 1: half-length, full-height, PCIe 3.0 x16 (x4 elec, near CPU) Slot 2: full-length, full-height, PCIe 3.0 x16** Slot 3: full-length, full-height, 32-bit PCI 2.3 Slot 4: full-length, full-height, PCIe 3.0 x16** Slot 5: full-length, full-height, PCIe 2.0 x4 Slot 6: half-length, full-height, 32-bit PCI 2.3</p> <p>** Adapters >75W use auxiliary power connector(s) from PSU</p>
Intel AMT	Intel Active Management Technology 8 supported		
Processor	Two LGA2011 sockets, integrated 4-channel DDR3 memory controller per processor, only one E5-1600 or E5-1600 v2 processor are supported		
Memory	UDIMM or RDIMM, ECC, DDR3 , 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets, 128GB max (UDIMM, 8GBx16)/512GB max (RDIMM, 32GBx16)		
Additional memory disclaimers	<ul style="list-style-type: none"> • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Over eight DIMMs requires dual processors • Mixing of RDIMM and UDIMM is not supported • Maximum memory capacity is also limited by operating system • When using processor from Xeon E5-1600 and E5-1600 v2 series, only eight DIMM sockets for CPU1 are available and max memory capacity is 64GB (UDIMM, 8GBx8)/256GB (RDIMM, 32GBx8) 		
Graphics	Two PCI Express 3.0 x16 slots for graphics adapters and GPU computing processors, supports NVIDIA SLI technology, NVIDIA Maximus technology		
Onboard drive controllers	<ul style="list-style-type: none"> • Four SATA connectors via integrated Advanced Host Controller Interface (AHCI) controller in chipset, two SATA 6.0Gb/s (red), two SATA 3.0Gb/s (orange), RAID 0, 1, 5, 10 support • Four SATA connectors via integrated Storage Controller Unit (SCU) controller in chipset, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support 		
Upgrade ROM for onboard drive controllers (optional)	<p>One of the following upgrade ROM is supported, the option upgrades the four SATA connectors on SCU controller to:</p> <ul style="list-style-type: none"> • five SATA connectors with optional SATA HDD Enablement Module, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support • five SATA/SAS connectors with optional SAS HDD Enablement Module, SATA 3.0Gb/s, SAS 3.0 Gb/s, RAID 0, 1, 10 support 		
Discrete drive controller (opt)	None		
Hard drive(s)	<p>3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" Hybrid: SATA 6.0Gb/s, 7200 rpm, integrated 8GB NAND flash 2.5" SATA: SATA 6.0Gb/s, 10000 rpm 3.5" SAS/2.5" SAS: SAS 6.0Gb/s, 15000 rpm 2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s OPAL-capable on some models mSATA: mSATA SSD, SATA 6.0Gb/s</p>		
Optical	Supports DVD-ROM, DVD±RW, or Blu-ray Burner, SATA interface		
Media reader (opt)	Optional media card reader on selected models		
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)		
Rear ports	Eight USB 2.0, two USB 3.0 (blue), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)		
IEEE 1394 adptr (optional)	Optional FireWire PCIe adapter on selected models, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front		
Audio	High Definition (HD) Audio, Realtek® ALC662 codec		
Speaker	Internal speaker for business audio		
Onboard Ethernet	Dual onboard gigabit ethernet, Intel 82579 and 82574		
Security chip	STMicroelectronics ST33TPM12LPC for TPM function, TCG 1.2-compliant		
Keyboard/Mouse	104-key keyboard (USB)/Optical Wheel Mouse (USB)		
Power supply	1120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified		
<p>SECURITY</p> <ul style="list-style-type: none"> • Security chip (see information on left) • Side cover lock (ships with two identical keys) • Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) • Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) • Power-on/Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Serial port I/O enable/disable • USB 2.0 ports enable/disable individually • USB 3.0 ports enable/disable concurrently • Chassis intrusion switch on selected model(s) <p>ISV certifications Please visit www.lenovo.com/support/ISV</p> <p>Environmental certifications GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating</p> <p>Supports ThinkVantage® technologies</p>			

See footnotes for important warranty information
Model(s) announced October 8 (E3G) or 15 (C2G/C5G/C7G), 2013

Type-model*	Processor(s) - Xeon E5 Family	Memory (MHz/type)	Memory DIMMs	Upgrade ROM for onboard drive controller	Pre-conf RAID	Hard drive(s)**	Optical	29-in-1 Media reader	Graphics adapter(s) and GPU computing***	1394 adptr	Chassis intrusion switch	Preloaded OS
<i>4353-G4G</i>	2xXeon E5-2670 v2 10C/2.5GHz/25MB/1866MHz	1866MHz UDIMM	4GBx4	SAS	No	1TB 3.5" SATA +300GB 2.5" SAS	DVD±RW	Media	1xQuadro K2000 2GB/1xDVI-I DL/ 2xDP/51W	No	Switch	Win7 Pro64
<i>4353-G5G</i>	2xXeon E5-2643 v2 6C/3.5GHz/25MB/1866MHz	1866MHz UDIMM	4GBx4	No	No	1x500GB 3.5" SATA	DVD±RW	Media	1xQuadro K4000 3GB/1xDVI-I DL/ 2xDP/80W	No	Switch	Win7 Pro64

* Model in italics shows that this is a Global Model ** The SSD drives in italics must be plugged into red or orange SATA connectors *** DL = Dual Link, SL = Single Link

- 3-year limited warranty
- For ThinkStation D30 platform specifications, please see [ThinkStation D30 Platform Specifications sheet](#)

Chipset	Intel C602 Chipset		<p>Tower</p>  <ul style="list-style-type: none"> • Raven black color; metal case • 8.3"W x 23.7"D x 19.1"H (with handle) • 210mm W x 602mm D x 485mm H • 60.6 lb (27.5kg) max configuration • 55-liter • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Rack shelf support or optional rail kit <p>Bay 1-3: 5.25", 1.6" high, external, for optical Bay 4: 3.5", 1" high, external, for media reader Bay 5-9: 3.5", 1" high, internal, for hard drive*</p> <p>Slot 1: half-length, full-height, PCIe 3.0 x16 (x4 elec, near CPU) Slot 2: full-length, full-height, PCIe 3.0 x16** Slot 3: full-length, full-height, 32-bit PCI 2.3 Slot 4: full-length, full-height, PCIe 3.0 x16** Slot 5: full-length, full-height, PCIe 2.0 x4 Slot 6: half-length, full-height, 32-bit PCI 2.3</p> <p>** Adapters >75W use auxiliary power connector(s) from PSU</p>
Intel AMT	Intel Active Management Technology 8 supported		
Processor	Two LGA2011 sockets, integrated 4-channel DDR3 memory controller per processor, only one E5-1600 or E5-1600 v2 processor are supported		
Memory	UDIMM or RDIMM, ECC, DDR3 , 8-channel capable (4-channel per processor), sixteen 240-pin DIMM sockets, 128GB max (UDIMM, 8GBx16)/512GB max (RDIMM, 32GBx16)		
Additional memory disclaimers	<ul style="list-style-type: none"> • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Over eight DIMMs requires dual processors • Mixing of RDIMM and UDIMM is not supported • Maximum memory capacity is also limited by operating system • When using processor from Xeon E5-1600 and E5-1600 v2 series, only eight DIMM sockets for CPU1 are available and max memory capacity is 64GB (UDIMM, 8GBx8)/256GB (RDIMM, 32GBx8) 		
Graphics	Two PCI Express 3.0 x16 slots for graphics adapters and GPU computing processors, supports NVIDIA SLI technology, NVIDIA Maximus technology		
Onboard drive controllers	<ul style="list-style-type: none"> • Four SATA connectors via integrated Advanced Host Controller Interface (AHCI) controller in chipset, two SATA 6.0Gb/s (red), two SATA 3.0Gb/s (orange), RAID 0, 1, 5, 10 support • Four SATA connectors via integrated Storage Controller Unit (SCU) controller in chipset, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support 		
Upgrade ROM for onboard drive controllers (optional)	<p>One of the following upgrade ROM is supported, the option upgrades the four SATA connectors on SCU controller to:</p> <ul style="list-style-type: none"> • five SATA connectors with optional SATA HDD Enablement Module, SATA 3.0Gb/s, RAID 0, 1, 5, 10 support • five SATA/SAS connectors with optional SAS HDD Enablement Module, SATA 3.0Gb/s, SAS 3.0 Gb/s, RAID 0, 1, 10 support 		
Discrete drive controller (opt)	None		
Hard drive(s)	<p>3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" Hybrid: SATA 6.0Gb/s, 7200 rpm, integrated 8GB NAND flash 2.5" SATA: SATA 6.0Gb/s, 10000 rpm 3.5" SAS/2.5" SAS: SAS 6.0Gb/s, 15000 rpm 2.5" SSD: Solid State Drive (SSD), SATA 6.0Gb/s OPAL-capable on some models mSATA: mSATA SSD, SATA 6.0Gb/s</p>		
Optical	Supports DVD-ROM, DVD±RW, or Blu-ray Burner, SATA interface		
Media reader (opt)	Optional media card reader on selected models		
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)		
Rear ports	Eight USB 2.0, two USB 3.0 (blue), serial (9-pin), two ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)		
IEEE 1394 adptr (optional)	Optional FireWire PCIe adapter on selected models, 1394a-2000, 400Mbps, one 6-pin port on rear, one 6-pin port on front		
Audio	High Definition (HD) Audio, Realtek® ALC662 codec		
Speaker	Internal speaker for business audio		
Onboard Ethernet	Dual onboard gigabit ethernet, Intel 82579 and 82574		
Security chip	STMicroelectronics ST33TPM12LPC for TPM function, TCG 1.2-compliant		
Keyboard/Mouse	104-key keyboard (USB)/Optical Wheel Mouse (USB)		
Power supply	1120 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Gold, 80 PLUS® Gold qualified		
<p>SECURITY</p> <ul style="list-style-type: none"> • Security chip (see information on left) • Side cover lock (ships with two identical keys) • Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) • Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) • Power-on/Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Serial port I/O enable/disable • USB 2.0 ports enable/disable individually • USB 3.0 ports enable/disable concurrently • Chassis intrusion switch on selected model(s) <p>ISV certifications Please visit www.lenovo.com/support/ISV</p> <p>Environmental certifications GREENGUARD® certified RoHS-compliant EPEAT™ Gold rating Supports ThinkVantage® technologies</p>			

See footnotes for important warranty information
Model(s) announced April 1, 2014